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***Accelerating Cleanup:
Focus on 2006***

***Albuquerque
Operations
Office
Summary***

June 11, 1997

DRAFT



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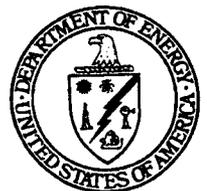




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EXECUTIVE SUMMARY

The DOE Albuquerque Operations Office (AL) is pleased to support the development of the National, "Accelerating Cleanup: Focus on 2006, Discussion Draft." The National Discussion Draft introduces a ten year vision to complete clean-up at most DOE sites by fiscal year (FY) 2006. At a small number of sites nationwide, treatment will continue for the few remaining years. This unifying vision will drive funding decisions, sequencing of projects, and actions taken to meet program objectives. DOE's Office of Environmental Management (EM) will implement this vision in collaboration with regulators and stakeholders.

This document is one of the 12 Documents being developed by other DOE Operations and Field Offices. AL is committed to having significant interfaces with stakeholders during this summer. The points of contact to establish these interfaces are listed within this document. The AL Summary will be updated after stakeholder and DOE Headquarters comments are received in September 1997. At that time the AL Summary will become a Draft Plan, issued again for public review through October 1997, and issued as a Final Plan in February 1998. Prior to issuance of this document as the AL Summary, DOE-AL received some comments and suggestions during stakeholder meetings, which were held between November and December 1996, on the first draft of the Ten Year Plan. Since that time, some modifications have been taken into account to improve stakeholder involvement. These modifications include:

- Establishing separate meetings with Tribal Governors and representatives.
- Providing for more communications at the site level.
- Establishing a commitment to work our respective regulators to layout key regulatory assumptions.
- Providing additional detailed information for each site, within the site specific section of this document.
- Providing a mechanisms for EM to provide information on DOE as a whole.

The AL Summary demonstrates that all cleanup activities and legacy waste workoff can be completed by the end of FY 2006 under both funding scenarios being evaluated by the DOE. By 2006, most of the currently planned EM work at AL sites will be completed. This includes completion of active remediations (Pinellas closure by end of Fiscal Year 1997, Los Alamos by end of FY 2005, Sandia by end of FY 2001); disposal of all wastes currently in storage (such as disposing of the currently stored Transuranic waste at Los Alamos at the Waste Isolation Pilot Plant by end of FY 2006); and transition of management responsibility for newly generated wastes from EM to the waste generator (or landlord). To achieve greater program efficiencies. These efficiencies represent significant savings to the Department, and show accelerated workoff of actual waste in storage, and the number of completed remediations. Although the completion of this workscope extends well beyond the targeted efficiencies identified beyond the National Discussion Draft, AL will continue to identify and implement programmatic efficiencies while executing this strategy.

Since the AL Summary is based on information which was developed in February 1997, several evolutions, additional efficiencies, or issues have arisen which will serve as a basis



to continue with refinements to the basic planning assumptions which support the AL Summary. A listing of these issues can be found within the context of this document. At this time one of the biggest challenges AL has, is to work with NMED to define how Ecorisk and surface water evaluation requirements will be documented, so that permitting requirements can be completed for the release sites in New Mexico. The other challenge presented to AL is identified for the Uranium Mill Tailings Remedial Action (UMTRA) project. For UMTRA, increased construction claims needed to bring the project to closure and still meet mandated commitments to have the project done in FY 1998 still remains as a funding issue needing resolution. More specifics can be found within the site specific summary section of the AL Summary.



INTRODUCTION

EVOLUTION OF THE ACCELERATING CLEANUP: FOCUS ON 2006 - ALBUQUERQUE OPERATIONS OFFICE SUMMARY

In August 1996, the U.S. Department of Energy (DOE), Office of Environmental Management (EM) directed Field and Operation Offices to define an end-state for Environmental Management Programs at each site. At that time, the Office of Environment/Project Management, Albuquerque Operations Office (AL) prepared and submitted preliminary Project Baseline Summaries (PBS). These summaries identified general project scope and associated end states for each project. Since that submittal, additional guidance was received from EM, and further refinement was made to the basic planning assumptions, schedules, activities, workscope, and associated funding profiles. This information was collected and submitted to EM on February 28, 1997, as PBSs in support of the national database which is being used by EM to create the "Accelerating Cleanup: Focus on 2006" Discussion Draft.

This document consists of summary-level information of the AL February 28, 1997, PBS submittal. This introduction will present the Mission of AL, a general overview of the AL EM program, its challenges, prioritization of activities, the overall funding profile, and a summary of key planning assumptions. This summary is provided to assist you to perform a general review (on a site by site basis) of key activities, scope, assumptions, terminology, and issues. The information is identified within the Site Specific Summary Section of the document, and is presented for both the Environmental Restoration (ER), Waste Management (WM), and other AL EM assigned programs. This document serves as one source of information to facilitate DOE and stakeholder discussions between June 12 and September 9, 1997.

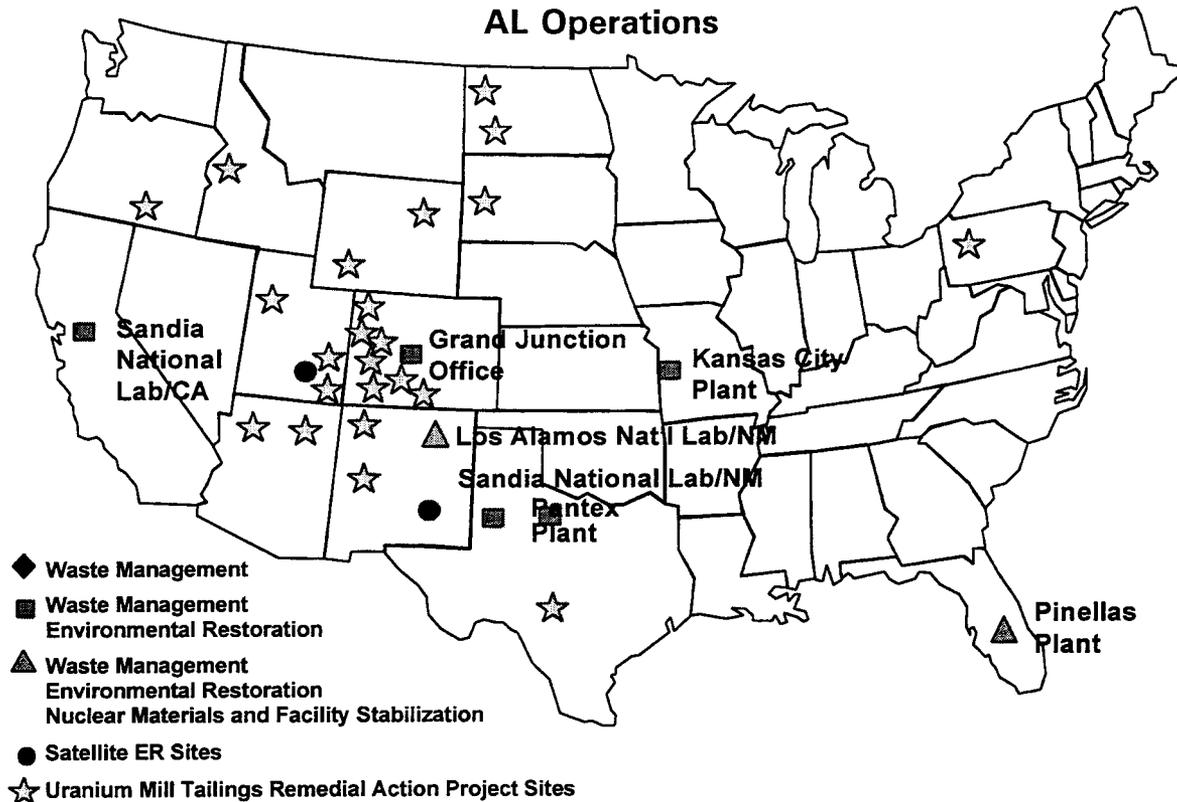
MISSION OF THE ALBUQUERQUE OPERATIONS OFFICE

The primary mission of DOE AL is to maintain a safe and reliable nuclear weapons stockpile; manage nuclear materials awaiting permanent disposition; achieve a restored environment; and support these missions with a strong science and technology base. AL includes personnel and offices at a centralized facility and its associated Area and Project offices. Management responsibilities encompass national facilities, production plants, environmental management sites and facilities, and the contractors who manage and operate these facilities for DOE.

AL oversees environmental work at three production plants, three national laboratories, the Inhalation Toxicology Research Institute (ITRI) and the South Valley Superfund Site in New Mexico, the Grand Junction Office in Colorado, and a number of Uranium Mill Tailings Remedial Action (UMTRA) sites around the country (Figure 1). The production plants are the Kansas City Plant (KCP) in Kansas City, Missouri; the Pantex Plant (PX) in Amarillo, Texas; and the Pinellas Plant (PP) in Pinellas, Florida. The national laboratories include Sandia National Laboratories in California and New Mexico, and the Los Alamos National Laboratory in New Mexico.



Figure 1



GENERAL OVERVIEW OF THE AL EM PROGRAM

Since 1989, the EM program has included sites with radioactively contaminated soils from former inactive uranium mills, former mission-related facilities awaiting decommissioning, low level and transuranic waste, contaminated aquifers, and radionuclide, organic, and heavy metal contaminated surface waters. To date, the ER program has completed 7,038 sites, including vicinity properties. A portion of these sites is currently pending regulatory approval.

The WM program's largest remaining project is the disposal of 8,571 cubic meters of transuranic waste currently in storage. By FY 2006, most of the currently planned EM work at AL sites will be completed as shown in Figure 2.

PRIORITIZATION OF THE AL ENVIRONMENTAL MANAGEMENT PROGRAM

With multiple sites, each of which has hundreds or thousands of EM activities, a means of prioritizing the EM work has been essential. The following are general prioritization criteria used by AL's environmental management team:

- Assuring health and safety of the public and environment and regulatory compliance activities.
- Compliant management of new wastes that come from site's mission-related work such as ongoing research, and development, weapons programs and energy research. Completion of near-term projects that support site closure (UMTRA, Pinellas Plant commercialization)

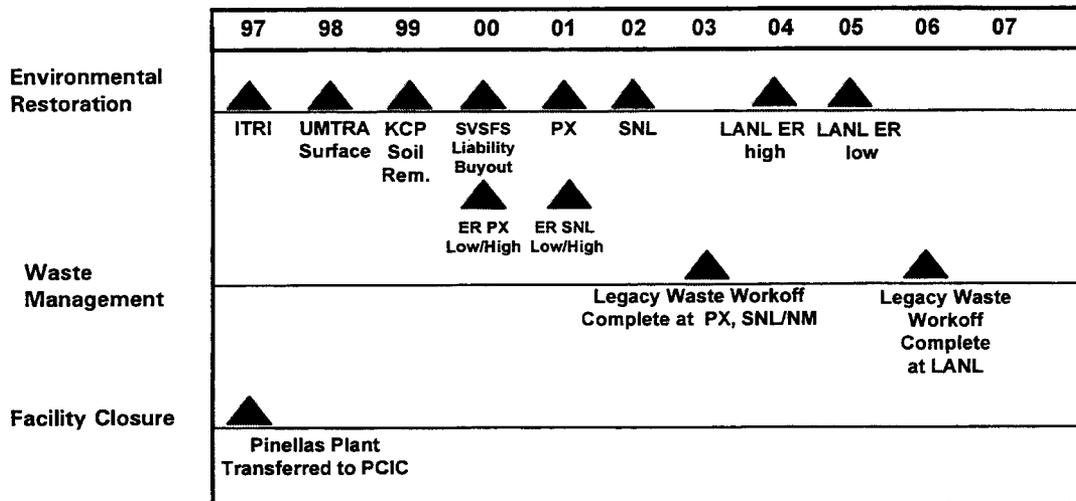


- Environmental restoration activities, disposal of wastes that are currently in long-term storage, and other programs that have been assigned to AL, but are not part of our core environmental management mission (Innovative Treatment Remediation Demonstration Program (ITRD), Waste Management Education Research Consortium (WERC), etc.)

As a final check projects rated low in priority would be elevated to the top of the list if increased health and safety or compliance risks are identified in the course of assessments. A specific program activity prioritization list is provided as an attachment to this document.

Figure 2

Completion of AL Environmental Management Activities



- ITRI - Inhalation Toxicology Research Institute
- KCP - Kansas City Plant
- LANL - Los Alamos National Laboratory
- PCIC - Pinellas County Industrial Council
- PX - Pantex Plant
- SNL - Sandia National Laboratories
- SVSFS - South Valley Superfund Site
- UMTRA - Uranium Mill Tailings Remedial Action

Difference between high and low case activity completions are shown as they exist.

OVERALL AL ENVIRONMENTAL MANAGEMENT FUNDING PROFILES

Funding levels shown in the "Accelerating Cleanup: Focus on 2006", Discussion Draft have been specified by Department of Energy Headquarters. For FY 1997, the Albuquerque Operations Office (AL) reflects FY 1997 Appropriated level of \$381M. For FY 1998, AL uses the FY 1998 Congressional Request level of \$315M. For FY 1999 the low case funding scenario is \$301M and the high case is \$328M. Site specific allocations for the low and high funding scenarios are reflected in Figure 3. AL programmatic funding levels, beyond 1999, are shown in Figure 4.



As with all government programs, available funding is a function of annual Congressional appropriations and the final determination by EM Hwadrquarters of site-specific allocations. The funding levels described in the AL Summary, which would allow cleanup to be completed at all AL sites by FY 2006, may not be appropriated by Congress. If the specified funding levels are not received, this document will have to be revised to account for changes.

For instances where a high funding case presented, additional workscope is summarized.

Figure 3
FY 1999 Funding By Site

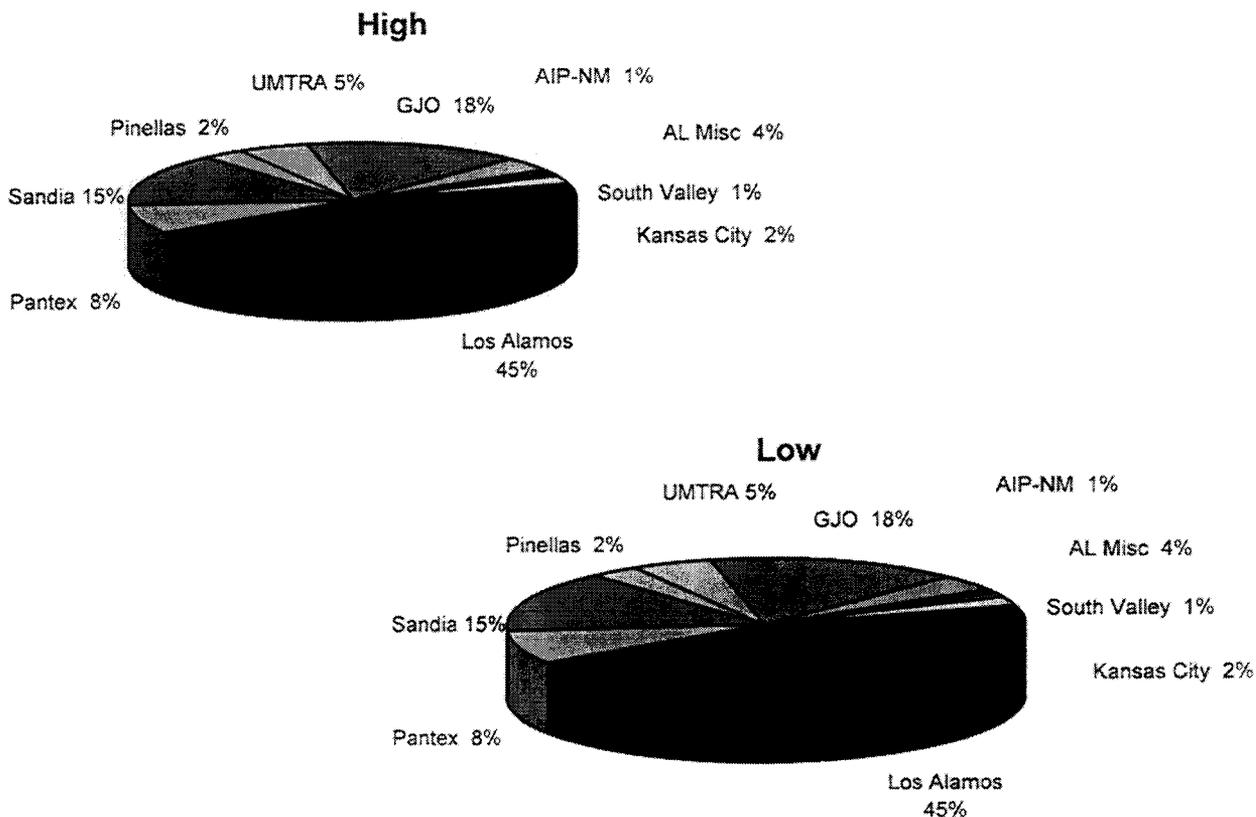
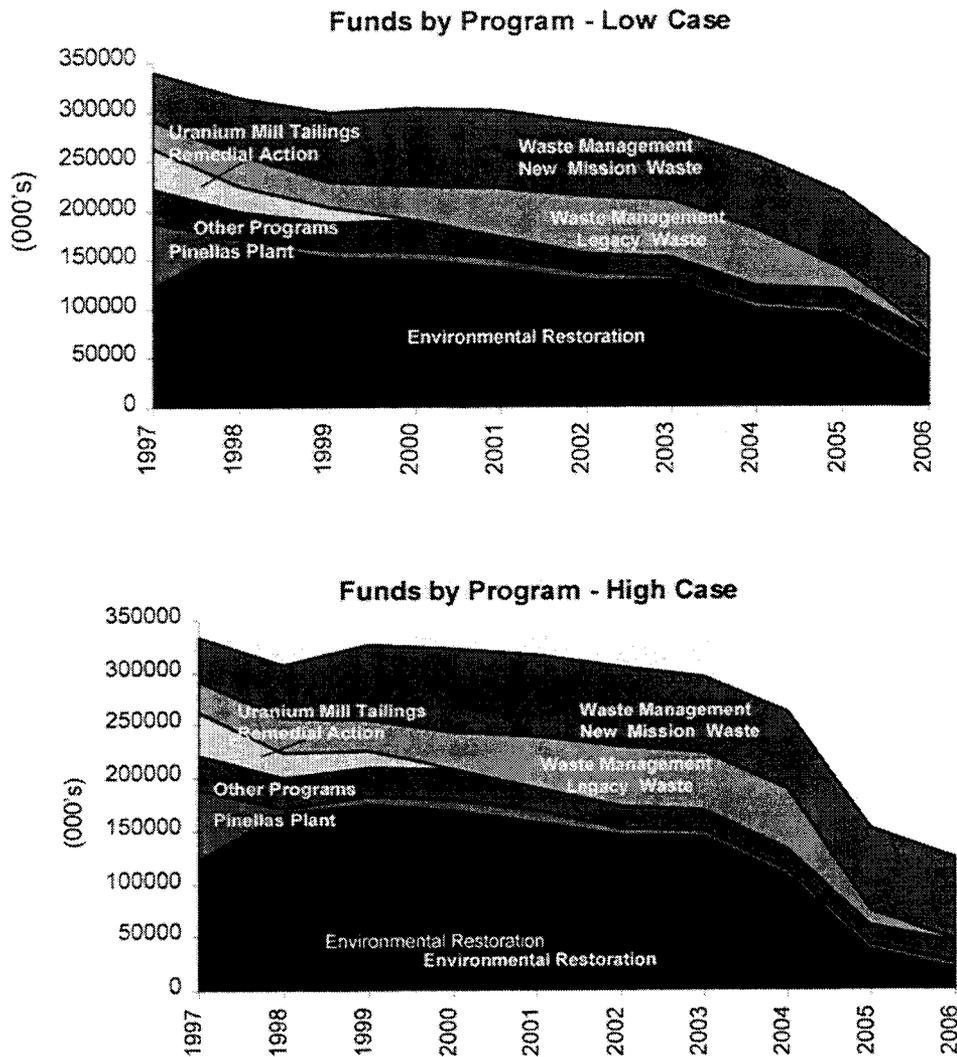




Figure 4



SUMMARY PLANNING ASSUMPTIONS

This Department of Energy (DOE) Albuquerque Operations Office (AL) Summary contains several general assumptions to assure consistency across all Operations and Field Office Plans. Additionally, several site-specific assumptions are presented in each detailed AL site summary. The assumptions serve as the basis for developing the site-specific PBSs, which were compiled in February 1997. General assumptions used in the development of the AL Summary are as follows:



DOE Headquarters Assumptions

- FY 1998 funding targets are used as a base for planning through FY 2006.
- Responsibility for funding all surveillance and maintenance costs for completed environmental restoration projects will be transferred to the installation landlord (Defense Programs or others) after FY 2006.
- Even as the legacy waste mission is completed, the sites at Sandia National Laboratories, Los Alamos National Laboratory, Kansas City, and Pantex will continue to generate waste from ongoing operations. Management of and financial responsibility for newly generated waste outside the Environmental Management (EM) Program is expected to be assumed by the generator program no later than FY 2000. However, funding and volume data are shown in the AL Summary through FY 2006, except for Kansas City, which will be transferred in FY 1998.
- No new facilities (from Defense Programs, Energy Research, or other DOE programs) will be included, for safe shutdown or remediation, in the EM Program. The AL Summary will focus only on facilities currently included in the program.
- Funding levels for Technology Development in the AL Summary will be provided by DOE Headquarters.

Albuquerque Specific Assumptions

- Flexibility exists to utilize Uranium Mill Tailings Remedial Action (UMTRA), Pinellas Plant and other project closeout funding amounts, as they become available, to support the continued acceleration of other AL specific EM activities.
- Flexibility exists to use funding as deemed appropriate and necessary (e.g. moving funding between programs, such as environmental restoration funding to waste management, and defense and non-defense funds).
- All decisions on sites will incorporate the appropriate National Environmental Policy Act (NEPA) documentation
- Methods and processes for reducing waste volume, including avoiding generating waste when applicable, are incorporated.
- Costs for waste treatment, storage, and disposal are incorporated into the costs for the remediation and decommissioning activities that generate the wastes.
- Additional regulatory requirements, such as the New Mexico Environment Department Abatement regulations, Natural Resources Damage Assessment (NRDA), and Environmental Justice will not increase the project scope.
- Costs for surplus facilities Decontamination and Decommissioning that have not been transferred to EM are not included.



AL STAKEHOLDER INVOLVEMENT PROCESS

PREVIOUS STAKEHOLDER INVOLVEMENT

In July 1996, informal discussion meetings, concerning the Ten-Year Plan, were held by the Department of Energy (DOE) Albuquerque Operations Office (AL) and its Area Offices with state regulators, state Agreement-In-Principle personnel, tribal governors, Advisory Boards to the Los Alamos National Laboratory, Sandia National Laboratories and Pantex, local congressional offices and other stakeholders. The purpose of these discussions was to explain the objectives and goals of the Ten-Year Plan and briefly outline the process for finalizing the Ten-Year Plan. Meetings with the regulatory agencies also included discussions on the assumptions used in the development of the Ten-Year Plan. AL provided copies of the Ten-Year Plan to interested parties and also produced a reader-friendly summary of the lengthy document.

In October 1996, AL hosted a Ten-Year Plan Roundtable Discussion meeting in Santa Fe, New Mexico, to receive input. A similar roundtable discussion was conducted in Grand Junction, Colorado and Kansas City, Missouri. In addition to these formal activities, DOE-AL and its Area Offices conducted several briefings and question/answer sessions with Advisory Boards, tribal governments, and local elected officials. Public Participation Coordinators, at each of the Area Offices, facilitated these informal discussions. Following the Ten-Year Plan Roundtable Discussion meeting, AL provided a written response to all questions raised. For those questions which were unresolved, a DOE point of contact was provided for further discussion.

PUBLIC REVIEW AND COMMENT ON THE AL SUMMARY

A 90- public comment period will begin on June 12, 1997 and continued through September 9, 1997. During this time, AL personnel will hold meetings and conduct briefings to help our stakeholders understand the AL Summary. AL is requesting stakeholder comments on priorities and sequencing of projects at individual sites, site end states, as well as our approach for accomplishing our goals.

After receiving comments, AL Environmental Management personnel will work with stakeholders to address issues and comments before the development and release of the draft "Accelerating Cleanup: Focus on 2006" this September. Following a second public comment period, EM plans to issue the final "Accelerating Cleanup: Focus on 2006" in February 1998.

Public involvement activities in support of the AL Summary will include discussions with local tribal leaders, state and federal regulators, state, county, and city elected officials, Citizen's Advisory Boards, and special interest organizations. The discussions will be hosted by the DOE-AL Area Offices in coordination with DOE-AL Office of Environment/Project Management and its program offices.

Based on the feedback DOE-AL received from stakeholders on the public participation activities conducted during the first draft of the Ten-Year Plan, the following modifications and activities will be conducted to improve stakeholder involvement:



- Separate meeting with Tribal Governors and representatives
- More informal communications at the site level
- Information on the "big" picture" impacts (DOE as a whole)
- Information should be tied to priority of activity, not budget - because DOE cannot predict its budget from year to year.



AL SITE SPECIFIC SUMMARY



LOS ALAMOS NATIONAL LABORATORY

SITE MISSION

The Los Alamos National Laboratory (LANL) was established in 1943 and encompasses over 27,000 acres in north-central New Mexico. The Laboratory is situated on the Pajarito Plateau, near the community of Los Alamos, New Mexico. The missions include national security, medium energy-physics, space nuclear systems, controlled thermonuclear fusion, lasers, nuclear safeguards, biomedicine, and environmental management.

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION MISSION

The mission of the Environmental Restoration (ER) project is to reduce the sources of hazards, presented by inactive/surplus facilities and contaminated sites, to human health and environment by remediating sites and facilities.

DEFINITION OF SCOPE

Many of the Laboratory's operations have required the use of hazardous chemicals and radioactive materials such as plutonium, uranium, explosive residues, unexploded ordnance, asbestos, organic solvents, and metals. Use of these materials resulted in contamination of facilities, and in some cases, of the surrounding environment.

The primary regulatory drivers for the ER project include a permit for corrective action under the Hazardous and Solid Waste Amendments to the Resource Conservation and Recovery Act (RCRA), as well as stakeholder concerns regarding the potential for adverse effects to occur from residual contamination in the environment.

During the course of the ER project, LANL had identified 2120 potential release sites. As of September 1996, 1310 of these sites had been identified as requiring no further action. These sites will continue to be reviewed in the future for ecological concerns. These sites are located on private property, county property, Forest Service land, and National Park Service land, as well as Department of Energy (DOE) property. The sites include large material disposal areas, canyons, and inactive firing sites. Other types of sites include septic tanks, underground storage tanks, lagoons, industrial waste lines, and small spills. The sites generally pose a low risk of adverse impact to human health or the environment as most sources of contaminants are moderate to small. The primary contaminants of concern include radionuclides, high explosives, volatile and semivolatile organics, polychlorinated biphenyls (PCBs), asbestos, and heavy metals.

PROJECT STATUS IN FY 2006

The project will have completed all planned remediation activities by FY 2005 (Figure 5). There may be regulatory approvals remaining to be completed in FY 2006. The funding profiles for both high and low cases are shown in Figure 6.

POST FY 2006 PROJECT SCOPE

The post FY 2006 scope will be limited to long-term monitoring, and surveillance and maintenance and groundwater. While the AL Summary contains resources for these activities beyond FY 2005, it is anticipated that responsibility for these efforts will be



turned over to other organizations (Federal or private). Surveillance and maintenance for hazardous waste sites is anticipated to last 30 years, but would extend indefinitely for most radiologically contaminated sites.

PROJECT END STATE

For purposes of this project, there is a continuing end state required to support a continuing mission at LANL, and an end state to allow for unrestricted use of released property. Since the majority of lands addressed under the project will be used to continue the future Laboratory mission, the continuing end state is to continue levels of remediation that will allow industrial type activities to proceed in a safe manner. Where lands have already been released or are scheduled to be released, the other end state is to achieve levels that will allow for unrestricted use.

ASSUMPTIONS

- The LANL ER project will continue to use risk-based decision making to determine the need for corrective action. Decisions are based on achieving acceptable levels of risk to human health and in the future will also evaluate risks to the environment. Decisions will also be based on; maintaining risks and hazards from radiological contamination to as low as reasonably achievable; the requirements for protecting surface waters, groundwater, and trustee responsibilities for natural resource protection.
- The project follows the provisions of the Document of Understanding between the New Mexico Environment Department (NMED), Environmental Protection Agency (EPA), DOE, Sandia National Laboratories (SNL), and LANL, to facilitate timely and cost-effective operation. The goal of the agreement is to achieve a common understanding of issues and solutions, clarify and streamline processes as appropriate, and standardize planning and execution of the project.
- LANL believes that major sites such as the canyons and many material disposal areas will require the full RCRA corrective measures process. The majority of smaller sites can be closed out with demonstration that they are safe or through voluntary corrective actions. The project has assumed that the large material disposal areas and canyons will be rendered protective to human health and the environment through institutional controls and cleanup of small areas of the most significant contamination.

HIGH CASE FUNDING SCENARIO ADVANTAGES

Projects will have completed all planned remediation activities by the end of FY 2004.

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Figure 5

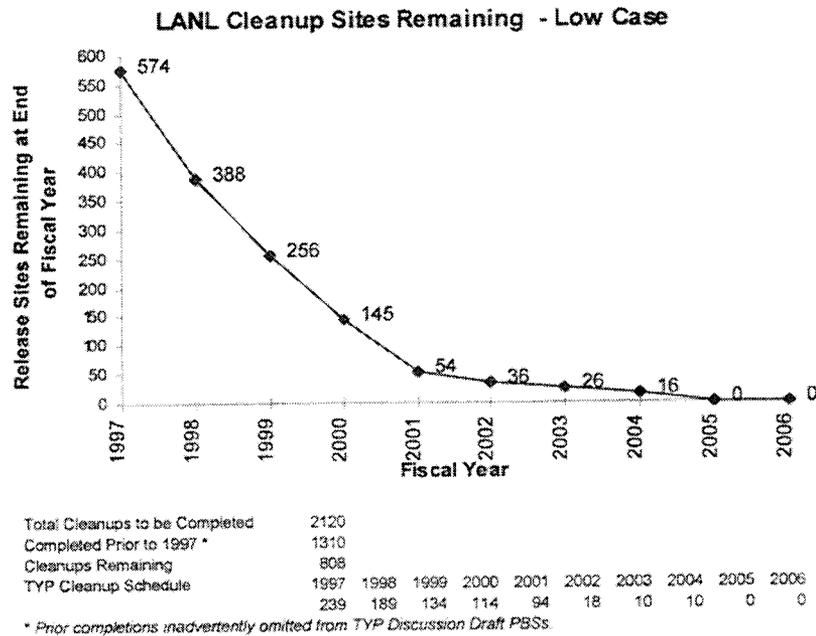
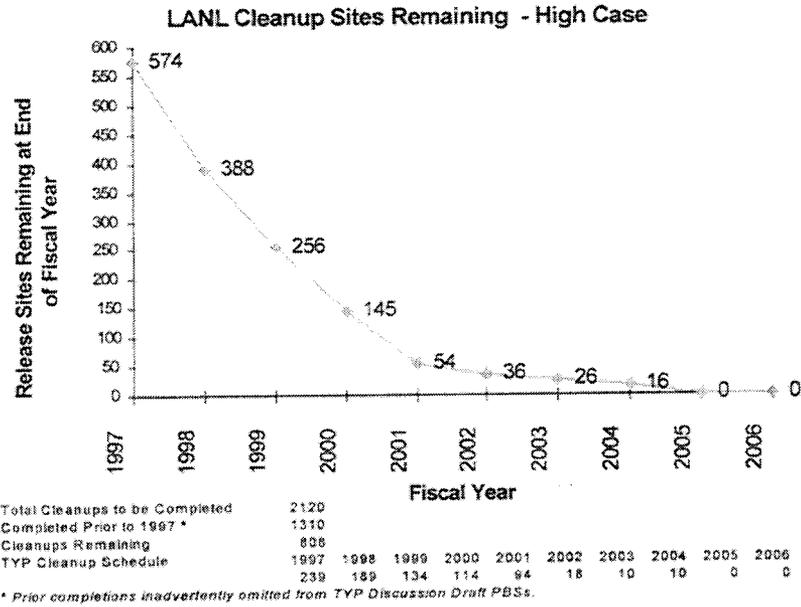
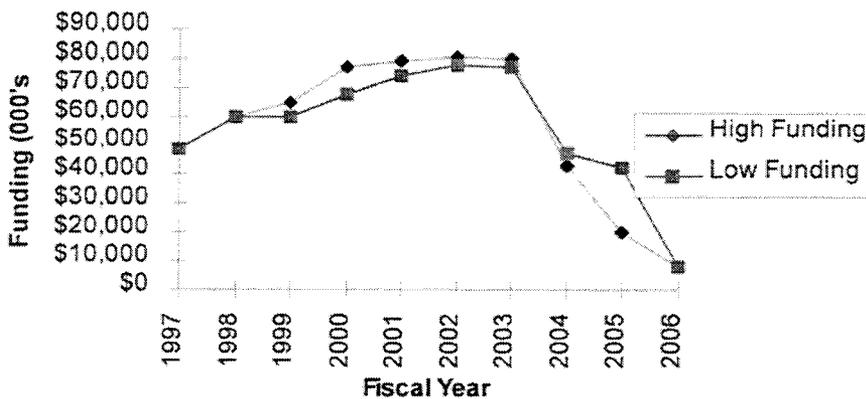




Figure 6

LANL Environmental Restoration Funding



| | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | TOTAL |
|--------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|---------|-----------|
| High Funding | \$48,428 | \$60,000 | \$65,000 | \$76,984 | \$78,984 | \$80,983 | \$79,828 | \$42,548 | \$20,350 | \$7,626 | \$560,731 |
| Low Funding | \$48,428 | \$60,000 | \$60,000 | \$68,134 | \$74,134 | \$78,133 | \$76,978 | \$47,290 | \$42,052 | \$7,626 | \$562,775 |

LOS ALAMOS NATIONAL LABORATORY WASTE MANAGEMENT MISSION

The Los Alamos National Laboratory's (LANL) Waste Management (WM) Program provides waste management services to support the LANL mission (principally for Department of Energy (DOE) Defense Programs, but also for other DOE Assistant Secretaries and non-DOE sponsors such as the Department of Defense). Waste generated at LANL is managed by the WM Program. This mission also includes the treatment, storage, and disposal of all legacy waste.

DEFINITION OF SCOPE

The WM Program at LANL is responsible for treatment, storage, and disposal of wastes generated from Laboratory operations at 33 technical areas. These operations include isotope separation, manufacturing, research and development and manufacturing of explosives, chemically contaminated equipment cleanup, and radioactive materials work. Waste types generated include transuranic and mixed transuranic waste, low-level and low-level mixed waste, hazardous chemical waste, biological waste, medical waste and liquid waste.

The newly generated waste project will manage all wastes in compliance with applicable regulatory requirements, including state and federal regulations under the Resource Conservation and Recovery Act (RCRA) and other legislation, permits, compliance agreements and orders, the National Environmental Policy Act (NEPA), and DOE nuclear



safety requirements. A Site-Wide Environmental Impact Statement is being prepared under NEPA for LANL, and projects for waste management will be addressed by this document.

The main elements are characterization of approximately 1,928 cubic meters (m^3) of TRU waste to meet requirements for certification and shipment to the Waste Isolation Pilot Plant (WIPP). Approximately 8,800 m^3 of newly generated LLW (solid) on a annual basis will be buried and monitored. Construction and maintenance of pits and shafts, facility maintenance, and preparation of low level waste (LLW) shipped for disposal off site is also included. In addition, collection and treatment of up to the capacity of 35,000 m^3 of LLW (liquid) annually at three operating LLW (liquid) facilities. Management of approximately 900 m^3 annually through FY 1999, approximately 1100 m^3 annually in FY 2000 and FY 2001, and approximately 1200 m^3 annually after FY 2002 of hazardous, chemical, polychlorinated biphenyls (PCBs) and some administratively-controlled wastes, including transportation of the wastes to the LANL TA-54 Area L facility for temporary storage and shipment for offsite treatment/disposal will be accomplished. Also included is approximately 293 m^3 of MLLW, including transportation of the wastes to the LANL TA-54 facility for storage and shipment for offsite treatment/disposal.

The legacy project will manage all legacy mixed waste in compliance with the Federal Facility Compliance Order/Site Treatment Plan. There are approximately 4,640 m^3 of TRU waste that will be retrieved over a period of six years and stored in domes and 5,950 m^3 of TRU waste will be certified to the requirements of WIPP Waste Acceptance Criteria (WAC) and LANL site-specific TRU waste project plans and procedures. The 5,950 m^3 includes 93 m^3 of remote-handled TRU waste. This work will be completed in FY 2005. Storage of TRU waste in domes, shafts, and pits, and treatment of TRU waste which includes TRU-size reduction and repackaging at the Waste Characterization Reduction and Repackaging Facility (WCRRF) or the Radioactive Materials Research, Operations and Demonstration Facility (RAMROD) and sort, segregate and repackage of TRU and MTRU waste will also be accomplished. Shipment by the end of FY 2005 of all legacy TRU waste from LANL to WIPP for disposal (an estimated 5,950 m^3) is planned. In addition, the treatment and disposal by the end of FY 2004 of all legacy MLLW (an estimated 637 m^3 of MLLW generated through FY 1998) at a RCRA permitted, radioactive licensed commercial or RCRA permitted DOE treatment and disposal facilities is forecasted.

PROJECT STATUS IN FY 2006

The management of TRU waste will continue in support of ongoing LANL mission requirements. By FY 2006, approximately 1,928 m^3 of newly generated TRU waste will have been certified and shipped to WIPP. All upstream treatment projects for TRU waste will be completed by FY 2006. Management of LLW will continue in support of ongoing LANL mission requirements. Approximately 8,800 m^3 of LLW (solid) will be disposed in FY 2006 and the capability will exist to treat 35,000 m^3 of LLW (liquid) in FY 2006. Management of hazardous waste will continue in support of ongoing LANL mission requirements. Approximately 1,245 m^3 of hazardous and chemical waste will be treated and disposed in FY 2006. Management of MLLW will continue in support of ongoing LANL mission requirements. Approximately 23 m^3 of MLLW will be treated and disposed in FY 2006. All legacy TRU waste, including remote-handled TRU waste, will be retrieved,



characterized, treated, certified, placed in Transuranic Packaging Transporters (TRUPACTs) and shipped to WIPP by the end of FY 2005. All legacy MLLW will be appropriately treated and disposed by the end of FY 2004 (Figure 7). The funding profiles for both high and low cases are shown in Figure 8.

POST FY 2006 PROJECT SCOPE

Management of waste will continue as required in support of ongoing LANL mission requirements. Identification and implementation of waste treatment processes and minimization at the generator site will continue to be a consistent part of waste management practice at LANL. Upon completion of legacy TRU waste work-off, facilities used for legacy TRU waste storage, characterization and certification activities will be closed. Decontamination and decommissioning activities, including regulatory closures, for facilities will begin in FY 2006 and be completed in FY 2007.

PROJECT END STATE

Characterization, certification, and shipment of TRU waste to WIPP will continue in support of ongoing Laboratory mission requirements. The final end state will be closure of the LLW facilities. Management of hazardous waste and MLLW will continue in support of ongoing LANL mission requirements. All legacy TRU waste, including remote-handled TRU waste, will be retrieved, characterized, treated, certified, placed in TRUPACTs and shipped directly to WIPP by the end of FY 2005. Newly generated TRU waste will be certified and shipped to WIPP as it is generated starting in FY 1999. The upstream treatment projects for legacy TRU waste will also be completed in FY 2005. All legacy MLLW will be appropriately disposed by the end of FY 2004, and newly-generated MLLW will be shipped for treatment and disposal within one year of generation after FY 2000.

ASSUMPTIONS

- Waste types that are generated at LANL but are not managed under the LANL WM Program include high-explosives waste, sanitary solid waste, sanitary liquid wastes, and environmental restoration waste.
- Beginning in FY 1999, costs for waste generated by new or ongoing missions will be the responsibility of the generator.

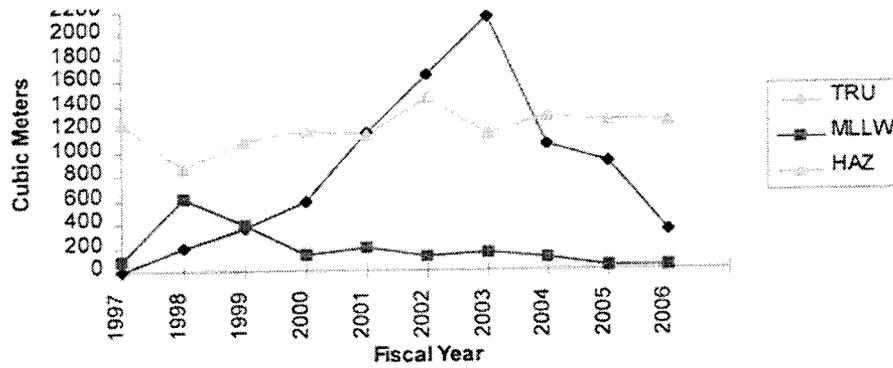
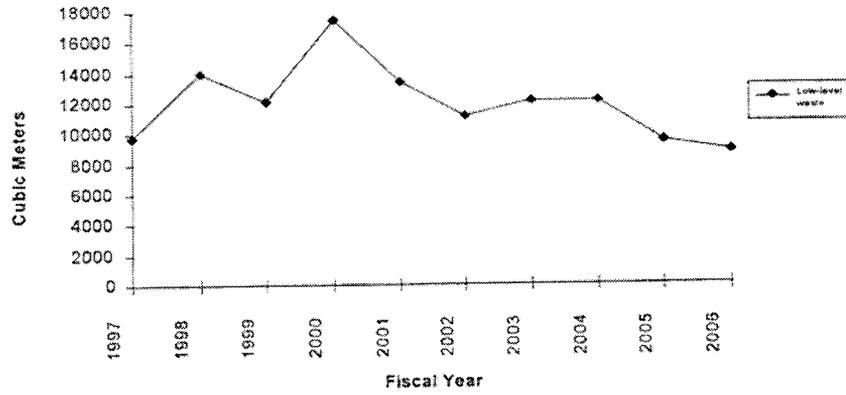
HIGH CASE FUNDING SCENARIO ADVANTAGES

Although legacy waste workoff is completed in FY 2005 under both the low and high cases, the high case represents an overall savings to the program of \$2.2M dollars.



Figure 7

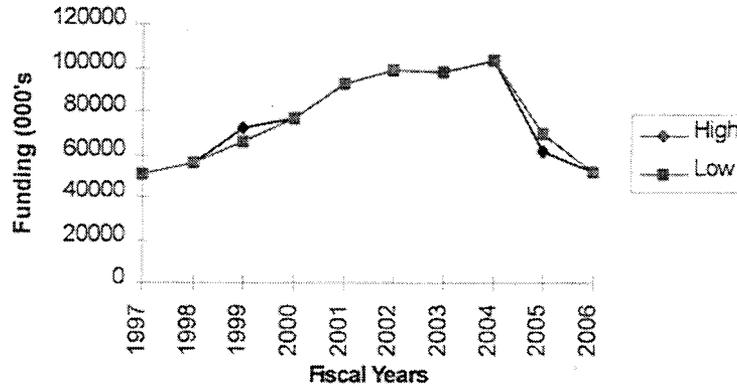
Los Alamos Waste Workoff - Low Case
Low Level Waste



| | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |
|-------|-------|-------|---------|---------|---------|-------|-------|-------|-------|-------|
| TRU | 0 | 193.7 | 355.3 | 580 | 1153 | 1652 | 2142 | 1062 | 909 | 330 |
| MLLW | 85 | 608 | 381 | 141 | 192 | 120 | 154 | 110 | 26 | 23 |
| LLW | 9735 | 13982 | 12102 | 17402 | 13402 | 11101 | 12100 | 12100 | 9400 | 8800 |
| HAZ | 1248 | 863.1 | 1078.4 | 1169.1 | 1142.1 | 1464 | 1142 | 1298 | 1262 | 1245 |
| Total | 11068 | 15647 | 13916.7 | 19292.1 | 15889.1 | 14337 | 15538 | 14570 | 11597 | 10398 |



Figure 8
LANL Waste Management Funding



| | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | TOTAL |
|--------------|----------|----------|----------|----------|----------|----------|----------|-----------|----------|----------|-----------|
| High Funding | \$50,390 | \$55,810 | \$72,128 | \$76,094 | \$92,796 | \$99,096 | \$97,400 | \$103,186 | \$61,436 | \$51,817 | \$760,153 |
| Low Funding | \$50,390 | \$55,810 | \$66,189 | \$76,094 | \$92,796 | \$99,096 | \$97,400 | \$103,186 | \$89,445 | \$51,817 | \$762,223 |



SANDIA NATIONAL LABORATORIES

SITE MISSION

Sandia National Laboratories/New Mexico (SNL/NM) was established in 1945 and encompasses approximately 2800 acres owned by the Department of Energy (DOE) and another 20,342 acres controlled by formal agreement. The Laboratory is located at the foot of the Manzano Mountains adjacent to the city of Albuquerque. The primary mission of the Laboratory is national security programs in defense, energy, and environment with emphasis on nuclear weapons research, development, and stockpile stewardship. Other missions include nuclear safeguards and security, environmental sciences, biomedical systems engineering, advanced manufacturing technology, transportation and energy technology, and technology transfer to private industry. **Sandia National Laboratories / California (SNL/CA)** was established in 1956 and encompasses 413 acres 40 miles east of San Francisco, California. This Laboratory's primary mission is to implement national nuclear weapons policy through research, development, and testing of nuclear ordnance; arms control verification; and weapons surety.

SANDIA NATIONAL LABORATORIES/NEW MEXICO ENVIRONMENTAL RESTORATION MISSION

The Environmental Restoration (ER) project mission includes cleanup and closure of all legacy waste sites, placement of designated solid waste management units (SWMUs) and additional areas of concern (AOCs), under management controls which ensure no further action (NFA) is warranted. If it is not possible or practical to fully remediate contaminants in soil and/or debris or plumes that have dispersed in the vadose zone or groundwater, long term treatment/monitoring plans will be established.

DEFINITION OF SCOPE

Contamination has resulted from a variety of historical activities at both Laboratories. Contamination sources include weapons and weapons components and firings; discharges of radioactive liquid and hazardous chemicals; oil spills; disposal of radioactive waste and hazardous chemicals in landfills; rocket launches; and burning of certain wastes, such as high explosives.

The original project scope included 183 sites at SNL/NM, 23 sites at SNL/CA, 14 sites at Tonopah Test Range (TTR), Nevada, three sites at the Kauai Test Facility (KTF), Hawaii, one site at Salton Sea Test Base (SSTB), California, and 18 off-site locations throughout the United States and some extra-territorial locations. Additions to the project scope include all treatment, storage and disposal functions, including the life cycle cost of processes and infrastructure (temporary unit/corrective action management unit), and approximately 100 small miscellaneous potential release sites related to discharge pits, french drains and septic systems. Deletions from the project scope to date include the transfer of all remaining remedial action for the 14 TTR sites to DOE/Nevade, and transfer of all remaining remedial action for the SSTB site to Department of Defense/Department of the Navy. Accomplishments to date include 100% of all assessments complete for the Albuquerque site, 73% of remedial site-cleanup actions for the Albuquerque site, 100% of



all KTF assessment/remedial actions (three sites) and 100% of all off-site location assessment/remedial actions. The Fuel Oil Spill (FOS) and the Navy Landfill are the two remaining ER sites in California.

PROJECT STATUS IN FY 2006

By the end of FY 2001, all identified SNL/NM ER sites will have been remediated and associated waste disposed in the Corrective Action Management Unit (CAMU) (Figure 9). The funding profiles for both high and low cases are shown in Figure 10.

POST FY 2006 PROJECT SCOPE

The post FY 2006 scope is limited to long-term monitoring, maintenance and surveillance for up to 30 years at three locations, the Mixed Waste Landfill, Chemical Waste Landfill and the CAMU disposal cell (the latter, only if needed based on final closure risk). Funding for this activity is assumed be provided by the sponsoring program.

ASSUMPTIONS

- The CAMU will be approved in FY 1997 and will be operational in FY 1998.
- It is anticipated that No Further Action (NFA) will be the outcome of investigating these additional potential release sites, and the regulatory agencies have not requested that they be added to the corrective action permit unless an environmental release above acceptable risk levels is demonstrated.
- The baseline for cleanup of the SNL ER sites has over 95 percent of the sites completed by FY 1999. This will require the regulatory authority to accelerate review of permit modifications. The standard regulatory review cycle was assumed to be three months.
- The trichloroethylene (TCE) detected in the groundwater near Technical Area II will not require groundwater remediation activities such as pump and treat.
- SNL will be able to ship wastes to other DOE sites and accept small quantities of MLLW wastes from other DOE sites.
- Active sites can be deferred and will be clean-closed by the operating organizations when no longer needed. Funding will be available as needed for future closure and decontamination and decommissioning (D&D) activities. Any long-term surveillance and maintenance will be handled by non- EM-40 funded SNL organizations.
- The technical approach will continue to be based on risk and worst-first, rapid risk reduction, as established in the Revised Work Logic.
- No change in the approach to risk assessment will occur, based on New Mexico Environment Department (NMED) review and approval, thereby avoiding significant revision of currently projected cleanup levels. Current risk-based cleanup levels based on proposed future land use will not change substantially. Departure from residential cleanup (i.e. 10-6) will be acceptable as provided for in Resource Conservation and Recovery Act (RCRA) and as appropriate for the future land use and exposure scenarios.
- NMED approval of the background concentration study will occur in FY 1997.
- The negotiation of modifications to the Hazardous and Solid Waste Amendments (HSWA) permit for the FY 1997 - FY 2002 period will be successful and will formalize the revised work logic and all requirements for the closure of the project.

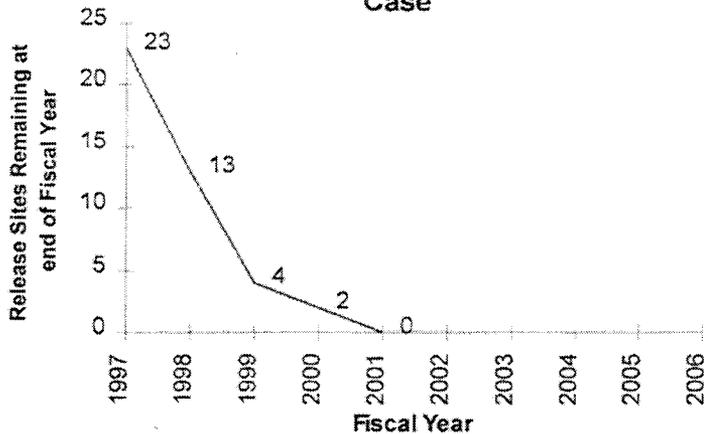


HIGH CASE FUNDING ADVANTAGES

The high case scenario assumes a streamlined technical approach to reduce the focus on "studying" the problem and move a site quickly through a decision path to an endpoint. Under this scenario, greater uncertainties are accepted and managed.

Figure 9

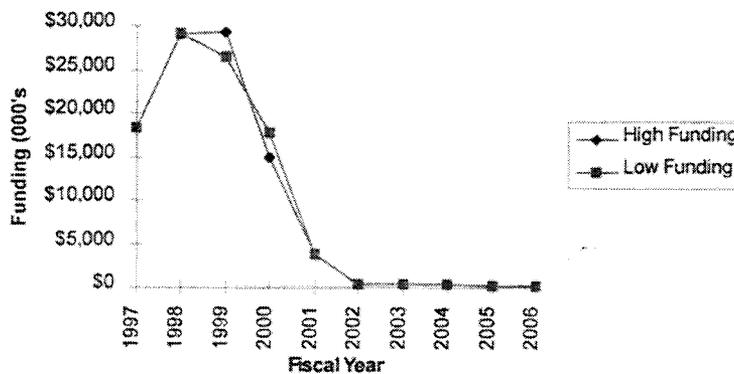
SNL Cleanup Sites Remaining - High and Low Case



| | | | | | | | | | | | | | | |
|--------------------------------|------|------|------|------|------|------|------|------|------|------|--|--|--|--|
| Total Cleanups to be Completed | 228 | | | | | | | | | | | | | |
| Completed Prior to 1997 | 180 | | | | | | | | | | | | | |
| Cleanups Remaining | 48 | | | | | | | | | | | | | |
| TYP Cleanup Schedule | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | | | | |
| | 25 | 10 | 9 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | | | | |

Figure 10

SNL Environmental Restoration Funding



| | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | TOTAL |
|--------------|----------|----------|----------|----------|---------|-------|-------|-------|-------|-------|----------|
| High Funding | \$18,227 | \$29,000 | \$29,329 | \$14,944 | \$3,698 | \$340 | \$340 | \$340 | \$210 | \$210 | \$96,638 |
| Low Funding | \$18,227 | \$29,000 | \$26,500 | \$17,773 | \$3,698 | \$340 | \$340 | \$340 | \$210 | \$210 | \$96,638 |



SANDIA NATIONAL LABORATORIES/NEW MEXICO WASTE MANAGEMENT

MISSION

Sandia, which includes laboratories in New Mexico (SNL/NM) and California (SNL/CA) and operations at the Tonopah Test Range in Nevada and the Kauai Test Facility in Hawaii, produces waste from a variety of sources. The mission of the Waste Management (WM) Project at Sandia National Laboratories (SNL) is to encourage waste minimization and to manage the treatment, storage, and disposal of hazardous, low-level waste (LLW), mixed low-level waste (MLLW), and transuranic (TRU) waste generated by mission-related activities in ways that comply with federal and state laws and regulations and that reduce risks to the public, workers, and the environment. Primary services provided by SNL's WM Project include: (1) management of laboratory waste produced by ongoing mission-related activities, (2) work-off of legacy waste for the Department of Energy (DOE), and (3) site-specific information services for DOE's Kirtland Area Office (KAO) and Albuquerque Operations Office (AL). Safety and health risks are inherent with any waste management project that handles hazardous and radioactive waste.

DEFINITION OF SCOPE

SNL operations generate various types of waste. Most generators produce small amounts of waste associated with ongoing mission-related research and development activities. Other sources include nuclear material and facility stabilization waste, historical inventory, and other DOE facilities (SNL/NM and the Inhalation Toxicology and Research Institute). This program is responsible for TRU waste, LLW, MLLW, hazardous waste, including polychlorinated biphenyls (PCBs), asbestos, explosives, and special case waste.

The laboratories include more than 900 hazardous waste generators, 100 radioactive waste generators, and 25 low-level mixed waste generators, most of whom produce small quantities of waste associated with ongoing mission-related research and development activities. Relatively larger volumes are produced by various projects that include environmental restoration, decontamination and decommissioning (D&D), historical inventory work-off, and SNL's Neutron Generator Production Project. SNL has also received waste from other DOE facilities (e.g., TRU waste from the Inhalation Toxicology Research Institute). In addition, radioactive and hazardous waste will be generated by the Medical Isotope Production Project (99-Molybdenum), which is expected to come on line during FY 1997. Key work scope activities include the following: (1) treatment, storage, and disposal of regulated, nonradioactive waste; (2) compliance with the Site Treatment Plan for Mixed Waste; (3) collection, treatment, and storage of ongoing mixed waste; (4) collection and storage of LLW; (5) disposal of newly generated LLW from large volume generators; (6) mixed waste disposal; (7) disposal of newly generated LLW from low volume generators; (8) management of TRU waste; (9) nonroutine activities; (10) DOE-directed activities not tied to site mission; (11) disposal of historical LLW; (12) materials in inventory (MIN); and (13) new facility planning.



PROJECT STATUS IN FY 2006

By FY 2006, Sandia's WM Project will achieve the disposition of all historical waste, including excess Materials in Inventory (MIN); the cost-efficient disposition of all newly generated waste within permit and regulatory time limits; the closure (or planned closure) of excess waste management facilities; and compliance with DOE regulatory and program-structure requirements (Figure 11). Completed activities associated with the disposal of historical waste and the transition to Defense Programs funding include the following: 1) compliance with the Site Treatment Plan for Mixed Waste; 2) nonroutine activities; 3) DOE-directed (EM) activities not tied to site mission; 4) disposal of historical LLW; and 5) MIN. The funding profiles for both high and low cases are shown in Figure 12.

POST 2006 PROJECT SCOPE

SNL assumes its mission will continue for the foreseeable future. Post FY 2006 scope will include those areas necessary to safely and compliantly manage waste generated by ongoing mission-related laboratory activities. Project-wide tasks will focus on permitting, facilities management, generator interface, and operations and program management. Tasks include: (1) treatment, storage, and disposal of regulated, nonradioactive waste; (2) collection, treatment, and storage of ongoing mixed waste; (3) collection and storage of low-level waste; (4) disposal of newly generated low-level waste from large volume generators; (5) mixed waste disposal; (6) disposal of newly generated low-level waste from low volume generators; (7) management of transuranic waste; and (8) new facility planning.

PROJECT END STATE

SNL assumes its mission will continue throughout the AL Summary reporting period. If during or subsequent to this time laboratories become scheduled for closure, achieving a final end state for the WM Project will require the D&D of several multi-program facilities; the disposition of all hazardous, radioactive, and mixed waste; clean-up of contaminated areas consistent with future-use assumptions; and monitoring and surveillance activities necessary to ensure the health and safety of the public and the environment.

ASSUMPTIONS

- To sustain facilities capabilities, SNL will investigate the possibility of treating off-site waste.
- Activities conducted in SNL's Hot Cell Facility are expected to produce the following waste types: TRU, mixed TRU, and MLLW. Some of this waste may require remote handling.

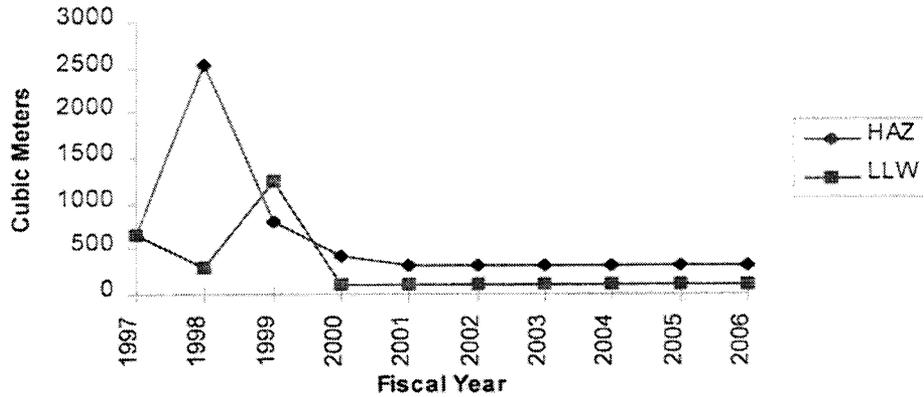
HIGH CASE FUNDING SCENARIO ADVANTAGES

No difference exists between high and low funding.



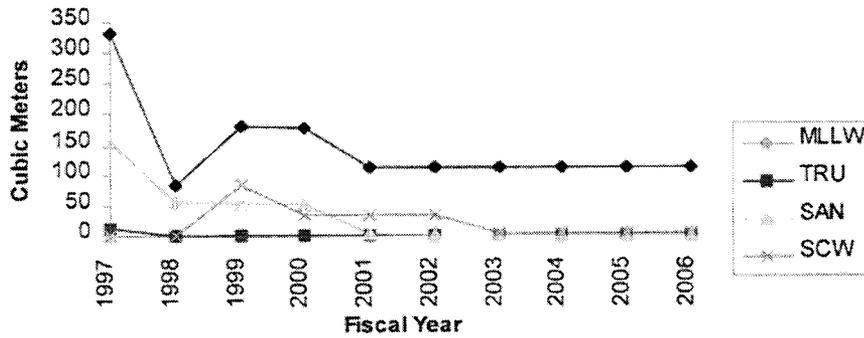
Figure 11

Sandia National Laboratories Waste Workoff - Low Case
Hazardous and Low Level Waste



Sandia National Laboratories Waste Workoff - Low Case

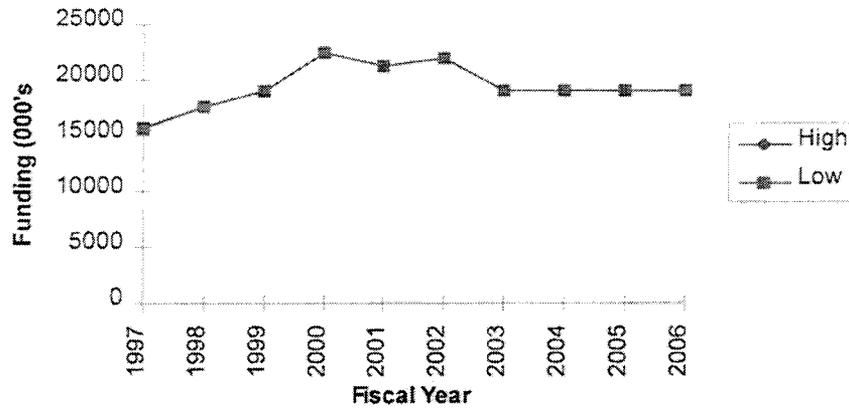
Mixed Low Level, Transuranic, Sanitary and Special Case Waste



| | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | Total |
|-------|--------|--------|--------|-------|-------|-------|-------|-------|-------|-------|---------|
| TRU | 11.4 | 0 | 0 | 0 | 0.8 | 0 | 0 | 0 | 0 | 1 | 13.2 |
| MLLW | 332.1 | 83.8 | 178.3 | 176.3 | 112.4 | 112.4 | 112.4 | 112.4 | 107.9 | 112.4 | 1444.9 |
| LLW | 662 | 304.9 | 1252.9 | 107.9 | 107.9 | 107.9 | 107.9 | 107.9 | 107.9 | 107.9 | 2975.1 |
| HAZ | 650 | 2525 | 794 | 430 | 310.5 | 309.3 | 308.5 | 308.5 | 308.5 | 308.5 | 6252.8 |
| SAN | 156 | 55 | 53 | 52 | 3 | 0 | 0 | 0 | 0 | 0 | 319 |
| SCW | 0 | 0 | 84.7 | 33.5 | 34.4 | 35.3 | 3.1 | 2.5 | 2 | 2.2 | 197.7 |
| Total | 1811.5 | 2968.7 | 2362.9 | 799.7 | 569 | 564.9 | 531.9 | 531.3 | 530.8 | 532 | 11202.7 |



Figure 12
SNL Waste Management Funding - High and Low Case



| | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | TOTAL |
|--------------|-------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|
| High Funding | 15746 | \$17,570 | \$19,000 | \$22,428 | \$21,293 | \$21,940 | \$19,000 | \$19,000 | \$19,000 | \$19,000 | \$178,231 |
| Low Funding | 15746 | \$17,570 | \$19,000 | \$22,428 | \$21,293 | \$21,940 | \$19,000 | \$19,000 | \$19,000 | \$19,000 | \$178,231 |



INHALATION TOXICOLOGY AND RESEARCH INSTITUTE

SITE MISSION

The Inhalation Toxicology Research Institute (ITRI) was established in 1960 and is located on Kirtland Air Force Base in Albuquerque, New Mexico, to conduct research on the human health consequences of inhaling airborne radioactive materials. Beginning in the 1980s the program shifted to more basic research on the human respiratory tract and its response to inhaled toxicants that might be found in industry, the environment or the home.

SITE ENVIRONMENTAL RESTORATION MISSION

The Environmental Restoration (ER) program was developed to assess three projects totaling nine sites: The Diesel Release (five sites), the Hot Ponds site, and the Wastewater Lagoon site, nitrates in ground water, and an interim action for diesel fuel in ground water.

SITE WASTE MANAGEMENT MISSION

The mission of the Waste Management (WM) program is to manage wastes generated from on-going Department of Energy (DOE) Research activities in an efficient and environmentally sound manner. This includes the planning, oversight, treatment, storage, and disposal activities required for compliant management of wastes generated during the ITRI mission.

DEFINITION OF SCOPE

Past operations in support of energy research on toxic inhalants at ITRI have resulted in soil and ground water contamination including diesel fuel, radionuclides, hazardous, low-level radioactive (LLW), mixed, transuranic waste (TRU) and non-hazardous biomedical wastes.

Although all the sites have been cleaned up, monitoring and surveillance of the sites is necessary to support closure and to monitor the reduction of nitrates in ground water beneath the former wastewater lagoons via natural attenuation.

WM activities include collecting hazardous wastes, storing on site temporarily, and shipping offsite for commercial recycling/treatment/disposal. TRU waste is shipped to Sandia National Laboratories/New Mexico (SNL/NM) for packaging and storage pending disposal at the Waste Isolation Pilot Project Site. LLW is compacted on site, packaged and labeled for disposal at the Nevada Test Site. Mixed low-level waste (MLLW) is shipped to an offsite commercial facility for treatment and disposal. Non-hazardous biomedical waste is treated on site via a crematory and disposed of as such. Program activities are in compliance with Federal, New Mexico state, and local regulatory requirements. Beginning in FY 1997, ITRI entered into a Cooperative Agreement with the DOE. This is a five-year agreement (FY 1997-FY 2002) after which time DOE will reassess renewal of the Agreement.

Yearly activities include: a) maintain required personnel training, b) maintain required reporting and record keeping, c) maintain small quantity generator status for hazardous waste, d) ship hazardous waste (9,600 lb./yr.) offsite for treatment and disposal, e) ship LLW (30 cubic meters/yr.) offsite for disposal at the Nevada Test Site, f) ship mixed waste (0.5 cubic meters/yr.) from scintillation vials offsite for treatment and disposal, g) ship one



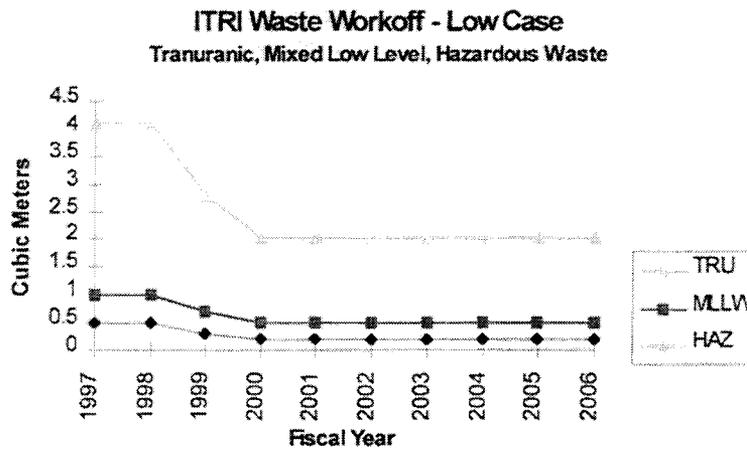
TRU waste (0.25 cubic meters/yr.) drum to SNL/NM for interim storage, h) operate the ITRI crematory for treatment and disposal of non-hazardous, non-radioactive, and non-infectious biomedical waste (2,500 lb./yr.). There is no legacy waste.

PROJECT STATUS IN FY 2006

Project cleanup and surveillance and monitoring activities will be complete in FY 1997. The low case for Waste Work-off is shown in Figure 13 and the high and low cases for funding are shown in Figure 14.

POST 2006 PROJECT SCOPE

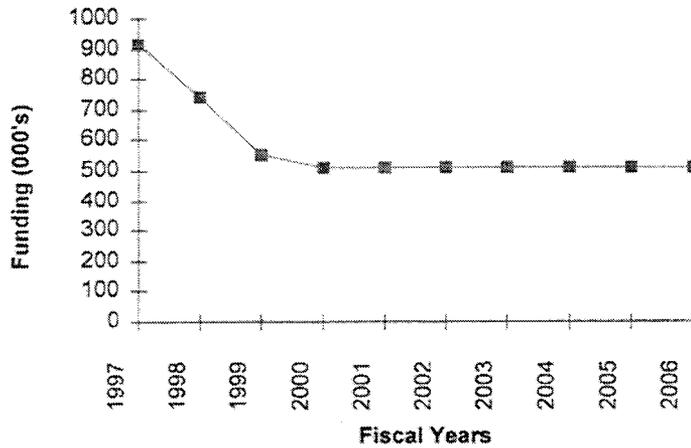
ITRI will continue to manage DOE generated waste as long as a DOE mission continues to exist under the Cooperative Agreement.



| | Cubic Meters | | | | | | | | | |
|-------|--------------|------|------|------|------|------|------|------|------|------|
| | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |
| TRU | 0.5 | 0.5 | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| MLLW | 1 | 1 | 0.7 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| LLW | 31 | 31 | 20 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| HAZ | 4.1 | 4.1 | 2.8 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Total | 36.6 | 36.6 | 23.8 | 17.7 | 17.7 | 17.7 | 17.7 | 17.7 | 17.7 | 17.7 |



ITRI Funding - High and Low Case



| | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | TOTAL |
|--------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|---------|
| High Funding | \$918 | \$738 | \$556 | \$510 | \$510 | \$510 | \$510 | \$510 | \$510 | \$510 | \$5,782 |
| Low Funding | \$918 | \$738 | \$556 | \$510 | \$510 | \$510 | \$510 | \$510 | \$510 | \$510 | \$5,782 |

ASSUMPTIONS

- The ITRI ER project is completed with the exception of long-term surveillance and maintenance.
- Regulatory approval will be granted on all closures.
ITRI will continue to operate under the Cooperative Agreement agreed to for the period of FY 1997 - FY 2002 with option to renew.



PANTEX PLANT

SITE MISSION

The Pantex Plant was established in 1951 and encompasses approximately 10,000 acres controlled by Department of Energy (DOE) and approximately 5,900 acres leased as a security buffer. The Plant is located 17 miles northeast of Amarillo, Texas. The primary missions of the Pantex Plant include the assembly and surveillance of nuclear weapons for the nation's nuclear stockpile; disassembly of nuclear weapons being retired from the stockpile; evaluation, repair, and retrofit nuclear weapons in the stockpile; providing interim storage for plutonium pits from dismantled weapons; and developing, fabricating, and testing chemical explosives and explosive components for nuclear weapons and to support DOE initiatives.

SITE ENVIRONMENTAL RESTORATION MISSION

The Pantex Plant Environmental Restoration (ER) Project is responsible for the cleanup activities for contamination of soils and ground water resulting from the production and testing of explosives components for nuclear weapons.

DEFINITION OF SCOPE

The production of explosives components for nuclear weapons has resulted in the contamination of soils primarily by organic solvents and explosives while weapons testing has contaminated some areas with explosives and heavy metals.

The ER activities at Pantex are conducted in compliance with a Resource Conservation Recovery Act (RCRA) permit issued by the Texas Natural Resource Conservation Commission (TNRCC). In addition, the Pantex Plant was placed on the National Priorities List (NPL) in May 1994 by the Environmental Protection Agency (EPA). The DOE is currently negotiating a tri-party Federal Facility Agreement (FFA) with EPA and the TNRCC. The objective of the Pantex Plant ER Project is to have all release sites remediated or in remediation by the end of FY 2000.

The Pantex Plant has currently identified 248 release sites within 144 Solid Waste Management Units (SWMU) and Areas of Concern (AOC). Remediation activities include Treatability Studies, Interim Corrective Measures and accelerated cleanups to reduce contamination of soils and ground water sufficiently to achieve No Further Action designation under the Texas Risk Reduction Standards Guidance. Where appropriate, long term Surveillance and Maintenance (S&M) will be employed to assure long term remediation objectives are achieved.

PROJECT STATUS IN FY 2006

All currently identified release sites will be remediated or be in remediation by the end of FY 2000 (Figure 15). The funding profiles for both high and low cases are shown in Figure 16.



POST FY 2006 PROJECT SCOPE

Based on the assumption that all S&M costs will be transferred to the installation landlord beginning in FY 2002, no Pantex Plant Site Remediation Project activities will continue beyond that date. The installation landlord will be responsible for the long-term S&M through FY 2015.

PROJECT END STATE

All currently identified release sites will be remediated to achieve closure designation under the Texas Risk Reduction Standards Guidance for soils and ground water. It is anticipated that the ground water pump and treat operations will continue to FY 2015 to effectively treat the ground water contamination plume. Further regulatory requirements for landfills cover maintenance, ground water monitoring and treatment operations will be negotiated periodically.

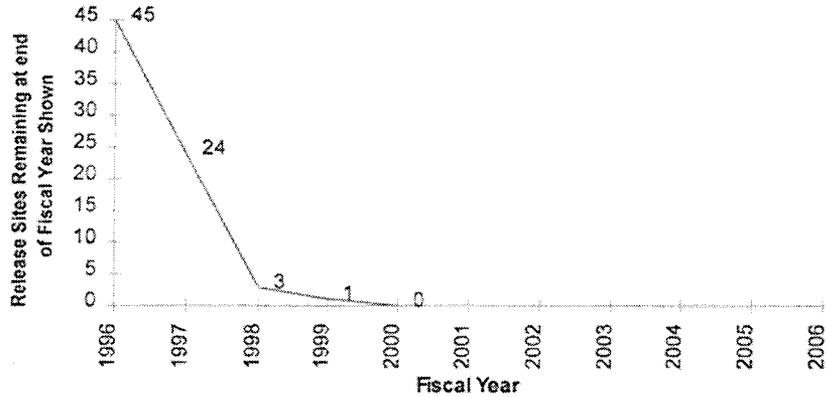
ASSUMPTIONS

- The scope of this project is based on the assumption that no additional facilities at Pantex Plant will be deactivated that will require closure under RCRA; however, there are a number of currently active release sites (such as several Firing Sites and Burning Grounds Sites) that have been identified as RCRA SWMUs or AOCs. If these sites are deactivated, it is assumed that the installation landlord will be required to perform the RCRA closures.
- Except where identified as contingency, the scope of this project does not include any activities (other than limited Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) support activities associated with FFA negotiations) that are likely to be required upon finalization of the FFA.
- The project scope does not include environmental remediation decontamination and decommissioning (D&D) support for any future facility D&D activity at the plant.
- Although it is anticipated that responsibility for S&M activities will be transferred to the Defense Program (DP) landlord starting with FY 2002, this AL Summary includes budgetary requirements beyond that date (through FY 2015) for "earmarking" the funds pending the official transition (after which DP will develop budgetary requirements).
- Although it is anticipated that responsibility for S&M activities will be transferred to the DP landlord starting with FY 2002, this AL Summary includes budgetary requirements beyond that date for "earmarking" the funds pending the official transition (after which DP will develop budgetary requirements). The predicted requirement for long-term S&M is through FY 2015.



Figure 15

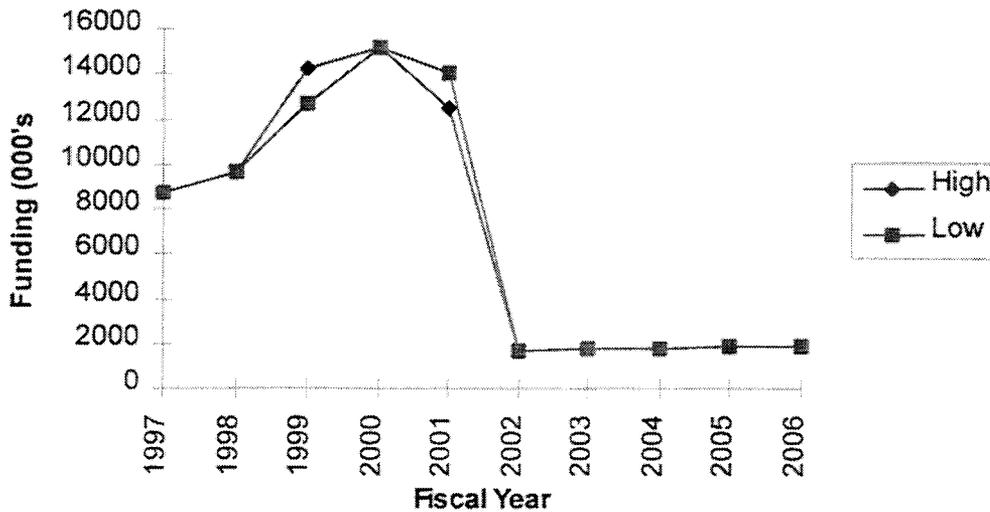
Pantex Plant Cleanup Sites Remaining - High and Low Case



| | |
|--------------------------------|---|
| Total Cleanups to be Completed | 248 |
| Completed Prior to 1997 | 203 |
| Cleanups Remaining | 45 |
| Ten Year Plan Cleanup Schedule | |
| | 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 |
| | 21 21 2 1 0 0 0 0 0 0 |

Figure 16

Pantex Environmental Restoration Funding



| | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | TOTAL |
|--------------|---------|---------|----------|----------|----------|---------|---------|---------|---------|---------|----------|
| High Funding | \$8,761 | \$9,641 | \$14,236 | \$15,154 | \$12,459 | \$1,700 | \$1,751 | \$1,803 | \$1,858 | \$1,913 | \$69,276 |
| Low Funding | \$8,761 | \$9,641 | \$12,696 | \$15,154 | \$13,999 | \$1,700 | \$1,751 | \$1,803 | \$1,858 | \$1,913 | \$69,276 |



PANTEX PLANT

PANTEX PLANT WASTE MANAGEMENT MISSION

The Pantex Waste Management (WM) Program is responsible for characterizing, treating, and disposing of legacy low-level radioactive waste (LLW) and mixed low-level radioactive waste (MLLW) generated at the Pantex Plant in compliance with a Resource Conservation and Recovery Act (RCRA) permit issued by the Texas Natural Resource Conservation Commission (TNRCC) and all other federal, state and local regulatory and Department of Energy (DOE) requirements.

DEFINITION OF SCOPE

Pantex Plant operations generate various types of waste. The waste produced by assembly and disassembly of weapons includes high explosives and solvents. These operations also produce radioactive process water, debris contaminated with radioactive materials, LLW, MLLW, hazardous waste, and sanitary waste.

Pantex legacy LLW and MLLW will be: (1) identified by a preliminary treatment and disposal option, (2) characterized based on sampling and analysis, (3) identified by a final treatment and disposal option, (4) provided with all necessary licenses and exemptions, and (5) treated and disposed.

PROJECT STATUS IN FY 2006

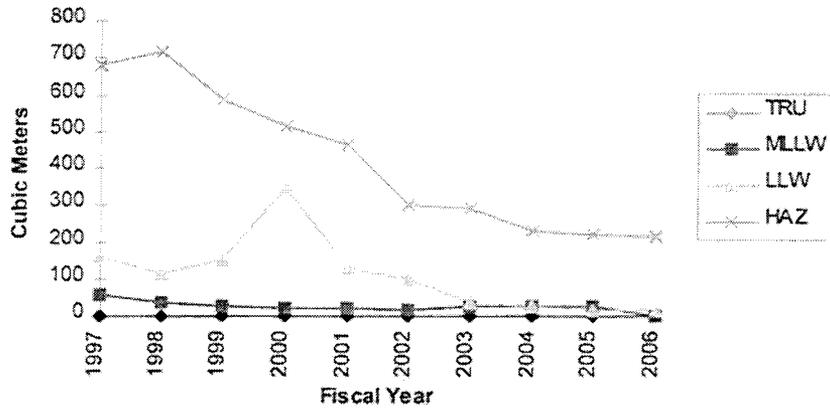
All LLW and MLLW legacy waste will be disposed of prior to FY 2006 (Figure 17). The funding profiles for both high and low cases are shown in Figure 18.

Assumptions

- WM and Waste Operations Programs and Projects require approval through the National Environmental Policy Act (NEPA) process prior to the initiation of the project.
- All programs and projects currently performed for waste management have been submitted and approved for NEPA concurrence.
- All newly identified programs and projects must be submitted for NEPA approval prior to the initiation of the program or project and will not be initiated until the approval is granted.



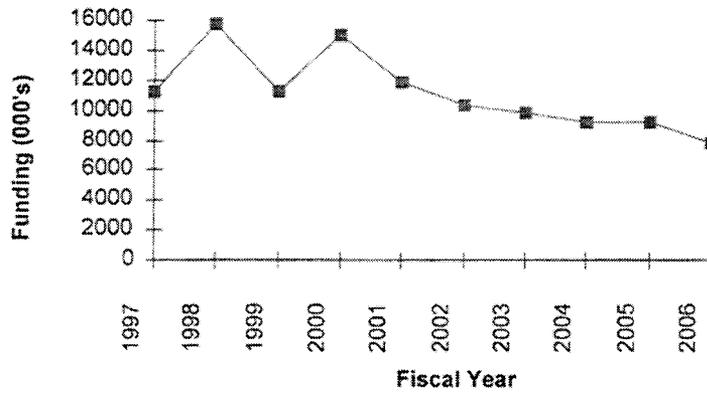
Figure 17
Pantex Waste Workoff - Low Case



| | Cubic Meters | | | | | | | | | | |
|-------|--------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|---|
| | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | |
| TRU | 0.6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| MLLW | 55 | 36 | 28 | 23 | 20 | 15 | 26 | 26 | 26 | 2.4 | |
| LLW | 159 | 115 | 149 | 349 | 132 | 97 | 37 | 25 | 15.2 | 14.3 | |
| HAZ | 681.2 | 715.3 | 584.8 | 514.2 | 464.6 | 302.8 | 290.1 | 226.8 | 218.9 | 212.9 | |
| Total | 895.8 | 866.3 | 761.8 | 886.2 | 616.6 | 414.8 | 353.1 | 277.8 | 260.1 | 229.6 | |

Figure 18

Pantex Waste Management Funding - High and Low Case



| | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | TOTAL |
|--------------|----------|----------|----------|----------|----------|----------|---------|---------|---------|---------|-----------|
| High Funding | \$11,267 | \$15,712 | \$11,210 | \$15,019 | \$11,819 | \$10,285 | \$9,783 | \$9,175 | \$9,144 | \$7,811 | \$111,225 |
| Low Funding | \$11,267 | \$15,712 | \$11,210 | \$15,019 | \$11,819 | \$10,285 | \$9,783 | \$9,175 | \$9,144 | \$7,811 | \$111,225 |



KANSAS CITY PLANT

SITE MISSION

The Kansas City Plant was established in 1949 and encompasses 141 acres of the 300-acre Bannister Federal Complex. The Plant is located 12 miles south of Kansas City, Missouri. The present mission of the Plant is to manufacture nonnuclear components for nuclear weapons. Electrical, electromechanical, mechanical, and plastic components are manufactured or procured by this facility.

SITE ENVIRONMENTAL RESTORATION MISSION

The purpose of the Environmental Restoration (ER) program is to evaluate potentially contaminated areas and to clean up areas found to be a threat to human health or the environment. The program is driven by an Administrative Order on Consent (AOC) agreement between the Environmental Protection Agency (EPA) and the Department of Energy (DOE). This agreement covers 42 contaminated sites. All but one site has been fully characterized. Ground water treatment, monitoring, and reporting activities are managed through a separate project. Thirty-five sites have either been cleaned up or submitted to the regulators for no cleanup closure. Remaining activities include completing the assessment of the 95th Terrace Site, treating and monitoring ground water plumes, removing shallow soil contamination above the water table at five sites within the Trichloroethylene Still Area and Maintenance Vehicle Repair Shop Sump subprojects, field demonstrating the Microwave Technology project, and designing and installing a zero-valent iron filings iron trench ground water treatment system.

DEFINITION OF SCOPE

Various spills and leaks from production activities at the Kansas City Plant have resulted in soil and ground water contamination. Ground water contamination is mainly trichloroethylene and its degradation products 1,2-dichloroethylene, and vinyl chloride. Soil is contaminated with volatile organic compounds, polychlorinated biphenyls (PCBs), and petroleum products. There are no radioactivity contaminated sites. All soil contaminated is beneath the surface. Therefore, there is no immediate human health risk to the public or worker.

Completing cleanup activities will involve: 1) Treating approximately 14 million gallons of contaminated ground water annually; 2) Removal and disposal of approximately 2,776 metric tons of Resource Conservation and Recovery Act (RCRA) soil and debris; 3) Removing and disposal of approximately 103 cubic meters of sanitary waste; 4) Removing and incinerating approximately 286 metric tons of RCRA/TSCA (Resource Conservation and Recovery Act/Toxic Substance Control Act) soil and debris and 30 metric tons of PCB liquid; and 5) Installing an iron trench system to passively treat ground water with iron filings.

PROJECT STATUS IN FY 2006

The RCRA Corrective Action Program will be complete for all sites. Soil remediation is scheduled to be completed by February 1999. Ground water treatment and monitoring will continue until three consecutive years of not exceeding Maximum Contamination Levels



can be demonstrated or an alternative can be agreed to by the regulators. The Kansas City Plant Environmental Management (EM) program goal is to be completed by FY 2000 and to transition ground water treatment activities and costs back to the Defense Programs (DP) landlord (Figure 19). The funding profiles for both high and low cases are shown in Figure 20.

POST FY 2006 PROJECT SCOPE

Post FY 2006 scope includes ground water treatment. It is assumed that these costs will transfer back to DP landlord.

PROJECT END STATE

Assuming indefinite continuation of the site's present mission, the final end state will be identical to the end state in FY 2006. Enhanced subsurface contaminant removal, and zero-valent iron filings will be utilized where proven to cost-effectively reduce risk.

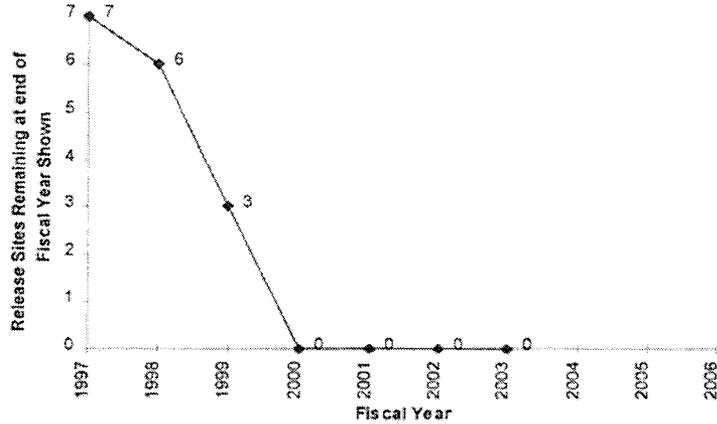
ASSUMPTIONS

- The current Ground Water Treatment System is assumed to continue for at least seventy years based on current regulatory direction. This seventy year period is based on forty pore volumes estimated to achieve clean-up standards.
- It is also assumed that the Kansas City Plant EM program will be completed by FY 2000 and ground water treatment activities and costs transitioned back to the DP landlord.



Figure 19

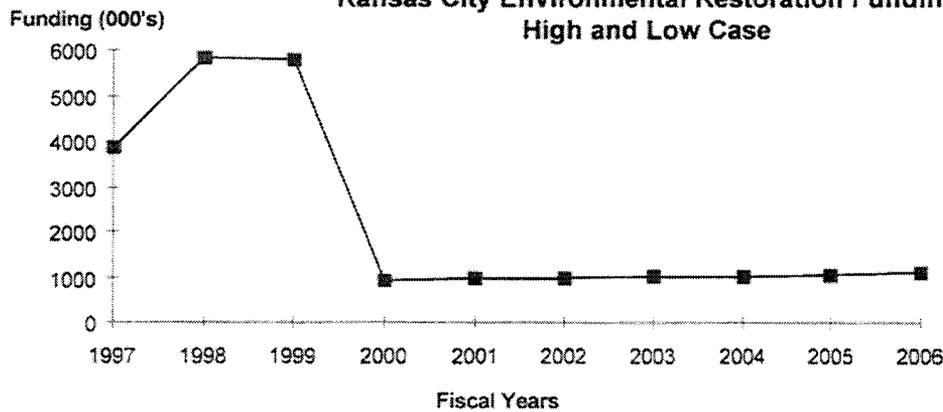
Kansas City Plant Cleanup Sites Remaining - High and Low Case



| | | | | | | | | | | | | | | |
|--------------------------------|------|------|------|------|------|------|------|------|------|------|--|--|--|--|
| Total Cleanups to be Completed | 42 | | | | | | | | | | | | | |
| Completed Prior to 1997 | 35 | | | | | | | | | | | | | |
| Cleanups Remaining | 7 | | | | | | | | | | | | | |
| TYP Release Site Workoff | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | | | | |
| | 1 | 3 | 3 | 0 | 0 | 0 | 0 | | | | | | | |

Figure 20

Kansas City Environmental Restoration Funding High and Low Case



| | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |
|------|--------|------|------|------|------|------|------|------|------|------|
| High | \$3887 | 5822 | 5773 | 936 | 961 | 987 | 1014 | 1014 | 1069 | 1069 |
| Low | \$3887 | 5822 | 5773 | 936 | 961 | 987 | 1014 | 1014 | 1069 | 1069 |



SOUTH VALLEY SUPERFUND SITE

SITE MISSION

The South Valley Superfund Site is located in the South Valley of Albuquerque, New Mexico and is situated near the Rio Grande River in an industrial area of the city. Between 1951 and 1967, the U.S. Atomic Energy Commission (AEC) owned the South Albuquerque Works for non-nuclear weapon component manufacturing. Under the joint-and-several liability power of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), the Department of Energy (DOE) was identified as a potentially responsible party for soil and ground water contamination discovered in 1979. DOE, formerly the AEC, along with the US Air Force and General Electric (GE), entered into a Settlement Agreement to reimburse GE for environmental restoration (ER) services performed at the site in accordance with the 1988 Record of Decision.

SITE ENVIRONMENTAL RESTORATION MISSION

South Valley contaminants are the Volatile Organic Compounds (VOC) Trichloroethene (TCE), Dichloroethene (DCE), Dichloroethane (DCA), and Tetrachloroethene (PCE)

The Mission of the ER Project includes ground water monitoring and ground water remediation system operation and maintenance.

DEFINITION OF SCOPE

The general approach is to continue to operate the ground water treatment systems in accordance with approved designs and to monitor ground water according to regulator expectations.

PROJECT STATUS IN FY 2006

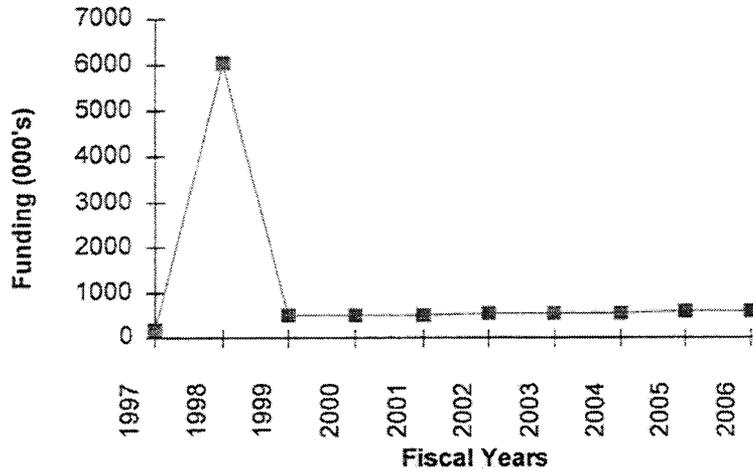
Ground water system operation and maintenance. If a buy-out agreement is reached, there will be no involvement in FY 2006. The funding profiles for both high and low cases are shown in Figure 21.

HIGH CASE ADVANTAGES

No difference exists between the high and low funding.



Figure 21
South Valley Superfund Site - High and Low Case



| | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | TOTAL |
|--------------|-------|---------|-------|-------|-------|-------|-------|-------|-------|-------|----------|
| High Funding | \$163 | \$6,047 | \$483 | \$496 | \$509 | \$523 | \$537 | \$551 | \$566 | \$581 | \$10,456 |
| Low Funding | \$163 | \$6,047 | \$483 | \$496 | \$509 | \$523 | \$537 | \$551 | \$566 | \$581 | \$10,456 |



URANIUM MILL TAILINGS REMEDIAL ACTION PROJECT

PROGRAM MISSION

Twenty-two designated Uranium Mill Tailings Remedial Action (UMTRA) sites are located in 10 states. The UMTRA Surface Project is managed out of the Department of Energy (DOE) Albuquerque Operations Office (AL) and the UMTRA Ground Water Compliance Project is managed out of the Grand Junction Office in Grand Junction, Colorado. Under the Uranium Mill Tailings Radiation Control Act (UMTRCA) of 1978, the DOE was authorized to stabilize, dispose of, and control uranium mill tailings and other contaminated materials at the 22 uranium mill processing sites and approximately 5200 vicinity properties. The sand-like tailings are a result of uranium production from the early 1950s until the early 1970's. The UMTRA Surface Project stabilizes and controls uranium mill tailings from 22 inactive processing sites and associated vicinity properties where tailings were used in the foundations of inhabited or commercial buildings or where tailings blew into open land surrounding the mill sites. The original number of sites that were to be remediated was 24 but the state of North Dakota asked that their two sites, Belfield and Bowman be delisted from the act.

DEFINITION OF SCOPE

Contamination resulting from historical processing of uranium ore includes low-level radioactive and other hazardous substances that migrated to surrounding soil, ground water, and surface water. In addition, tailings piles from mill operations often emitted radon gas. The tailings and other contaminated materials were also used as fill dirt or incorporated into various construction materials at thousands of offsite locations.

Tailings remediation of each site includes a Remedial Action Plan (RAP) approved by the Nuclear Regulatory Commission (NRC) with the participation of the affected State/Tribe, an Environmental Assessment (EA) or Environmental Impact Statement (EIS), design/engineering, construction, precicensing custodial care, and licensing by the NRC. The UMTRA Surface Project is intended to remediate uranium tailings and material contaminated with radioactivity from the tailings. Tailings are a source of both gamma radiation and radon gas. A total of approximately 32.4 million cubic meters (m^3) of contaminated material will be placed in disposal cells. Approximately 24.1M (m^3) of this contaminated material requires handling at the sites or between a processing site and a disposal cell. In addition, over five thousand contaminated vicinity properties, within the communities or surrounding the processing sites, will be remediated. Project activities will also consist of continued Grand Junction vicinity property remediations and AL certification and licensing activities for all uncertified processing sites or unlicensed disposal cells.

PROJECT STATUS IN FY 2006

The UMTRA Surface Project will be complete in FY 1998 with the exception of the Cheney Disposal Cell at Grand Junction (Figure 22). The Grand Junction Office (GJO) will operate the Cheney cell which will be left open for a period of time to accept contaminated material associated with uranium processing sites and associated vicinity properties. The funding profiles for both high and low cases are shown in Figure 23.



POST FY 2006 PROJECT SCOPE

At the end of FY 1997, the remedial action construction of all listed processing sites except Belfield and Bowman, North Dakota, will be complete.

PROJECT END STATE

The UMTRA Surface Project is scheduled to be complete in FY 1998 with the exception of the Cheney Disposal Cell at Grand Junction. The GJO will operate the Cheney cell, under the authority of the Long-Term Radon Management program. The cell will be left open for a period of up to 25 years to accept contaminated material associated with uranium processing sites and vicinity properties primarily where supplemental standards were applied. Ground water contamination will be brought into compliance by the GJO under the UMTRA Ground Water Compliance Project. The UMTRA Surface Project end state will consist of 22 NRC certified clean processing sites. Two processing sites will be classified "No Action Sites" at publication of the EA and will be removed from the UMTRCA site list. There will be 19 disposal cells, licensed by the NRC that will be transferred to the GJO under the Long-Term Surveillance and Maintenance (LTSM) Program. There will be over 5000 vicinity properties remediated and certified.

ASSUMPTIONS

- It is assumed that the NRC's review of DOE documents to support licensing of all UMTRA sites, except Grand Junction, will be completed by the end of FY 1998.
- From monitoring NRC's performance over the past twelve months, the UMTRA Project believes there is a significant risk that not all of the UMTRA sites will be licensed by FY 1998. Consequently, the DOE would not meet the Congressional mandate for the UMTRA Project. Additional work and funding would be required in FY 1999 to finish the licensing activities. There is also a risk that not all of the construction activities for the UMTRA Project will be completed by the end of FY 1998.
- At the present time, the subcontractor performance at the Maybell, Colorado UMTRA site is behind schedule. This may push completion into FY 1998 and require additional funding. Licensing of the Maybell site would take place beyond FY 1998.



Figure 22

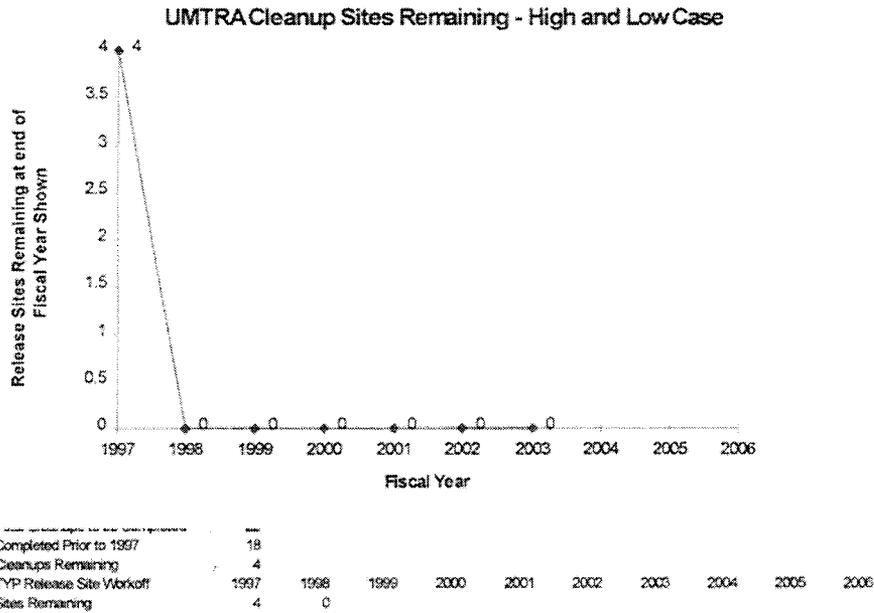
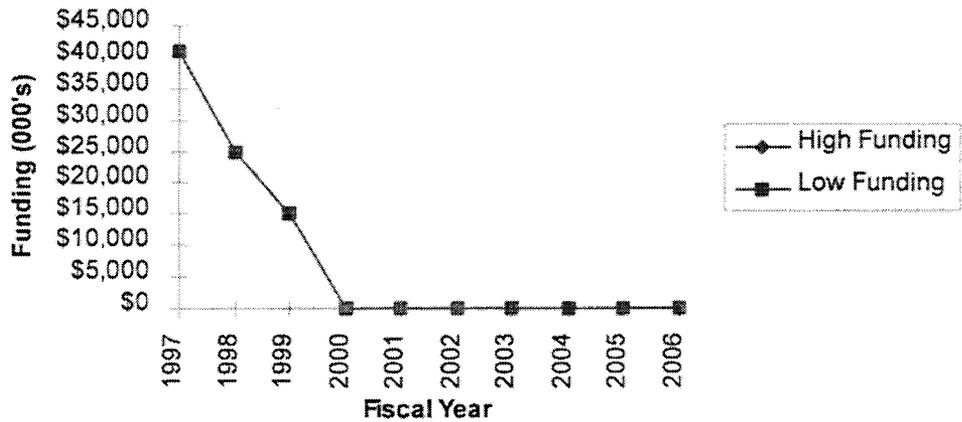


Figure 23

Uranium Mill Tailings Remedial Action Funding - High and Low Case



| | | | | | | | | | | | | |
|--------------|----------|----------|----------|-----|-----|-----|-----|-----|-----|-----|-----|----------|
| High Funding | \$41,041 | \$24,686 | \$15,000 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$80,727 |
| Low Funding | \$41,041 | \$24,686 | \$15,000 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$80,727 |



GRAND JUNCTION OFFICE

SITE MISSION

The Grand Junction Office (GJO) is located on the southwest side of Grand Junction, Colorado and encompasses 56 acres along the Gunnison River. The primary mission of the Grand Junction Office is to support Environmental Management (EM) in completing environmental restoration (ER) and waste management (WM) activities, particularly in the areas of site characterization, project integration and coordination, remedial design, remedial action, decommissioning, independent verification, long-term surveillance and maintenance, technology development and demonstration, geosciences, and analytical chemistry.

SITE ENVIRONMENTAL RESTORATION MISSION

Monticello - The Monticello Vicinity Properties (MVP) Site and the Monticello Mill Tailings Site (MMTS), both located in Monticello, Utah, are on the National Priorities List (NPL) and are being remediated in accordance with the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). A Federal Facility Agreement (FFA) among the Department of Energy (DOE), Environmental Protection Agency (EPA) and State of Utah establishes DOE as the responsible party for remedial action and EPA as the lead agency with the ultimate responsibility and authority. EPA shares its decision making authority with the State of Utah.

Vanadium and uranium were processed at the Monticello Millsite in the late 1940's to the late 1950's. Approximately 2.2 million cubic yards of mill tailings remain on the millsite and another 0.4 million cubic yards have been deposited by wind, water erosion, or use of the material in construction in the City of Monticello and adjacent vicinity and peripheral properties. The sites were listed on the NPL because of significant risk to human health and the environment associated with the tailings and tailings-contaminated soils. Radon being emitted from the tailings piles on the millsite exceeds EPA standards on and off-site. The tailings deposited in the community pose unacceptable risk due to radon accumulation in structures. The tailings piles are in direct contact with an alluvial ground water flow system which discharges to Montezuma Creek. Contaminant levels in the creek exceed State of Utah standards for surface water. The ground water has also been contaminated by the tailings. While the ground water is not currently used for domestic consumption, there are no institutional controls to prevent its use, and human consumption would cause unacceptable health risks. Tailings deposited in sediments in Montezuma Creek are being evaluated to determine risk to human health and the environment.

Uranium Mill Tailings Remedial Action (UMTRA) Ground Water - The purpose of this project is to conduct Uranium Mill Tailings Radiation Control Act (UMTRCA) compliance activities at 24 inactive uranium processing sites to bring ground water contaminant levels into compliance with EPA standards.

Grand Junction Office Remedial Action Project (GJORAP) - This project provides for removal and disposal of all radiological contamination from the DOE Grand Junction Office,



including restoration of the facility to a condition of unrestricted use by decontaminating or demolishing buildings associated with past uranium ore processing activities.

Facility Management - Facility Management at the GJO site provides the daily operations necessary for a safe, secure, and environmentally sound workplace.

Long-Term Surveillance and Maintenance (LTSM) - The purpose of this project is to provide custody, surveillance, environmental monitoring, maintenance, site security, annual reporting, and emergency response for UMTRCA Title I and II disposal sites, the Nuclear Waste Policy Act Section 151(b) and 151(c) site, decontamination and decommissioning (D&D) (previously Surplus Facilities Management Program (SFMP) disposal sites, Formally Utilized Sites Remedial Action Program (FUSRAP) disposal sites, and other remote sites; to provide operation and oversight of the Cheney Disposal Cell; and on the Monticello sites, to ensure that selected remedies remain protective of human health and the environment.

Uranium Lease Management (ULM) Program - The purpose of this program is to maintain and preserve the nation's immediately accessible supply of domestic uranium and vanadium ores associated with DOE-managed lands (43 lease tracts located in Colorado and Utah); maintain a viable domestic mining and milling infrastructure required to produce and mill these ores; and provide assurance of a fair monetary return to the Government. The full reclamation of nineteen of the 43 lease tracts is required before they are eligible for restoration to the public domain under Bureau of Land Management (BLM's) administrative control.

Waste Management/Minimization - These projects provide technical and administrative management, minimization, and disposal of all hazardous, low-level radioactive, mixed, solid, and non-hazardous waste generated from operations performed at the GJO.

Maxey Flats Field Management Project - The purpose of this project is to fulfill DOE's responsibilities as a potentially responsible party for the CERCLA-required remedial action activities at the Maxey Flats Disposal Site (MFDS).

DEFINITION OF SCOPE

Past operations connected with DOE nuclear programs have resulted in contamination of sites and facilities with radioactive, hazardous, and mixed wastes. The DOE GJO manages a number of ER projects for the DOE EM Program in an effort to assess and remediate, where necessary, inactive/surplus facilities and contaminated sites to ensure that risks to human health and the environment are either eliminated or reduced to safe levels. The GJO also provides support to other DOE offices.

Monticello - The Monticello Projects include the remediation of the former mill site, vicinity, and peripheral properties in and near Monticello, Utah, and the assessment and remediation of surface and ground water contamination beneath and down-gradient from the mill site.

UMTRA Ground Water - The UMTRA Ground Water Project will conduct activities at 24 Title I sites located in 10 states and on four Native American Tribal lands to bring ground water contaminant levels, resulting from past uranium milling activities, into compliance with EPA standards.



Grand Junction Office Remedial Action Project - Eliminates the potential hazards of long-term exposure to low-level radioactive contamination associated with past uranium ore processing activities at the Grand Junction facility.

Facility Management - Facility Management provides the daily operations necessary for a safe, secure, and environmentally sound workplace at the GJO.

Long-Term Surveillance and Maintenance - Provides for the custody, surveillance, environmental monitoring, maintenance, site security, annual reporting, and emergency response (in the event of accident or site failure) for completed environmental cleanup sites from various programs. The GJO presently has custody of 10 sites requiring long-term activities to meet DOE, Nuclear Regulatory Commission (NRC), EPA, and other environmental regulations. The GJO will likely take custody of an additional 35 to 40 sites requiring similar activities by FY 2006.

Uranium Lease Management Project - Provides technical support for the administration of 43 uranium lease tracts, located in Colorado and Utah.

Waste Management/Minimization - Provides technical and administrative management, minimization, and disposal of all hazardous, low-level radioactive, mixed, solid, and non-hazardous waste generated from operations performed at the GJO.

Maxey Flats Field Management Project - The GJO has recently acquired responsibility for the Maxey Flats Field Management Project, where DOE has been named as a potentially responsible party for the remedial actions. The role of the DOE is to provide its share of project funding (approximately 40 percent of the total), and minor oversight.

PROJECT STATUS IN FY 2006

Monticello - Remediation of both Monticello NPL sites will be completed by FY 2006. The former millsite will be available for beneficial public use. However, if active (pump and treat) remediation of contaminated ground water is selected, the ground water treatment may continue past FY 2006 under the LTSM Program. The Monticello Vicinity Properties site will be deleted from the NPL. The MMTS will not be deleted from the NPL until the pump and treat activities on surface and ground water meet the negotiated clean-up criteria. The LTSM Program will complete deletion activities for the MMTS. Both sites will require long-term surveillance and maintenance because of remaining contamination.

UMTRA Ground Water - UMTRA Ground Water sites that require no remediation will be removed from the UMTRA Ground Water Project and sites utilizing passive ground water remediation will be transferred to the LTSM Program for long-term monitoring. Sites requiring active ground water remediation will be retained in the UMTRA Ground Water Project until FY 2010, at which time they will be transferred to the LTSM Program. Presently, two sites are proposed for active remediation and nine sites are proposed for passive remediation. The remaining 13 sites are proposed for no action.

Grand Junction Office Remedial Action Project - Remediation of the GJO site and transition of the remaining land and buildings to private or other use will be completed prior to the end of FY 2001. Administrative control of the ground water will remain in place until



passive remediation of the ground water is verified. DOE will no longer be the operating landlord for the site after FY 2001; however, DOE will remain in Grand Junction to carry out its mission assignments. Location of staff will depend on an economic analysis of occupancy requirements.

Long-Term Surveillance and Maintenance - LTSM will continue beyond FY 2006. Surveillance and maintenance activities at particular sites varies from 10 to as many as 1,000 years, depending on the requirements established for each site. Current projections indicate that at least 50 sites will eventually be transferred to LTSM. The Long-Term Radon Management portion of this project will continue beyond FY 2006. The DOE will manage and operate the Cheney Disposal Cell for approximately one month per year to dispose of mill tailings material. Decontamination of transportation equipment; surveillance, maintenance and security of the facility; and environmental monitoring will continue as part of the operations and requirements. Permanent placement of material will only be performed every three years. At the Monticello Sites, the LTSM Program will continue to implement the Monticello LTSM Plan, including ground water pump and treat operations, if required.

Uranium Lease Management - Twelve of fifteen active leases will expire in FY 2006; the other three active leases will expire in FY 2007. The remaining 28 lease tracts (all currently inactive) will have been reclaimed and restored to the public domain under BLM's administrative control.

Maxey Flats Field Management Project - All DOE responsibilities will have been satisfied before FY 2006.

Waste Management/Minimization - Requirements for this project will end when DOE relinquishes ownership of site by FY 2002.

POST FY 2006 PROJECT SCOPE

Monticello - Inspection of the Monticello millsite, vicinity and peripheral properties, and repository area will be performed in accordance with CERCLA requirements, under the LTSM Program. Active ground water remediation will also be performed, if necessary. LTSM activities beyond FY 2006 will also include the decommissioning of the repository evaporation pond around FY 2009.

UMTRA Ground Water - Inspection of the UMTRA ground water sites, including compliance monitoring of passive or active ground water remediation activities will be performed by the LTSM Program. Operation of two active compliance strategy sites will occur through FY 2010.

Grand Junction Office Remedial Action Project - Monitoring of natural flushing of ground water at the present GJO site will continue under the LTSM Program through FY 2006. When contaminants in ground water fall below regulated concentrations, ground water monitoring and institutional controls will be completed.

Facility Management - Leased office space in Grand Junction will be required to adequately house remaining DOE and contractor personnel.



Long-Term Surveillance and Maintenance - Additional sites are expected to be added to the LTSM Program.

Uranium Lease Management - Under ULM, reclamation of the active lease tracts by the current leaseholders will continue until the sites are accepted by the BLM for public use. It is currently estimated that all lands will be restored to the public domain under BLM's administrative control by the end of FY 2010.

Grand Junction cleanups will be complete by FY 2006 (Figure 24). The funding profiles for both high and low cases are shown in Figure 25.

PROJECT END STATE

Monticello - The project end state for Operable Units (OUs) I and II of the Monticello Mill Tailings Site (MMTS) and the Monticello Vicinity Property (MVP) site is remediation to standards established in 40 Code of Federal Regulations (CFR) 192 with the exception of properties where supplemental standards are applied. For properties remediated to standards in 40 CFR 192, there will be restrictions placed on surface use of the property. For the millsite and down gradient peripheral properties, ground water use restrictions will be necessary until water quality reaches acceptable levels. LTSM will be necessary at the on-site repository. On supplemental standards properties, the risk to human health for the remaining contamination has been evaluated and determined to be acceptable for specific land use scenarios. Final land use restrictions are being determined by DOE, EPA and the State of Utah, and will be incorporated into the LTSM Plan. Implementation of this Plan will be the responsibility of the LTSM Program. The end state for the Monticello Surface and Ground Water Project is remediation of the contaminated sediments in Montezuma Creek Canyon to acceptable standards and implementation of a plan for remediation of contaminated ground water.

UMTRA Ground Water - Upon completion of active remediation and compliance monitoring, ground water will meet EPA standards. Some natural flushing sites will have institutional controls and periodic compliance monitoring under the LTSM program until constituents are below EPA standards.

Grand Junction Office Remedial Action Project - At the GJO site, contaminants in ground water will be reduced to concentrations below authorized limits. The entire site will have met remediation goals. By the end of FY 2001, DOE will have relinquished the site. The GJO will lease office space through the completion of assigned missions.

Long-Term Surveillance and Maintenance - For LTSM, activities will continue at the assigned sites, in accordance with approved LTSM plans. For the Long Term Radon Management portion of the project, it is anticipated that by FY 2023, all tailings and tailings contaminated materials will have been placed in the Cheney Disposal Cell, the Cell closed, and licensed by the NRC. LTSM of the cell will continue for up to 1,000 years as part of the LTSM Program. Monticello LTSM activities will continue indefinitely.

Uranium Lease Management - Under the ULM Program, if the active leases are not relinquished by their respective leaseholders prior to the end of the current ten-year term, and if DOE does not extend the leases beyond the current ten-year term, the reclamation of these tracts will take approximately four years to complete, at which time they can be



restored to the public domain (approximately FY 2010) under BLM's administrative control. If DOE extends the current leases, the final end state will be adjusted outward accordingly.

Maxey Flats Field Management Project - The end state for the project is placement of the interim cap and completion of all initial closure construction support activities. At that time (projected for FY 2002), the DOE will have fulfilled its responsibilities.

ASSUMPTIONS

GJO projects have numerous project-specific assumptions associated with the respective AL Summary_Project Baseline Summaries. These, if found to be untrue, would significantly affect the cost estimates reflected in this document.

Occupancy by DOE and contractors will continue on the GJO facility until relocation off-site late in the fourth quarter of FY 2001. GJO facilities will be maintained in a usable condition in preparation for turnover to other users, rather than allowing the facilities to deteriorate into unusable conditions. A GJO reuse plan will be developed in FY 1997 to identify potential uses of the site. Input from stakeholders will be solicited as the plan is developed and implemented.

Over 50 sites (including Title I, Title II, 151(b), 151(c), and FUSRAP sites) will be transferred to the LTSM program by FY 2006. The remaining sites (including remaining UMTRA Title I Ground Water sites) will be transferred by FY 2035. The Cheney Disposal Cell will remain open until FY 2023 to accept an estimated 2,000 cubic yards of material per year, with placement of the material every third year. Substantial repairs to the Monticello repository will not be required. LTSM of the Monticello repository will continue until at least FY 2196.

HIGH CASE FUNDING SCENARIO ADVANTAGES

UMTRA Ground Water - The high budget scenario allows completion of work in earlier years, reducing total project costs by decreasing the required time span for constant-level oversight functions.

Facility Management - The high budget scenario allows GJO to retain the necessary levels of maintenance on the site facilities to maintain value of the real property and decrease risks to site users.

Waste Management/Minimization - The high budget scenario provides more labor hours to find beneficial uses within the DOE complex for materials that would otherwise be disposed of as waste.



Figure 24
Grand Junction Office Cleanup Sites Remaining

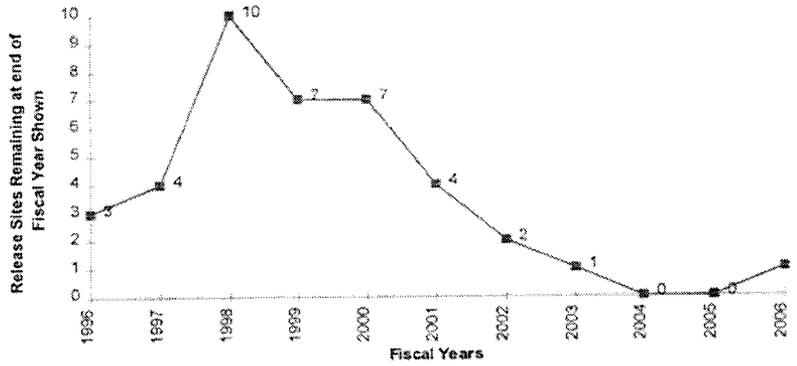
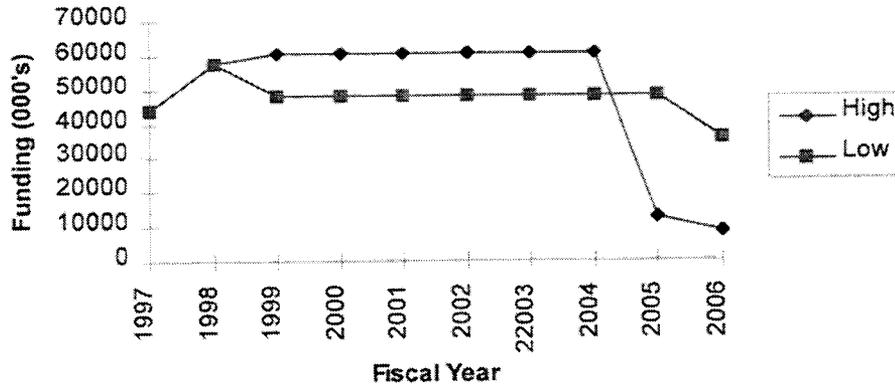


Figure 25
Grand Junction Office Funding



| | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | TOTAL |
|-------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|
| High Fundin | \$43,817 | \$57,300 | \$60,406 | \$60,406 | \$60,406 | \$60,406 | \$60,406 | \$60,406 | \$12,234 | \$8,557 | \$484,354 |
| Low Funding | \$43,817 | \$57,300 | \$48,310 | \$48,310 | \$48,310 | \$48,310 | \$48,310 | \$48,307 | \$48,310 | \$35,494 | \$474,778 |



PINELLAS PLANT

SITE MISSION

The Pinellas Plant was established in 1957 and encompasses 100 acres, six miles north of St. Petersburg, Florida. The current mission of the plant is to achieve safe transition of the facility from defense production and to prepare the site for alternative uses as a community resource for economic development, as one of the Department of Energy's (DOE) first to undergo cleanup and transition.

SITE ENVIRONMENTAL RESTORATION MISSION

Predecessor Project: None. This project has seven major objectives: 1. provide necessary infrastructure to maintain the facility until current mission for shutdown is complete; 2. complete facility cleanup, deactivation, final shutdown, and transfer to Pinellas County Industrial Council by September 30, 1997; 3. Waste Management (WM) activities associated with various types of wastes, including those generated by cleanup activities, and Resource Conservation and Recovery Act (RCRA) closure of waste facilities; 4. final contract close-out/transition activities after completion of final shutdown work and possible continued (into FY 1998) liaison support for Economic Development/ Environmental Remediation activities; 5. employee reduction in force requirements; 6. closure or maintenance of Department of Energy (DOE) liabilities associated with employee benefits; and 7. remediation of contaminated ground water at the Northeast site, Building 100 and Old Drum Storage sites (these sites were combined due to their proximity and similarity of contaminants), 4.5 Acre Site, Wastewater Neutralization / Building 200 Area and the West Fenceline. The project also includes Pinellas Plant liability under Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) for former offsite waste disposal, Zellwood - Drum Service (National Priority List (NPL) site). Completion of these objectives will enable the successful resolution of the facility cleanup, shutdown and subsequent transfer of control. In addition these objectives will eliminate DOE liability of the facility.

DEFINITION OF SCOPE

FY 1997 Activities - Provide infrastructure to complete remaining mission, completion of facility deactivation & characterization, transfer and disposal of DOE owned personal property, transfer of facility ownership of Pinellas County, and provide required funding for workforce restructure. Support base environmental activities, comprehensive business management and facility and capital program requirements, including completion of remaining General Plant Projects. Maintain Information Systems, effective Human Resources support, Safety & Health protection programs, and Safeguards and Security program.

FY 1998 Activities - Contract close-out costs include necessary staff required to complete final close-out (Executive Office, Human Resources, Environmental Safety and Health, Business Operations, Transition and Information Systems). Closure of all outside service contracts, financial system, and completion of all other final transition/ wrap-up work. Possible continued liaison support for Economic Development /Environmental Remediation



activities. Final disposition and/or retention of remaining records, including financial, personnel, medical, environmental, etc. Provide personal computer, copier and facsimile support until January 1998, operation of the International Business Machine (IBM) and Local Area Network (LAN) through November 1997, and subsequent disassembly, packaging and shipping. WM administrative close-out of a RCRA permitted facility. Annual liability for benefit obligations (administration, pension, medical, dental, vision, workers compensation, long-term disability, and life insurance).

Remediation of contaminated ground water will occur at the following sites: Northeast site Building 100 and Old Drum Storage sites, 4.5 Acre Site, Wastewater Neutralization /Building 200 Area, and West Fenceline. The project also includes Pinellas Plant liability under CERCLA for former offsite waste disposal, Zellwood - Drum Service (NPL site)

PROJECT STATUS IN FY 2006

Transfer of facility control will be complete. All work scope activities, other than annual employee benefit liability, will be complete.

The 4.5 Acre Site will be complete in FY 2000, the West Fenceline will be complete in FY 1997, and the Waste Neutralization will be complete in FY 2002. Remaining projects will be ongoing. Funding profiles for both high and low case funding are provided in Figure 26.

POST FY 2006 PROJECT SCOPE

Ongoing liability for annual employee benefit payment or lump sum buyout will continue indefinitely.

Remaining projects will be ongoing until Bldg 100 and Old Drum Storage sites is completed in FY 2012 and Northeast Site is complete in FY 2014.

PROJECT END STATE

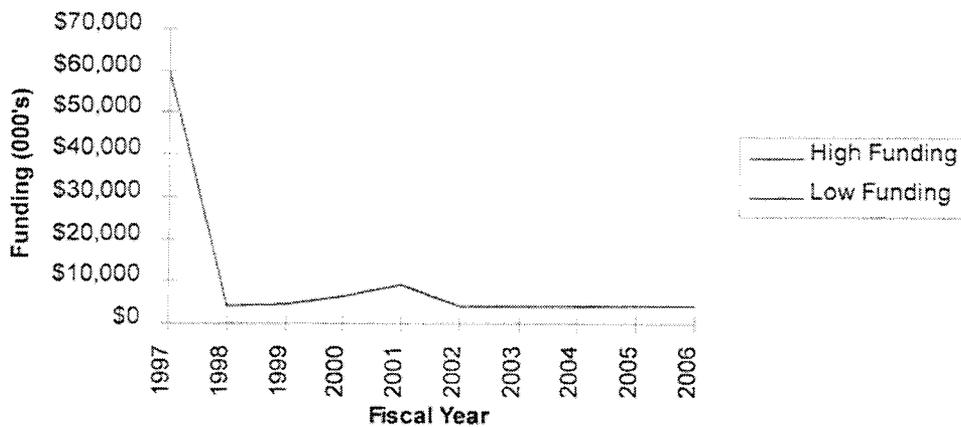
When site ground water can meet land use classification of " Industrial with unrestricted access. " Estimated final activity complete in FY 2014.

ASSUMPTIONS

- The successful closure and transition of the Pinellas Plant is a highly visible endeavor with both DOE and the State of Florida especially due to this being the first DOE facility closed and sold for commercial/community use.
- The largest assumption is receipt of adequate funding from both Environmental Management (EM) and Defense Program (DP). FY 1997 budgeted amounts under EM are contingent on the receipt of required WT-1 funding commitment. Budgeted amounts for ongoing employee benefit liabilities are dependent on receipt of DP funds as stated in the Memorandum of Agreement .
- Environmental cleanup activities are essential for successful transfer of the property and final completion of the DOE mission at Pinellas.



Figure 26
Pinellas Plant Funding - High and Low Case



| | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | TOTAL |
|--------------|----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|-----------|
| High Funding | \$60,088 | \$4,000 | \$4,672 | \$6,295 | \$9,192 | \$4,209 | \$4,011 | \$3,931 | \$3,926 | \$3,916 | \$104,240 |
| Low Funding | \$60,088 | \$4,000 | \$4,672 | \$6,295 | \$9,192 | \$4,209 | \$4,011 | \$3,931 | \$3,926 | \$3,916 | \$104,240 |



OTHER ASSIGNED PROGRAMS

MISSIONS

Within the Department of Energy (DOE) Albuquerque Operations Office (AL) Environmental Management program, there are various programs which are covered under a single Project Baseline Summary (PBS). These programs are presented individually below.

The **Norfolk State University Center for Materials Research (NSU)**, the **Waste Management Education and Research Consortium (WERC)**, and the **Historically Black Colleges and Universities/Minority Institutions Environmental Technology Consortium (HBCU/MI ETC)** are national programs established to develop and conduct programs in education and technology development and applications to solve the human resource needs and technology issues related to the management of nuclear, hazardous, mixed and solid wastes faced by government and industry. These programs expand the research capabilities and initiate cooperative research efforts of the participating universities, national laboratories, and industry, and expand the nation's capability to address issues associated with the management of hazardous, radioactive, and solid waste. These programs are a national resource of education, technology development and technology transfer that develop, transfer, and use new technologies to train students at state-of-the-art research and technology; increase human expertise and sensitivity to hazardous, radioactive, mixed and solid waste issues; and create a technically educated, diverse work force for the future. State-of-the-art environmental programs are maintained and the needs of a diverse group of minority students are serviced by these programs.

Innovative Treatment Remediation Demonstration Program (ITRD) is a national program to help accelerate the adoption and implementation of new and innovative remediation technologies. This program was initiated by the Department of Energy's (DOE) Environmental Restoration Program Office (EM-40). In this program, DOE facilities work cooperatively with the Environmental Protection Agency (EPA), industry, national laboratories, and state and federal regulatory agencies to establish remediation demonstrations using applicable innovative technologies at their sites.

Analytical Methods and Nuclear Data for Nuclear Criticality Predictability. Analytical methods, including modeling codes and processed nuclear data, have been identified as key elements in the DOE Nuclear Criticality Predictability Program (NCP). Criticality safety practice requires that transport computer codes, coupled with qualified nuclear data, be utilized to calculate system multiplication factors, establish margins of subcriticality, calculate subcritical measurements, and determine radiation fields for criticality alarms. The objectives of this project include: 1) maintenance of production analytical capability, 2) training and assistance in the use of the LARAMIE system, 3) code and data remediations to reduce analytical uncertainties, 4) validation of new methods and data, and 5) technical support to DOE in the planning and conduct of its Nuclear Criticality Predictability Program.



DEFINITION OF SCOPE

NSU, WERC, and the HBCU/MIETC are comprised of 27 educational institutions* across the United States that collaborate with two national laboratories and more than 45 industrial partners. The scope of activities involves Education, Research and Technology Transfer, and Partnering. Education activities focus on educational courses/degree programs in materials-related disciplines, environmental restoration and waste management for undergraduate, graduate, post doctoral, and targeted Federal employees via traditional and virtual university courses and methods. Research projects focus on DOE mission-related areas and include conducting Research and Development (R&D) to provide cutting-edge technology to address difficult cleanup problems, infusing R&D into educational courses/degree programs, and leveraging university resources/ capacity for improvement in science and technology. Partnering activities provide teaming, interdisciplinary and multi-institutional programs.

Innovative Treatment Remediation Demonstration Program. The technical coordinator for the program interfaces with the DOE, EPA, industry and the states to generally establish technical advisory and performance evaluation groups for each remediation demonstration, recommend personnel for these groups, coordinate assessment of suggested innovative technologies, coordinate and manage performance and cost evaluations, and disseminate treatment technology assessment data after review and release by DOE. Special engineering support and materials are required to adequately evaluate the cost and performance of the selected innovative treatment. Activities will include the initiation of two innovative remediation projects during the target year, and the completion of two projects from the prior fiscal year through FY 2006.

Analytical Methods and Nuclear Data for Nuclear Criticality Predictability. Environmental Management (EM) commitments, totaling \$3.3M in FY 1997, are to support the acquisition of nuclear data and the maintenance of analytical methods. Three laboratories contribute to the EM Nuclear Criticality Program: 1) Los Alamos National Laboratory, 2) Oak Ridge National Laboratory, and 3) Argonne National Laboratory. Each laboratory provides unique and complimentary capabilities and expertise in support of the objectives of DOE's NCPP. This project, in close coordination with the other major program elements, strives to ensure continuation of DOE excellence in nuclear criticality safety.

***NSU** members: Norfolk State University, Elizabeth City State University, University of New Mexico, University of Texas-El Paso, Virginia State University, Los Alamos National Laboratory (LANL). **WERC** members: New Mexico State University, the University of New Mexico, New Mexico Institute of Mining and Technology, Navajo Community College-Shiprock, Southwest Indian Polytechnic Institute, LANL and Sandia National Laboratories/New Mexico in collaboration with 40 industrial partners. **HBCU/MI ETC** members: Alabama A&M University, Clark Atlanta University, Florida A&M University, Florida International University, Hampton University, Howard University, Jackson State University, New Mexico Highlands University, Northern Arizona University, North Carolina A&T University, Prairie View State University, Southern University, Texas A&M University-Kingsville, Texas Southern University, Tuskegee University, University of Texas-El Paso, Xavier University, and 5 industrial partners.



PROJECT STATUS IN FY 2006

NSU, WERC, and the HBCU/MI ETC - All projects completed by September 30, 2001.

Innovative Treatment Remediation Demonstration Program - Project Complete.

Analytical Methods and Nuclear Data for Nuclear Criticality Predictability - Continuing research and development.



NUCLEAR FACILITIES STABILIZATION

PROGRAM MISSION

The Los Alamos National Laboratory (LANL) is providing Department of Energy (DOE) complex-wide support for nuclear materials stabilization associated with the Defense Nuclear Facilities Safety Board Recommendation (DNFSB) 94-17

DEFINITION OF SCOPE

LANL is the lead laboratory for 94-1 Research and Development (R&D), and is providing stabilization programs at other sites with the technical basis for risk-based prioritization, stabilization standards, stabilization processes, packaging for storage pending disposition, and surveillance during the storage period. The Laboratory is also performing a core technology program to improve our understanding of underlying material interactions, and assuring that technical capabilities are available in the future to deal with any unforeseen problems with materials in storage. This project is the 94-1 Research and Development Lead Lab Support. The DNFSB expressed concern about the safety of nuclear materials left in the manufacturing "pipeline" after the United States halted its nuclear weapons production activities. Part of the 94-1 Recommendation stated, "a research program be established to fill any gaps in the information base needed for choosing among the alternate processes to be used in safe interim conversion of various types of fissile materials to optimal forms for safe interim storage and the longer-term disposition." Upon completion of the 94-1 milestones at DOE sites, LANL will continue shelf-life studies, surveillance support, core technology activities, and Nuclear Materials Stewardship functions.

PROJECT STATUS IN FY 2006

Stabilization technology development, technology transfer, and implementation support activities begin to ramp down in FY 2002, provided that the sites successfully meet 94-1 milestones. Ongoing efforts will include shelf-life studies, surveillance, core technology, and EM Nuclear Materials Stewardship activities.

POST FY 2006 PROJECT SCOPE

Shelf-life studies, surveillance, core technology, and Nuclear Materials Stewardship functions will continue until ultimate disposition of excess nuclear material.

PROJECT END STATE

EM nuclear materials have been stabilized and converted to a form that meets disposal criteria or long-term storage criteria. Inventories have been shipped to a disposal site or Fissile Materials Disposition facility. Project will end when EM no longer has custody of nuclear materials.



ASSUMPTIONS

- Upon completion of the 94-1 milestones at DOE sites, Los Alamos will continue shelf-life studies, surveillance support, core technology activities, and EM Nuclear Materials Stewardship functions.
- The R&D Plan is updated annually by the Technical Advisory Panel of the Plutonium Focus Area. The Technical Advisory Panel is comprised of site representatives and other technology experts to assure that site needs are adequately addressed by this project.
- The Plutonium Focus Area also evaluates and funds new proposals and provides peer review of the activities of this project.



AGREEMENTS IN PRINCIPLE

MISSION

The Agreements-in-Principle between the Department of Energy (DOE) and the States of New Mexico, Texas, Florida, (FY 1997 and FY 1998 only), and Missouri are part of the Environmental Restoration (ER) Program. The Agreements-in-Principle cover technical and financial support for independent monitoring and oversight of DOE facilities by the states, community education, and radiological emergency response planning.

The New Mexico AIP provides funding for the support of the New Mexico Environment Department's (NMED) oversight and monitoring of DOE compliance with applicable environmental laws and regulations at the following installations: Sandia National Laboratories/New Mexico (SNL/NM), Los Alamos National Laboratory (LANL), the Waste Isolation Pilot Plant (WIPP), and the Lovelace Biomedical and Environmental Research Institute (LBERI). The NMED will continue activities under the agreement to assure the citizens of the State of New Mexico that public health, safety and the environment are being protected through existing programs, DOE's compliance with applicable laws, including rules, regulations, and standards; substantial new commitments by DOE; prioritization of cleanup and compliance activities; and a program of independent monitoring and oversight by the State of New Mexico. The NMED will continue to maintain and focus its efforts to assure continuing confidence in the public health and safety of the environment

Funding to support AIP activities is provided through a grant from DOE in accordance with the provisions stated in the Agreement-In-Principle between the State of New Mexico and DOE. New Mexico Environment Department (NMED) employees supporting AIP activities are located on-site at DOE facilities in Los Alamos and Albuquerque and at the NMED in Santa Fe.

DEFINITION OF SCOPE

FY 1996 was the sixth year that the State of New Mexico has provided oversight of environmental management (EM) activities at DOE facilities. The four primary objectives of the agreement are (1) to assess the DOE's compliance with existing laws including regulations, rules, and standards (2) to participate in prioritization of cleanup and compliance activities at DOE facilities (3) to develop and implement a vigorous program of independent monitoring and oversight and (4) to communicate with the public for the purpose of increasing public knowledge of environmental matters concerning facilities to include coordination with local tribal governments.

PROJECT STATUS IN FY 2006

Continuation of oversight activities for EM activities at LANL, SNL/NM and WIPP.



SUMMARY ISSUES

Listed within this section are site specific issues which are still pending resolution. The success of executing the strategy for completing the workscope identified by the end of fiscal year 2006 relies heavily on successful resolution of many of these issues. In addition, since the development of the PBSs in February 1997, some refinement to assumptions, workscope, and schedules is being performed. Listed below as well are some of those activities which AL expects will be resolved and incorporated into the September 1997 draft plan.

- General - The New Mexico Environmental Department have not yet reached agreement on final approval criteria and review timeframes to finalize closure of various cleanup actions at both SNL and LANL.
- LANL - A strategy to optimize characterization was finalized in April 1997 and is under review by the regulator. Lessons learned during canyon characterization will be applied to future canyon work in order to maximize streamlining potential. A focused assessment of the canyons with optimal use of existing data and implementation of the EPA's data quality objectives process will facilitate timely and cost effective decisions. LANL is currently working with the pueblos and regulators to ensure that this approach achieves the goals of the corrective action process.
- LANL - DOE and NMED have not reached agreement on either the requirements to be included in an NFA profile or a standard review plan. Therefore, only 14% of the sites that DOE states are complete have been formally recognized by NMED.
- SNL - NMED has not yet agreed to a specific time period for review of regulatory documents. The AL Summary assumes a three month regulatory review/approval process as a key planning assumption.
- SNL - There is a backlog of regulatory documents awaiting review at NMED. SNL has provided a priority list of these documents to NMED along with a schedule of need. A response from NMED is pending.
- SNL and LANL - The ecorisk regulatory requirements have not yet been established. The SNL approach to ecorisk therefore, cannot be finalized and included in No Further Action submittals.
- SNL expects approximately 12 cubic meters (m³) of TRU material to be declared waste by the end of FY 1997. Two m³ of this material may require remote handling. This workscope has not been planned for within this document.
SNL - The recent reduction of \$2.5M in proposed FY 1998 funding will delay the start of Materials in Inventory (MIN) characterization until FY 1999. Completion of MIN workoff by FY 2006 will require the transfer of funding from SNL's ER Project, beginning in FY 2000.
- Pantex - Work scope being executed in FY 1997 will need to be deferred into FY 1998.
- UMTRA - An additional \$30M for close-out costs is being requested for FY 1998. Currently, the AL Summary Project Baseline Summaries (PBSs) do not identify these costs. If DOE Albuquerque (AL) is not given funds this will impact other AL programs (Monticello, environmental restoration, waste management mission waste, and legacy waste treatment, storage and disposal).



- Monticello - Current budget scenarios do not provide sufficient funding to initiate the project as currently planned.
- Pinellas - Pensions and benefits funding in outyears is currently being reviewed. At this time the Pinellas PBSs do not reflect all the pensions and benefits which are currently being negotiated.



How?

CONCLUSION

DOE Albuquerque has demonstrated in the AL Summary that it can meet the Environmental Management vision to complete cleanup by FY 2006. For the work remaining, constant funding levels will add to the challenge of succeeding with an accelerated schedule. The AL Summary identifies excess funds, beginning in FY 1999, in relation to the flat funding profile guidance provided by DOE Headquarters. Potential future use of these funds could be applied to DOE Albuquerque waste or decontamination and decommissioning needs, they could also be used by other Operations or Field Offices to accelerate cleanup of high risk sites or to eliminate costly mortgage commitments. Maintaining a national perspective will ensure that limited funds are applied where they can contribute the most toward completing the overall EM mission.

As stated at the beginning of this summary, the AL Summary is envisioned as a living document, and will be revised as necessary to reflect significant changes in conditions or base assumptions. It is our goal to maximize stakeholder involvement and we encourage your questions, comments, and input. A final version of the AL Summary, using FY 1997 assumptions and taking into account comments and input received from stakeholders and DOE Headquarters, will be completed in February 1998 and made available to all stakeholders. A 90-day public review period will commence in June 1997 and continue through early September 1997. During this time you are invited to provide comments or questions on this document. Area offices will provide opportunities to their respective stakeholders to discuss their site specific strategies during this 90-day public review period. At the conclusion of the review period this document as well as other planning documents will be revised and reissued as a draft plan. It is expected that this will occur in the October 1997 time period. The draft plan will be finalized in February 1998. You are welcome to provide questions and comments to those individuals listed on page 2 of this document.



GLOSSARY

Advisory committee. Any committee, board, commission, council, conference, panel, task force, or other similar group, or any subcommittee or other subgroup thereof; established by statute; or established or utilized by the President or any agency official for the purpose of obtaining advice or recommendations on issues or policies that are within the scope of his/her responsibilities.

Agreement-in-principle. An agreement between the Department of Energy and a state that describes commitments by the Department to fund certain activities, generally environmental oversight, monitoring, site access, and emergency response initiatives performed by the state at a facility.

Alpha particle. A positively charged particle emitted during decay of certain radioactive elements. Alpha particles are the least penetrating of the three common forms of ionizing radiation (alpha, beta, gamma). They can be stopped by a sheet of paper or the skin but are harmful if inhaled or ingested. An alpha particle is indistinguishable from a helium nucleus and consists of two protons and two electrons.

Aquifer. A geologic formation or structure capable of yielding water in usable quantities.

Assessment. A determination of a project's condition made by reviewing cost, schedule, technical issues, and performance against objectives, regulatory requirements, and baseline project plans.

Atomic Energy Commission (AEC). Entity created by Congress in 1946 as the civilian agency responsible for producing nuclear weapons; it also researched and regulated atomic energy. In 1975, its weapons production and research activities were given to the Energy Research and Development Administration, while its regulatory responsibilities were handed over to the newly formed Nuclear Regulatory Commission. The Energy Research and Development Administration became the Department of Energy in 1977.

Baseline. A quantitative expression of planned costs, schedules, and technical requirements for a defined project. Baselines should include criteria to serve as a standard for measuring the status of resources and the progress of a project.

Burial grounds. An area for near-surface disposal in soil or shallow rock used for low-level radioactive, chemical, hazardous, or other waste, and obsolete or contaminated equipment.

Characterization. the collection and analysis of information needed to define the hazardous material in an area or storage tank, such as planning, sample collection, laboratory analysis, collection of field data, statistical analyses, and reporting.

Closure reports. Documentation in support of the plan prepared to guide the deactivation, stabilization, and surveillance of a waste management unit or facility under RCRA.

Compliance agreement. A legally binding agreement between regulators and regulated entities that sets standards and schedules to meet the requirements of environmental statutes. Also called a consent order, Federal facility agreement, and Federal facility compliance agreement.



Comprehensive Environmental Response, Compensation and Liability Act

(CERCLA). A Federal law enacted in 1980 that governs the cleanup of hazardous, toxic, and radioactive substances. The act and its amendments created a trust fund, commonly known as Superfund, to finance the investigation and cleanup of abandoned and uncontrolled hazardous waste sites. Under this act, the Department conducts remedial investigations and feasibility studies to determine the sources and extent of contamination and ultimately the cleanup alternatives.

Consent Order. See compliance agreement.

Contamination. The presence of unwanted hazardous or radioactive matter at levels that present potential safety and health risks to the public, site workers, or facility occupants; or render some portion of the environment unsuitable for use.

Cooperative Agreement. An assistance agreement whereby a Federal agency (e.g., the Department of Energy) transfers money, property, services, or anything of value to a state for the accomplishment of CERCLA-authorized activities or tasks.

Decommissioning. Activity that takes place after deactivation and includes surveillance and maintenance, decontamination, and/or dismantlement. These actions are taken to retire a facility from service while protecting workers, the public, and the environment.

Decontamination. The removal or reduction of radioactive or hazardous contamination from facilities, equipment, or soil by washing, heating, chemical or electromechanical action, mechanical cleaning, or other techniques to achieve a stated objective or end condition.

Defense Nuclear Facilities Safety Board (DNFSB). A group of five experts and staff, reporting directly to Congress, which is responsible for safety oversight of the Department's nuclear operations. Non-nuclear safety is self-regulated by the Department, but adheres to Occupational Safety and Health Administration requirements, per the Secretary's decree.

Department of Energy. The cabinet-level U.S. Government agency responsible for providing the technical information and scientific and educational foundation for the technology, policy, and institutional leadership necessary to achieve efficiency in energy use, diversity in energy sources, a more productive and competitive economy, improved environmental quality, and a secure national defense.

Disposal. Emplacement of waste in a manner that ensures isolation from the biosphere for the foreseeable future, signifies no intent to retrieve it, and requires deliberate action to assess it.

Enforceable milestones. The important or critical events that occur in the project cycle to achieve objectives stipulated in an enforceable agreement.

Environmental Management (EM) program. An office within the Department of Energy that was created in 1989 to oversee the Department's waste management and environmental cleanup efforts. Originally called the Office of Environmental Restoration and Waste Management, it was renamed in 1993.



Environmental Protection Agency (EPA). A Federal agency responsible for enforcing environmental laws, including the Resource Conservation and Recovery Act; the Comprehensive Environmental Response, Compensation, and Liability Act; and the Toxic Substances Control Act. It was established in 1970.

Environmental Restoration (ER). A wide range of activities pertaining to cleanup such as stabilizing contaminated soil, pumping and testing ground water; decommissioning process buildings, nuclear reactors, chemical separations plants, and many other facilities; and exhuming sludge and buried drums of waste.

Feasibility study. A study undertaken to develop and evaluate different options for cleaning up contamination. Feasibility studies usually are associated with remedial actions. See also CERCLA.

Federal Facility Compliance Act (FFA). The Federal act that requires the Department of Energy to develop and submit to states or the Environmental Protection Agency plans for developing mixed-waste treatment capacity and technologies.

Fiscal year. The 12-month period extending from October 1 to September 30 that the Federal Government uses to plan its spending.

Hazardous waste. Waste that is regulated under RCRA Subtitle C. A solid waste or combination of solid wastes that, because of its quantity, concentration, or physical, chemical, or infectious characteristics, may cause or significantly contribute to an increase in serious, irreversible, or incapacitating reversible illness; or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

High-level waste. The highly radioactive waste material that results from the reprocessing of spent nuclear fuel, including liquid waste and any derivative solid waste, that contains a combination of transuranic waste and fission products in concentrations requiring permanent isolation.

National Priorities List. The Environmental Protection Agency's list of the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial action under CERCLA (Superfund). The list is based primarily on the score a site receives from the Agency's Hazard Ranking System. The Agency is required to update the list at least once a year.

No further action (NFA). A determination made, based upon technical evidence, that remedial action is not warranted at a given site.

No migration variance petition. A process used to exempt a hazardous waste from land disposal prohibitions. The petition must show that there will be no movement of hazardous contaminants from a disposal unit during the time that the waste remains hazardous.

Notice of noncompliance. Notification by the EPA to a facility owner or operator that the owner/operator has failed to adhere to an agreement or a permit.

Nuclear material and facility stabilization. An EM subprogram that manages the transfer of responsibilities and facilities formerly belonging to the nuclear weapons program.



Nuclear Regulatory Commission (NRC): The Federal agency responsible for regulating the safety of commercial nuclear operations, including nuclear power plants and other commercial and medical uses of nuclear materials. See Atomic Energy Commission.

Operable unit. Term for a number of separate activities undertaken as part of a Superfund site cleanup. It may address geographical portions of a site, specific site problems, or initial phases of an action. In addition, it may consist of any set of actions performed over time or any concurrent actions that are performed in different parts of a site.

Organic. Chemical compounds that contain carbon and hydrogen; chemicals associated with living entities.

Landlord activities. Activities that involve the physical operation and maintenance of Department of Energy installations. Specific tasks vary but generally include providing utilities, maintenance, and general infrastructure for the entire installation.

Legacy waste. Any waste within a complex that was generated by past weapons production or research activities and is in storage awaiting treatment or disposal.

Low-level waste. Waste that contains radioactivity and is not classified as high-level waste, transuranic waste, spent nuclear fuel, or by-product material.

Management and operating contractors (M&O). One of three categories of general contractors who oversee and perform large-scale work activities for the Department of Energy. Management and operating contractors focus on operating and maintaining Department facilities, as well as managing the efforts of subcontractors.

Mixed waste. Waste that contains both radioactive and hazardous chemical components.

National Environmental Policy Act (NEPA). A Federal law, enacted in 1970, that requires the Federal Government to consider the environmental impacts of, and alternatives to, major proposed actions in its decisionmaking processes. The act is the basic national charter for the protection of the environment. It requires the preparation of an Environmental Impact Statement for every major Federal action that may significantly affect the quality of the human or natural environment.

Plume. A three-dimensional area, usually in air or ground water, containing measurable concentrations of a compound or element that has migrated from its source point.

Plutonium. A man-made fissile element. Pure plutonium is silvery metal heavier than lead. The plutonium-239 isotope is the variant preferred for manufacturing nuclear weapons, although any plutonium can be used. Plutonium-239 has a half-life of 24,000 years.

Polychlorinated biphenyls. More commonly known as PCBs. A family of colorless, odorless compounds used in industrial applications throughout the nuclear weapons complex. Polychlorinated biphenyls are found in many gaskets and large electrical transformers and capacitors in gaseous diffusion plants. They have proven to be toxic to both humans and laboratory animals. Polychlorinated biphenyls are noted for their flame retardance and thermal stability.



Privatization. A contracting approach wherein contractors shoulder the risks and rewards associated with providing goods and services. Instead of using government-provided facilities and services, contractors use their own facilities and equipment to accomplish work.

Public participation. The process by which the views and concerns of the public are identified and incorporated into the DOE's decisionmaking. Public participation includes identifying public concerns and issues; providing information and opportunities for the public to assist the Department in identifying environmental management-related issues and problems, and in formulating and evaluating decision alternatives; listening to the public; incorporating public concerns and input into decisionmaking; and providing feedback on how decisions do or do not reflect input received.

Pump-and-treat system. A system that extracts ground water and removes contaminating substances before returning the water (e.g., recharge in injection wells) or disposing of it elsewhere.

Radioactive waste. Solid, liquid, or gaseous material that contains radionuclides regulated under the Atomic Energy Act of 1954, as amended, and is of negligible economic value considering recovery costs.

Radioactivity. The spontaneous emission of radiation from the nucleus of an atom. Radionuclides lose particles and energy through this process.

Radionuclide. A radioactive species of an atom. Tritium, strontium-90, and uranium-235 are radionuclides.

Radon. A chemical element, atomic number 86, that is a radioactive gas produced by the decay of one of the daughters of radium.

Release site. A location at which hazardous, radioactive, or mixed waste release has occurred or is suspected to have taken place. Release sites usually are associated with areas where hazardous, radioactive, mixed waste, or waste-contaminated substances have been used, treated, stored, migrated, and/or dispositioned.

Rem. Roentgen equivalent man. Unit used in radiation protection to measure the amount of damage to human tissue from a dose of ionizing radiation.

Remedial action. steps taken to clean up inactive sites and facilities that were contaminated by past activities.

Remedial investigation. The process of gathering data necessary to determine the nature and extent of contamination at a CERCLA site, establishing criteria for cleaning up the site, identifying preliminary alternatives for remedial action, and supporting the technical and cost analyses of the alternatives. The remedial investigation usually is done together with the feasibility study.

Remediation. The process of cleaning up a site where a hazardous substance has been released.

Resource Conservation and Recovery Act (RCRA). A Federal law enacted in 1976 to address the treatment, storage, and disposal of hazardous waste.



Risk. probability of an event multiplied by the quantitative consequences.

Risk assessment. Qualitative and quantitative evaluation designed to define the hazards posed to human health and/or the environment by the presence or potential presence of and exposure to specific contaminants. Risk assessment is performed in conjunction with remedial investigations at CERCLA sites.

Safety Analysis Report. A report that assesses safety conditions at a nuclear facility to ensure that the facility can be constructed, operated, maintained, shut down, and decommissioned safely and in compliance with applicable laws and regulations.

Site-Specific Advisory Board. A committee tasked with providing advice on the Environmental Management program's environmental restoration, waste management, and technology development activities. The board also provides input and recommendations on Environmental Management strategic decisions that impact future use, risk management, economic development, and budget prioritization activities.

Site Treatment Plan. The Department of Energy's strategy, required by the Federal Facility Compliance Act, for treating mixed waste at each of its sites nationwide.

Small Site Initiative. An initiative of the Environmental Restoration program to maximize the number of completed small sites by the year 2000. Additional funds of up to \$150 million are allocated to accelerate remediation at these sites to return land and facilities to other uses and to reduce fixed infrastructure costs. Sites in the Formerly Utilized Sites Remedial Action Program, the Uranium Mill Tailings Remedial Action program, and 36 other small sites are included.

Stakeholder. Anyone interested in or affected by DOE activities. Stakeholders have varying levels of concern about the Environmental Management program and varying levels of expertise.

Superfund. A term commonly used to refer to the Comprehensive Environmental Response, Compensation, and Liability Act.

Surplus facility. A facility or site (including installed equipment) that has no identified programmatic use; it may or may not be radioactively contaminated to levels that require controlled access.

Surveillance and maintenance. Activities to monitor a facility or area through regular inspections and data gathering to ensure that safety and stability are maintained; to identify changes that need to be made; and to maintain operability of structures, systems, and components required to preserve safety.

Tailings. Solid wastes produced from primary processing of ores.

Toxic Substances Control Act. This act was enacted in 1976 to protect human health and the environment from unreasonable risk caused by exposure to or the manufacture, distribution, use, or disposal of substances containing toxic chemicals. For example, under this act, any hazardous waste containing more than 50 parts per million of polychlorinated biphenyls is subject to regulation.



Transuranic waste (TRU). Waste that is contaminated with alpha-emitting transuranium radionuclides with half-lives greater than 20 years and concentrations greater than 100 nanocuries per gram at the time of assay. Most transuranic waste was created in the nuclear weapons production process. The category transuranic waste does not specify source or form. It contains hazardous constituents regulated under RCRA Subtitle C.

Treatment. Any method, technique, or process designed to change the physical or chemical character of waste to render it less hazardous; make it safer to transport, store, or dispose of; or reduce its volume.

Tri-Party Agreement. A compliance agreement signed by three parties: DOE, the Environmental Protection Agency, and state. See also compliance agreement.

Uranium. The basic material for nuclear technology. Uranium is a slightly radioactive, naturally occurring heavy metal that is more dense than lead. It is a heavy, silvery-white metallic element with an atomic number of 92. Uranium is 40 times more common than silver.

Uranium Mill Tailings Radiation Control Act. This act, passed in 1978, directed to DOE to stabilize and control uranium mill tailings from inactive sites in a safe and environmentally sound manner to minimize radiation health hazards to the public. The act authorized the Department to undertake remedial actions at 24 designated inactive uranium processing sites and at approximately 5,000 vicinity properties. The Uranium Mill Tailings Remedial project was created to handle the cleanup.

Uranium Mill Tailings Remedial Action project (UMTRA). The world's largest materials management project ever undertaken to reduce or eliminate risk to the general public from exposure to potentially hazardous and radioactive materials. This project details the responsibility for encapsulating and isolating almost one-fourth of all the uranium mill tailings generated across the entire United States (more than 44 million cubic yards).

Uranium mill tailings. The sand-like materials left over from the separation of uranium from its ore. More than 99 percent of the ore becomes tailings.

Uranium milling. The process of separating uranium from mined ore.

Vadose zone. The unsaturated soil zone. An area above the water table where soil pores are not fully saturated, although some water may be present. It is located vertically between the land surface and the surface of the saturated zone (i.e., the water table).

Vanadium. A metallic transition element that is soluble in strong acids and bases, melts at 1900°C and boils at around 3000°C, and commonly is used as a catalyst.

Variance. Government permission for a delay or exception in the application of a given law, ordinance, or regulation.

Vicinity properties. A real property in the vicinity of a radioactive materials processing site that has become radioactively contaminated as a result of site activities.

Volume reduction. Various methods of waste treatment, such as evaporation for liquids or compaction for solids, aimed at reducing the volume of waste.



Voluntary corrective measures. Remedial actions at a site that are completed outside of a RCRA- or CERCLA-mandated action but may be subject to third-party oversight.

Waste. Material that has no identifiable future use for which suitable disposal must be found.

Waste management. Activities that include treating, storing, and disposing of a variety of wastes, including high-level radioactive, transuranic, low-level radioactive, low-level mixed, hazardous chemical, and sanitary waste.

Waste minimization. An action that economically avoids or reduces the generation of waste by reducing its source, decreasing the toxicity of hazardous waste, improving energy usage, or instituting recycling. In addition, minimization efforts must reduce present and future threats to human health, safety, and the environment.

Waste stream. waste (liquid, solid, or gas) leaving a facility or operation.