DOE/EH-0199

Comprehensive Environmental Response, Compensation, and Liability Act, as amended by the Superfund Amendments and Reauthorization Act Section 120(e)(5)

Annual Report to Congress for Fiscal Year 1990

U.S. Department of Energy

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Annual Report to Congress for Fiscal Year 1990

U.S. Department of Energy
Washington, DC 20585

May 1991

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EXECUTIVE SUMMARY

The U.S. Department of Energy (DOE) is committed to conducting its operations in a safe and environmentally sound manner. High priorities for the Department are to identify and correct environmental problems at DOE facilities that resulted from past operations, and to prevent environmental problems from occurring during present and future operations. In this regard, the Department is committed to the goal of cleanup of all facilities by the year 2019. DOE has issued an Order and guidance establishing policy and procedures for activities conducted under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act (SARA), and has developed a Five-Year Plan, updated annually, that integrates planning for corrective activities, environmental restoration, and waste management operations at its facilities. DOE also continues to conduct Tiger Team Assessments at its operating facilities to provide the Secretary of Energy with information on current environmental compliance status.

DOE is involved in conducting remedial activities at 17 sites which are currently on the National Priorities List (NPL). These sites are the Lawrence Livermore National Laboratory-Main Site and Site 300, California; Weldon Spring Quarry Plant and Raffinate Pits Site, Missouri; Hanford Site, Washington; Rocky Flats Plant, Colorado; Feed Materials Production Center, Ohio; Mound Plant, Ohio; Ross Complex (Bonneville Power Administration), Washington; Idaho National Engineering Laboratory, Idaho; the Oak Ridge Reservation, Tennessee; Savannah River Site, South Carolina; Brookhaven National Laboratory, New York; Monticello Mill Site, Utah; Monticello Vicinity Properties, Utah; Maywood Site, New Jersey; Wayne Site, New Jersey; and St. Louis Airport Site (including Latty Avenue), Missouri. At the latter three sites, Congress directed DOE to conduct decontamination research and development activities, including remediation of radioactive contamination. One site, Lawrence Livermore National Laboratory-Site 300, was added to the NPL in 1990.

DOE executed Federal Facility Agreements (FFAs), which are CERCLA Section 120 Interagency Agreements that include both remedial investigation/feasibility study (RI/FS) activities and remedial action, for the Feed Materials Production Center in June 1990, Mound Plant in August 1990, Ross Complex in April 1990, St. Louis Airport Site in June 1990, and Rocky Flats Plant in January 1991.

Prior to 1990, DOE executed FFAs for the Lawrence Livermore National Laboratory-Main Site, Monticello Mill Site and Vicinity Properties, and Hanford Site. CERCLA Agreements are currently being negotiated for the Wayne Site, Maywood Site, Savannah River Site, Oak Ridge Reservation,

Brookhaven National Laboratory, Idaho National Engineering Laboratory, Weldon Spring Site, and Lawrence Livermore National Laboratory-Site 300.

At DOE facilities that are not on the NPL, various cleanup activities are being conducted under State and other Federal authorities such as Section 3004(u) of the Resource Conservation and Recovery Act (RCRA). Facilities where cleanups are underway or completed include the Kansas City Plant, Pinellas Plant, Sandia National Laboratories-Livermore, Grand Junction Projects Office Remedial Action Project, Hinton Hazardous Waste Storage Facility, and several substations within the Bonneville Power Administration.

Highlights of DOE CERCLA activities during 1990 include:

- Execution of four comprehensive CERCLA Section 120 FFAs among DOE, State agencies, and the U.S. Environmental Protection Agency (EPA), and initiation of remedial activities under these agreements. One additional FFA was executed in January 1991. Negotiations for FFAs at eight DOE facilities on the NPL are underway and are expected to be finalized in 1991.

- Conduct of RI/FSs at all 17 DOE facilities on the NPL.

- Completion of remedial studies and Records of Decision, and initiation of remedial actions at sites at two DOE facilities on the NPL.

- Conduct of removal or interim cleanup actions at nine DOE facilities on the NPL.

- Conduct of cleanup actions at eight DOE facilities not on the NPL.

- Execution of a Memorandum of Understanding with the Agency for Toxic Substances and Disease Registry (ATSDR) for preparation of toxicological profiles and conduct of health assessments and consultations by ATSDR at DOE facilities; and conduct of long-term health-related activities under Section 104(i) of CERCLA.

I. INTRODUCTION

A. CERCLA 120(e)(5) Requirements

This is the fourth annual report to Congress on the U.S. Department of Energy's (DOE) progress in implementing the requirements of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as amended by the Superfund Amendments and Reauthorization Act (SARA). As required by CERCLA Section 120(e)(5), each department, agency, or instrumentality of the United States government responsible for compliance with Section 120 shall furnish an annual report to Congress concerning its progress in implementing the requirements of Section 120. The reports are to include, but need not be limited to, each of the following items:

(A) A report on the progress in reaching interagency agreements under Section 120.

(B) The specific cost estimates and budgetary proposals involved in each interagency agreement.

(C) A brief summary of the public comments regarding each proposed interagency agreement.

(D) A description of the instances in which no agreement was reached.

(E) A report on progress in conducting remedial investigations and feasibility studies (RI/FSs) required by SARA Section 120(e)(1) at National Priorities List (NPL) sites.

(F) A report on progress in conducting remedial actions at NPL sites.

(G) A report on progress in conducting remedial action at facilities that are not listed on the NPL.

The annual report is also required to contain a detailed description on a state-by-state basis of the status of each facility subject to this section, including a description of the hazard presented by each facility, plans and schedules for initiating and completing response actions, enforcement status (where appropriate), and an explanation of any postponements or failure to complete response actions.

This report summarizes DOE's progress on Section 120 activities listed above for calendar year 1990 and reflects DOE's commitment to cleaning up releases of hazardous substances from Federal facilities. The remainder of this introductory section discusses DOE's program as it relates to the initiatives taken by DOE to implement CERCLA and the specific DOE Headquarters management organizations that carry out the CERCLA activities. Section II of this report summarizes DOE's progress in responding to the Section 120 requirements and provides a description on a facility-by-facility basis of DOE's progress in implementing these requirements. Section III provides a detailed description on a state-by-state basis of the status of each DOE facility subject to Section 120 of CERCLA. Section IV discusses DOE's ongoing research and development efforts for remedial technology. Appendix A contains a list of acronyms and abbreviations used throughout this report, and Appendix B provides an index that identifies the location of individual facilities within the report.

B. Department of Energy Programs for Implementing CERCLA

1. Department of Energy CERCLA Policy

It is DOE's policy that compliance with the letter and spirit of environmental laws, regulations, and requirements is an integral part of operating DOE facilities. The fundamental goal is to ensure that risks to human health and safety and to the environment posed by the Department's past, present, and future operations are either eliminated or reduced to prescribed, safe levels. DOE is committed to the goal of cleanup of all its sites by the year 2019.

As a result of 40 years of past operation during which the production of defense nuclear materials was often emphasized at the expense of environmental protection, the Department faces an enormous task in characterizing and remediating numerous facilities across the country. The CERCLA program plays a major role in the nationwide remediation of the DOE complex. A Five-Year Plan has been developed to plan for environmental restoration of DOE's nuclear-related waste sites and for compliance with applicable regulations. The Five-Year Plan, which includes activities under CERCLA, is further discussed in Section I.C.2 of this report.

On October 6, 1989, DOE issued Order 5400.4, "Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Requirements," which formally establishes DOE's program responsibilities and policies for implementing CERCLA requirements. Specifically, this Order establishes that:

- DOE will respond to releases and potentially imminent releases of hazardous substances. This response will be in accordance with CERCLA, as amended, as well as with the National Contingency Plan (NCP) and Executive Order 12580. DOE response will include both removal and remedial action, as appropriate.

- DOE will enter into interagency agreements (IAGs) with Federal, State, and local entities for the execution of RI/FSs and remedial actions under Section 120(e) of CERCLA.

- Where DOE is conducting cleanup activities under another authority, DOE will ensure that these activities are not inconsistent with the NCP.

- Where DOE remedial actions under CERCLA trigger the procedures set forth in the National Environmental Policy Act (NEPA), it is the policy of DOE to integrate the procedural and documentation requirements of CERCLA and NEPA, wherever practical.

- Where DOE determines that natural resources for which DOE has been granted trusteeship may have been potentially injured by a release, DOE will implement the Natural Resource Damage Assessment Process consistent with established regulations.

2. Department of Energy Headquarters Management Structure

Major changes were initiated in the management structure and operating philosophy at DOE in 1989 and continued through 1990. A new culture has been instilled within the Department, the foundation of which is based on the philosophy that compliance with environmental laws and regulations takes priority over the Department's production goals. In addition, DOE management structure has been modified to better emphasize the concept of "line management," wherein line organizations are fully responsible for their own activities. The Office of Environmental Restoration and Waste Management was established in 1989 as a line organization to centrally manage environmental restoration, waste management, and waste research and development (R&D) activities.

a. Office of Environmental Restoration and Waste Management

The Office of Environmental Restoration and Waste Management (EM) is the Department's line organization to centrally manage environmental restoration, waste management, and waste R&D activities, including most of the Department's CERCLA activities. This ensures that environmental

restoration and waste management activities are the first priority of a single, dedicated, first-tier Headquarters organization.

EM is responsible for the DOE facilities that are used for the storage, treatment, and disposal of hazardous, radioactive, and mixed waste materials. In addition, EM is responsible for DOE facilities, operations, and sites that require environmental restoration, as well as facilities used exclusively for long-term storage of DOE waste materials, with the exception of facilities under the operation of DOE's Office of Civilian Radioactive Waste Management. In 1990, EM assumed responsibility for the Hanford and Feed Materials Production Center sites from the Defense Programs Office.

The Office of Environmental Restoration and the Office of Technology Development are the main environmental offices within EM that are involved in CERCLA activities. An overview of the Office of Environmental Restoration is provided below; the Office of Technology Development is discussed in Section IV along with DOE's restoration-related research and development efforts.

Office of Environmental Restoration (EM-40)

The Office of Environmental Restoration manages and directs programs and activities to achieve the goal of assessment and cleanup by the year 2019 of inactive facilities and sites contaminated by wastes generated from past nuclear operations connected with the major DOE nuclear programs. The Office is responsible for DOE facilities, operations, or sites (or portions thereof) that have been statutorily assigned to DOE or transferred from another program within DOE for environmental restoration.

Specific functions of the Office of Environmental Restoration include the following:

- Manages remedial action programs and activities which include all aspects of the assessment and cleanup of inactive potential release sites, including (1) site discovery, preliminary assessment, and inspection; (2) site characterization, analysis of cleanup alternatives, and selection of remedy; (3) cleanup and site closure; and (4) post-cleanup site monitoring. Most remedial actions are concerned with contaminated soil and groundwater.

- Manages decontamination and decommissioning (D&D) programs and activities which ensure the safe caretaking of surplus nuclear facilities until they either are decontaminated for reuse or are completely removed. Such activities include assessment and characterization, environmental review, engineering, decontamination or decommissioning operations, and

closeout. Most D&D activities are concerned with facilities such as reactors, hot cells, processing plants, storage tanks, and other structures.

- Provides input to the annual update of the Five-Year Plan in the area of environmental restoration.

- Develops priority systems to guide environmental restoration activities and to support budget requests.

- Formulates and monitors annual budget requests for environmental restoration activities identified in the Five-Year Plan.

b. Office of Environment, Safety and Health

The DOE Office of Environment, Safety and Health (EH), which reports independently to the Secretary, oversees and assesses compliance by DOE facilities with DOE policies and standards mandated by Federal statutes and DOE Orders for the protection of the environment, as well as for the safety and health of DOE employees and the public. EH also plays a key role in the development of environmental policy and guidance for DOE, and provides technical assistance to field and program offices in all aspects of environmental compliance.

This office was established to ensure Department conformance with all applicable environmental laws and regulations; to provide guidance, coordination, and technical assistance; and to act as liaison between DOE Headquarters and Federal environmental agencies (e.g., the Environmental Protection Agency (EPA)) on policy issues. The Office of Environmental Compliance (EH-22) and the Office of Environmental Guidance (EH-23) are the main environmental offices within EH that are involved in CERCLA activities. Other offices supporting various CERCLA activities include the Office of Environmental Audit, the Office of NEPA Oversight, and the Office of Special Projects (Tiger Teams). The Office of Environmental Audit provides an independent Headquarters oversight of the Department's facilities through administration of an environmental audit program. Ascertaining CERCLA compliance is included in the scope and protocols of the Environmental Audit program. The Office of NEPA Oversight supports the timely implementation of the Department's proposed remedial actions by ensuring compliance with DOE's integrated NEPA/CERCLA policy. Additionally, the Office of Special Projects manages the Secretary's Tiger Team Assessments. These assessments provide the Secretary of Energy with the status of environment, safety and health programs, including CERCLA programs, at individual DOE facilities. See Section I.C.3.

Office of Environmental Compliance (EH-22)

The Office of Environmental Compliance is responsible for independently ensuring and confirming the implementation of environmental compliance and restoration programs at DOE field offices and facilities through a number of coordination, technical assistance, and compliance oversight functions and responsibilities. The Office of Environmental Compliance has developed and implemented a continuing support and oversight program to provide DOE field and program organizations with technical support and assistance to resolve issues associated with environmental permitting, to provide technical reviews of environmental control and remedial action projects, and to coordinate the resolution of Department-wide environmental compliance issues to ensure that DOE's environmental policies are being implemented uniformly and consistently. The Office of Environmental Compliance is also responsible for review of CERCLA documents prepared by field offices to ensure that DOE's cleanup policies and decision-making procedures are implemented consistently within the DOE complex. Additionally, the Office actively participates with the field offices in negotiations with Federal and state regulatory agencies for cleanup agreements under the Resource Conservation and Recovery Act (RCRA) and CERCLA. Last year, the Office of Environmental Compliance assisted in the negotiation and execution of four CERCLA Section 120 Agreements and one RCRA 3008(h) Corrective Action Order for facility cleanup. The Office is currently involved in negotiation of nine CERCLA 120 Agreements and two RCRA 3008(h) Orders.

Office of Environmental Guidance (EH-23)

The Office of Environmental Guidance provides DOE Headquarters and Operations Offices with policy and guidance on environmental issues critical to the success of the Department's varied programmatic missions. In fulfilling this charge, the Office of Environmental Guidance monitors legislative and regulatory developments to keep department personnel abreast of emerging and changing environmental requirements, and develops guidance, policy, and training initiatives to respond to such developments. During the past year, the Office of Environmental Guidance has been very active in both the CERCLA and RCRA arenas.

During 1990, the Office of Environmental Guidance engaged in efforts to attempt to streamline the RI/FS process while maintaining technical integrity of the selected remedial alternative, consistent with the "bias for action" initiative expressed in the revised National Contingency Plan (NCP). Additionally, the Office of Environmental Guidance entered into an IAG with EPA to co-sponsor five RI/FS workshops to be made available to Federal, State, and private parties involved in Federal facilities environmental restoration efforts.

The Office of Environmental Guidance has also sought and consolidated comments from across the DOE complex on the RCRA corrective action proposed rule. Subsequently, the Department has entered into substantive discussion with EPA regarding the conduct of a Regulatory Impact Analysis on the RCRA corrective action final rulemaking.

In addition to its guidance efforts, the Office of Environmental Guidance is responsible for implementing Departmental environmental policy through the issuance of DOE Orders.

C. Department of Energy Activities Related to CERCLA

1. Federal Facilities Docket and National Priority Listing

CERCLA Section 120(c) requires EPA to establish a Federal Agency Hazardous Waste Compliance Docket, which is a compilation of information on Federal facilities submitted to EPA by Federal agencies under RCRA Sections 3005, 3010, and 3016 and CERCLA Section 103(c). On February 12, 1988, the Docket appeared in the Federal Register and included 45 DOE facilities. Under CERCLA 120(d), these facilities were required to provide EPA with preliminary assessments (PAs) of the facilities by April 1988 unless exempted by the criteria described in the Federal Register. Of the 45 DOE facilities, 41 were required to submit PAs to EPA. All 41, plus another facility, did so by the target date or shortly thereafter. An additional 14 facilities were added to the Docket on November 16, 1988, and provided PAs to EPA by May 16, 1990.

Further updates of the Docket occurred December 15, 1989, and August 22, 1990, resulting in the addition of eight DOE facilities to the Docket and the removal of six. Of the eight facilities added to the Docket, four facilities require new PAs; two are due by June 15, 1991, and two others by February 22, 1992. The remaining four do not require new PAs because PAs were previously submitted to EPA.

Upon review of the PA and necessary site investigation (SI) information, EPA ranks facilities for inclusion on the NPL through the application of the Hazard Ranking System. Facilities which score above 28.5 are subsequently proposed for inclusion on the NPL. Prior to 1990, 16 DOE facilities were listed on the NPL, and during 1990, another was added. No DOE facilities are currently proposed for the NPL, although additional DOE facilities may be proposed in the future.

Table I-1 identifies DOE facilities listed on the NPL and provides dates for when these facilities were listed.

TABLE I-1. DEPARTMENT OF ENERGY FACILITIES ON THE NPL

Site Name	State	Date Listed in Federal Register
Maywood Site	NJ	09/08/83
Wayne Site	NJ	09/21/84
Monticello Vicinity Properties	UT	06/10/86
Lawrence Livermore National Laboratory - Main Site	CA	07/22/87
Weldon Spring Quarry and Feed Materials Plant and Raffinate Pits	MO	07/22/87 03/13/89[1]
Hanford (4 separate sites)	WA	10/04/89
Rocky Flats Plant	CO	10/04/89
St. Louis Airport Site	MO	10/04/89
Brookhaven National Laboratory	NY	11/21/89
Feed Materials Production Center	OH	11/21/89
Idaho National Engineering Laboratory	ID	11/21/89
Monticello Mill Site	UT	11/21/89
Mound Plant	OH	11/21/89
Oak Ridge Reservation	TN	11/21/89
Ross Complex (Bonneville Power Administration)	WA	11/21/89
Savannah River Site	SC	11/21/89
Lawrence Livermore National Laboratory - Site 300	CA	08/30/90

[1] The Feed Materials Plant and Raffinate Pits area were added to the site 3/13/89.

2. Five-Year Plan and Environmental Restoration

DOE is committed to achieving regulatory compliance for the protection of the environment and human health. To achieve this, DOE will (1) assess and clean up inactive waste sites and facilities, (2) continue safe and effective waste management operations but emphasize systematic minimization of waste generation, and (3) coordinate an aggressive, applied waste R&D program keyed to developing innovative environmental technologies to yield permanent disposal solutions and lower costs.

The Environmental Restoration and Waste Management Five-Year Plan, which is updated and presented annually by DOE, proposes an integrated planning approach to Corrective Activities, Environmental Restoration, and Waste Management Operations at its facilities. In addition, an applied R&D program is included for Environmental Restoration and Waste Management Operations. The first Five-Year Plan, published in 1989, also announced DOE's commitment to assess, clean up, and restore the environment by the year 2019 at inactive facilities and sites contaminated by wastes generated from past nuclear operations connected with the major DOE program areas of (1) Defense Programs, (2) Nuclear Energy, and (3) Energy Research. This will be accomplished mainly through the EM Environmental Restoration Program.

Environmental restoration involves the assessment and cleanup of inactive potential release sites. The regulatory requirements for activities under the EM Environmental Restoration Program include: (1) CERCLA; (2) RCRA Sections 3004(u) and (v) and 3008(h); (3) NEPA; (4) the Atomic Energy Act (AEA); (5) applicable State and local requirements; and (6) DOE Orders, standards, and other documents. Environmental Restoration tasks encompass (1) site discovery, preliminary assessment, and inspection; (2) site characterization, analysis of cleanup alternatives, and selection of remedy; (3) cleanup and site closure; and (4) post-cleanup site monitoring.

Environmental Restoration Program objectives with respect to CERCLA remedial responses are to (1) identify inactive contaminated facilities or sites for which DOE has remedial authority; (2) assess these facilities and sites to determine the nature and extent of contamination; (3) confine and contain existing contamination to the extent necessary for minimizing its further spread; (4) provide for negotiated agreements with regulatory authorities defining the requirements and schedule for cleanup of these facilities and sites; (5) ensure that cleanup is carried out in strict compliance with these agreements; and (6) provide long-term monitoring to ensure continuing compliance.

Also included within Environmental Restoration are some D&D activities, which consist of decontaminating surplus nuclear facilities for reuse or decommissioning them. Tasks included in

these activities are: (1) assessment and characterization; (2) environmental review; (3) engineering; (4) D&D operations; and (5) site closeout. Requirements for DOE's D&D program are included in DOE Order 5820.2A, which requires D&D activities to be carried out in compliance with NEPA, RCRA and CERCLA.

Environmental Restoration Program objectives with respect to D&D are to (1) maintain facilities awaiting either decontamination or decommissioning in a manner that limits worker, public, and environmental exposure to potential hazards; (2) assess facilities to determine the nature and extent of contamination; (3) decontaminate facilities designated for reuse to the extent necessary for compliance with approved health and safety standards; and, (4) decommission all other facilities in accordance with the requirements set forth in an approved decommissioning project plan.

3. Tiger Team Assessments

On June 27, 1989, Secretary of Energy Watkins announced a 10-point initiative which sought, among other objectives, to strengthen environmental protection and waste management activities in DOE. One of the initiatives involves conducting Tiger Team Assessments at DOE's operating facilities.

A major purpose of conducting these assessments is to provide the Secretary with information on the current environmental regulatory compliance status at DOE facilities. Assessments include inspecting the implementation and progress of remedial responses necessary to satisfy the requirements of CERCLA. Findings for each facility are reported in a Site Assessment Report that is prepared by the Tiger Team and provided to the facility at the end of each assessment. The facility is required to respond to the report by preparing an Action Plan that describes actions and schedules to bring it into compliance. Where CERCLA-related (and other) findings are identified, the Action Plans include activities needed to correct the deficiencies.

DOE conducted nine Tiger Team Assessments in 1990, for a total of 18 since July 1989. Of this total, nine have been at NPL sites. Copies of the assessment reports are available for public review in the DOE public reading rooms in Washington D.C. and at the facility or the appropriate DOE Operations Office.

Ten Action Plans were completed in 1990. These Plans are also available for review in DOE public reading rooms.

Twelve additional sites are scheduled for Tiger Team Assessments in 1991.

4. Memorandum of Understanding with ATSDR

On October 10, 1990, DOE and the Agency for Toxic Substances and Disease Registry (ATSDR) executed a Memorandum of Understanding (MOU) which provides for: (1) the preparation of toxicological profiles by ATSDR; (2) the conduct of health assessments and health consultations by ATSDR at DOE facilities; and (3) the conduct of long-term health-related activities under Section 104(i) of CERCLA. Examples of long-term health-related activities include the following: surveillance, registries, health surveys, health studies, and related research.

The MOU details the responsibilities of each party, defines the content of the toxicological profile documents and the content of a health assessment and other health-related activities, and allows for the establishment of specific IAGs between ATSDR and DOE, and its Operations Offices as appropriate.

The MOU calls for execution of these IAGs with the appropriate DOE Operations Office and ATSDR within 180 days after the effective date of the MOU for each DOE facility currently listed or proposed for listing on the NPL and within 180 days after proposed or final listing of any additional DOE facility on the NPL. In addition, the MOU provides that DOE will provide appropriate resource support to ATSDR, and encourages communication and information transfer between DOE and ATSDR.

II. STATUS OF DEPARTMENT OF ENERGY 1990 CERCLA 120(e)(5) ACTIVITIES

This section of the report summarizes information required by CERCLA 120(e)(5), including the status of the Interagency Agreements (IAGs), cost estimates and budgetary proposals for the NPL remedial actions, and progress in conducting Remedial Investigations/Feasibility Studies (RI/FSs) and remedial actions at NPL and non-NPL DOE sites. This section also contains a detailed description of each major DOE facility, including its NPL status, a summary of background information on the facility, its environmental condition, and the CERCLA Section 120(e)(5) information requirements. A state-by-state summary can be found in Section III of this report.

A. Progress in Reaching Interagency Agreements

CERCLA Section 120(e)(2) requires that within 180 days after EPA's review of an RI/FS, the Federal facility must enter into an IAG for the expeditious completion of all necessary remedial action. Also, an IAG between EPA and the Federal facility must be executed before remedial actions are implemented. However, it is DOE policy to be proactive regarding this requirement and to enter into broader enforceable Federal Facility Agreements (FFAs) with EPA, and the concerned State if possible, that include both the RI/FS and remedial action implementation.

Prior to 1990, three FFAs were executed under CERCLA Section 120 for NPL facilities. During 1990, four additional FFAs under CERCLA, Section 120, were signed for DOE facilities listed on the NPL. These four facilities (St. Louis Airport Site, Feed Materials Production Center, Mound Plant, and Ross Complex) as well as progress on the remaining NPL-listed DOE facilities are shown in Table II-1. In addition, an FFA was executed at the Rocky Flats Plant in January 1991. FFAs have been signed or are under negotiation at all DOE sites listed on the NPL.

Additionally, DOE has successfully negotiated several agreements in 1990 at non-NPL sites. A RCRA 3008(h) Administrative Order on Consent was signed between DOE and EPA on November 28, 1990 for cleanup of the Pantex Plant. Remedial activities at the Pinellas Plant and the Los Alamos National Laboratory are being handled through RCRA Hazardous and Solid Waste Amendments (HSWA) permits issued on February 9, 1990 and May 23, 1990, respectively.

The specific details of the FFAs for each DOE facility are discussed in the narratives in Section II.H.

TABLE II-1. PROGRESS IN REACHING INTERAGENCY AGREEMENTS AT U.S. DEPARTMENT OF ENERGY FACILITIES LISTED ON THE NPL

Site Name	Actual/Projected Date (Year) of Final Agreement
Brookhaven National Laboratory	1991[2]
Feed Materials Production Center	1990
Hanford Site (4 separate sites)	1989
Idaho National Engineering Laboratory	1991[2]
Lawrence Livermore National Laboratory - Main Site	1988
Lawrence Livermore National Laboratory - Site 300	1991[2]
Maywood Site	1991[2,3]
Monticello Mill Site and Vicinity Properties[1]	1988
Mound Plant	1990
Oak Ridge Reservation	1991[2]
Rocky Flats Plant	1991
Ross Complex	1990
Savannah River Site	1991[2]
St. Louis Airport Site	1990
Wayne Site	1991[2,3]
Weldon Spring Site Remedial Action Project	1991[2]

1 Represents two NPL sites
2 Projected Dates
3 Signed by DOE and awaiting signature by EPA.

B. Specific Cost Estimates Involved In Each Interagency Agreement

Cost information for FY 91 and FY 92 is presented in Section II.H for DOE facilities on the NPL where an IAG has been executed and a ROD has been signed and/or a clean-up action (e.g. CERCLA removal or remedial action) initiated under an IAG. These facilities are: The Monticello Mill Site and Vicinity Properties; the Feed Materials Production Center; and the Rocky Flats Plant. The FY 91 and FY 92 cost figures for environmental restoration presented for these facilities in Section II. H are consistent with DOE's current (April 1991) FY 92 Congressional Budget. Additional planning estimates of environmental restoration costs for FY 93 and beyond are contained in the Departments Five-Year Plan for Environmental Restoration and Waste Management, which is updated annually.

Actual expenditures for environmental restoration work in FY 90 at major DOE facilities are also provided for facilities on the NPL (Section II.H) and facilities not on the NPL (Section II.I)

C. Public Comments Regarding Proposed Interagency Agreements

During 1990, six proposed agreements were released for public comment and comments were received on five. Three of these proposed agreements (Feed Materials Production Center, Mound Plant, and St. Louis Airport Site) were finalized in 1990, and one (Rocky Flats Plant) in January 1991. The other two proposed agreements (Wayne Site and Maywood Site) are planned for finalization in 1991. One additional agreement finalized in 1990 (Ross Complex) was not released for public comment as a result of the determination by EPA that release for public comment was not required.

Comments received on each of the six proposed agreements released for comment are summarized below, along with a summary of modifications made to the draft agreements in response to these comments. Additional details on comments on proposed agreements and responses are provided in Section II.H.

Feed Materials Production Center, Ohio

Public comments were received pertaining to the agreement. The comments received were centralized within the following four broad areas: concern that the proposed remediation schedules were too long; need for timely distribution of data and information to the public; need for increased opportunities for public involvement in the RI/FS process; and need for formal notification to the public of planned production resumption.

Comments were evaluated by EPA and responses were documented in the Responsiveness Summary prepared by EPA and issued in June 1990. No changes were made to the proposed agreement as a result of public comments.

Mound Plant, Ohio

Limited public comments were received on the agreement. EPA and DOE evaluated all public comments and determined that no modifications to the agreement were required.

St. Louis Airport Site, Missouri

The agreement for the St. Louis Airport Site was issued for a 30-day public review period that ended in September 1990; no comments were received.

Rocky Flats Plant, Colorado

The State of Colorado, DOE and EPA Region VIII asked the public to comment on the agreement during a 60-day period. Oral public comments were received at a public meeting held on February 13, 1990.

The majority of public comments received on the agreement were in the following four categories: community involvement; off-site assessments; funding issues; and contaminant emissions and migrations resulting from construction.

In response to these comments, the draft agreement was modified to: provide for increased public participation and notification; address off-site assessments earlier; improve distribution of health and safety information to on-site contractors; and improve the site contaminant dispersion prevention plan. Regarding funding issues, the Parties determined that changes to the draft agreement were not warranted.

Wayne Site and the Maywood Site, New Jersey

Five individuals submitted comments which are currently under evaluation by DOE and EPA.

D. Instances in Which No Agreement Was Reached

Where negotiations were completed in 1990, agreements were reached in all instances. Where negotiations are still underway, DOE expects agreements will be reached in all instances. As discussed in Section II.A of this report, DOE has executed eight FFAs including four in 1990 (for the St. Louis Airport Site, Feed Materials Production Center, Mound Plant, and Ross Complex), and one in January 1991 for the Rocky Flats Plant. DOE expects to execute agreements for the Maywood Site, Wayne Site, Weldon Spring Site Remedial Action Project, Idaho National Engineering Laboratory, Oak Ridge Reservation, Savannah River Site, Brookhaven National Laboratory, and Lawrence Livermore - Site 300 in 1991. Additionally, during 1990 DOE successfully negotiated several agreements at non-NPL sites that establish schedules for conducting studies and other cleanup activities to meet corrective action requirements of RCRA Section 3004(u) or 3008(h).

E. Progress in Conducting Remedial Investigations/Feasibility Studies at NPL Sites

CERCLA Section 120(e)(1) specifies that RI/FS work must be initiated within six months following a site's being listed on the NPL. RI/FS work was initiated within the statutory time frames at all 17 DOE facilities that are listed as final on the NPL.

A detailed summary of the status of RI/FS activities at facilities on the NPL is provided in Section II.H. Some major accomplishments and highlights during 1990 are discussed briefly below:

- Feed Materials Production Center - RI/FS activities underway for five operable units.

- Hanford Site - Four work plans have been approved by the regulatory agencies, and RI work has been initiated at four operable units. Also, an initial phase of an FS for an operable unit was completed in December.

- Idaho National Engineering Laboratory - RI/FS scoping and characterization activities underway.

- Lawrence Livermore National Laboratory - Main Site - The final FS report was completed in December. The draft Preliminary Remedial Action Plan was completed in February 1991.

- Lawrence Livermore National Laboratory - Site 300 - RI/FS activities underway for six operable units.

- Maywood Site - RI activities are almost complete.

- Monticello Mill Site - RI/FS completed and Record of Decision (ROD) signed in September.

- Oak Ridge Reservation - Several RI work plans, site characterization studies, and RI reports were completed.

- Rocky Flats Plant - Site-wide field work applicable to all operable units is underway. RI field work were initiated for one operable unit. RI work plans for two operable units were completed. Also, draft RI work plans for four other operable units were submitted to the regulatory agencies for approval, and RI work plans are under development for three additional operable units.

- St. Louis Airport Site - RI field work underway.

- Wayne Site - RI activities are almost complete.

- Weldon Spring Site Remedial Action Project - An RI/FS was completed and ROD signed by EPA in September for the quarry site. The RI/FS for the chemical plant portion of the site is in preparation.

F. Progress in Conducting Remedial Actions at NPL Sites

CERCLA Section 120(e)(2) requires that within 15 months following completion of an RI/FS and issuance of ROD at an NPL facility, on-site remedial action must be initiated. There have been three RODs issued by the end of 1990 for the Monticello Mill Site and Vicinity Properties and the Weldon Spring Site. The first ROD at the Monticello Mill Site and Vicinity Properties was signed by EPA in September 1989 and by DOE in December 1989. The ROD for the Monticello Mill Site was signed by DOE in September 1990, and calls for excavation of contaminated material and placement in a secure repository. At the Monticello Mill Site and Vicinity Properties remedial actions have been completed on 90 of the current 199 properties qualifying for remediation. The ROD for the Weldon Spring

quarry bulk wastes was signed by EPA in September 1990 and remedial action has been initiated. There have been response actions other than final remedial design/remedial action activities at a number of DOE facilities on the NPL. These actions include the following:

- Wayne and Maywood Sites - Removal of contaminated material from vicinity properties and placement in interim storage.

- Idaho National Engineering Laboratory - Removal of contaminated soil and closure of two land disposal units initiated.

- Weldon Spring Remedial Action Project - Removal of asbestos, and debris and chemical consolidation.

- Savannah River Site - Closure of four hazardous waste management facilities and initiation of groundwater corrective action.

- Lawrence Livermore National Laboratory - Site 300 - Interim action underway in March of 1991 to control spread of groundwater contamination.

- Rocky Flats Plant - Four interim actions initiated: groundwater collection and treatment at the 881 Hillside operable unit; surface water treatment at the 903 Pad, Mound, and East trench areas (in design); surface water management at the off-site reservoir (in design) and pond dewatering, sludge removal, and pondcrete processing at the Solar Ponds operable unit.

- Feed Materials Production Center - Four removal actions have been initiated: collection and treatment of groundwater underlying the process building; collection and treatment of storm water run-off from the waste pit area; application of a bentonite slurry over radon-emitting materials from the K-65 Silos 1 and 2; and groundwater extraction and provision of an alternate water supply for the South Groundwater Contamination Area.

- Oak Ridge Reservation (K-25 and Y-12 Plant) - Closure of four RCRA land disposal units, closure of other land disposal units and surface impoundments underway.

Additional removal or interim actions are planned or under review at other NPL sites, including Brookhaven National Laboratory, Mound Plant, and the Hanford Site.

Additional information on the remedial action initiatives at DOE facilities is provided in the narratives in Section II.H

G. Progress in Conducting Remedial Actions at Facilities Not on the NPL

DOE CERCLA Order 5400.4 requires that DOE facilities respond to releases and potentially imminent releases of hazardous substances at DOE facilities in accordance with CERCLA, the NCP, and Executive Order 12580 regardless of whether the facility is listed on the NPL. During 1990 various cleanup activities took place at DOE facilities not on the NPL under CERCLA and other authorities; e.g., the Toxic Substances Control Act (TSCA) and various state cleanup authorities. These include initiation of cleanup activities and completion of several cleanups.

Highlights of several activities during 1990 are provided below. Additional information on remedial initiatives at DOE facilities that are not on the NPL is provided in Section II.I.

During 1990, a ROD was signed for the Grand Junction Projects Office Remedial Action Project, with the selected remedy being to dispose of materials from the facility off-site and cover with a radon barrier and erosion-protection layer of rock. This remedial action is currently underway.

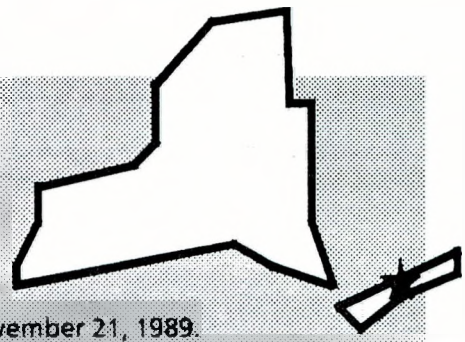
Cleanup of materials contaminated by polychlorinated biphenyl (PCB) was initiated and completed at several Bonneville Power Administration facilities in 1990, including the Olympia, Snohomish, and Troutdale substations. In addition, excavation and placement of soils contaminated by pentachlorophenol in interim storage was initiated and completed in 1990 at the Hinton Hazardous Waste Storage Facility, a Western Area Power Administration facility.

Several cleanup actions were initiated at other non-NPL sites in 1990, including groundwater treatment and remediation of underground storage tanks at the Kansas City Plant; groundwater treatment and contaminated soil and waste oil disposal at the Pinellas Plant; and excavation and disposal of contaminated materials at the Sandia National Laboratories - Livermore facility.

H. Individual Narratives for Facilities on the NPL

This section of the Annual Report provides a detailed description of each facility on the NPL, including its NPL status, a summary of background information on the facility, its environmental condition, and the SARA Section 120(e)(5) information requirements.

BROOKHAVEN NATIONAL LABORATORY
Upton, New York



Operation/Program Office:	Chicago Operations Office
Size:	5,300 acres
NPL Status:	Placed on the National Priorities List (NPL) on November 21, 1989.
Mission:	Historically, the site had been used by the U.S. Army as a post (called Camp Upton) during the First and Second World Wars. The Atomic Energy Commission was given title to the property in 1947 and subsequently transferred it to the Energy Research and Development Administration in 1975, which became DOE in 1977. Brookhaven National Laboratory functions as a design, construction, and operations center for large research facilities such as particle accelerators, nuclear reactors and synchrotron storage rings for research in high-energy and nuclear physics, chemistry, biology and energy-related life and environmental sciences.
Overview of Environmental Conditions:	Groundwater and soil contamination
Funding in FY 90:	$3,024,000

Progress in Reaching Interagency Agreement

Brookhaven National Laboratory was proposed for listing on the NPL in July 1989 and was finalized for inclusion on the NPL in November 1989. Negotiations of a tripartite Federal Facilities Agreement (FFA) among DOE, EPA, and the New York State Department of Environmental Conservation began in November 1989 and were concluded in July 1990. Final execution of the FFA is expected in early 1991. The FFA will integrate both corrective action requirements under RCRA and response action requirements under CERCLA.

Public Comments Regarding Proposed Interagency Agreements

Public comments will be solicited following issuance of the proposed final agreement.

Progress in Conducting Remedial Investigations/Feasibility Studies at NPL Sites

The FFA includes a draft near-term work schedule for one RI/FS at the Central Steam Facility, three removal actions for the cesspools, underground storage tanks, and "D-Waste" tanks, and two no-action completion reports (Building 830 Pipe Leak and Old Firehouse Soil Remediation) on areas which had undergone response actions in the past.

All of the Solid Waste Management Units (SWMUs) at Brookhaven National Laboratory will be classified as either "Action" or "No-Action" in the SWMU Classification Report. The "Action" SWMUs will be added to the "Areas of Concern" list in the FFA. Response actions under the FFA will satisfy RCRA and New York State Department of Environmental Conservation corrective action requirements. The "No-Action" SWMUs will be listed in Brookhaven National Laboratory's final New York State Part 373 permit (i.e., RCRA Part B permit and EPA's Hazardous and Solid Waste Amendments permit). Several documents required by the FFA are currently in various stages of preparation and completion:

- The Site Baseline Report summarizes existing information on past disposal practices, construction details, and environmental monitoring data. This report is due to EPA in early 1991.

- The historical site review will consist of a review of existing files and records from the Army and various levels of government agencies in order to identify any unknown areas of concern. The draft work plan for the historical site review has been reviewed by EPA and New York State Department of Environmental Conservation and is being finalized.

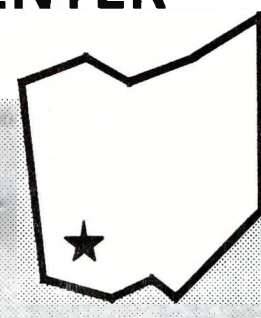
- The Response Strategy Document will logically group the areas of concern into Preliminary Assessment/Site Investigation (PA/SI) sites, removal action sites, and operable units. This document is due at EPA on July 1, 1991.

- The site Community Relations Plan, which will outline the overall Community Relations Program at Brookhaven National Laboratory, is due at EPA in April 1991.

Progress in Conducting Remedial Actions at NPL Sites

Final remedial actions will be initiated following signing of a Record of Decision.

FEED MATERIALS PRODUCTION CENTER
Fernald, Ohio



Operation/Program Office:	Oak Ridge Operations Office
Size:	1,050 acres
NPL Status:	Placed on the NPL on November 21, 1989.
Mission:	The Feed Materials Production Center (FMPC), constructed in the early 1950s, used to produce uranium metal products for use by the Government. The site is currently a remediation site and is under the Office of Environmental Restoration and Waste Management (EM).
Overview of Environmental Conditions:	Soil and groundwater contamination by radionuclides above background levels both on-site and in adjacent off-site areas. Release of radon and the retention of large quantities of low-level radioactive wastes in on-site storage areas are also of significant concern.
Funding in FY 90:	$57,000,000

Progress in Reaching Interagency Agreement

The FMPC was placed on the NPL on November 21, 1989. At the time the facility was placed on the NPL, the site was engaged in activities aimed at compliance with the terms of an existing Federal Facilities Compliance Agreement (FFCA) signed on July 19, 1986 between DOE and EPA. The CERCLA portion of the FFCA was replaced by the signing of a Consent Agreement with EPA on April 9, 1990, which became effective on June 29, 1990. The agreement provides for the execution of RI/FSs for five operable units and the performance of removal and remedial actions at the facility.

Specific Cost Estimates Involved in Each Interagency Agreement

Costs budgeted for environmental restoration under the Consent Agreement at the FMPC, according to the April 1991 Congressional Budget, total $80 million in FY 91 and $167 million in FY 92.

Public Comments Regarding Proposed Interagency Agreements

Public comments pertaining to the Consent Agreement fell within four broad areas: concern that the proposed remediation schedules were too long; need for timely distribution of data and information to the public; need for increased opportunities for public involvement in the RI/FS process; and need for formal notification to the public of planned production resumption.

Comments were evaluated by EPA and responses were documented in the Responsiveness Summary prepared by EPA and issued in June 1990. No changes were made to the proposed agreement as a result of public comments.

Progress in Conducting Remedial Investigations/Feasibility Studies at NPL Sites

The RI/FS process at the FMPC was initiated in July 1986 under the provisions of the 1986 FFCA. The CERCLA 120 Consent Agreement amended the CERCLA portion of the 1986 agreement and restructured the ongoing investigations into five distinct Operable Units. Separate RI/FS reports and Records of Decision (RODs) are planned to be issued for each of the Operable Units. Progress in completing the RI/FS for each of the five Operable Units as defined under the provisions of the Consent Agreement is presented below.

Operable Unit 1: Waste Storage Area

This Operable Unit is comprised of the existing six FMPC waste storage pits, the clearwell, the burnpit and adjacent and underlying soils. The remedial investigation (RI) activities within this Operable Unit have included the collection of representative samples from each pit and surface water samples from the pit area. These samples have been analyzed for full radiological and chemical parameters. Activities have also included the installation of over 60 monitoring wells in the vicinity of the pits to investigate the potential impacts on regional groundwater quality. Geochemical and glacial till transport models have been developed and are presently being validated to support data analysis and risk assessment activities. Compilation of the RI Report is underway; however, DOE has requested an extension of one year to adequately address additional sampling requirements.

The Final Initial Screening of Alternatives Report was submitted to EPA in January 1991, defining five potential alternatives for addressing the final disposition of the stored waste inventories. Subsequent document submittals will be affected by the RI extension requested by DOE.

Operable Unit 2: Solid Waste Units

This Operable Unit is comprised of the FMPC sanitary landfill, water treatment lime sludge ponds, fly ash piles, and southfield area. RI activities completed within this unit include the collection of representative samples from the contents of each of the facilities with the completion of full radiological and chemical analyses.

RI activities have also included the installation of over 25 wells in the vicinity of the Operable Unit facilities to assess potential impacts on regional groundwater. A Final Initial Screening of Alternatives Report was submitted to EPA January 1991. The compilation of the Draft RI Report and Draft FS Report is underway with submittal scheduled for March 1991. Additional sampling has been requested by EPA and, as a result, DOE has requested a one-year extension in the RI schedule.

Operable Unit 3: Production and Suspect Areas

Operable Unit 3 is comprised of the FMPC Production Area, Scrap Metal Piles and Suspect Areas. Suspect Areas are regions at the FMPC identified by long-term site personnel as being potential historical disposal sites or where releases may have occurred. RI activities have included the completion of over 270 subsurface borings and the installation of over 175 piezometers and 15 wells to assess the nature and extent of any existing contaminant in the environment within the FMPC production area. RI activities have also included the completion of focused studies at each of the identified suspect areas to confirm or refute available information.

The Draft Initial Screening of Alternatives Report for Operable Unit 3 was submitted to EPA in September 1990 defining 14 potential alternatives for remediation. This document is under dispute with EPA as EPA issued a notice of violation to DOE in December 1990 for alleged inadequacies of the report. The preparation of the RI and FS Reports is underway.

Operable Unit 4: Silos 1, 2, 3 and 4

Operable Unit 4 is comprised of the four waste storage silos located in the FMPC waste storage area. Silos 1 and 2 are termed the K-65 Silos and contain residues from the processing of high-quality uranium ores. Silo 3 contains dry, neutralized waste residues from uranium extraction operations. Silo 4 is empty and has never been used. RI activities have included detailed radiological surveys, radon studies, structural integrity investigations, and the installation of nine wells in the vicinity of the silos to assess impacts on groundwater quality. Multiple attempts have been made to collect representative samples from the silos. Efforts continue to successfully complete this critical sampling activity. The Draft RI Report was submitted to EPA in November 1990. The document was disapproved by EPA and will be resubmitted to EPA after the sampling activity is complete.

The draft Initial Screening of Alternatives Report was submitted to EPA in June 1990. EPA and Ohio EPA comments were incorporated and the document resubmitted for EPA approval. EPA approval of this document was granted. The preparation of the Draft FS report is underway.

Operable Unit 5: Environmental Media

Operable Unit 5 is comprised of groundwater, surface water, soils, sediments, air, and flora and fauna in the vicinity of the FMPC. Site investigation activities have included the installation of over 300 monitoring wells sitewide for purposes of assessing the impacts of FMPC operations on regional groundwater quality. In excess of 4,000 surface, subsurface, and sediment samples have been collected to determine the nature and extent of any hazardous substances within the environment due to plant activities. Detailed biological and ecological sampling has been completed for purposes of determining whether FMPC activities have impacted local plant and animal life. A three-dimensional groundwater flow and solute transport model has been calibrated and validated and is currently fully operational. Preparation of the RI Report is underway.

An Initial Screening of Alternatives Report was submitted to EPA in August 1990. Work is underway on the RI and the Detailed Analysis of Alternatives portion of the FS.

In early December 1990, DOE received three Notices of Violation from EPA: (1) for failure to refer certain access issues to Department of Justice in a timely manner (OU 5), (2) submittal of an incomplete RI report because certain sampling data were not available (OU 4), and (3) failure to include certain materials and buildings in the Initial Screening of Alternatives report (OU 3). EPA assessed stipulated penalties for all three alleged violations. The issue of whether the assessment of stipulated penalties is appropriate for these alleged violations is in the dispute resolution process.

Progress in Conducting Remedial Actions at NPL Sites

The current activities are focused on completion of the RI/FS and mobilization of the Remedial Design Contractor. Final remedial actions will be initiated following signature of a Record of Decision. Several removal actions, however, are planned or underway. Pursuant to the Consent Agreement, CERCLA Response Actions at the FMPC have been segmented into four specific removal actions and five specific Operable Units. A summary of the status of each of the removal actions and Operable Units is presented below.

Removal Actions

Removal No. 1: Contaminated Water Under FMPC Buildings

This removal action involves the installation of recovery wells and/or trenches in the glacial till underlying the FMPC process buildings. The investigations associated with this removal action identified four localized areas beneath buildings potentially requiring a response action (Plant 2/3, Plant 6, Plant 8, and Plant 9). DOE issued action memoranda defining the need to conduct removal actions addressing each of these areas. Work plans for implementing the removal action were submitted to EPA and were approved in October 1990. The response actions have been temporarily suspended because of the discovery of additional volatile organic compound (VOC) contamination. A treatment system is being designed and constructed to address the VOC contamination, and upon completion (anticipated in May 1991), the responses will resume.

Removal No. 2: Waste Pit Area Run-off Control

This removal action includes the collection of storm water run-off from the FMPC waste pit area, and the redirection of these flows to existing wastewater treatment facilities. An Engineering Evaluation/Cost Analysis (EE/CA) document, identifying the selected alternative, was approved by EPA on September 11, 1990, for this removal action. The collection system is scheduled to be completed by December 1991.

Removal No. 3: South Groundwater Contamination Plume

The purpose of this removal action is to protect public health by limiting access to and use of the groundwater contamination plume, and to control plume migration. An EE/CA was submitted to EPA which: 1) provides an alternate water supply to industrial users in the plume area; 2) requires the installation of an extraction well system to prevent plume migration; 3) requires the installation of interim advanced wastewater treatment facilities; and 4) provides for groundwater monitoring and institutional control of groundwater use in the plume area.

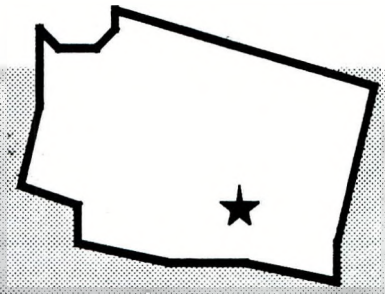
Formal approval of the EE/CA was received from EPA on September 4, 1990. The work plan for the EE/CA is undergoing revision based on EPA comments; submittal of the revised work plan is due in March 1991.

Removal No. 4: K-65 Silos 1 and 2

The objective of this removal action is to address chronic radon emissions from the K-65 Silos (Silos 1 & 2) at the FMPC and reduce the threat of a release in the event of a silo dome failure. An EE/CA document for this removal action was formally approved by EPA on September 4, 1990, providing for the installation of a bentonite clay layer over the top of the residues in each silo. The installation of the bentonite layer is scheduled to be completed by December 1991.

Other removal actions are being evaluated and implemented as necessary to address release or the threat of release of hazardous substances identified through the RI activities.

HANFORD SITE
Richland, Washington



Operation/Program Office:	Richland Operations Office
Size:	359,680 acres (562 square miles)
NPL Status:	Placed on the NPL October 4, 1989 Areas 100, 200, 300 and 1100
Mission:	Chosen in 1943 for the Manhattan Project to produce plutonium for the world's first nuclear weapons. Mission has varied over the years. Today the focus of activities is site cleanup and environmental restoration; scientific and environmental research; development and application of radwaste and hazardous waste management technology; and the design, construction, and operation of major energy-related test and development facilities.
Overview of Environmental Conditions:	On-site soil, groundwater, and sediment contamination by various hazardous and radioactive substances.
Funding in FY 90:	$80,287,000

Progress in Reaching Interagency Agreement

DOE's Richland Operations Office signed the Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) with EPA and the Washington State Department of Ecology on May 15, 1989. This Tri-Party Agreement provides the framework for effective investigation of waste sites and subsequent remediation of hazardous and mixed waste contamination at Hanford. An Annual Update will be prepared to address additional problems and incorporate schedules agreed to in approved RI/FS work plans, and at the time a Record of Decision (ROD) is issued, to cover the definitive plan for remedial action. The update for calendar year 1990 was prepared and issued in August 1990. The most significant change was the addition of RCRA Land Disposal Restriction Compliance Actions.

Public Comments Regarding Proposed Interagency Agreements

The initial Tri-Party Agreement was subjected to a 45-day public review process prior to being signed. During that period, four workshops were held in various locations throughout Washington State. In response to the requests heard at the workshops, two public hearings were held in Richland and Olympia, Washington. Comments received by this process concerned legal and technical issues, funding for the Tri-Party Agreement actions, DOE-Richland Operations Office policies and the public involvement, and other incidental or related topics. Among the actions taken by the three parties in response to comments from the public prior to the signing of the agreement were: inclusion of the Washington State Nuclear Waste Advisory Council in the public involvement process; an agreement to conduct a 14-month investigation of liquid discharges at Hanford; and inclusion of language in the agreement that more clearly addresses the decontamination and decommissioning of surplus facilities at Hanford. A 30-day public comment period was held for the 1990 annual update; no significant comments were received.

Progress in Conducting Remedial Investigations/Feasibility Studies at NPL Sites

The Hanford Site includes a broad range of waste units which are either radioactive, hazardous, mixed (both radioactive and hazardous), or non-radioactive/non-hazardous. A variety of contaminants remain on and under the Hanford Site, and have been detected in groundwater and surface water at the Hanford Site. Groundwater, surface water, and air pathways provide routes for the migration of contaminants from the Hanford Site. An estimated five billion cubic yards of solid and dilute liquid waste have been disposed of at the Hanford Site. Significant above-background concentrations of hazardous substances, including chromium, strontium-90, tritium, iodine-129, uranium, cyanide, carbon tetrachloride, nitrates, and technetium-99 have been detected in the groundwater (unconfined aquifer) at the Hanford Site. In accordance with the Tri-Party Agreement, the plan is to complete investigation of all these waste units by the year 2005 and complete all remedial or corrective actions by the year 2018.

EPA added four Hanford Aggregate Areas to the NPL on October 4, 1989. Seventy-four operable units (OUs), containing 1,129 identified hazardous waste sites, and 4 groundwater OUs have been identified within these Aggregate Areas. Under the Tri-Party Agreement, the OUs will be investigated separately, with a ROD for each OU. The OUs are prioritized for investigation based on an initial assessment of environmental risk potential. RI/FS work plans have been initiated on 14 of the OUs based upon the priority established in the Tri-Party Agreement. By the end of 1990, four work plans had been approved by the regulators, and field investigation work initiated on the four OUs. Additionally, initial phases of the FS for the 1100-EM-1 OU were completed on December 31, 1990. The Tri-Party Agreement requires that 20 work plans be submitted by April 1992, and 6 per calendar year thereafter.

DOE-Richland, EPA, and the State of Washington have developed a strategy for streamlining the past practice corrective and remedial action process, which provides for accelerating decision-making by 1) maximizing the use of existing data consistent with data quality objectives and 2) undertaking expedited response actions as might be needed to remove immediate or near-term threats to human health and welfare and the environment. This strategy has recently been sent to EPA and the State of Washington Department of Ecology for approval.

Progress in Conducting Remedial Actions at NPL Sites

DOE, EPA, and the State of Washington Department of Ecology signed on October 18, 1990, an Agreement in Principle to identify, select, and initiate, as appropriate, expedited response actions at Hanford. To date, DOE has identified three potential Hanford Site projects which are being considered for expedited response actions. These projects include the 618-9 Burial Ground Remediation; the 300 Area Process Trenches (located in the 300-FF-1 OU), which is believed to be the source of uranium plumes migrating to the Columbia River; and the 200-W Area Carbon Tetrachloride Treatment (located in the 200-ZP-1 OU).

Final remedial actions will be initiated following signing of a ROD.

IDAHO NATIONAL ENGINEERING LABORATORY

Idaho Falls, Idaho

Operation/Program Office:	Idaho Operations Office
Size:	569,600 acres (890 square miles)
NPL Status:	Placed on the NPL on November 21, 1989
Mission:	The Idaho National Engineering Laboratory (INEL) was established in 1949 by the U.S. Atomic Energy Commission as an area to build, test, and operate various nuclear reactors, fuel processing plants, and support facilities with maximum safety and isolation. Originally known as the National Reactor Testing Station, the site was renamed as the INEL in 1974 to reflect the broad scope of engineering activities now conducted at the site. Prior to its establishment, the site was used as a World War II gunnery range for the U.S. Navy and U.S. Army Air Corps.
Overview of Environmental Conditions:	Groundwater contamination from both known and potential contamination sources resulting from past disposal practices. Contaminants of concern include chromium, volatile organic chemicals, carbon tetrachloride, and plutonium.
Funding in FY 90:	$43,146,000

Progress in Reaching Interagency Agreement

At the time the facility was placed on the NPL, the site was engaged in activities aimed at compliance with the terms of an existing RCRA 3008(h), Consent Order and Compliance Agreement (COCA) which was entered into with EPA in July 1987.

The INEL FFA is being negotiated between Idaho Operations Office, EPA Region X, and the State of Idaho. The FFA will cover all RI/FS and remedial action implementation as well as RCRA corrective action requirements. Once remaining issues are resolved, the FFA will be submitted for public comment, which is expected to begin in mid-FY 91.

Public Comments Regarding Proposed Interagency Agreements

Once negotiations are completed, the draft FFA will be submitted for public comment.

Progress in Conducting Remedial Investigations/Feasibility Studies at NPL Sites

Prior to the NPL listing of the INEL, DOE entered into a RCRA 3008(h) COCA with EPA Region X in July 1987. The CERCLA FFA which is now being negotiated will supersede the COCA and will cover all RCRA corrective action and CERCLA response requirements. Under the FFA, operable units have been defined such that all known solid or hazardous waste units identified under the COCA will be appropriately addressed. Corrective action plans including field investigations have been initiated at three release sites which were identified before NPL listing. At the Test Area North site, an investigation addressing groundwater and drinking water contamination is underway. The primary contaminant of concern is trichloroethylene. At another site, the Test Reactor Area, chromate contamination resulting from possible percolation from an unlined waste pond is being investigated and characterized. The third site, the Radioactive Waste Management Complex (RWMC) is an 88-acre disposal facility at which radioactive and radioactive-mixed wastes were disposed of in the past. An ongoing investigation has detected the presence of carbon tetrachloride above drinking water standards in the Snake River aquifer downgradient from the RWMC site. Additional sites have been identified during the FFA negotiations. In addition, closure plans for 30 land disposal units have been completed, and characterization has been initiated at most of these units. Pilot scale tests of in-situ vitrification treatment with simulated mixed waste were also completed in 1990.

Progress in Conducting Remedial Actions at NPL Sites

Although the INEL FFA has not yet been signed and implemented, a RCRA interim action was performed under the COCA to remove contaminated sediment from an injection well at the Test Area North site which was thought to be a source of groundwater contamination. In addition, a RCRA interim action was completed to vacuum-extract volatile organic vapors from the vadose zone beneath the RWMC mixed waste site, and two closures of land disposal units have been initiated. Removal of underground storage tanks was initiated in July 1990. Other interim action operable units have been identified for implementation under the FFA.

LAWRENCE LIVERMORE NATIONAL LABORATORY

Livermore, California

Operation/Program Office:	San Francisco Operations Office
Size:	Main Site: 811 acres Site 300: 7,000 acres (Tracy, California)
NPL Status:	Placed on the NPL on July 22, 1987 (Main Site); August 30, 1990 (Site 300)
Mission:	The Lawrence Livermore National Laboratory was established in 1952 to function as a national scientific and technical resource for the nuclear weapons program and other programs of national interest. Lawrence Livermore National Laboratory performs research, development, and testing associated with the nuclear design aspects of all phases of the nuclear weapon life cycle. The Laboratory, consisting of two noncontiguous parcels, is also involved in the following programs: inertial fusion; magnetic fusion; biomedical and environmental research; isotope separation; and applied energy technology and other research-related activities.
Overview of Environmental Conditions:	Main Site: Contamination of groundwater and soil with tetrachloroethylene and trichloroethylene. Site 300: Contamination of groundwater and soil with tritium and trichloroethylene.
Funding in FY 90:	$17,445,000

Progress in Reaching Interagency Agreement

DOE entered into an FFA with EPA and the State of California for a RI/FS and cleanup of the Lawrence Livermore National Laboratory - Main Site in November 1988. An interim letter agreement was signed in October 1990 for environmental restoration work at Lawrence Livermore National Laboratory - Site 300 to ensure assessment and cleanup activities continued while the CERCLA FFA is negotiated. Negotiations are continuing for the Site 300 FFA.

Public Comments Regarding Proposed Interagency Agreements

The 1989 FFA for the Main Site did not need modification after its 45-day comment period. Public comment will be solicited prior to finalizing the Site 300 FFA.

Progress in Conducting Remedial Investigations/Feasibility Studies at NPL Sites

A draft FS Report for the Lawrence Livermore National Laboratory - Main Site was completed in July 1990. The final study was completed in December 1990. A Proposed Remedial Action Plan was completed in February 1991. As for Site 300, seven RI/FSs are underway which are scheduled for completion in 1991. These will be included within the scope of the FFA when executed.

Progress in Conducting Remedial Actions at NPL Sites

A Remedial Design Plan, Remedial Design Implementation Plan, and ROD for the Lawrence Livermore National Laboratory - Main Site will be prepared in 1991. Full-scale cleanup should commence by 1992.

Site 300 assessment and cleanup activities are proceeding with oversight by the California Regional Water Quality Control Board (RWQCB) and through an interim letter of agreement with EPA Region IX. The interim agreement defines the schedule for removal action for halting the further spread of volatile organic compounds (VOCs) off-site at the General Services Area, which is located approximately 4,000 feet from Site 300. Nine sites are under investigation at Site 300. The assessment phase is complete at three sites and in progress at the remaining sites. A pilot groundwater treatment study has been performed at one area and full-scale remediation should start in 1991.

MAYWOOD SITE

Maywood/Rochelle Park, New Jersey

Operation/Program Office:	Oak Ridge Operations Office
Size:	12 acres
NPL Status:	Placed on the NPL on September 8, 1983.
Mission:	The Maywood Site, a privately owned site, was partially acquired by DOE in 1985. The parcel acquired by DOE is intended for storage of radiologically contaminated materials during remedial activities conducted on properties in the vicinity of the Maywood Site.
Overview of Environmental Conditions:	Soil contaminated by radioactive materials released to the environment.
Funding in FY 90:	$5,500,000 (including Wayne Site)

Progress in Reaching Interagency Agreement

A FFA was negotiated and signed with EPA for the Maywood Site. The FFA was issued to the public for review and the comment period ended on November 19, 1990. The FFA will be finalized after EPA reviews the comments, and is planned to be executed in 1991. This site is now in DOE's Formerly Utilized Sites Remedial Action Program (FUSRAP).

Public Comments Regarding Proposed Interagency Agreements

Very few comments were received from the public on the Maywood Site. The comments received came from five individuals who objected to DOE's involvement at this site. Their general comments were: 1) Congress should not have assigned the sites to DOE, thereby relieving the operating companies of financial responsibility for the cleanups; 2) as a result of historical problems such as those encountered at Hanford Site and Feed Materials Production Center, there is a lack of confidence in DOE's ability to manage cleanup; 3) DOE should quickly move the contaminated waste out of state to a commercial facility in Utah; and 4) interim storage of contaminated waste from neighboring communities should be stopped (no waste has been received for storage from neighboring communities during the last 4 years). The comments are under review by EPA and DOE.

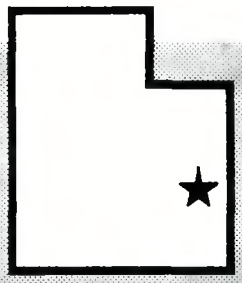
Progress in Conducting Remedial Investigations/Feasibility Studies at NPL Sites

RI activities are almost complete at the Maywood Site. Activities conducted at the facility during 1990 consisted of characterizing ten vicinity properties, the interim storage pile, and the chemical contaminants on the DOE-owned property. RI field work was completed in January 1991, enabling work to begin on the RI/FS report.

Progress in Conducting Remedial Actions at NPL Sites

No remedial action has been completed at the Maywood Site; however, substantial progress has been made using removal actions. At the site, the DOE-owned Maywood Interim Storage Site and 82 vicinity properties are contaminated. Twenty-five of the 82 properties were cleaned up using removal actions, and the resulting waste was placed in storage in the engineered cell at the Maywood Interim Storage Site.

MONTICELLO MILL SITE AND VICINITY PROPERTIES
Monticello, Utah



Operation/Program Office:	Idaho Operations Office
Size:	78 acres (Mill Site), plus approximately 500 vicinity properties in the town of Monticello
NPL Status:	Placed on the NPL on November 21, 1989 for the mill site and June 10, 1986 for the vicinity properties.
Mission:	Former uranium milling operation.
Overview of Environmental Conditions:	Soil and groundwater contamination from radioactive mill tailings, process equipment, and milling operations. Approximately 2 million cubic yards of contaminated material.
Funding in FY 90:	$4,255,000

Progress in Reaching Interagency Agreement

DOE, EPA Region VIII, and the State of Utah signed a CERCLA Section 120 FFA in December 1988.

Specific Cost Estimates Involved in Each Interagency Agreement

Costs budgeted for environmental restoration under the FFA at the Monticello Mill Site and Vicinity Properties, according to the April 1991 Congressional Budget, total $5.1 million for FY 91 and $12 million for FY 92.

Public Comments Regarding Proposed Interagency Agreements

No public comments were received on the FFA executed December 1988.

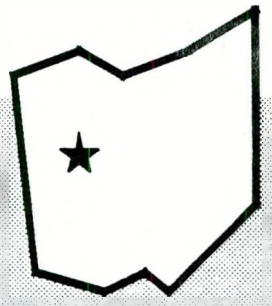
Progress in Conducting Remedial Investigations/Feasibility Studies at NPL Sites

The RI/FS equivalent for the Vicinity Properties was completed in 1989. The first Record of Decision (ROD) covering the Vicinity Properties was signed by EPA in September 1989 and by DOE in December 1989. The ROD for the Mill Site, a separate NPL site, was signed by EPA in August 1990 and by DOE in September 1990 and entails excavation and containment of mill tailing materials in a repository to be constructed on site. Remedial design has been initiated. Remedial action is scheduled to begin in the first quarter of FY 92.

Progress in Conducting Remedial Actions at NPL Sites

Remedial actions have been completed on 90 of the current 199 Vicinity Properties qualifying for remediation. Contaminated materials have been excavated and taken to the Mill Site for interim storage prior to placement in the repository once completed. Excavated properties have been backfilled and revegetated.

MOUND PLANT
Dayton, Ohio



Operation/Program Office:	Albuquerque Operations Office
Size:	306 acres
NPL Status:	Placed on the NPL on November 21, 1989.
Mission:	The Mound Plant has been in continuous use since 1948. Its main mission is to manufacture nonnuclear components and tritium-containing components for nuclear weapons which are then assembled at another site. Other activities include: the separation, purification, and sale of stable isotopes of the noble gases; solar energy; fossil fuels; nuclear safeguards; waste management; heat source testing (plutonium) and fusion fuel systems.
Overview of Environmental Conditions:	Tritium contamination of groundwater and soils contaminated with residual plutonium from past on-site operations.
Funding in FY 90:	$823,000

Progress in Reaching Interagency Agreement

The FFA for the CERCLA Section 120 activities at Mound was executed by EPA Region V and Albuquerque Operations Office on August 8, 1990. The Ohio EPA has expressed interest in a three-party agreement, with the Ohio EPA to be added as a party to the FFA. DOE has requested that EPA support the effort to modify the FFA to include the State. The Ohio Attorney General's Office has communicated conditions under which the State would consider joining the agreement. However, Ohio EPA is still involved in monthly project manager meetings and document review as though it were a party to the agreement.

Public Comments Regarding Proposed Interagency Agreements

No significant public comments were received on the FFA.

Progress in Conducting Remedial Investigations/Feasibility Studies at NPL Sites

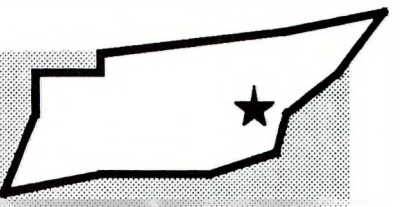
RI/FS work plans are in preparation for all eight operable units. The first ROD scheduled for completion for one of these operable units is in early FY 94.

Progress in Conducting Remedial Actions at NPL Sites

Remedial action is not scheduled to begin at Mound until FY 94. However, several of the sites with releases may require interim remedial actions as early as FY 91. No immediate health risks have been identified to date based on information available for the approximately 125 known potential sites.

OAK RIDGE NATIONAL LABORATORY; Y-12 PLANT; K-25 (OAK RIDGE GASEOUS DIFFUSION PLANT); OAK RIDGE ASSOCIATED UNIVERSITIES, AND OFF-SITE CLINCH RIVER

Oak Ridge, Tennessee



Operation/Program Office:	Oak Ridge Operations Office
Size:	35,000 acres
NPL Status:	Placed on the NPL on November 21, 1989.
Mission:	The Oak Ridge National Laboratory (ORNL) provides extensive research and development in energy production. Activities include reactor and accelerator development and operation, production and sale of radioactive and stable isotopes, and environmental and health research. K-25 (the Oak Ridge Gaseous Diffusion Plant) used to produce enriched uranium by gaseous diffusion. It has shut down and the name of the facility was officially changed to K-25 in October 1990. The Y-12 Plant's original mission was to separate the fissionable isotope of uranium (U-235) by the electromagnetic process. The plant today has four principal missions. They are producing nuclear weapon components and supporting DOE's weapon design laboratories; processing source and special nuclear materials; supporting other DOE installations at Oak Ridge and at Paducah, Kentucky; and providing support to other government agencies.
Overview of Environmental Conditions:	The sites include waste units that are either radioactive, hazardous, mixed (both radioactive and hazardous), or non-radioactive/non-hazardous. Examples of the problems include radioactive underground tanks, solid waste disposal areas, liquid waste pit and trenches, hydrofracture facilities, and dense, non-aqueous phase liquid migration in fractured rock. A total of 409 contaminated units exist between the three installations. Surface water and groundwater are also contaminated.
Funding in FY 90:	$78,000,000

Progress in Reaching Interagency Agreement

DOE, EPA Region IV, and the State of Tennessee have negotiated a CERCLA Section 120 FFA for the Oak Ridge Reservation (Oak Ridge National Laboratory; Y-12 Plant; K-25 Site; Oak Ridge Associated Universities, and the Off-site Clinch River). The FFA is anticipated to be signed in early 1991. The public comment period for this agreement closed on February 25, 1991. No comments were received. The FFA is

currently undergoing final approval by DOE. The Oak Ridge Reservation is currently implementing a remedial action program in accordance with the RCRA 3004(u) and (v) requirements of its RCRA permit, dated September 26, 1986.

Public Comments Regarding Proposed Interagency Agreements

A 45-day public comment period was initiated January 10, 1991, through notice in the Federal Register. A public meeting was held on February 5, 1991, to solicit additional public comments. No comments were received.

Progress in Conducting Remedial Investigations/Feasibility Studies at NPL Sites

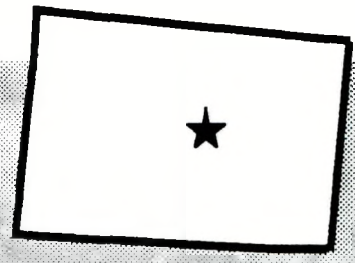
The remedial action work plans, site characterization studies, and RI reports developed during this year have been prepared using EPA guidelines for both RCRA Facility Investigations (RFI) and CERCLA RI/FSs. These documents were sent out in accordance with milestones specified in the negotiated FFA and the schedule defined in the RCRA permit. Public meetings have been held during the year to advise the public of the restoration process being implemented to remediate Oak Ridge Reservation and to address the public's concerns over the relative risk associated with the off-site contamination. Work completed or underway includes: submittal of 23 RFI work plans to EPA and the State for review at K-25; submittal of 13 RI work plans to EPA and the State for review, and initiation of field work for two areas at the Oak Ridge National Laboratory; and submittal of 24 RFI/RI work plans to EPA and the State for approval at the Y-12 Plant. Additional work underway includes: RI field work at the East Fork Poplar Creek for the Oak Ridge Associated Universities and RI field work at the Off-Site Clinch and Tennessee Rivers and preliminary site investigation work for the Oak Ridge Associated Universities. Other significant work completed at ORNL includes the completion of the RFI for a 65-acre mixed waste burial ground and the capping of a portion of the site. At Y-12, eight RCRA closures have been completed, with four additional closures to be completed by 1993.

Progress in Conducting Remedial Actions at NPL Sites

In accordance with the FFA, the plan is to complete the remedial or corrective actions of all the identified remediation sites by the year 2019. Final CERCLA remedial action will be initiated after signatures of Records of Decision (RODs). Removal and interim cleanup actions that are completed or underway include: closure of the surface impoundments by sludge removal and cement fixation at K-25; pilot scale in-situ vitrification of a radioactive seepage trench at the Oak Ridge National Laboratory; and closure of several RCRA land disposal units at the Y-12 Plant.

ROCKY FLATS PLANT

Golden, Colorado



Operation/Program Office:	Rocky Flats Office
Size:	6,550 acres
NPL Status:	Placed on the NPL on October 4, 1989.
Mission:	Rocky Flats Plant began operations in 1952 and is tasked with producing component parts for nuclear weapons. Key production activities involve the fabrication of parts from plutonium, uranium, and nonradioactive metals, principally beryllium, stainless steel, and aluminum. Components made at the Rocky Flats Plant are shipped elsewhere for final assembly. Components from obsolete nuclear weapons are disassembled and processed to recover plutonium and americium. Enriched uranium components are separated and shipped to Oak Ridge, Tennessee, for recycle.
Overview of Environmental Conditions:	On-site contamination of soil, groundwater, and surface water by chemical and radioactive materials used by the facility. Off-site soil contamination also has been identified.
Funding in FY 90:	$57,814,000

Progress in Reaching Interagency Agreement

Negotiations toward a FFA for cleanup of the site among DOE, EPA Region VIII, and Colorado Department of Health were initiated in May 1989. Negotiations were completed and a Notice of Intent to execute the agreement was signed December 4, 1989. Public comments were solicited, received, and addressed. Execution of the agreement occurred in January 1991. The FFA supersedes the RCRA/CERCLA Compliance Agreement executed July 1986 between DOE, EPA, and the Colorado Department of Health.

Specific Cost Estimates Involved in Each Interagency Agreement

Costs budgeted for environmental restoration under the FFA at the Rocky Flats Plant, according to the April 1991 Congressional Budget, total $65 million for FY 91 and $50 million for FY 92.

Public Comments Regarding Proposed Interagency Agreements

The State of Colorado, DOE, and EPA Region VIII (the Parties) concluded an FFA to establish a framework for cleaning up the Rocky Flats Plant. This FFA coordinates the working relationship among the Parties in the cleanup and oversight efforts at the plant.

Public comment on the agreement began December 22, 1989, and ended February 21, 1990. The public was notified of the opportunity to comment and provided information through display advertisements printed in major Denver area newspapers, press conferences, news releases, informational bulletins, and workshops. EPA distributed over 200 copies of the agreement to government agencies and interested citizens. The Parties also participated in the Rocky Flats Environmental Monitoring Council's January 29, 1990, meeting which addressed how the public could provide input to the agreement.

A complete summary of public comments on the draft FFA and the Parties' responses to these comments are documented in the Final Responsiveness Summary dated August 16, 1990. Outlined below are the areas of concern receiving the majority of public comments, along with a description of modifications to the FFA made by the Parties in response to these comments.

The Parties divided the written and oral comments received from the public into 24 categories that were identified as the major areas of concern. The following four categories contain the majority of public comments received by the FFA Parties: Community Involvement; Off-site Assessments; Funding Issues; Contaminant Emissions and Migration Resulting from Construction.

The major concern expressed in the Community Involvement category is that the public be kept informed regarding activities at the site and be permitted to review all relevant site documents.

The Off-site Assessments category contains comments that express a public urgency about FFA off-site assessments at Rocky Flats. These comments include issues such as expediting the assessments, permanent remediation, liability, and effects on drinking water.

Comments in the Funding Issues category include public concern that EPA and the State receive adequate funding to oversee both the FFA schedules and the investigative and cleanup activities at the site; concern about the possible shortage of funds to public groups and municipalities for constant oversight of FFA work plans, reports, and site activities; concern about whether DOE's funding would be adequate for long-term compliance with the FFA, and whether compliance would be enforced if funding is not adequate; and concern about EPA and State funding and the agencies' abilities to provide adequate resources to meet the schedules outlined in the FFA.

Comments in the category of Contaminant Emissions and Migration Resulting from Construction include concerns about placement of air monitors at the site and migration of contaminants during the investigative and cleanup activities, and concern about emissions from regular work activities at the site.

To address each of these four categories of concern, the Parties made the following modifications to the draft FFA and associated Statement of Work (SOW). In response to the public's request for increased public involvement, the Parties made modifications to provide for: public notification of proposed remedial actions in publications of general circulation; increased public involvement in developing the community relations plan; additional news release procedures for immediate public notification in emergencies; and a public comment period for the Discharge Limits for Radionuclides Work Plan. Public concern regarding the urgency of off-site assessments was addressed by reprioritizing operable units to give off-site assessments an increase in priority. To address public concerns regarding contaminant emissions and migrations resulting from construction, the SOW was modified to require DOE to distribute all health and safety plans and related documents to all site contractors and subcontractors involved in site investigations and response actions. In addition, wind speed criteria were changed within the Plan for Prevention of Contaminant Dispersion. Regarding funding issues, the Parties determined that changes in the draft FFA were not warranted.

Progress in Conducting Remedial Investigations/Feasibility Studies

Initial site characterization efforts began in July 1986 under the RCRA/CERCLA Compliance Agreement and continue under the FFA executed in January 1991.

DOE submitted Preliminary Assessment/Site Investigation (PA/SI) information on the Rocky Flats Plant to EPA Region VIII on October 4, 1989.

The Rocky Flats Plant PA identified past on-site storage and disposal locations as potential sources of environmental contamination. A comprehensive list of all known and suspected hazardous, radioactive, and mixed waste sources at the Rocky Flats Plant has been compiled, including descriptions and all known release information for 178 individual hazardous substance sites. These sites have been categorized for further environmental investigation and remediation into 16 Operable Units (OUs) based on cleanup priorities, waste type, and geographic location.

Sitewide, activities encompassing all OUs at Rocky Flats Plant include completion of a Community Relations Plan that describes the procedures used to incorporate community involvement into the decision-making process. A Background Characterization Report, a Health and Safety Plan for field workers, a Quality Assurance Project Plan, Standard Operating Procedures, and a Plan for Prevention of Contaminant Dispersion also have been prepared. A draft Treatability Study Plan to investigate potentially available corrective/remedial action technologies has been submitted to EPA/Colorado Department of Health for review.

RI work plans for the two high-priority OUs, 881 Hillside (OU1) and 903 Pad, Mound, and East Trenches (OU2), were completed during FY 90. A portion of the work plan for OU2 was approved by the regulatory agencies and the fieldwork was initiated. The work plan for OU1 has been submitted to the regulatory agencies for approval.

Draft RI work plans for four other OUs (OU4, OU7, OU9, and OU11) were also completed during 1990 and were submitted to the regulatory agencies for approval. All final RI plans that have been submitted are expected to be approved during FY 91 or early FY 92.

An RI work plan for three additional OUs (OU5, OU6, and OU10) was initiated in 1990. Work on the remaining OUs requiring RIs is not scheduled to begin until FY 91 or FY 92.

Progress in Conducting Remedial Actions at NPL Sites

Final remedial actions will be implemented following signing of the Records of Decision (RODs).

Interim remedial action has been initiated on OU1 (the 881 Hillside) and OU2 (the 903 Pad, Mound, and East Trenches). Actions are also underway on OU 3 (the contaminated land surface east of the Rocky Flats Plant, Standley Lake, and the Great Western and Mower Reservoirs) and OU 4 (the Solar Evaporation Ponds).

OU1

The soil and groundwater at the 881 Hillside area, located north of Woman Creek in the southeast section of Rocky Flats Plant, were contaminated in the 1960s and 1970s with solvents and radionuclides. The various individual hazardous substance sites that OU1 comprises are being investigated and treated as high-priority sites because of elevated concentrations of organic compounds and radionuclides in the groundwater.

At OU1, the selected interim remedial action involves construction of an underground drainage system to intercept and contain contaminated groundwater flowing from the OU1 area. The 2,100-foot-long drain will be constructed on top of the bedrock in the alluvium, which varies from 10 to 40 feet in thickness, downgradient of the contaminated groundwater of OU1. An impermeable barrier will be constructed between the bedrock and the surface with a piping system located on the upstream side to collect contaminated groundwater. Water will then be pumped to an on-site treatment facility to remove organic

compounds, metals, and radionuclides. The treatment facility will use ultraviolet light and hydrogen peroxide to treat organic compounds; metals and radionuclides will be removed by an ion exchange system. Monitoring wells will be installed to monitor the effectiveness of the groundwater collection system, and treated water will be released into the existing drainages.

OU2

At OU2, DOE completed its evaluation of technologies and initiated the design and procurement of equipment needed for cleaning up some contaminated surface water sources at the 903 Pad, Mound, and East Trenches areas. The preferred treatment methods have been made available for public comment in an interim measures/interim remedial action plan. Under this plan, source areas of contamination will be treated and returned to the surface water system.

The contamination at the 903 Pad, Mound and East Trenches areas is largely attributed to the storage of waste drums in the 1950s and 1960s that corroded over time, allowing hazardous and radioactive materials to leak into the surrounding soil. Additional contamination may have resulted from wind dispersion during removal and soil movement activities. The East Trenches area was used for the disposal of plutonium- and uranium-contaminated waste and sanitary sewage sludge from 1954 to 1968. Two areas adjacent to the trenches were used for spray irrigation of sewage treatment plant effluent, some of which may have contained contaminants that were not removed by the treatment system.

DOE evaluated alternatives to remove first the radionuclides and metals and then the volatile organic compounds (VOCs) from the surface water at OU2. The preferred alternative is chemical precipitation with cross-flow membrane filtration for suspended solids, radionuclides, and metals removal followed by granular activated carbon adsorption for removal of VOCs.

As part of the preferred alternative, DOE expects to start up a field-scale treatability unit by March 1991 to evaluate the effectiveness of the organics removal methods. To confirm the effectiveness of the treatment process, the project will test water at three points: at the entrance to the treatment facility, at several points within the facility, and at the discharge point. After completion of the field-scale treatability tests, the unit is anticipated to remain in service for about 6 years, when the final remedial action for OU2 is expected to be underway.

OU3

Operable Unit 3 consists of radionuclide-contaminated land surfaces east of the plant boundary, Great Western Reservoir, Standley Reservoir and Mower Reservoir. It is thought that two downstream reservoirs (Great Western and Standley Lake) were contaminated with small amounts of plutonium in the late 1960s. No substantial risk is currently associated with this contamination.

To date, several actions have been taken. Remediation activities involving the plowing and re-vegetation of about 350 acres east of the Rocky Flats Plant as the result of 1985 out-of-court lawsuit settlement continue. Temporary diversion of flows around the reservoirs and treatment of surface water prior to discharge was instituted in 1989 and 1990.

A plan called "Options B + J" was developed, with community participation, as the long-term solution to surface water management at Rocky Flats. Option B involves mainly off-site activities. They include DOE assumption of control of Great Western Reservoir, funding the City of Broomfield's replacement of this water source, and the construction of a system capable of diverting the 100-year recurrence internal run-off event from Woman Creek away from Standley Lake. Option J involves a series of mainly on-site studies and activities to, in part, evaluate the surface water flow system, improve existing monitoring, control, and treatment systems, and if feasible, achieve "zero discharge" for all or part of the plant drainage system.

Planned FY 91 activities include supporting the City of Broomfield in performing preliminary design work and purchasing alternate water rights.

OU4

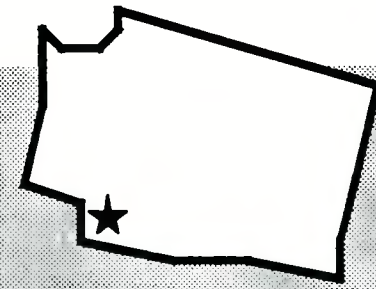
Five solar evaporation ponds, with a combined area of approximately 308,000 square feet and a combined volume of approximately 11 million gallons, comprise Operable Unit 4. The ponds were constructed in the 1950s to accept low-level radioactive process wastes containing nitrates and treated acidic wastes. The ponds have also received sewage sludge, metals, mineral acids, metal chlorides, and cyanide solutions. Contamination of groundwater nearby has been attributed to pond leakage.

A system to intercept groundwater was completed in 1981 and annually returns approximately 4 million gallons of contaminated groundwater to the ponds. An Agreement-In-Principle between the State of Colorado and DOE requires that all pond sludge be converted to pondcrete (cast blocks consisting of pond sludge and concrete), all pondcrete be shipped to the Nevada Test Site, and the ponds be dewatered by October 1991.

DOE pondcrete actions are underway. To date, over 11,000 blocks have been shipped to Nevada Test Site, portable water evaporators have been procured, and enhanced solar evaporation of the ponds has been initiated. In FY 91, the services of an experienced sludge cementation contractor have been procured to initiate the characterization, removal, and processing of the remaining pond sludge.

ROSS COMPLEX

Vancouver, Washington



Operation/Program Office:	Bonneville Power Administration (BPA)
Size:	250 acres
NPL Status:	Placed on the NPL on November 21, 1989.
Mission:	The Ross Complex, in operation since the late 1930s, acts as BPA's central control center for the transmission of electricity throughout the Pacific Northwest. The complex also acts as a research and testing, maintenance, construction, operations and waste handling facility for Bonneville Power Administration.
Overview of Environmental Conditions:	Soil contamination due to historical disposal of PCB-laden capacitors; groundwater contamination by solvents.
Funding in FY 90:	$767,000

Progress in Reaching Interagency Agreement

A Preliminary Assessment (PA) of the Ross Complex was completed and submitted to EPA Region X on June 20, 1986. A Site Investigation (SI) was subsequently completed and submitted to EPA Region X and the Washington State Department of Ecology on August 8, 1989. The Ross Complex was listed on the NPL on November 21, 1989.

BPA, EPA Region X, and State of Washington Department of Ecology initiated negotiations for a FFA on November 20, 1989. DOE executed the FFA on April 20, 1990 for the Ross Complex site. This agreement became effective on May 1, 1990. The agreement serves as a framework for conducting remedial activities in accordance with CERCLA Section 120 and the National Contingency Plan (NCP).

Public Comments Regarding Proposed Interagency Agreements

The FFA was not released for public comment upon the determination by EPA Region X that release for formal public comment was not required. No public comments were therefore received on the proposed FFA.

Progress in Conducting Remedial Investigations/Feasibility Studies at NPL Sites

A RI/FS scoping meeting was held among DOE, BPA, EPA Region X, and the State of Washington Department of Ecology on November 13, 1989. In accordance with the RI/FS project schedule of the FFA, the following project documents were completed by DOE and submitted to all parties by the respective due dates: RI/FS Scope of Work - March 15, 1990 and RI/FS Draft Work Plan - May 15, 1990. Based on agency

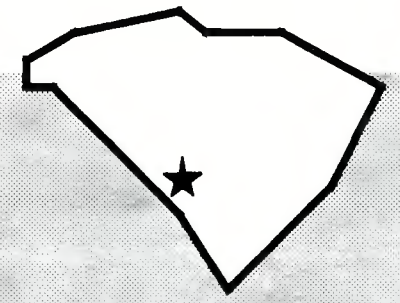
review comments, a revised scope of work, conceptual site model, and draft work plan were subsequently prepared and submitted. The latest major revision of the draft work plan was submitted on October 17, 1990 and is currently under review by EPA and the State of Washington. Once a final work plan is approved, Phase I of the on-site field work will begin.

A community relations plan was prepared as a component of the project work plan.

Progress in Conducting Remedial Actions at NPL Sites

Remedial action will be initiated following completion of the RI/FS and signing of a Record of Decision.

SAVANNAH RIVER SITE
Aiken, South Carolina



Operation/Program Office:	Savannah River Operations Office
Size:	Approximately 300 square miles
NPL Status:	Placed on the NPL on November 21, 1989
Mission:	The Savannah River Site, established in 1950 by the Atomic Energy Commission, was constructed to produce the basic materials used in the fabrication of nuclear weapons, primarily tritium and plutonium-239. Savannah River Site also serves as a lumber and forestry research center for the U.S. Forest Service and houses the Savannah River Ecology Laboratory, a research center operated for DOE by the University of Georgia.
Overview of Environmental Conditions:	Soil, groundwater and air emissions associated with chemical and radioactive releases.
Funding in FY 90:	$63,017,000

Progress in Reaching Interagency Agreement

A draft FFA was negotiated during 1990 by the DOE Savannah River Operations Office, EPA Region IV and the South Carolina Department of Health and Environmental Control. DOE expects to execute the final FFA for the Savannah River Site in 1991.

Public Comments Regarding Proposed Interagency Agreements

After a Notice of Intent (NOI) to sign the FFA has been executed, the draft FFA will be submitted for a 45-day public comment period in 1991.

Progress in Conducting Remedial Investigations/Feasibility Studies at NPL Sites

A RCRA 3004(u) permit was issued by EPA Region IV and the South Carolina Department of Health and Environmental Control on September 29, 1987. A RCRA Facility Investigation (RFI) Program Plan, which outlines the requirements for the preparation of unit-specific investigation plans and contains a schedule for the submittal of the plans, was approved by EPA Region IV on September 6, 1989. In anticipation of the Savannah River Site's being placed on the NPL, the RFI Program Plan was revised to include CERCLA requirements so that the results obtained from the execution of the unit-specific plans would meet the requirements of an RCRA RFI and a CERCLA Remedial Investigation (RFI/RI). The Savannah River Site submitted nine RFI/RI plans and two Preliminary Risk Assessment Plans on schedule in 1990. Additionally, there are ongoing efforts to develop innovative technologies (e.g., trichloroethylene biodegradation demonstration) as well as progress toward better characterizing hydrogeologic conditions under research and development activities.

Eighty-five community interviews were conducted in 1990 to support the preparation of a Savannah River Site Community Relations Plan. The Plan will be submitted to the public for review and comment.

Progress in Conducting Remedial Actions at NPL Sites

Four RCRA hazardous waste management facilities are currently being closed per State-approved closure plans. Included in these four facilities are two major projects involving closure of (1) a 58-acre section of a radioactive waste burial ground containing hazardous and radioactive waste by dynamic compaction and capping and (2) two large seepage basin areas containing radionuclides and other chemicals by treatment of wastewater and capping of the basins. Groundwater corrective action is ongoing at one hazardous waste management facility. These four facilities are also included in the draft FFA as CERCLA operable units. Final remedial actions will be initiated following signing of a Record of Decision. Further decontamination and decommissioning activities are being conducted at two facilities.

ST. LOUIS AIRPORT SITE (Including Latty Avenue Site and Vicinity Properties)

Hazelwood, Missouri

Operation/Program Office:	Oak Ridge Operations Office
Size:	21.7 acres
NPL Status:	Placed on the NPL on October 4, 1989.
Mission:	The St. Louis Airport Site, established as a storage site in 1946, stores residues, contaminated scrap and equipment generated by processing plants in St. Louis from 1946 to 1969. This site has been identified for further storage use for wastes resulting from the cleanup of the Hazelwood (Latty Avenue) site and the Downtown site.
Overview of Environmental Conditions:	Soil contamination by uranium, radium, and thorium.
Funding in FY 90:	$2,900,000

Progress in Reaching Interagency Agreement

A FFA was signed with EPA on June 26, 1990 for the St. Louis Site in Missouri. The St. Louis Site consists of the St. Louis Airport Site, vicinity properties, and Latty Avenue Properties, which were added to EPA's NPL in October 1989; and the St. Louis Downtown Site, which was included in the FFA to make the process more efficient. This site is now in DOE's Formerly Utilized Site Remedial Action Program.

Public Comments Regarding Proposed Interagency Agreements

The FFA for the St. Louis Airport Site was issued for a 30-day public review period that ended in September 1990; no comments were received. The agreement became effective September 13, 1990.

Progress in Conducting Remedial Investigations/Feasibility Studies at NPL Sites

RI work completed at the St. Louis Airport Site during 1990 included the characterization of 75 St. Louis Airport Site vicinity properties to establish the extent of contamination. Samples from a 7-mile section of nearby Coldwater Creek were collected and analyzed, and analytical results were reported. Characterization results were provided to the local U.S. Congressman and the U.S. Army Corps of Engineers, which was planning a creek improvement project to reduce the effects of flooding. Environmental monitoring continued at the St. Louis Airport Site and the Latty Avenue Properties. Analytical results from RI activities conducted during 1990 and previous years will be presented in an RI report in 1991 and an FS report in 1993 for the St. Louis Airport Site.

Progress in Conducting Remedial Actions at NPL Sites

Final remedial actions will be initiated following signing of a Record of Decision.

WAYNE SITE

Wayne Township, New Jersey

Operation/Program Office:	Oak Ridge Operations Office
Size:	7 acres
NPL Status:	Placed on the NPL on September 21, 1984.
Mission:	Acquired by DOE in 1989 to serve as interim storage site for contaminated material removed during cleanup of the site and several vicinity properties.
Overview of Environmental Conditions:	Soil contaminated by uranium, radium, and thorium.
Funding in FY 90:	$5,500,000 (including Maywood Site)

Progress in Reaching Interagency Agreement

A FFA was negotiated and signed with EPA for the Wayne Site. The FFA was issued to the public for review and the comment period ended on November 19, 1990. The FFA will be finalized after EPA reviews the comments. This site is in DOE's Formerly Utilized Sites Remedial Action Program.

Public Comments Regarding Proposed Interagency Agreements

Very few comments were received from the public on the Wayne Site. The only comments received came from five individuals who objected to the DOE's involvement at this site. Their general comments were: 1) Congress should not have assigned the sites to DOE, thereby relieving the operating companies of financial responsibility for the cleanups; 2) as a result of historical problems such as those encountered at Hanford Site and Feed Materials Production Center, there is a lack of confidence in DOE's ability to manage cleanup; 3) DOE should quickly move the contaminated waste out of state to a commercial facility in Utah; and 4) interim storage of contaminated waste from neighboring communities should be stopped (no waste has been received for storage from neighboring communities during the last 4 years). The comments are under review by EPA and DOE.

Progress in Conducting Remedial Investigations/Feasibility Studies at NPL Sites

RI activities are almost complete at the Wayne Site. Limited data gaps exist regarding the presence of chemical contaminants in the radioactive waste beneath the interim storage pile. Field work needed to resolve these data gaps will be conducted in FY 92. Preparation of the RI/FS report for the Wayne Site will begin after field work is completed.

Progress in Conducting Remedial Actions at NPL Sites

Final remedial action will be initiated after signing of a Record of Decision; however, substantial progress has been made using removal actions. One small vicinity property and the Wayne Interim Storage Site are the only remaining properties to be cleaned up. All waste removed from the vicinity properties was moved to and stored in an engineered cell at the Wayne Interim Storage Site.

WELDON SPRING SITE REMEDIAL ACTION PROJECT

St. Charles County, Missouri

Operation/Program Office:	Oak Ridge Operations Office
Size:	226 acres
NPL Status:	Quarry placed on the NPL on July 22, 1987 and Chemical Plant and Raffinate Pits placed on the NPL on March 13, 1989.
Mission:	The Weldon Spring Site was developed by the U.S. Army for explosives production during World War II, and operated by the Atomic Energy Commission from 1955 to 1966 as a uranium processing plant. DOE has been the owner of the property since 1985.
Overview of Environmental Conditions:	Soil, surface water, groundwater, and building rubble contamination resulting from the handling and disposal of uranium ore concentrates and scrap.
Funding in FY 90:	$9,837,000

Progress in Reaching Interagency Agreement

The FFA with EPA is in the final stages of approval by DOE. A final FFA is expected in 1991.

Public Comments Regarding Proposed Interagency Agreements

Public comments will be solicited following issuance of the proposed final agreement.

Progress in Conducting Remedial Investigations/Feasibility Studies

Initial work was started following placement of the Weldon Spring Quarry on the NPL in July 1987.

The Weldon Spring Site project issued a work plan in August 1988 which presented the overall strategy for accomplishing remedial actions. That strategy includes the development of an umbrella RI/FS for the chemical plant area, an RI/FS for quarry bulk wastes, an RI/FS for quarry residuals, and several interim response actions.

Major accomplishments include the completion of an RI/FS and Record of Decision (ROD) for the quarry bulk wastes which was signed by EPA in September 1990. The draft RI/FS and supporting engineering studies for the chemical plant were submitted to EPA in January 1991. Scoping of the quarry residuals RI/FS was initiated in November 1990. In addition to the progress on remedial actions, the project has completed several removal actions including asbestos removal, debris consolidation, chemical consolidation, and water treatment plant designs.

Progress in Conducting Remedial Actions at NPL Sites

The following actions were conducted during 1990:

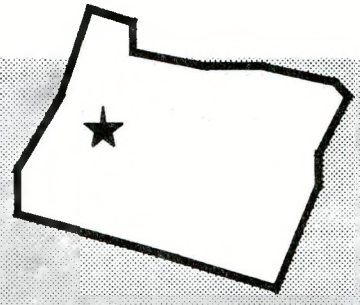
- Completed renovation of building No. 434 for storage of RCRA/Toxic Substances Control Act materials.
- Completed dismantling of Building 401 (Steam Power Plant).
- Continued consolidation and containerization of chemicals abandoned at the plant.
- Completed design and initiated construction of Quarry Water Treatment Plant staging area.
- Completed design and initiated fabrication of the Quarry Water Treatment Plant.
- Upgraded site monitoring stations.
- Completed design of material staging area.
- Completed design of a new elevated water tower for St. Charles County.

I. Individual Narratives for Facilities Not on the NPL

This section of the Annual Report provides detailed descriptions of major facilities not on the NPL, including a summary of background information on the facility, its environmental condition, and the SARA Section 120(e)(5) information requirements.

ALVEY MAINTENANCE HEADQUARTERS

Eugene, Oregon



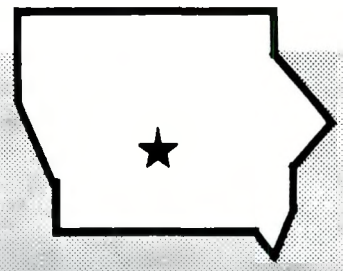
Operation/Program Office:	Bonneville Power Administration (BPA)
Size:	71 acres
NPL Status:	Not an NPL site
Mission:	Electrical substation and maintenance headquarters
Overview of Environmental Conditions:	Soil contamination resulting from historic use of PCBs, petroleum hydrocarbons, and possibly solvents.
Funding in FY 90:	$76,000

Progress in Conducting Remedial Actions at Facilities Not on the NPL

The Alvey Maintenance Headquarters was listed on the Federal Agency Hazardous Waste Compliance Docket on November 16, 1988, as a hazardous waste site as the result of past spills of electrical transformer insulating (mineral) oil. A Preliminary Assessment (PA) was completed and submitted to EPA Region X on March 19, 1990. The PA recommended that the Alvey site not be considered for further remedial action under CERCLA. The PA also recommended that the results of a separate ongoing soil and groundwater investigation being performed at the site be made available to EPA Region X. EPA Region X agreed with the conclusions of the PA. The soil and groundwater investigation report was completed on June 22, 1990. Based on sampling data, the report did not propose any soil remediation. Discussions have been initiated with the Oregon Department of Environmental Quality to determine if any additional State cleanup requirements will apply.

AMES LABORATORY

Ames, Iowa



Operation/Program Office:	Chicago Operations Office
Size:	Approximately 20 acres
NPL Status:	Not an NPL Site
Mission:	The Ames Laboratory, located on and operated by Iowa State University, was established in 1947 and continues to be operated to date. The facility is involved in material science research which includes: metallurgy; ceramics materials; chemistry, experimental nuclear physics; fossil energy; and microelectronics.
Overview of Environmental Conditions:	Soil contamination resulting from releases of thorium and uranium at a chemical disposal site.
Funding in FY 90:	No additional funding in FY 90

The Ames Laboratory is not listed on the NPL. The facility is currently undergoing the assessment and evaluation stage required by Section 120(d) of CERCLA.

Progress in Conducting Remedial Actions at Facilities Not on the NPL

Ames Laboratory completed removal of thorium- and uranium-contaminated soil at the former Applied Science Center chemical disposal site during FY 89. The State of Iowa Department of Natural Resources recently requested that a site assessment plan be submitted to characterize the extent of chemical contamination at the site. The plan will include the sampling of soil, sediment, surface water, and groundwater as well as groundwater monitoring and geophysical investigation of the site. This plan will be submitted in early 1991. DOE will request that EPA review the appropriateness of this site's inclusion on the Federal Hazardous Waste Compliance Docket, since it is the property of the State of Iowa rather than of DOE.

ARGONNE NATIONAL LABORATORY - EAST
Argonne, Illinois

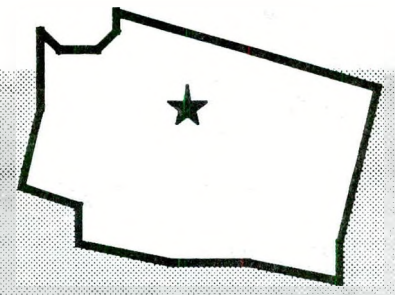
Operation/Program Office:	Chicago Operations Office
Size:	1,700 acres
NPL Status:	Not an NPL site
Mission:	Established in 1942 as the preeminent research and development (R&D) center in the development of the nuclear weapons program during the Second World War, Argonne National Laboratory - East continues to be involved in R&D programs involving advanced nuclear, fossil, conservation and renewable energy technologies.
Overview of Environmental Conditions:	Soil and groundwater contamination resulting from past disposal practices.
Funding in FY 90:	$975,000

The Argonne National Laboratory - East is not listed on the NPL. The facility is currently undergoing the assessment and evaluation stage required by Section 120(d) of CERCLA.

Progress in Conducting Remedial Actions at Facilities Not on the NPL

As requested by EPA, Argonne National Laboratory - East is currently conducting screening site investigations at four inactive waste storage and disposal sites: the CP-5 reactor site, the 800 Area French drain, the 319 landfill French drain, and the 317 mixed waste storage area. Site characterization reports have been completed on the shallow aquifer groundwater monitoring and soil gas monitoring activities for the 317 and 319 areas. There are also extensive data on groundwater and soil analyses for the CP-5 site. This information will be incorporated into the final screening site investigation reports. Currently the major screening site investigation task focuses on the identification of site characterization data gaps. A new work plan may have to be developed to further characterize the sites and fulfill the requirements of the screening site investigations.

COLUMBIA SUBSTATION
Kent, Washington

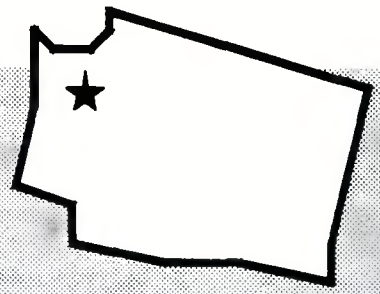


Operation/Program Office:	Bonneville Power Administration (BPA)
Size:	15 acres
NPL Status:	Not an NPL site
Mission:	Electrical substation
Overview of Environmental Conditions:	Soil contamination resulting from the historic disposal of electrical capacitors laden with polychlorinated biphenyls (PCBs), possibly including 1,2,4-trichlorobenzene.
Funding in FY 90:	$316,000

Progress in Conducting Remedial Actions at Facilities Not on the NPL

BPA's Columbia Substation was listed on the Federal Agency Hazardous Waste Compliance Docket on November 16, 1988, as a potential hazardous waste site, based on the discovery of a past disposal site that contained PCB-filled electrical capacitors. A PA was completed and submitted to EPA Region X on May 25, 1990. The PA recommended that the Columbia Substation not be considered for further remedial action under CERCLA, and proposed that a cleanup of the PCB disposal site be conducted. EPA Region X agreed with the conclusions of the PA. Following consultation with EPA Region X and the State of Washington Department of Ecology, cleanup activities commenced on August 26, 1990 and were completed during October, 1990. Approximately 1,700 tons of contaminated soil and debris were removed and backfill placed and graded to natural contours.

COVINGTON SUBSTATION
Kent, Washington

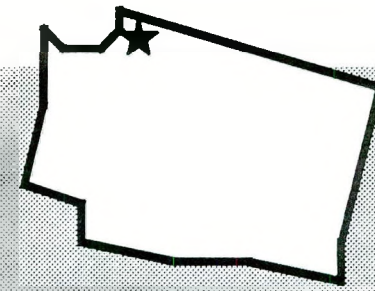


Operation/Program Office:	Bonneville Power Administration (BPA)
Size:	93 acres
NPL Status:	Not an NPL site
Mission:	Electrical substation
Overview of Environmental Conditions:	Soil contamination resulting from the historical disposal of electrical capacitors laden with PCBs, possibly including 1,2,4-trichlorobenzene
Funding in FY 90:	$28,000

Progress in Conducting Remedial Actions at Facilities Not on the NPL

BPA's Covington Substation was listed on the Federal Hazardous Waste Compliance Docket on November 16, 1988, as a potential hazardous waste site because of discovery of past on-site disposal areas containing PCB-filled electrical capacitors. A PA was completed and submitted to EPA Region X on May 16, 1990. The PA recommended that the Covington Substation not be considered for any further remedial action under CERCLA, and proposed that a cleanup of the PCB disposal areas be conducted. Following consultation with EPA Region X and the State of Washington Department of Ecology, cleanup activities are scheduled to commence in early 1991.

CUSTER SUBSTATION
Custer, Washington



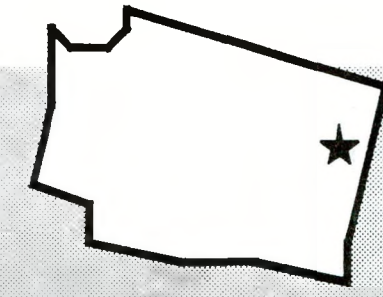
Operation/Program Office:	Bonneville Power Administration (BPA)
Size:	49 acres
NPL Status:	Not an NPL site
Mission:	Electrical substation
Overview of Environmental Conditions:	Historical mineral oil spill and cleanup in 1987.
Funding in FY 90:	No funding since 1987

Progress in Conducting Remedial Actions at Facilities Not on the NPL

BPA's Custer Substation was listed on the Federal Agency Hazardous Waste Compliance Docket on November 16, 1988, as a potential hazardous waste site on the basis of a CERCLA 103 report associated with a past spill of electrical transformer insulating (mineral) oil, which occurred in 1987. The spill was cleaned up in consultation with the State of Washington Department of Ecology and in accordance with State standards in 1987. A request was made to EPA Region X to delete the Custer Substation from the docket. EPA Region X concurred and forwarded the request to EPA Headquarters. In the third update to the Federal Agency Hazardous Waste Compliance Docket (55 FR 34492 of August 22, 1990), the Custer Substation was deleted from the Docket. In view of the above, a CERCLA PA was not completed for this facility.

G.H. BELL SUBSTATION AND MAINTENANCE COMPLEX

Mead, Washington



Operation/Program Office:	Bonneville Power Administration (BPA)
Size:	37 acres
NPL Status:	Not an NPL site
Mission:	Electrical substation and maintenance headquarters
Overview of Environmental Conditions:	Soil contamination resulting from historical disposal of electrical capacitors filled with PCBs and 1,2,4-trichlorobenzene.
Funding in FY 90:	$1,023,000

The G.H. Bell Substation and Maintenance Complex is not listed on the NPL. The facility is currently undergoing the assessment and evaluation stage required by Section 120(d) of CERCLA.

Progress in Conducting Remedial Actions at Facilities Not on the NPL

BPA's G.H. Bell Substation and Maintenance Complex was listed on the Federal Agency Hazardous Waste Compliance Docket on November 16, 1988, as a potential hazardous waste site because of the discovery of a past disposal site (used from 1955 - 1966) which contained PCB-filled electrical capacitors and associated trichlorobenzene. During a construction project in 1986, an emergency cleanup/removal was conducted at a cost of approximately $800,000. Some residual PCB-contaminated soil remains on-site. A PA was completed and submitted to EPA Region X on May 11, 1990. Based upon its review, EPA determined that a site investigation (SI) was warranted. The SI is currently underway with completion expected in early 1991.

GRAND JUNCTION PROJECTS OFFICE REMEDIAL ACTION PROJECT

Grand Junction, Colorado

Operation/Program Office:	Idaho Operations Office
Size:	56 acres
NPL Status:	Not an NPL site
Mission:	Former DOE-owned uranium procurement, evaluation, development, and research facility. Since 1975, the facility has supported various Government programs including the National Uranium Resource Evaluation Program, the Surplus Facilities Management Program, the Technical Measurements Center, and the Uranium Mill Tailing Remedial Action Program.
Overview of Environmental Conditions:	Soil and groundwater contamination from radioactive mill tailings, process equipment, and other contaminated materials used on-site. Past site activities date back to 1943.
Funding in FY 90:	$1,776,000

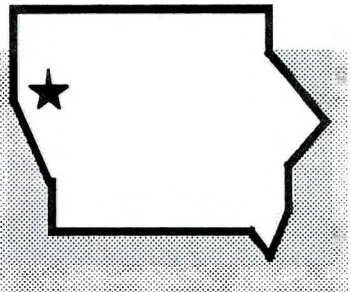
Based on the site's Hazard Ranking System score, EPA determined that listing the Grand Junction Projects Office Remedial Action Project Site on the NPL is not warranted.

Progress in Conducting Remedial Actions at Facilities Not on the NPL

Remedial action consists of the stabilization and control of uranium mill tailings. A Record of Decision was signed in April 1990, with the selected remedy being co-disposal of materials from the Grand Junction Projects Office facility with tailings from the Climax Uranium Mill also located in Grand Junction in accordance with the requirements of the Uranium Mill Tailings Remedial Action Program. The Grand Junction Projects Office materials will be transported to the State-owned temporary repository (Climax Mill Site) and then transported for final disposal at a Uranium Mill Tailings Remedial Action Program facility. The disposed material will be covered with an earthen radon barrier and an erosion-protection layer of rock. Remedial actions are underway and 30 percent complete.

HINTON HAZARDOUS WASTE STORAGE FACILITY

Hinton, Iowa



Operation/Program Office:	Western Area Power Administration
Size:	0.5 acre
NPL Status:	Not an NPL site
Mission:	Storage facility supporting electric power distribution.
Overview of Environmental Conditions:	Soil contamination from spillage of a wood preserving product.
Funding in FY 90:	$254,000

Progress in Reaching Interagency Agreement

The activities at the site relating to hazardous waste cleanup and storage are done under a 1987 RCRA agreement with EPA Region VII.

Specific Cost Estimates Involved in Each Interagency Agreement

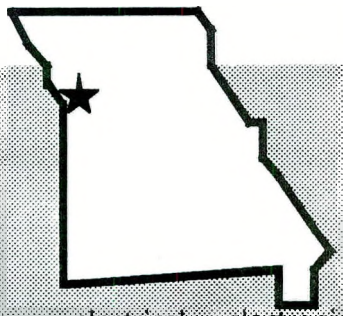
Under the existing agreement between Western Area Power Administration and EPA Region VII, the costs amounted to $254,000 for FY 90.

Progress in Conducting Remedial Actions at Facilities Not on the NPL

Western Area Power Administration prepared a sampling and analysis report under contract with Argonne National Laboratory. In May 1990, the report was sent to EPA. Based on the results of the sampling effort, Western Area Power Administration removed soils contaminated with pentachlorophenol, a wood preserving product used to treat wooden utility poles. This soil is currently being stored on-site under a RCRA Interim Permit for storage until an EPA-approved disposal/destruction method is identified. A RCRA Part B permit application submitted to EPA in 1988 is still pending. Remediation efforts are being coordinated by Western Area Power Administration through EPA Region VII and the Electric Power Research Institute and are projected to continue into FY 91.

KANSAS CITY PLANT

Kansas City, Missouri



Operation/Program Office:	Albuquerque Operations Office
Size:	136 acres
NPL Status:	Not an NPL site
Mission:	The Kansas City Plant produces and procures electrical, electronic, electromechanical, mechanical, plastic, and nonfissionable metal components for nuclear weapons. Operations began in 1949; however, prior to its current use, the facility was used as an airplane engine production plant for the Department of Defense.
Overview of Environmental Conditions:	Groundwater, soil, and air release contamination resulting from the historical use of solvents and spillage of transformer oils contaminated with PCBs.
Funding in FY 90:	$2,684,700

Kansas City Plant is not listed on the NPL. Remediation of environmental conditions is being addressed under authority of a RCRA 3008(h) Consent Order.

Progress in Conducting Remedial Actions at Facilities Not on the NPL

DOE and EPA entered into a RCRA 3008(h) Administrative Order on Consent, which was signed on June 23, 1989. Key provisions of the RCRA 3008(h) Administrative Order on Consent require that DOE conduct all assessments and corrective actions under the Order on Consent in accordance with milestones.

The following activities were accomplished during 1990:

Assessment:

- Prepared RCRA Facility Investigation (RFI) work plans for Plating Building and submitted to EPA;
- Received EPA approval of RFI work plans for South Lagoon;
- Received EPA approval of Groundwater Action Plans for South Lagoon and TCE Still areas;
- Received EPA approval of Groundwater Treatment Interim Measures Plan;
- Received EPA approval of RFI work plans for Abandoned Indian Creek Outfall;
- Declaration of Sanitary Sewer Pump Station (SWMU 34) as requiring "no further action" in August 1990;

- Installed additional groundwater monitoring wells in the Northeast area to further define the vertical and lateral extent of contamination; and

- Completed Community Relations Plan Interview process.

Remediation:

- Initiated Interim Measures groundwater treatment in Northeast and TCE Still areas during September 1990;

- Completed Plating Building demolition/disposal;

- Completed remediation of underground storage tanks plant-wide; this was not part of Order on Consent activity; and

- Received EPA approval of Interim Measures outline for D/27 contamination area and miscellaneous PCB sites.

LABORATORY FOR ENERGY-RELATED HEALTH RESEARCH

Davis, California

Operation/Program Office:	San Francisco Operations Office
Size:	15 acres
NPL Status:	Not an NPL site
Mission:	The Laboratory for Energy-Related Health Research was created in 1958 to evaluate biological effects of radiation on animals. DOE terminated its research activities on-site in 1988 and intends to return the site to the University of California - Davis following cleanup.
Overview of Environmental Conditions:	Soil and groundwater contamination with low-level radioactive wastes, heavy metals, and nitrates.
Funding in FY 90:	$1,481,000

The Laboratory for Energy-Related Health Research is not listed on the NPL. The facility is still undergoing the assessment and evaluation stage required by Section 120(d) of CERCLA. The following information details site conditions and findings resulting from characterization studies conducted to date.

Progress in Conducting Remedial Actions at Facilities Not on the NPL

The Laboratory for Energy-Related Health Research is located on a 15-acre site leased from the University of California at its Davis Campus. The facility consist of 16 buildings including a main administration and office building, two animal hospitals, and laboratory and support buildings; waste handling facilities; and numerous dog pens. From 1958 to 1973 Laboratory for Energy-Related Health Research occupied about half of the current site. The original site was adjacent to the University of California - Davis old landfill site, which was used for routine garbage and some chemical waste disposal for all campus activities, including Laboratory for Energy-Related Health Research, until 1966.

Close to the landfill there are some trenches and holes which were used by University of California - Davis for the disposal of low-level radioactive waste from both campus and Laboratory for Energy-Related Health Research activities. Such disposal ceased in 1974. At the time, the site was expanded to its current size, which incorporated the old inactive landfill and adjacent radioactive disposal trenches and holes. No radioactive waste has been buried on the Laboratory for Energy-Related Health Research site since 1974.

With the cessation of DOE-sponsored research at the Laboratory for Energy-Related Health Research, DOE has a contractual responsibility to clean up the contaminated buildings, facilities, and the site to permit transfer of the buildings and facilities and return of the land to University of California - Davis.

Surveys have confirmed contamination in three buildings, including the two animal hospitals. The Imhoff Strontium-90 waste processing facility and Radium-226 septic tanks, as well as related piping, leach fields, and seepage pits, are known to be contaminated. Site characterization studies to date have detected cesium-137, strontium-90, radium-226, carbon-14, and tritium contamination in some soil samples. Also, nitrates, lead, chromium, tritium, and carbon-14 have been detected in groundwater samples in excess of the California drinking water standards. At this time, it is believed the tritium and carbon-14 contamination came from the former University of California - Davis low-level radioactive burial site. In addition, chloroform and methylene chloride were detected in samples taken from shallow groundwater from wells drilled by University of California - Davis for its own site studies. No radioactivity has been detected in surface waters or in domestic or irrigation wells off the Laboratory for Energy-Related Health Research site. Some nitrate contamination has been found in some neighboring wells, but the source has not been determined. The area surrounding the Laboratory for Energy-Related Health Research is primarily agricultural; thus, further characterization is needed to determine the source of the nitrates.

Investigations are under way to better characterize the hydrogeologic setting and to determine the extent of groundwater contamination. The lateral and vertical extent of the groundwater contamination is unknown at this time.

LAWRENCE BERKELEY LABORATORY

Berkeley, California

Operation/Program Office:	San Francisco Operations Office
Size:	130 acres
NPL Status:	Not an NPL site
Mission:	The Lawrence Berkeley Laboratory, relocated to its present location in 1940 from elsewhere on the University of California at Berkeley campus, is primarily engaged in basic energy research such as high-energy physics, nuclear physics, heavy-ion fusion, magnetic fusion energy, biology, and medicine.
Overview of Environmental Conditions:	Releases of heavy metals and their pollutants to the sanitary sewer system and soil and groundwater contamination by chlorinated hydrocarbons, solvents, and motor fuels.
Funding in FY 90:	No funding in FY 90.

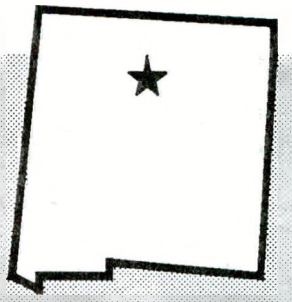
Lawrence Berkeley Laboratory is not listed on the NPL. The facility is undergoing the assessment and evaluation stage required by Section 120(d) of CERCLA.

Progress in Conducting Remedial Actions at Facilities Not on the NPL

At Lawrence Berkeley Laboratory, initial funding for restoration-related activities will be provided in FY 91. Well drilling will be performed in FY 91 as the first step of a site characterization. A preliminary assessment was submitted in February 1988.

LOS ALAMOS NATIONAL LABORATORY

Los Alamos, New Mexico



Operation/Program Office:	Albuquerque Operations Office
Size:	43 square miles
NPL Status:	Not an NPL site
Mission:	The Los Alamos National Laboratory (LANL) was originally established in 1943 by the U.S. Army's Manhattan Engineer District for the purpose of developing the first atomic bombs. The primary mission is nuclear weapons research and development. In addition, many programs are conducted at the LANL in the nuclear, environmental, and energy sciences; fusion, laser isotope separation, and basic research in the area of physics; chemistry; radiology; and medicine.
Overview of Environmental Conditions:	Soil and groundwater contamination with various chemical and radiological contaminants resulting from historic waste management and disposal practices.
Funding in FY 90:	$24,526,000

LANL is not listed on the NPL. Remediation of environmental conditions is being addressed under authority of a RCRA permit which includes corrective action requirements.

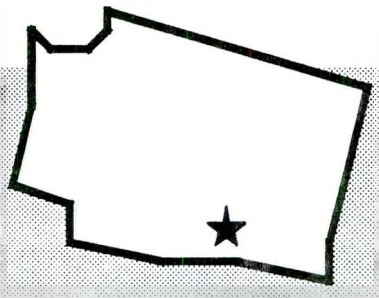
Progress in Conducting Remedial Actions at Facilities Not on the NPL

LANL satisfied the Preliminary Assessment/Site Investigation (PA/SI) requirements of Section 120 of CERCLA by submitting the required information in October 1987. When the site was scored using the Hazard Ranking System, LANL did not qualify for inclusion on the NPL.

The regulatory framework for conduct of the environmental restoration program at LANL is provided by the corrective action provisions of RCRA. Module VIII of the LANL RCRA Permit governs cleanup activities at the facility and specifies a cleanup process analogous to the National Contingency Plan (NCP) and the requirements of Section 120 of CERCLA. The sites identified in the original assessment have been incorporated into a Solid Waste Management Unit (SWMU) report for the current LANL corrective action program. Other sites that do not specifically meet the definition of a SWMU also will be addressed by this program in order to maintain a coherent, comprehensive program.

The LANL RCRA Permit requires the development of all RCRA Facility Investigation (RFI) work plans within 4 years of the effective date of the permit (May 23, 1990) and requires completion of all corrective measures studies within 10 years. Thus, LANL has focused early activities on the development of work plans. However, some field work associated with RCRA closure requirements has been completed, and several interim remedial measures have been planned to facilitate ongoing construction projects.

MIDWAY SUBSTATION
Midway, Washington



Operation/Program Office:	Bonneville Power Administration (BPA)
Size:	64 acres
NPL Status:	Not an NPL site
Mission:	Electrical substation
Overview of Environmental Conditions:	Soil contamination resulting from historical disposal of electrical capacitors laden with PCBs, and possibly various solvents and herbicides.
Funding in FY 90:	$23,000

Progress in Conducting Remedial Actions at Facilities Not on the NPL

BPA's Midway Substation was listed on the Federal Agency Hazardous Waste Compliance Docket on November 16, 1988, as a potential hazardous waste site as a result of discovery of a past disposal site that may contain electrical capacitors filled with PCBs and associated 1,2,4-trichlorobenzene. A PA was completed and submitted to EPA Region X on March 27, 1990. The PA recommended a low-priority assessment and that the Midway Substation not be considered for any further remedial action under CERCLA. The PA proposed that a study of PCB disposal areas be conducted and, if needed, that remedial actions be performed. In a May 15, 1990 letter, EPA agreed with the conclusions of the PA and stated that, based on a Hazard Ranking System (HRS) evaluation, a recommendation for no further action would be entered in the Docket tracking system for the Midway facility. Subsequently, discussions have been initiated with the State of Washington Department of Ecology to determine applicable State requirements prior to any cleanup activities.

MONTROSE POWER OPERATIONS CENTER

Montrose, Colorado

Operation/Program Office:	Western Area Power Administration
Size:	21 acres
NPL Status:	Not an NPL site
Mission:	Operations and maintenance center supporting electric power distribution
Overview of Environmental Conditions:	Potential contamination from PCBs and solvents
Funding in FY 90:	$10,000

The Montrose Power Operations Center is not listed on the NPL. The facility is currently undergoing the assessment and evaluation required by Section 120(d) of CERCLA.

Progress in Conducting Remedial Actions at Facilities Not on the NPL

The Montrose facility was listed on the Docket on November 16, 1989. A PA was performed by Western Area Power Administration and a report sent to EPA in May 1990 and to DOE in June 1990. Sample collection has been completed and an SI report is being drafted. Western Area Power Administration expects that the final report will be completed March 1991. The need for a response action will be determined after review of the SI report.

NEVADA TEST SITE

Mercury, Nevada

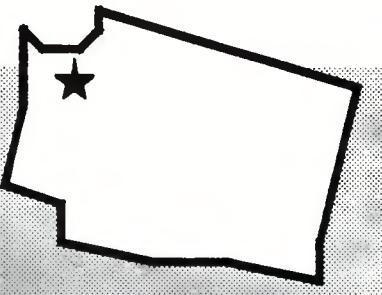
Operation/Program Office:	Nevada Operations Office
Size:	864,000 acres (1,350 square miles)
NPL Status:	Not an NPL site
Mission:	The Nevada Test Site, created in the early 1950s, is used as an underground detonation and testing range for nuclear weapons. Storage and disposal of low-level and transuranic wastes and studies at the spill test facility, which evaluates simulated accidental releases of various hazardous and nonradioactive materials, are also conducted on-site.
Overview of Environmental Conditions:	Contamination of groundwater resulting from nuclear weapons detonation activities.
Funding in FY 90:	$8,076,000

The Nevada Test Site is not listed on the NPL. The facility is currently undergoing the assessment and evaluation required by Section 120(d) of CERCLA.

Progress in Conducting Remedial Actions at Facilities Not on the NPL

On April 15, 1988, the Nevada Operations Office submitted its PA for the Nevada Test Site and ten off-site locations to EPA. None of these sites have been scored by EPA under the newly revised Hazard Ranking System (HRS); accordingly, none have been placed on the NPL. An overall RI/FS work plan for the Nevada Test Site is scheduled to be completed in 1991. A closure plan for the Area 23 hazardous waste tanks was submitted to the State of Nevada in 1987; closure activities for the tanks will be completed in 1991. Closure plans for three inactive mixed waste sites were submitted to the State of Nevada in March 1989. These sites include the Area 6 Decontamination Pond, Area 23 Building 650 Leachfield, and Area 3 Disposal Crater U3axbl. Closure plans for five additional sites are scheduled to be submitted in February 1991. These sites include the Area 2 Injection Wells, U2bu Subsidence Crater, U3fi Injection Well, Area 27 EOD, and Area 6 Steam Cleaning Effluent Ponds. Research has been initiated to develop a process to remediate large land areas that have been contaminated with plutonium from past activities. Development of a groundwater characterization program work plan will be completed in 1991.

OLYMPIA SUBSTATION
Olympia, Washington



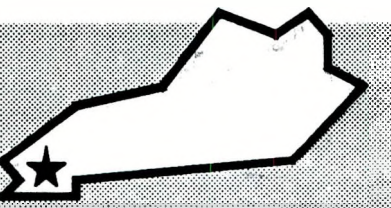
Operation/Program Office:	Bonneville Power Administration (BPA)
Size:	80 acres
NPL Status:	Not an NPL site
Mission:	Electrical substation and maintenance headquarters
Overview of Environmental Conditions:	Soil contamination resulting from historic disposal of electrical capacitors laden with PCBs, and possibly solvents.
Funding in FY 90:	$778,000

Progress in Conducting Remedial Actions at Facilities Not on the NPL

BPA's Olympia Substation was listed on the Federal Agency Hazardous Waste Compliance Docket on November 16, 1988, as a potential hazardous waste site because of discovery of a past disposal site containing PCB-filled electrical capacitors. A PA was completed and submitted to EPA Region X on May 16, 1990. The PA recommended that the Olympia Substation not be considered for any further remedial action under CERCLA and proposed that a cleanup of the PCB disposal area be conducted. EPA Region X agreed with the conclusions of the PA. Following consultation with EPA and the State of Washington Department of Ecology, cleanup activities commenced on August 13, 1990 and were completed during September.

PADUCAH GASEOUS DIFFUSION PLANT

Paducah, Kentucky



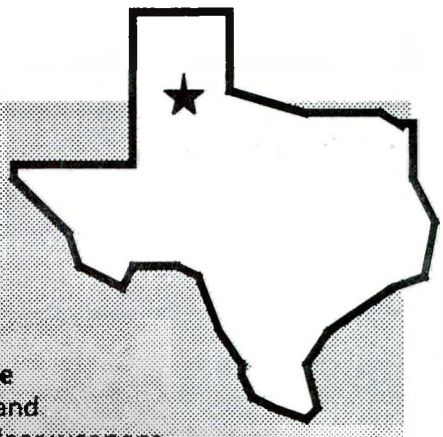
Operation/Program Office:	Oak Ridge Operations Office
Size:	3,423 acres
NPL Status:	Not an NPL site
Mission:	The Paducah Gaseous Diffusion Plant, established in 1950 on the grounds of the old Kentucky Ordnance Works TNT Plant, is actively engaged in the enrichment of uranium using gaseous diffusion technology. Most of the uranium output from the plant is designated for the commercial sector.
Overview of Environmental Conditions:	The site consists of 27 Waste Area Groups. Off-site groundwater contamination consists of trichloroethylene and technetium-99.
Funding in FY 90:	$20,000,000

Paducah Gaseous Diffusion Plant is not listed on the NPL. Remediation of environmental conditions is being addressed under authority of a CERCLA Section 106 Administrative Consent Order signed November 4, 1988.

Progress in Conducting Remedial Actions at Facilities Not on the NPL

The CERCLA Section 106 Administrative Consent Order for Paducah Gaseous Diffusion Plant was executed by DOE and EPA in November 1988. During 1990, activities included installation of RCRA groundwater quality monitoring wells, compilation of the SI report for groundwater contamination, development and submittal of the work plans, and the completion of the National Environmental Policy Act of 1969 (NEPA) process for underground storage tank investigation. A RCRA 3004(u) permit is also currently under negotiation with the State of Kentucky. This permit will address cleanup of the facility under corrective action requirements.

PANTEX PLANT
Amarillo, Texas



Operation/Program Office:	Albuquerque Operations Office
Size:	31,400 acres (21 square miles)
NPL Status:	Not an NPL site
Mission:	The facility was first used in 1942 by Army Ordnance Corps for loading conventional ammunition shells and bombs and was rehabilitated in 1950 for use in nuclear weapons operations. The Pantex Plant's current functions include the fabrication of chemical high explosives; high-explosives development work in support of the design laboratories; and nuclear weapons assembly, disassembly, testing, quality assurance, repair, retirement, and disposal.
Overview of Environmental Conditions:	Potential areas of concern include: the high-explosive burning ground, burning ground landfill, high-explosive firing items, small-arms firing ranges, wastewater treatment plant, and silver recovery operations performed on photoprocessing wastes.
Funding in FY 90:	$202,000

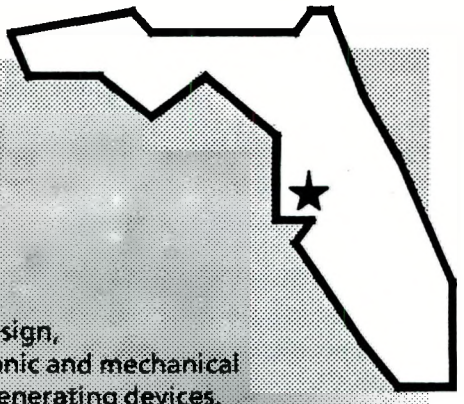
The Pantex Plant is not listed on the NPL. Remediation of environmental conditions is being addressed under authority of a RCRA 3008(h) Consent Order signed December 10, 1990.

Progress in Conducting Remedial Actions at Facilities Not on the NPL

The RCRA Section 3008(h) Order signed between DOE and EPA on December 10, 1990 includes schedules for investigations and remediations that are consistent with the Five-Year Plan requirements. Currently, the closure plan for the 11-14 Pond is proceeding toward approval; the other work plans are awaiting Federal or State review.

PINELLAS PLANT

Largo, Florida



Operation/Program Office:	Albuquerque Operations Office
Size:	97 acres
NPL Status:	Not an NPL site
Mission:	The primary mission of the Pinellas Plant is the design, development, and manufacture of special electronic and mechanical nuclear weapons components, such as neutron-generating devices, neutron detectors, and associated product testers. Other work involves electronic, ceramic, and high vacuum technology. The Pinellas Plant has been in continuous use since 1957.
Overview of Environmental Conditions:	Groundwater contamination from the storage and disposal of drummed wastes and construction debris containing solvents and volatile organic constituents. Contamination is particularly acute on a 4.5-acre site adjacent to (formerly part of) the Pinellas facility.
Funding in FY 90:	$1,033,000

The Pinellas Plant is not listed on the NPL. Remediation of environmental conditions is being addressed under authority of a RCRA 3004(u) permit with a corrective action schedule issued by the State of Florida.

Progress in Conducting Remedial Actions at Facilities Not on the NPL

The Albuquerque Operations Office submitted Preliminary Assessment/Site Investigation (PA/SI) information on the Pinellas Plant to EPA Region IV on October 15, 1987. Remedial activities at the Pinellas Plant are being handled through a RCRA Hazardous and Solid Waste Amendments (HSWA) permit. The permit was issued on February 9, 1990, and included 14 Solid Waste Management Units (SWMUs) that were identified through a RCRA Facility Assessment Report. A RCRA Facility Investigation work plan has been completed and submitted to EPA Region IV for review and approval. One additional SWMU has been identified through preliminary field work efforts, and a RCRA Facility Assessment was completed per the permit requirements and there are now 15 SWMUs.

Remedial actions performed included tank removal and decontamination. Field operations were conducted between April 30 and May 7, 1990. The removal actions were initiated as a result of plant construction progress. The activities included:

1. Installation of a well point system to dewater the site and facilitate tank removal and treatment of contaminated groundwater.

2. Air stripping of the well point discharge water to remove contaminants prior to disposal via storm sewer discharge. The air stripping operations consisted of a 400-gallon surge tank connected in parallel through a manifold system to two portable air stripping towers. The air stripping towers were rated at 40 gallons per minute each and approximately 132,859 gallons of groundwater were treated.

3. Removal of 5,000 gallons of residual tank fluids prior to tank excavation activities. The tank contents were shipped to an off-site waste oil treatment and recovery facility.

4. Excavation and disposal of one 5,000-gallon-capacity steel tank, one 20,000-gallon-capacity fiberglass tank, and approximately 1,748 tons of contaminated soil. Contaminated soils were either shipped directly for off-site incineration or stored temporarily on visquene sheeting prior to loading and shipping to the incinerator. Both tanks were decontaminated and disposed of off-site.

5. Backfilling of the excavation with poured concrete and clean fill.

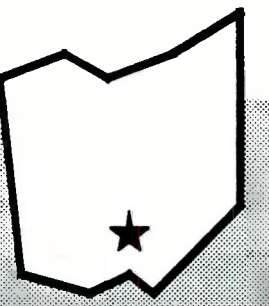
6. Sampling and analysis of soils and groundwater after completion of the remediation activities indicated that all of the detected compounds were at or below Florida Department of Environmental Regulation action limits for further remediation.

Upon completion of the above activities, the area was determined to require no further action.

Interim corrective measures were required to stabilize and reposition the contamination plume back onto the 4.5-Acre Site and to determine if additional remedial action is needed. The recommended and agency-approved (August 1989) interim remedial action alternative was to pump and treat the groundwater using air stripping. Progress of activities for 1990 includes: completion of volatile organic compound (VOC) treatment system design on February 23; construction and startup on May 7; and installation and experimentation of a pilot iron removal pretreatment system begun October 3 (ongoing).

Approximately 3.2 million gallons of groundwater have been extracted and treated with a greater than 99 percent VOC removal efficiency at the 4.5-Acre Site. The surficial aquifer hydraulic gradient has been significantly altered by seven recovery wells from a slight northwestern slope to two elongated hydrocones and one circular hydrocone. Levels of VOC contamination have been significantly reduced in a majority of the recovery wells as well as in monitoring wells. VOC reductions have ranged from 72 percent to 100 percent. The VOC treatment system has been operating effectively, treating from 5 to 30 gallons per minute.

PORTSMOUTH URANIUM ENRICHMENT COMPLEX
Piketon, Ohio



Operation/Program Office:	Oak Ridge Operations Office
Size:	3,800 acres
NPL Status:	Not an NPL site
Mission:	The Portsmouth Uranium Enrichment Complex has been in operation since 1954, enriching uranium-235 for national defense and commercial reactors.
Overview of Environmental Conditions:	Soil and groundwater contamination in several areas within the site from releases of chlorinated organics, radionuclides, heavy metals, and PCBs. The site has been divided into four quadrants containing a total of 87 Solid Waste Management Units.
Funding in FY 90:	$8,800,000

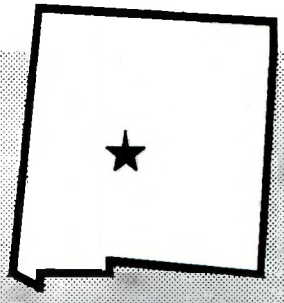
Portsmouth Uranium Enrichment Complex is not listed on the NPL. Remediation of environmental conditions is being addressed under authority of a RCRA 3008(h) Consent Order with EPA and a Consent Decree with the State of Ohio.

Progress in Conducting Remedial Actions at Facilities Not on the NPL

In August 1989, the State of Ohio and DOE finalized a Consent Decree filed with the U.S. District Court. DOE has negotiated a RCRA 3008(h) Corrective Action Consent Order with EPA Region V. The Consent Decree and Consent Order were negotiated to be consistent so that all work will satisfy both. During 1990, activities at Portsmouth included RCRA Facility Investigation documents, characterization studies, RCRA closures and interim measure activities, and project management.

SANDIA NATIONAL LABORATORIES - ALBUQUERQUE

Albuquerque, New Mexico



Operation/Program Office:	Albuquerque Operations Office
Size:	15,600 acres (approximately 57 sq. miles)
NPL Status:	Not an NPL site
Mission:	Created by the Sandia Corporation in 1949, the Sandia National Laboratories, Albuquerque's primary function is the research and development of weapons which use nuclear explosives. This includes the design of the arming, fusing, and firing systems used in nuclear bombs and warheads. Other projects include nuclear reactor safety studies; development of safe transport and storage systems for special nuclear material including plutonium and uranium; radioactive waste disposal techniques and site studies; pulsed power research; vertical axis wind turbine research; and fossil fuel and geothermal energy research.
Overview of Environmental Conditions:	Soil and groundwater contaminated with various chemical and radiological contaminants resulting from historical waste management and disposal practices.
Funding in FY 90:	$3,894,000

Sandia National Laboratories, Albuquerque is not listed on the NPL. Remediation of environmental conditions is being initiated in anticipation of an upcoming RCRA 3004(u) permit which will include corrective action requirements to be issued by EPA.

Progress in Conducting Remedial Actions at Facilities Not on the NPL

RI at Sandia National Laboratories, Albuquerque have been initiated in anticipation of corrective action requirements that will be defined in a Hazardous and Solid Waste Amendments permit to be issued by EPA. An installation-wide work plan and a site-specific work plan (covering 15 sites) have been completed. A new groundwater monitoring well has been installed at the Chemical Waste Landfill, and a report has been provided to the State of New Mexico. In March 1990, trichloroethylene was discovered in a Chemical Waste Landfill monitoring well. Sandia, DOE, and the State of New Mexico are currently negotiating a compliance agreement to assess and remediate the trichloroethylene problem. A closure plan for the site is under review by the State and EPA. For the Mixed Waste Landfill, a groundwater monitoring system was installed in FY 90 and an expanded site assessment of the unit was completed.

SANDIA NATIONAL LABORATORIES - LIVERMORE

Livermore, California

Operation/Program Office:	Albuquerque Operations Office
Size:	220 acres
NPL Status:	Not an NPL site
Mission:	Established in 1956 to provide support services to the neighboring Lawrence Livermore National Laboratory. Sandia National Laboratories - Livermore's initial mission was to provide ordnance engineering services to Lawrence Livermore National Laboratories. Current programs being carried out at Sandia National Laboratory-Livermore include nuclear weapons systems development and combustion, solar, and fusion research. The site was initially developed by the US Navy in 1942 and later relinquished for DOE activities in 1956.
Overview of Environmental Conditions:	Soil and potential groundwater contamination from a diesel fuel leak; auto repair activities; and historical land disposal practices.
Funding in FY 90:	$173,000

Sandia National Laboratories-Livermore is not listed on the NPL. Remediation of environmental conditions is being addressed under authority of a State of California Site Cleanup Order.

Progress in Conducting Remedial Actions at Facilities Not on the NPL

Albuquerque Operations Office submitted PA/SI information to EPA Region IX on October 8, 1986. To ensure compliance with the requirements of CERCLA, Section 120, PA/SI forms were also sent to EPA on October 15, 1987. To date, the EPA has not completed a hazard ranking score.

In December 1989, the State of California Regional Water Quality Control Board (RWQCB), San Francisco Bay Region, issued Albuquerque Operations Office and Sandia Corporation a Site Cleanup Order (No. 89-184) modifying an earlier order. Order No. 88-142 required the consolidation of all site work accomplished by Sandia Corporation and DOE, and set forth provisions and specifications for development and implementation of soil cleanup alternatives for identified areas of soil and groundwater pollution.

Three areas of potential soil and groundwater pollution were identified in the Cleanup Order: Trudell Auto Repair Shop, Fuel Oil Spill, and Navy Landfill. RIs at all three sites were completed in 1989.

During 1990 an Interim Remedial Measure which involved excavation of the Trudell Site was completed. On November 17, 1990, notice was received from the RWQCB to remove the Trudell Auto Repair Shop from further consideration on Cleanup Order No. 89-184. Annual monitoring at the Trudell Site, using an existing monitoring well site, was asked for as verification of the site cleanup.

The FS for the cleanup of the Fuel Oil Spill site, recommending in-situ bioremediation of the diesel fuel, was submitted to RWQCB for review on September 28, 1990. Authorization to proceed as recommended by the FS was provided in December 1990.

The Navy Landfill Solid Waste Water Quality Assessment Test report was submitted for review on June 29, 1990, as scheduled, recommending the "no action alternative" and is currently awaiting regulatory review.

SANTA SUSANA FIELD LABORATORIES
(ENERGY TECHNOLOGY ENGINEERING CENTER)
Canoga Park, California

Operation/Program Office:	San Francisco Operations Office
Size:	2,700 acres
NPL Status:	Not an NPL site
Mission:	The Santa Susana Field Laboratories were, established in 1948, contains four distinct operational areas housing research and development facilities for various governmental and private sector organizations. DOE activities are primarily conducted on a 90-acre parcel referred to as Area IV [a. k. a. the Energy Technology Engineering Center] where testing of nuclear reactor plant components including steam generators, pumps, valves, and instrumentation is conducted. Nuclear energy and conservation and renewable energy research are the primary areas of endeavor.
Overview of Environmental Conditions:	Localized areas of actual or potential soil and/or groundwater contamination.
Funding in FY 90:	$149,000

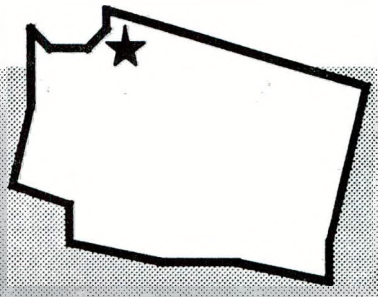
Santa Susana Field Laboratories are not listed on the NPL. The facility is currently in the evaluation stage of the RCRA corrective action process.

Progress in Conducting Remedial Actions at Facilities Not on the NPL

There are several contaminated sites at the Santa Susana Field Laboratories resulting primarily from nuclear activities in the 1960s. Hazardous solid wastes were generated in several facilities at the Santa Susana Field Laboratories. Wastes resulted primarily from alkali metal oxides and hydroxides (e.g., sodium is the primary alkali metal present on-site and represents by far the largest volume of hazardous waste at the facility). Low-specific-activity radioactive wastes were generated in conjunction with decontamination and decommissioning (D&D) activities of formerly used nuclear sites at the Santa Susana Field Laboratories.

Samples of groundwater obtained from wells located around the facility and rainwater run-off are being tested for chemical and radiological contamination. Limited areas of groundwater on-site have been found to contain volatile organic contaminants slightly in excess of drinking water standards. No contamination has been found off-site. There are no significant risks to workers or to public health and safety posed by the hazardous waste generating facilities at Energy Technology Engineering Center. A RCRA Facility Assessment was completed in 1990 which will be provided for public review in 1991.

SNOHOMISH SUBSTATION
Snohomish, Washington



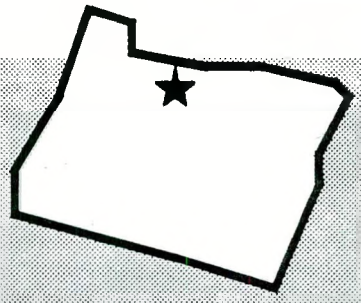
Operation/Program Office:	Bonneville Power Administration (BPA)
Size:	77 acres
NPL Status:	Not an NPL site
Mission:	Electrical substation
Overview of Environmental Conditions:	Soil contamination resulting from historic disposal of electrical capacitors laden with PCBs and 1,2,4-trichlorobenzene
Funding in FY 90:	$338,000

Progress in Conducting Remedial Actions at Facilities Not on the NPL

BPA's Snohomish Substation was listed on the Federal Agency Hazardous Waste Compliance Docket on November 16, 1988, as a potential hazardous waste site because of discovery of a past disposal site containing PCB-filled electrical equipment. A PA was completed and submitted to EPA Region X on May 16, 1990. The PA recommended that the Snohomish Substation not be considered for any further remedial action under CERCLA and proposed that a cleanup of the PCB disposal area be conducted. EPA Region X agreed with the conclusions of the PA. Following consultation with EPA and the State of Washington Department of Ecology, cleanup activities commenced on July 30, 1990 and were completed on September 14, 1990.

TROUTDALE SUBSTATION

Troutdale, Oregon



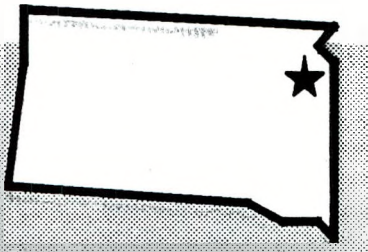
Operation/Program Office:	Bonneville Power Administration (BPA)
Size:	19 acres
NPL Status:	Not an NPL site
Mission:	Electrical substation providing power to the Reynolds Metal Company.
Overview of Environmental Conditions:	Soil contamination resulting from the spill of transformer insulating oil containing polychlorinated biphenyls (PCBs).
Funding in FY 90:	$173,000

Progress in Conducting Remedial Actions at Facilities Not on the NPL

BPA's Troutdale Substation was listed on the Federal Agency Hazardous Waste Compliance Docket on November 16, 1988, as a potential hazardous waste site because of past spills of electrical transformer insulating oil containing PCBs. A PA was completed and submitted to EPA Region X on March 19, 1990. The PA recommended that the Troutdale Substation not be considered for further remedial action under CERCLA, and indicated that a separate cleanup was planned to address historic PCB soil contamination at the facility. EPA Region X reviewed the PA and in a letter of July 2, 1990 indicated that an Site Investigation (SI) should be conducted at Troutdale. An SI was completed and a report was submitted to EPA Region X on September 6, 1990. The SI report, which is currently under review by EPA Region X, identified residual areas of PCB soil contamination at the facility. In coordination with EPA Region X, a cleanup in these areas was conducted September 17-21, 1990.

WATERTOWN MAINTENANCE FACILITY

Watertown, South Dakota



Operation/Program Office:	Western Area Power Administration
Size:	112 acres
NPL Status:	Not an NPL site
Mission:	Maintenance support facility for electric power distribution.
Overview of Environmental Conditions:	Potential soil contaminated by PCBs.
Funding in FY 90:	$85,000

The Watertown Maintenance Facility is not listed on the NPL. The facility is currently undergoing the assessment and evaluation stage required by Section 120(d) of CERCLA.

Progress in Conducting Remedial Actions at Facilities Not on the NPL

The Watertown Maintenance Facility was listed on the Federal Agency Hazardous Waste Compliance Docket on November 16, 1988. A PA was performed by Western Area Power Administration and sent to EPA in May 1990 and to DOE in June 1990. Argonne National Laboratory is currently performing a SI of the facility. Sample collection for the SI has been completed and an SI report should be completed early in 1991. Response actions will be determined after review of the SI report.

III. STATE-BY-STATE STATUS OF DOE FACILITIES SUBJECT TO SECTION 120 OF CERCLA

To date, the DOE has identified a large number of potential hazardous waste sites on its facilities that may require remedial activities. These facilities, along with an indication of the type of problem involved and the plans and schedules for activities required by CERCLA, are presented for each state on Table III-1. This list is not intended to be final, and it will change as a result of the continuing process of facility evaluations and inspections ongoing within the Department. Additionally, the facilities on this table are listed not in order of priority or importance but alphabetically by state. Additional detail on many of these facilities may be found in Section II.

TABLE III-1

STATE-BY-STATE STATUS OF DOE FACILITIES SUBJECT TO CERCLA*

STATE	DOE FACILITY	KNOWN OR SUSPECTED PROBLEMS	PLANS AND SCHEDULES
California	Laboratory for Energy-Related Health Research	Soil and groundwater/ rad, metals, nitrates	PA/SI submitted 12/89. Hydrogeologic investigations underway.
	Lawrence Berkeley Laboratory	On-site groundwater/ chemical	PA submitted 2/88. Initial funding to be provided in FY 91. Completion of site assessment anticipated FY 93.
	Lawrence Livermore National Laboratory - Main Site	On-site and off-site groundwater/chemical	Listed on NPL on 7/22/87. Three-party FFA executed 11/88 and became effective 2/89. Draft FS completed 7/90 and proposed remedial action plan completed 2/91. Remedial Design and Implementation Plan and ROD scheduled for 1991. Full-scale cleanup anticipated in FY 92.
	Lawrence Livermore National Laboratory - Site 300	On-site and off-site groundwater/chemical	PA/SI submitted 11/87. Listed on NPL 8/30/90. Interim Letter Agreement for ER signed 10/90. Negotiation ongoing for FFA. RI/FS submittal schedules for the several areas on-site run from 12/90 to 9/91. Cleanup expected to begin in FY 91.
	Naval Petroleum Reserve #1	On-site soil/chemical	PA/SI submitted 5/88. Additional investigations are currently underway.
	Sandia National Laboratories - Livermore	On-site soil/chemical	PA/SI submitted 10/15/87. RI activities completed 1989. FS activities initiated. California RWQCB issued site cleanup orders 9/88 and 12/89. Interim Remedial Measure for Trudell Site completed on 11/17/90. FS on Fuel Spill site submitted to RWQCB 9/28/90.
	Santa Susana Field Laboratories (Energy Technology Engineering Center)	On-site groundwater and soil/chemical and rad	PA/SI submitted 11/87. Need for additional actions under review.

* Acronyms and abbreviations used in this table are found in Appendix A.

TABLE III-1

STATE-BY-STATE STATUS OF DOE FACILITIES SUBJECT TO CERCLA*

STATE	DOE FACILITY	KNOWN OR SUSPECTED PROBLEMS	PLANS AND SCHEDULES
Colorado	Anvil Points Facility, Naval Oil Shale Reserve #3	None	PA submitted 4/88. No response from EPA to date.
	Grand Junction Projects Office Remedial Action Project	On-site soil and groundwater contamination with mixed waste	PA/SI submitted 4/88. RI/FS submitted 4/89. ROD approved 4/90. Remedial action initiated 6/90 and underway.
	Montrose Power Operations Center	On-site soil/chemical	PA submitted to EPA 6/90. Draft SI anticipated to be complete in 1/91.
	Rocky Flats Plant	On-site groundwater, surface water, soil/chemical, rad, mixed; off-site soil/rad	Listed on NPL on 10/4/89. RI/FSs and interim remedial actions conducted under schedule of Compliance Agreement signed 7/31/86. FFA executed 1/91. Remedial activities continuing under FFA.
Connecticut	Knolls Atomic Power Laboratory, Windsor Site	None	PA submitted 4/88. EPA Region I, in a 3/9/90 letter, stated that no remedial action is needed under CERCLA.
Florida	Pinellas Plant	On-site and off-site groundwater/chemical	PA/SI submitted 10/15/87. RI/FS initiated (under RCRA authority). RCRA Permit issued on 2/9/90, includes 15 SWMUs. RCRA Facility Investigation Work Plan submitted to EPA in 1990. Comments expected in early FY 91. Tanks removed and contaminated groundwater pumped and treated.
Hawaii	Kauai Test Range	Two areas of potential contamination exist.	RFI scheduled to begin 10/93.

* Acronyms and abbreviations used in this table are found in Appendix A.

TABLE III-1

STATE-BY-STATE STATUS OF DOE FACILITIES SUBJECT TO CERCLA*

STATE	DOE FACILITY	KNOWN OR SUSPECTED PROBLEMS	PLANS AND SCHEDULES
Idaho	Bettis Atomic Power Laboratory, Naval Reactors Facility, INEL	Minor on-site soil contamination/chemical and rad	PA submitted 4/88. Although Naval Reactors Facility has no significant environmental issues, it is part of the INEL which is an NPL site. Naval Reactors Facility is therefore participating in the INEL FFA process for conducting site investigations and remedial actions.
	Burley Maintenance HQ	Under review	Site removed from Federal Docket on 8/22/90 because it is privately owned.
	Idaho National Engineering Laboratory	On-site groundwater and soil/chemical and rad	Listed on NPL on 11/21/89. Consent Order/ Compliance Agreement entered with EPA Region X in 7/87 will be superseded by FFA. FFA negotiation near completion and final draft FFA is anticipated to be completed by spring 1991.
Illinois	Argonne National Laboratory - East	On-site groundwater/ chemical and rad	PA/SI submitted 4/88. Characterization of groundwater and on-site landfill ongoing. An EPA-requested screening site investigation is underway at four inactive waste storage and disposal sites.
	Fermi National Accelerator Laboratory	On-site soil and groundwater/chemical	Preliminary risk assessment for zinc chromate release submitted to EPA 11/90. Currently under review by EPA. SI ongoing.
Iowa	Ames Laboratory	Off-site soil/rad	Removal of off-site thorium and uranium completed in FY 89. SI plan requested by state to be completed 1/91.
	Hinton Hazardous Waste Storage Facility	On-site soil/chemical	Agreement under RCRA signed 12/87. Sampling and analysis report sent to EPA in 5/90. Contaminated soil identified in May 1990 report later removed.

* Acronyms and abbreviations used in this table are found in Appendix A.

TABLE III-1

STATE-BY-STATE STATUS OF DOE FACILITIES SUBJECT TO CERCLA*

STATE	DOE FACILITY	KNOWN OR SUSPECTED PROBLEMS	PLANS AND SCHEDULES
Kentucky	Paducah Gaseous Diffusion Plant	On-site soil/chemical; off-site groundwater/ chemical and rad absorbed dose; off-site fish/PCBs	CERCLA Section 106 Consent Order signed 11/4/88. Site investigation for groundwater contamination. Phase I final document expected in 2nd quarter FY 91. Phase II SI initiated 1st quarter FY 91. HSWA permit anticipated 3rd quarter FY 91.
Mississippi	Tatum Dome	Under review	Site removed from Federal Docket on 8/22/90 (55 FR 34472) because not federally owned.
Missouri	Kansas City Plant	On-site soil and groundwater/chemical	PA/SI submitted 10/15/87. RI/FS activities initiated (under RCRA authority). RCRA 3008(h) Corrective Action Administrative Order on Consent signed 6/23/89. Several assessments and remediations were initiated in 1990.
	St. Louis Airport (including Latty Avenue Site and Vicinity Properties)	On-site soil and groundwater/primarily rad with limited chemical contamination; off-site soil and sediments/rad contamination	Listed on NPL on 10/4/89. FFA executed in 6/90. Most field work to support the RI completed. RI and FS reports in progress. Removal actions with interim storage of contaminated soil planned for vicinity properties and St. Louis Downtown Site beginning in 1991. ROD scheduled FY 94.
	Weldon Spring Remedial Action Project	On-site and off-site soil and groundwater/ chemical and rad	Weldon Spring (Quarry and the Plant and Pits) listed on the NPL 7/22/87 and 3/13/89, respectively. ROD for Quarry Bulk Wastes signed 9/90. Draft RI/FS and support engineering studies for Chemical Plant submitted to EPA 1/91. Scoping of Quarry Residuals RI/FS initiated 11/90. Several removal and consolidation actions also undertaken in FY 90.
Montana	Component Development and Integration Facility	None	No removal/remedial actions planned or anticipated. The MSE Test Facility part of this facility will be deleted from the Federal Docket 8/22/90 (55 FR 34472) at the next update.

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TABLE III-1

STATE-BY-STATE STATUS OF DOE FACILITIES SUBJECT TO CERCLA*

STATE	DOE FACILITY	KNOWN OR SUSPECTED PROBLEMS	PLANS AND SCHEDULES
Nevada	Nevada Test Site	On-site soil and groundwater/rad	PA submitted 4/15/88. RI/FS work plans have been initiated. Closure plans for three inactive mixed waste sites submitted 3/89. Groundwater characterization program work plan initiated in FY 89.
	Tonopah Test Range	On-site soil/rad	PA submitted to EPA 9/19/89. RFI work scheduled to begin FY 92.
New Jersey	Maywood Site	On-site and off-site soil/ rad and potential chemical contamination; approximately 57 vicinity properties rad contaminated; no known groundwater contamination	FFA close to execution. Remedial actions completed at 25 off-site properties. RI field work scheduled for completion in 1/91. RI/FS report preparation to begin following completion of field work. ROD anticipated in FY 94.
	Middlesex Sampling Plant	On-site soil/rad	Evaluations for removal actions planned FY 94
	New Brunswick Laboratory	On-site soil/rad	Evaluations for removal actions planned FY 94
	Princeton Plasma Physics Laboratory	On-site soil and groundwater/chemical	Site removed from the Federal Docket on 8/22/90 (55 FR 34472) because it is not federally owned. Remediation of five underground storage tanks and associated contaminated soil completed in 1990. Other site characterization studies underway.
	Wayne Site	On-site soil/rad and potential chemical contamination; off-site soil/minimal rad contamination; no known groundwater contamination	FFA close to execution. Off-site removal actions completed except for one small property. RI field work to be completed in early FY 92. ROD scheduled for FY 95.

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TABLE III-1

STATE-BY-STATE STATUS OF DOE FACILITIES SUBJECT TO CERCLA*

STATE	DOE FACILITY	KNOWN OR SUSPECTED PROBLEMS	PLANS AND SCHEDULES
New Mexico	Gasbuggy	None	PA submitted to EPA 4/17/88. Added to Federal Docket on 8/22/90.
	Gnome-Coach	None	PA submitted to EPA 4/17/88. Added to Federal Docket on 8/22/90.
	Los Alamos National Laboratory	On-site soil and groundwater/chemical and rad	PA/SI submitted 10/15/87. RCRA Permit issued 5/23/90. Some fieldwork on RCRA closure plans and interim remedial measures completed.
	Lovelace Inhalation Toxicology Research Institute	On-site soil/chemical and rad; groundwater/ chemical	Added to the Federal Docket on 12/15/89. PA required by 6/15/91.
	Sandia National Laboratories-Albuquerque	On-site soil and groundwater/chemical and rad	PA/SI submitted 10/20/87. Closure plan submitted to State and EPA for the Chemical Waste Landfill. RI initiated in anticipation of Corrective Action requirements of an upcoming RCRA Permit. Site Assessment for mixed waste landfill completed and groundwater monitoring system installed FY 90. Installation-wide and site-specific work plans completed.
New York	Brookhaven National Laboratory	On-site groundwater/ chemical and rad	PA/SI submitted 10/14/87. RI/FS planning and remediation initiated. Listed on NPL on 11/21/89. FFA negotiations completed 7/90. Three documents required by FFA in various stages of completion.
	Colonie Site	On-site soil/rad and chemical	RI and baseline risk assessment underway. RI/FS work plan scheduled for completion by 2/91.
	Knolls Atomic Power Laboratory, Niskayuna and West Milton Sites	Minor soil and groundwater contamination/chemical and rad	PA submitted 4/88. SI and remedial actions are underway for limited contamination.

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TABLE III-1

STATE-BY-STATE STATUS OF DOE FACILITIES SUBJECT TO CERCLA*

STATE	DOE FACILITY	KNOWN OR SUSPECTED PROBLEMS	PLANS AND SCHEDULES
New York (Continued)	Niagara Falls Storage Site	On-site soil/rad	PA completed 5/90. Follow-up activities currently under review.
	West Valley Demonstration Project	On-site soil and groundwater/chemical and rad	Negotiations underway with EPA and State for RCRA 3008(h) Consent Order. Final agreement expected in FY 91.
North Dakota	Great Plains Coal Gasification Plant	Under review	Removed from the Federal Docket on 12/15/89 because it was sold to a private company.
Ohio	Feed Materials Production Center	On-site and off-site soil and groundwater/rad	RI/FS being conducted in accordance with the FFCA signed 7/19/86. Listed on NPL 11/21/89. Consent Agreement for replacement of CERCLA portion of FFCA signed 4/9/90. Four removal actions and five RI/FSs on operable units ongoing.
	Mound Plant	On-site soil, on-site and off-site groundwater/ chemical and rad	PA/SI submitted 10/15/87. Listed on NPL on 11/21/89. FFA executed by EPA Region V and DOE on 8/6/90. First FFA deliverable sent to EPA 11/12/90 for approval. RI/FS work plans in preparation for all 8 operable units. First ROD scheduled early FY 94.
	Portsmouth Uranium Enrichment Complex	On-site soil and ground-water/chemical and rad	PA submitted 4/88. Consent Decree with Ohio and RCRA Administrative Consent Order with EPA Region V signed on 8/31/89 and 11/2/89, respectively. Closures and Interim Remedial Action in progress with RFI/Corrective Measures Study scheduled to start in early 1991. Work plans for Quadrants I and II RFIs approved and field work initiated 2nd quarter FY 91.

* Acronyms and abbreviations used in this table are found in Appendix A.

TABLE III-1

STATE-BY-STATE STATUS OF DOE FACILITIES SUBJECT TO CERCLA*

STATE	DOE FACILITY	KNOWN OR SUSPECTED PROBLEMS	PLANS AND SCHEDULES
Oregon	Alvey Maintenance Headquarters	On-site soil/chemical	PA submitted 3/19/90. Soil and groundwater investigation 6/22/90. Need for follow-up activities under review.
	Troutdale Substation	On-site soil/chemical	PA submitted 3/19/90. SI submitted 9/6/90. PCB cleanup completed 9/21/90.
Pennsylvania	Bettis Atomic Power Laboratory, West Mifflin	Minor soil and groundwater contamination/chemical and rad	PA submitted 4/88. EPA Region III stated in a 9/19/89 letter that no remedial action is needed under CERCLA. SI and remedial actions are underway for minor contamination under a RCRA Administrative Order on Consent.
South Carolina	Savannah River Site	On-site groundwater and soil/chemical and rad	RCRA Permit issued 9/29/87. PA submitted 4/88. Listed on NPL on 11/21/89. RCRA closures and post-closures ongoing. Negotiations for Draft FFA complete. RCRA/CERCLA investigation plans submitted on schedule to EPA Region IV.
South Dakota	Watertown Maintenance Facility	On-site soil and groundwater/chemical	Listed on Docket 11/16/88. PA submitted 5/90. SI anticipated to be complete in FY 91.
Tennessee	K-25 Site	On-site groundwater and soil/chemical and rad	Listed on NPL as one site with Y-12, ORAU, ORNL, and Off-Site Clinch River on 11/21/89. Corrective action activities underway under RCRA permit issued 9/26/86. FFA close to execution. RFIs and closure of two surface impoundments underway.
	Oak Ridge Associated Universities	On-site groundwater and soil/chemical and rad	Listed on NPL as one site with Y-12, K-25, ORNL, and Off-Site Clinch River on 11/21/89. Corrective action activities underway under RCRA permit issued 9/26/86. FFA close to execution.

* Acronyms and abbreviations used in this table are found in Appendix A.

TABLE III-1

STATE-BY-STATE STATUS OF DOE FACILITIES SUBJECT TO CERCLA*

STATE	DOE FACILITY	KNOWN OR SUSPECTED PROBLEMS	PLANS AND SCHEDULES
Tennessee (Continued)	Oak Ridge National Laboratory	On-site groundwater and soil/chemical and rad	Listed on NPL with Y-12, ORGDP, ORAU, and Off-Site Clinch River as one site on 11/21/89. Corrective action activities underway under RCRA permit issued 9/26/86. FFA close to execution. RFI for main plant underway. Waste Area Grouping 6 RFI completed.
	Off-Site Clinch River	Off-site water/chemical and rad	Listed on NPL as one site with Y-12, K-25, ORAU, and ORNL on 11/21/89. Corrective action activities underway under RCRA permit issued 9/26/86. FFA close to execution. RI field work is ongoing.
	Y-12 Plant	On-site groundwater and soil/chemical and rad	Listed on NPL as one site with K-25, ORAU, ORNL, and Off-Site Clinch River on 11/21/89. Corrective action activities underway under RCRA permit issued 9/26/86. FFA close to execution. Comments on the RI work plans were received, and field work is ongoing at the East Fork Poplar Creek. Field work at other operable units ongoing. Completed closure of eight land disposal units and closure activities underway for four land disposal units.
Texas	Pantex Plant	On-site soil and groundwater/chemical and rad	PA/SI submitted 10/87. RI/FS work initiated. RCRA 3008(h) Order on Consent executed 12/10/90. Closure plan for 11-14 Pond under review. RCRA Permit now in Public Notice stage.
Utah	Monticello Mill Site and Vicinity Properties	On-site and off-site groundwater and soil/chemical and rad	Vicinity Properties listed on the NPL on 6/10/86. FFA signed 12/88. Mill Site listed on NPL on 11/21/89. RI/FS work for the Mill Site has been completed. Vicinity Properties ROD 12/89; Mill Site ROD 9/90. 199 properties in program; 90 properties remediated. Remedial design for Mill Site underway; remedial action to start in FY 92.

* Acronyms and abbreviations used in this table are found in Appendix A.

TABLE III-1

STATE-BY-STATE STATUS OF DOE FACILITIES SUBJECT TO CERCLA*

STATE	DOE FACILITY	KNOWN OR SUSPECTED PROBLEMS	PLANS AND SCHEDULES
Washington	Columbia Substation	On-site soil/chemical	PA submitted 5/25/90. PCB cleanup 8/90 to 10/90.
	Covington Substation	On-site soil/chemical	PA submitted 5/16/90. PCB cleanup scheduled.
	Custer Substation	On-site soil/chemical	Deleted from Federal Docket 8/22/90 (55 FR 34472).
	G.H. Bell Substation and Maintenance Complex	On-site soil/chemical	PA submitted 5/11/90. SI underway with completion expected early 1991.
	Hanford Site	On-site groundwater and soil/chemical and rad	Listed on NPL on 10/4/89. RI/FSs initiated for 14 operable units. Tri-Party FFA and Consent Order signed 5/15/89. Three expedited response actions planned.
	Midway Substation	On-site soil/chemical	PA submitted 3/27/90. EPA finding of No Further Action 5/15/90.
	Olympia Substation	On-site soil/chemical	PA submitted 5/16/90. PCB cleanup 8/90 to 9/90.
	Ross Complex	On-site groundwater and soil/chemical	PA submitted 6/20/86. Final SI submitted 8/89. Listed on NPL on 11/21/89. RI/FS initiated 9/89. RI/FS scope of work submitted 3/15/90 and draft RI/FS work plan submitted 5/15/90. FFA executed 4/20/90.
	Snohomish Substation	On-site soil/chemical	PA submitted 5/16/90. PCB cleanup 7/90 to 9/90.

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IV. ONGOING RESEARCH AND DEVELOPMENT EFFORTS FOR REMEDIAL TECHNOLOGIES

A. General Description and Goals of Department of Energy's Research and Development Efforts for Development of Innovative Remedial Technologies

The Department of Energy is committed to a goal of completing environmental cleanup of its facilities by 2019. To successfully achieve this goal, and to do this with the lowest possible cost, DOE will create and rapidly field new technologies consistent with all applicable regulations. In developing new technologies to improve Waste Operations and Environmental Restoration operations, the Office of Technology Development (OTD) has been created to (1) establish the means to identify and prioritize needed technology development activities, (2) aggressively use all internal and external resources to find solutions, and (3) rapidly transfer those solutions to DOE and other users.

The principal mission of OTD is to provide new technologies by increasing investment in and improving the management and coordination of DOE's technology development activities. This mission is pursued in close cooperation with the Waste Operations and Environmental Restoration Offices and by using all internal and external resources available. The overall goals of the OTD are to

- become the international leader in technology development for environmental restoration and waste operations,
- expand the talent pool for site cleanup and waste management through significant support of education in science and technology, and
- provide effective support to EM in the identification and resolution of technology needs.

Attainment of these goals will reduce waste generation, overall costs, and risks.

OTD relies heavily on the existing national laboratory system to develop new and improved technologies because of its extensive technical capability, close ties with operating sites, and longstanding role in DOE basic research programs. Through technology transfer, OTD increasingly emphasizes the adaptation of existing solutions from industry, other Federal agencies, international organizations, and universities. To facilitate and accelerate development of innovative solutions, OTD will encourage partnerships among these groups by publishing the scopes of ongoing

research, emphasizing the selection of team proposals, and ensuring that direct action is taken by Headquarters staff.

Once a new technology has been developed and proven or has been successfully applied at a site, OTD will make it available to other DOE sites and to outside organizations. The strategy for achieving successful transfer of technologies to other DOE sites and Federal agencies is to promote joint Integrated Demonstrations of technologies in key technology areas. In addition, Integrated Programs have been organized to provide a cost-effective, coordinated, and comprehensive applied R&D effort that will bring new technologies to a state of readiness for demonstration.

An integrated educational and outreach program in science and technology has been established with the objectives of increasing the talent pool available for site cleanup and waste management and involving universities in DOE technology development activities.

B. Integrated Demonstrations and Integrated Programs to Expedite the Technology Generation Cycle

Activities of the OTD are organized under integrated programs (IPs) and integrated demonstrations (IDs). An IP addresses a specific set of environmental restoration/waste management needs and provides a continuing mechanism to focus R&D activities to develop new technologies, evaluate their relative merit and suitability for various applicable IDs and advance results rapidly to the demonstration, testing and evaluation (DT&E) phase. An ID consolidates the technical activities of DT&E, assembling a comprehensive set of technologies that span all aspects of a remediation or waste management program, including characterization, permitting, implementation, and monitoring.

IPs and IDs serve three major programmatic areas: (1) Groundwater and Soils Cleanup, (2) Waste Retrieval and Processing, and (3) Waste Minimization. In addition, supporting technologies that have cross-cutting application are included. IPs/IDs that are ongoing or planned to be initiated in early FY 91 are shown below.

GROUNDWATER AND SOILS CLEANUP

Integrated Program:	In-Situ Remediation Technology Development
Integrated Program:	Characterization and Sensor Technology Development
Integrated Demonstration:	Cleanup of Volatile Organic Compounds in Saturated Soils and Groundwater: Savannah River Demonstration Protocol Development
Integrated Demonstration:	Cleanup of Plutonium in Soils
Integrated Demonstration:	Cleanup of Uranium in Soils
Integrated Demonstration:	Cleanup of Volatile Organics in Unsaturated Soils

WASTE RETRIEVAL AND WASTE PROCESSING

Integrated Program:	TRU/Actinide Separation and Processing
Integrated Program:	RCRA Component Destruction: Mixed Waste, Hazardous Waste and Contaminated Sites
Integrated Program:	Characterization and Sensor Technology Development
Integrated Demonstration:	Buried Mixed Waste Retrieval, Processing and Disposal

WASTE MINIMIZATION AND WASTE AVOIDANCE

Integrated Demonstration:	Radioactive Waste Reduction in Uranium/Plutonium Manufacture
Integrated Program:	Pollution Prevention

SUPPORTING TECHNOLOGIES

Analytical Laboratory Operations
Robotics Technology Development
Risk Assessment and Management

The principal measure of success for OTD will be the implementation of newly-generated technologies that enable ER and WM activities to be carried out more rapidly, with higher quality and improved safety, and at a lower overall cost.

C. Activities and Accomplishments

Since its establishment on November 1, 1989, staffing of OTD has been completed through branch level for each of the divisions. Linkages to the Office of Energy Research have been established, and the Basic/Applied Research Working Group has been formed. The first annual symposium for Research, Development, Demonstration, Testing, and Evaluation for Environmental Restoration and Waste Operations was held December 12-14, 1989, in San Francisco to provide guidelines for industry, university, and other Federal agencies' participation. National technical programs have been initiated underpinning the DOE missions in waste operations and environmental restoration, with focus on IDs and also with coordinated national IPs and other programs such as robotics development. Two pilot programs for DOE-academic partnerships are being organized in New Mexico and in South Carolina. Planning and funding for Environmental Restoration and Waste Management outreach to precollege students has been initiated, and a fellowship/scholarship program has been established. A series of technology development workshops have been held: (1) DOE/Air Force Joint Technology Review, February 6-8, 1990, Atlanta, GA; (2) Real-Time Subsurface Monitoring, April 3-5, 1990, Dallas, TX; (3) DOE Biotechnology Review, April 10-11, 1990, Idaho Falls, ID; and (4) Thermal Treatment Technologies/In-Situ Vitrification, June 26-28, 1990, Richland, WA. Participation in these workshops has included other Federal agency and congressional staff, professional and industrial organizations, special interest groups, and the media, as well as DOE and contractor personnel.

APPENDIX A

LIST OF ACRONYMS AND ABBREVIATIONS

ARARs	Applicable or Relevant and Appropriate Requirements
BPA	Bonneville Power Administration
CDIF	Component Development and Integration Facility
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
COCA	Consent Order and Compliance Agreement
D&D	Decontamination and Decommissioning
DOE	U.S. Department of Energy
DT&E	Demonstration, Testing and Evaluation
EA	Environmental Assessment
EE/CA	Engineering Evaluation/Cost Analysis
EH	Office of Environment, Safety and Health
EIS	Environmental Impact Statement
EM	Office of Environmental Restoration and Waste Management
EPA	U.S. Environmental Protection Agency
ER	Environmental Restoration
ETEC	Energy Technology Engineering Center
FERMILAB	Fermi National Accelerator Laboratory
FFA	Federal Facility Agreement
FFCA	Federal Facility Compliance Agreement
FMPC	Feed Materials Production Center
FR	Federal Register
FUSRAP	Formerly Utilized Sites Remedial Action Program
FY	Fiscal Year
HRS	Hazard Ranking System
HSWA	Hazardous and Solid Waste Amendments
IAG	Interagency Agreement
INEL	Idaho National Engineering Laboratory
ID	Integrated Demonstrations
IP	Integrated Programs
LANL	Los Alamos National Laboratory

NCP	National Contingency Plan
NEPA	National Environmental Policy Act
NOI	Notice of Intent
NPL	National Priorities List
NPR-1	Naval Petroleum Reserve No. 1
OTD	Office of Technology Development
ORAU	Oak Ridge Associated Universities
ORGDP	Oak Ridge Gaseous Diffusion Plant
ORNL	Oak Ridge National Laboratory
OU	Operable Unit
PA	Preliminary Assessment
PA/SI	Preliminary Assessment/Site Investigation
PCB	Polychlorinated Biphenyl
RAAS	Remedial Action Assessment System
RCRA	Resource Conservation and Recovery Act
R&D	Research and Development
RFI	RCRA Facility Investigation
RI	Remedial Investigation
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
RWQCB	Regional Water Quality Control Board
SARA	Superfund Amendments and Reauthorization Act
SFMP	Surplus Facilities Management Program
SI	Site Investigation
SWMUs	Solid Waste Management Units
VOC	Volatile Organic Compounds
WDR	Water Discharge Requirements

APPENDIX B

INDEX FOR INDIVIDUAL FACILITIES

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