

Environmental Management

Executive Summary

For the last eighteen months, a top priority of the Department of Energy (DOE) has been to reform and refocus the nuclear weapons cleanup program to deliver real risk reduction and cleanup quicker and cheaper. The FY 2004 budget request is the first budget that fully reflects the initiatives undertaken by this Administration to transform and revitalize the cleanup of the former nuclear weapons complex. With Phase I, the Environmental Management (EM) reform culminated in the release of the Top-to-Bottom Review in February 2002, a significant first step that acknowledged sweeping change is needed. This review recognized process rather than cleanup results had become the basis for performance and cleanup approaches. Immediate action was necessary to change the mind set. Phase II included preparing Letters of Intent and developing Performance Management Plans which established accelerated risk reduction and cleanup goals between the Department and our regulators; regulatory agreements were modified as appropriate. These accomplishments, occurring in the first 6 months after release of the Top-to-Bottom Review, represented critical foundational work essential to advancing reform of the EM program. As Phase III begins, while translating these strategies and initiatives into work plans and baselines, EM management is fully aligning the program infrastructure to drive performance by revising business processes and practices. Revisions include acquisition strategies that complement and support accelerated risk reduction and closure; contract awards and related contract management actions that clearly define and demand cleanup results consistent with the Program Management Plans and performance baselines; implementation of contract performance incentives that reward only real risk reduction and closure; and implementation of stringent configuration management on key EM program elements that are critical to real risk reduction and closure. To continue this enterprise, DOE is requesting a total of \$7.2 billion, a 5 percent increase above the comparable FY 2003 request to accelerate the realization of tangible results in risk reduction and closure for the American people.

DOE recognizes the challenges associated with implementation of such aggressive accelerated risk reduction and closure strategies and is requesting additional funding. This level of funding is critical because of the urgency of the risk reduction mission, the benefits to the public of aggressively pursuing this accelerated cleanup strategy, and the absence of viable alternatives. The alternative to aggressive risk reduction and closure strategies is the continuation of the steady state policies of the last decade. Continuation of these policies will result in a continuation of extended schedules, higher costs, and little, if any, risk reduction. The strategic groundwork for changes has been laid and DOE is moving forward with the finalization of its risk reduction and cleanup strategies. In keeping with the aggressive approach of completing cleanup and accelerating risk reduction, we have taken the following challenges:

- Realize greater than \$50 billion in savings over the program life-cycle and reduce the time to complete clean up by 35 years compared to estimates in the previous Administration;
- Complete most high-risk work by 2012 and complete all currently defined work by 2035;
- Reduce or eliminate the risk to the workers, the public, and the environment; and
- Reduce or eliminate the security threat posed by nuclear material and waste as well as the presence of former nuclear weapons production sites.

An aggressive approach to clean up, integrated with this budget request, complements the initiatives and revised business processes derived from the recommendations of the Top-to-Bottom Review. A core finding of the review identified that the current cost and schedule estimates for completing clean up were unacceptable and uncontrolled. The review proposed a series of actions that would fundamentally change the way DOE and its contractors do business to achieve accelerated risk reduction and cleanup. DOE has undertaken major efforts to (1) redefine and align its acquisition strategies, (2) revitalize the human capital aspects of the EM program, (3) develop and implement a new budget structure that clearly defines real risk reduction and closure activities and provides clear visibility of such activities from other indirect EM program activities, and (4) implement broad-based configuration control of major segments of the EM program – all intended to facilitate success in meeting the accelerated cleanup obligations of the EM program. This budget request underpins these actions and is key to DOE being able to clearly demonstrate that the cleanup program has made substantial improvements in delivering risk reduction and accelerated cleanup outcomes to our workers, our communities, and the taxpayer.

Many of our strategies have been set in motion but more remains to be done. The accomplishments of the last 18 months represent much of the work necessary to move the program from risk management to risk reduction. With these changes and requested resources, DOE is poised for success in FY 2004 and beyond.

The Top-to-Bottom Review of the Environmental Management Program

In August 2001, Secretary of Energy Abraham directed a “Top-to-Bottom Review” of the EM cleanup program. A major finding of the review, issued in February 2002, was that during the 1990s “a major emphasis has been on managing risk rather than actually reducing risk to the workers, the public, and the environment.” Since the EM program’s inception in 1989, more than \$60 billion had been spent without a corresponding reduction in risk.

Four major findings of the Top-to-Bottom Review point to this lack of risk reduction:

- The manner in which EM developed, solicited, selected, and managed its contracts was not focused on accelerating risk reduction and applying innovative approaches to doing the work. Contract strategies made poor use of performance-based contracts and processes that established performance goals; allocation of funding and government oversight were only informally related - not integrated as a corporate business process.
- EM’s cleanup strategies were not based on comprehensive, coherent, technically-supported risk prioritization. Strategies pursued were not well conceived and integrated such that risk strategies executed were costly and not proportional to the risks posed to human health and the environment.
- EM’s internal business processes were not structured to support accelerated risk reduction or to address the challenge of uncontrolled cost and schedule growth. Risk reduction and cleanup were managed as an ongoing, enduring mission without a defined endpoint. The result was continued cost growth and longer schedules.
- The scope of the EM program included activities that were not focused on or supportive of an accelerated, risk-based cleanup and closure mission.

As cleanup work was deferred and delayed, infrastructure costs (those costs needed to keep materials and facilities safe and secure) grew as the facilities and legacy materials continued to age and deteriorate. As a result, little progress was made in reducing the most urgent risks; risks instead were

managed and efforts to reduce or eliminate the risks were routinely deferred. As risk reduction was deferred, the attendant costs to keep legacy materials and facilities safe and secure continued to grow as the infrastructure continued to age; more capital was required to simply maintain and operate old facilities. As more and more resources were shifted to surveillance and maintenance, fewer resources were applied to real risk reduction and clean up. The net effect was that it took longer and cost more each year to effectively perform the same work. At the end of FY 2001, the program grew to an unacceptable size and duration estimated to take 70 years with the potential to cost over \$220 billion to complete.

The Mission: Shifting to Risk Reduction and Closure

The Environmental Management program is responsible for the cleanup of the legacy created by over 50 years of nuclear weapons production and energy research. The scope of the program includes stabilization and disposition of some of the most hazardous materials known to mankind and includes:

- Special Nuclear Materials - Stabilization and disposition of significant quantities of special nuclear materials, including plutonium and uranium metals, oxides, and residues;
- Spent Nuclear Fuel - Processing and packaging of approximately 2,420 metric tons heavy metal spent nuclear fuel;
- Radioactive Liquid Tank Waste - Elimination of more than 88 million gallons of radioactive liquid wastes;
- Radioactive Solid Waste - Disposal of approximately 1.3 million cubic meters of low-level/mixed low-level waste and shipment/disposal of over 134,000 cubic meters of transuranic waste.
- Facility Completions - Deactivation, decontamination, and/or demolition of over 3,700 nuclear, industrial, and radioactively-contaminated facilities.
- Environmental Contamination - Remediation and monitoring of huge quantities of contaminated soil and groundwater spread over 114 sites in 31 states and one United States territory.

The Approach

In order to accomplish the accelerated risk reduction and closure mission, all cleanup work will be performed based on the following principles:

- Safe
 - < Workers, public, and the environment will be protected during accelerated risk reduction and cleanup. Safety will improve because:
 - Work will be completed and risks will be reduced - unless EM aggressively works to reduce risk, materials and facilities will continue to deteriorate creating greater hazards and risk.
 - Work will not be delayed – delays impact the safety margin.
 - Doing nothing is not an option – if risk is not reduced, hazards will increase.

- Urgent

- < The Cold War urgency applied to weapons production will be applied to clean up and closure at EM sites by:
 - Reducing the time to complete the EM mission by 35 years;
 - Closing Rocky Flats, Fernald, and Mound by 2006;
 - Consolidating nuclear materials at EM sites;
 - Shipping wastes to disposal facilities quickly; and
 - Completing most high-risk reduction work across the complex by 2012.

- Cost effective

- < Initiatives to increase cost effectiveness have been established. EM will:
 - Consolidate nuclear materials from EM sites, allowing reduction of safeguards and security costs at three sites;
 - Eliminate the need to vitrify high-level waste volume by at least 75 percent;
 - Reduce the EM footprint, significantly reducing infrastructure costs; and
 - Ensure that maximum funding is invested in real risk reduction and cleanup work.

- Focused

- < EM commits that resources will be directed to accelerate risk reduction and closure. EM will:
 - Reshape systems and infrastructure to drive accelerated risk reduction and clean up;
 - Develop and execute an acquisition strategy to complement accelerated risk reduction and closure;
 - Establish project teams, discussed later in this executive summary;
 - Divest non-risk reduction and cleanup activities from its portfolio; and
 - Implement a comprehensive human capital strategy.

The Strategy

The initial steps towards achieving the principles described above were taken in FY 2002 and FY 2003 and laid the groundwork to drive accelerated cleanup and closure. These steps should be viewed as the start of a comprehensive restructuring of the cleanup program and include:

- Publishing of the Top-to-Bottom Review;
- Creation of the Cleanup Reform Account, which requested \$1.1 billion in FY 2003 to jump start the accelerated risk reduction and closure strategy;
- Development of Letters of Intent with regulators which document the accelerated approaches to risk reduction and closure;

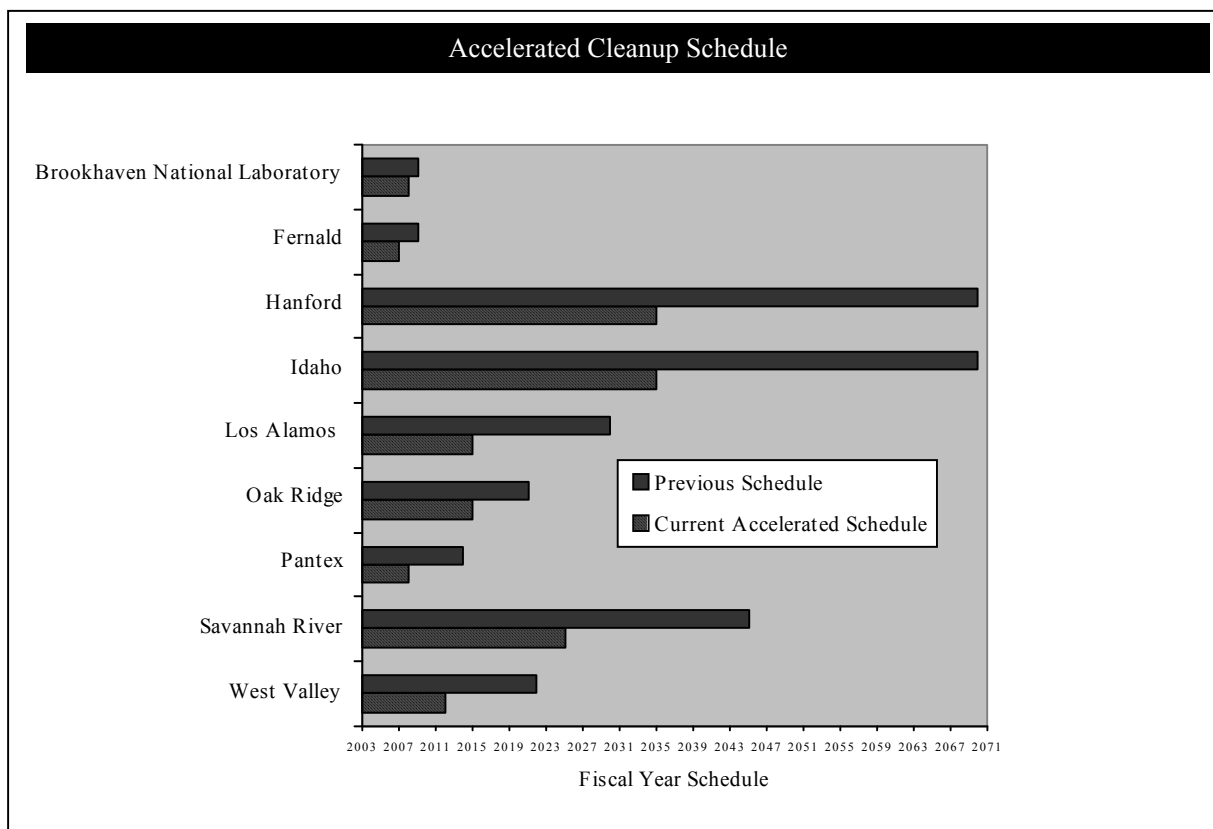
- Development of Performance Management Plans that contain strategies, milestones and key commitments necessary to complete accelerated risk reduction and cleanup work. These documents hold EM accountable to delivering on its promise;
- Modification of agreements with regulators, as appropriate, to support the accelerated approaches;
- Deployment of 10 Project Management Teams whose sole purpose is to drive needed institutional changes to implement recommendations from the Top-to-Bottom Review;
- Revision of the EM budget structure and related Project Baseline Summary structure beginning in FY 2004 to emphasize accelerated risk reduction, accountability, and performance and budget integration which is one cornerstone of the President's Management Agenda;
- Implementation of an aggressive Acquisition Strategy, that redefines and complements how EM accomplishes its work;
- Implementation of a Human Capital Strategy to support EM's accelerated risk reduction and closure objectives;
- Implementation of a Configuration Change Control Process focused on tightly controlling key program elements to ensure resources are wisely managed, commitments are met, and accountability is established;
- Development of new corporate performance measures, under change control, which more clearly measure the program's progress towards achieving its accelerated risk reduction and cleanup goals.
- Redirection and/or transfer of non-core risk reduction and cleanup work to other parts of the Department in order to allow a concentrated focus on the EM mission; and
- Reduction of non-labor resources (i.e.; support service contracts and other support activities) at Headquarters and in the Field.

Plan of Action

Since submittal of the FY 2003 Congressional Budget, EM has made significant progress towards defining the risk reduction cleanup strategies at each of its sites. Letters of Intent have been signed with state and U.S. Environmental Protection Agency regulatory authorities. These Letters of Intent are significant because they lay the foundation to move forward with the implementation of EM's accelerated risk reduction and cleanup strategies. Sites have developed Performance Management Plans to articulate the strategies, key milestones, and commitments that facilitate accelerated risk reduction and clean up. From the Performance Management Plans, resource-loaded site baselines will be developed that EM will use to manage and track risk reduction and real cleanup progress. Site project baselines are expected to be completed during FY 2003.

Figure 1 illustrates some of the potential accelerations to site clean up possible with execution of these new plans. The following text summarizes the accelerated risk reduction end states and completion dates identified in the Performance Management Plans. Appendix A to this Executive Summary provides descriptions of the sites for which EM has cleanup responsibilities. Appendix B highlights the life cycle costs and completion dates for sites remaining to be cleaned up under the EM program as of the end of FY 2004.

Figure 1



Accelerated Risk Reduction End States

Carlsbad Field Office: The Carlsbad Field Office is proposing clean up reform initiatives that would support complex-wide acceleration and risk reduction initiatives by providing the infrastructure and transportation resources necessary to support accelerated shipments of transuranic waste to the Waste Isolation Pilot Plant. These initiatives would allow for completion of disposal of legacy contact handled transuranic waste by 2015 (about 20 years early) with a continuing mission of disposing of newly-generated transuranic waste by 2035 and savings of up to \$3.6 billion in life-cycle cost.

■ Waste Isolation Pilot Plant

- < Receive first shipment of remote-handled transuranic waste by FY 2005.
- < Begin shipments of TRUPACT-III by FY 2007.

Chicago Operations Office: The Chicago Operations Office is pursuing cleanup reform initiatives that would allow for a reduction in risk at Brookhaven National Laboratory through accelerating clean up of contaminated soils, groundwater, sediments, and facilities. Through these initiatives, the EM program at Brookhaven National Laboratory expects to reach completion by the end of FY 2008 versus the previously planned 2009.

- Brookhaven National Laboratory

- < Complete soil and groundwater remediation by FY 2005.
- < Decommission Brookhaven Graphite Research Reactor by FY 2005.
- < High Flux Beam Reactor decontaminated and decommissioned by FY 2008.

Hanford: The Hanford site is implementing cleanup reform initiatives that would allow the site to complete clean up activities by 2035, an acceleration of 35 years, and possibly as soon as 2025. These reform approaches are expected to accelerate the reduction of the risk Hanford poses to human health and the environment, and reduce the life-cycle cost by approximately \$40 billion.

- Hanford

- < Complete removal of K-Basin spent nuclear fuel, sludge, debris, and water by 2006.
- < Retrieve, assay, and disposition 15,000 drums of buried suspect transuranic by 2006.
- < Consolidate all cesium/strontium capsules into long-term dry storage facility by 2008.
- < Complete River Corridor Cleanup by 2012.
- < Disposition all contact-handled legacy transuranic waste by 2015.
- < Complete high-level waste tank treatment by 2028.
- < Close all tank farms by 2033.
- < Complete shipment of immobilized high-level waste and spent nuclear fuel to repository by 2033.

Idaho National Engineering and Environmental Laboratory: The Idaho National Engineering and Environmental Laboratory is proposing cleanup reform initiatives that would allow the site to complete its high priority clean up actions, reduce the EM footprint, and dispose of legacy transuranic, mixed low-level, and sodium-bearing waste by 2012. The Idaho National Engineering and Environmental Laboratory expects to have completed all active clean up work by 2020, with cost savings of up to \$23 billion. Project completion is anticipated to be accomplished by 2035 accelerated from 2070.

- Idaho National Engineering and Environmental Laboratory

- < Complete Pit 9 retrieval demonstration by 2004.
- < Remediate Power Burst Facility, Central Facilities Area, Test Area North (except groundwater plumes) by 2005.
- < Complete construction and readiness review of sodium-bearing waste treatment facility by 2008.
- < Package and ship all EM special nuclear material off-site by 2009.

- < Reduce EM footprint over 50 percent by 2012.
- < Consolidate clean up of Idaho Nuclear Technology and Engineering Center by 2012.
- < Remove and stabilize sodium-bearing liquid waste from the Idaho Nuclear Technology and Engineering Center tank farm and Resource Conservation and Recovery Act closure of the high-level waste tanks by 2012.
- < Place DOE spent nuclear fuel managed by EM into dry storage for permanent disposal by 2012.
- < Complete remote-handled transuranic waste shipments to the Waste Isolation Pilot Plant by 2012.
- < Complete site-wide remediation by 2020.

Oak Ridge Operations Office: The Oak Ridge Operations Office is implementing cleanup reform initiatives that focus on risk reduction, site closure, and reduction of high site infrastructure costs. These initiatives would allow the site to accelerate the completion of EM clean up activities by six years (from a completion date of 2021 to 2015) and reduce the life-cycle cost by approximately \$2 billion.

■ Oak Ridge Operations Office

- < Complete K 29/31/33 decommissioning for re-use by 2004.
- < Disposition legacy waste by 2005.
- < Complete Melton Valley watershed clean up by 2006.
- < Complete K 25/27 decontamination and decommissioning by 2007.
- < Closure of East Tennessee Technology Park by 2008.
- < Complete clean up of David Witherspoon 901 and 1630 Sites in Knoxville and the Atomic City Auto Parts site in Oak Ridge by 2008.
- < Complete clean up and demolition of facilities in the EM Program at Y-12 and Bethel Valley (including Oak Ridge National Laboratory) by 2015.

Ohio Field Office: The Ohio Field Office is proposing cleanup reform initiatives that would accelerate cleanup and risk reduction at the following site projects:

- Columbus Closure Project: The Columbus Closure Project will implement cleanup reform initiatives that would allow the site to accelerate shipment of transuranic waste off-site and significantly accelerate remediation and demolition activities. This acceleration is anticipated to result in life-cycle savings of up to \$25 million and accelerate project completion from FY 2009 to FY 2006.
 - < Buildings JN-2 and JN-3 demolished by 2004.
 - < Remediation of external areas by 2006.

- Fernald Closure Project: The Fernald Closure Project will implement cleanup reform initiatives that would move to an accelerated risk-based strategy, align internal processes to support clean up, and realign the DOE-EM program scope to support closure. This would result in life-cycle savings of approximately \$267 million to accelerate project closure from 2009 to 2006.
 - < Complete disposition of remaining legacy low-level waste and mixed waste by 2004.
 - < Complete offsite disposition of Silo 3 waste by 2005.
 - < Complete treatment and offsite disposition of Silos 1 and 2 waste by 2006.
- Mound Closure Project: The Mound Closure Project will implement cleanup reform initiatives by addressing radiological source term reduction sooner and effecting a cost-plus incentive fee closure contract. This would result in site closure by 2006 with a life-cycle cost savings of up to \$56 million.
 - < Complete remediation of key potential release sites by 2005.
 - < Complete decontamination and decommissioning of last 6 buildings by 2006.
- West Valley Demonstration Project: The West Valley Demonstration Project will implement cleanup reform initiatives that would reduce environmental and public risk ten years sooner than current plans. This should achieve project completion by 2012, and result in more than \$1 billion life-cycle savings (excluding surveillance and maintenance of the high-level waste containers until they are dispositioned).
 - < Complete decontamination activities by FY 2004.
 - < Complete construction and operational readiness of the Remote Handling Waste Facility by December 2004.
 - < Complete decommissioning by 2012.

Rocky Flats Environmental Technology Site: The Rocky Flats Environmental Technology Site is the Department's premier example of how its accelerated risk reduction and closure strategy can work to significantly reduce the cost and time needed for cleanup. DOE is confident that the safe cleanup and closure of the site will be completed on schedule by December 2006. During FY 2004, activities will transition from nuclear materials and radioactive waste stabilization and disposition to environmental restoration and facility demolition, thereby continuing progress towards the 2006 closure goal. By the end of FY 2004, the following will have been performed:

- Stabilizing and removing all plutonium metals, oxides, and residues (100 percent complete).
- Disposing of more than 109,000 cubic meters of low and mixed low level waste (52 percent complete).
- Disposing of more than 8,600 cubic meters of transuranic waste (70 percent complete).
- Completing the decontamination and decommissioning of 72 work sets in Buildings 371, 717, 771, and 776 (87 percent complete).
- Cleaning 194 environmental release sites (81 percent complete).

Savannah River Site: The Savannah River Site is proposing cleanup reform initiatives that will enable the site to complete its EM missions and transition to a site fully focused on National Security by 2025, an acceleration of 20 years. The site is implementing clean up reform approaches that accelerate both clean up and risk reduction, and reduce life-cycle costs of the EM program by up to \$12 billion. In addition, clean up reform initiatives will support complex-wide accelerated clean up and risk reduction objectives by providing a means for consolidation of nuclear materials from other sites, providing a credible disposition path for plutonium and spent nuclear fuel, and supporting the accelerated closure of other sites in the complex.

■ Savannah River Site

- < Close F Canyon by 2007.
- < Complete shipment of all low-activity transuranic waste to the Waste Isolation Pilot Plant by 2009.
- < Close H Canyon by 2012.
- < Complete shipment of all high-activity transuranic waste to the Waste Isolation Pilot Plant by 2013.
- < Complete high-level waste and legacy plutonium processing by 2019.
- < Complete shipments of high-level waste canisters to repository by 2019.
- < Complete disposition of spent nuclear fuel by 2020.
- < Close all high-level waste tanks by 2020.

Various Locations:

- Energy Technology Engineering Center: The Energy Technology Engineering Center will implement cleanup reform initiatives that focus on accelerating offsite disposal of transuranic waste, and the remediation of contaminated buildings, soils, and groundwater. These initiatives are expected to allow the Energy Technology Engineering Center to reach project completion by 2007.
 - < Complete decontamination and decommissioning of Radioactive Materials Handling Facility by 2005.
 - < Complete soil remediation and install groundwater remediation systems by 2007.
- Lawrence Livermore National Laboratory, Livermore Site: Cleanup reform initiatives at the Lawrence Livermore National Laboratory, Livermore Site are expected to allow for expedited EM risk reduction activities and project completions, and the overall acceleration of cleanup completion from 2009 to 2006. In addition, life-cycle cost savings of approximately \$70 million would result from the implementation of the clean up reform initiatives.
 - < Ship transuranic waste offsite by FY 2006.
 - < Complete groundwater remediation network by FY 2006.
 - < Complete disposition of mixed and low-level waste currently in inventory by FY 2006.

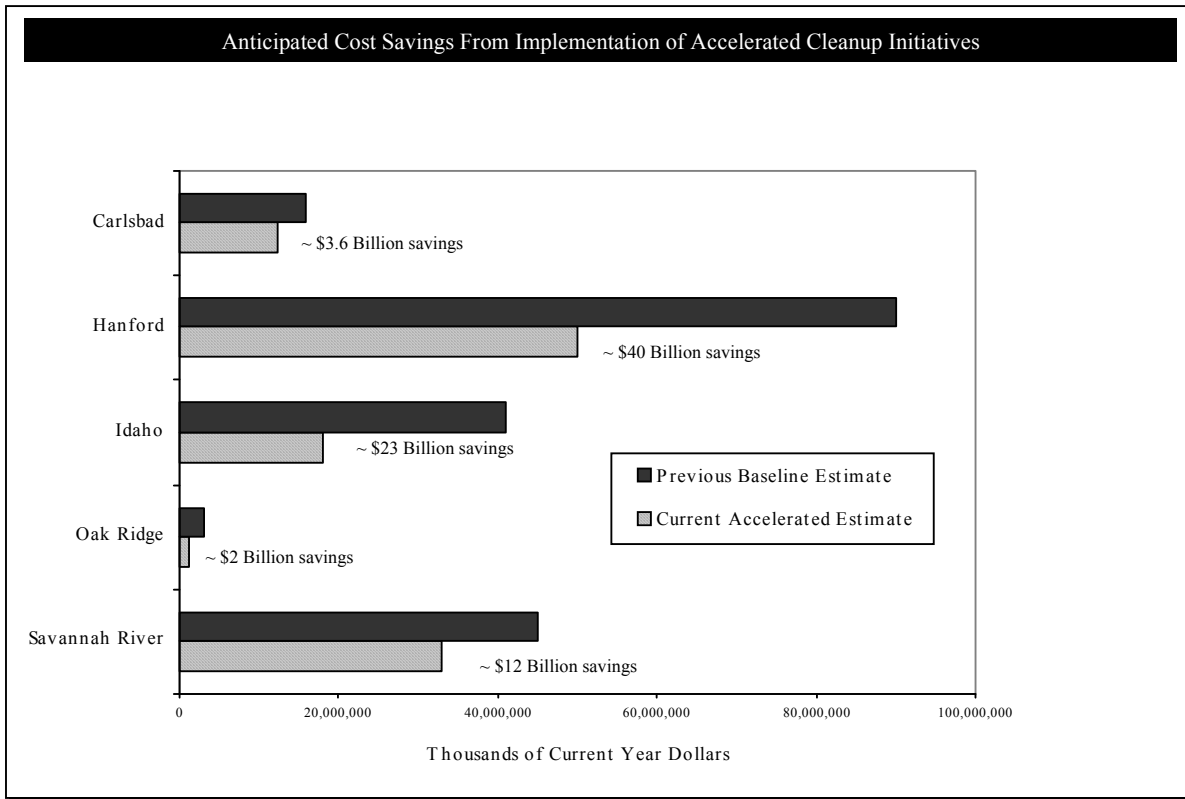
- Los Alamos National Laboratory: Los Alamos National Laboratory will implement cleanup reform initiatives that would allow the site to accelerate shipment of transuranic waste off-site and environmental restoration of contaminated areas. This acceleration should result in life-cycle savings of approximately \$950 million and accelerate site completion from 2030 to 2015.
 - < Complete shipments of high-risk transuranic waste by 2004.
 - < Complete all groundwater protection measures and monitoring by 2007.
 - < Complete corrective actions at the highest priority Material Disposal Areas by 2008.
 - < Remediate highest risk watershed by 2008.
 - < Dispose all legacy transuranic waste by 2010.
- Nevada: Nevada is proposing cleanup reform initiatives that would accelerate the majority of environmental remediation activities as well as shipment of transuranic waste off-site. In addition, cleanup reform initiatives will support complex-wide accelerated clean up and risk reduction objectives by increasing Nevada Test Site's low-level waste disposal capability. Nevada's clean up reform initiatives are expected to allow for project completion by 2027.
 - < Complete all Off-sites surface closures by 2006.
 - < Complete closure of all industrial sites by 2008.
 - < Complete environmental restoration activities at Amchitka Island, Alaska by FY 2005.
 - < Complete all soils corrective actions activities by 2010.
 - < Complete all Off-sites subsurface closures by 2014.
 - < Complete all Underground Test Area activities by 2027.
- Pantex: The Pantex Environmental Restoration Project will implement cleanup reform initiatives that would result in life-cycle savings of approximately \$13 million and accelerate project completion from 2014 to FY 2008.
 - < Complete interim soil cleanup measures by 2006.
 - < Complete groundwater remediation by 2007.
 - < Complete facility decontamination and decommissioning by 2007.
- Sandia: Sandia National Laboratory/New Mexico Environmental Restoration Project will implement cleanup reform initiatives that will result in life-cycle savings of approximately \$32 million and accelerate project completion from 2009 to FY 2006.
 - < Regulatory closure process for classified waste landfill and radioactive waste landfill to be complete by 2004.
 - < Complete all environmental restoration activities related to drains and septic systems by 2006.
 - < Complete all closure activities for mixed and chemical waste landfills by 2006.

- Separations Process Research Unit: Implementation of cleanup reform initiatives at the Separations Process Research Unit is expected to result in accelerated risk reduction, life-cycle cost savings of approximately \$7 million, and project completion by 2014.
 - < Complete most soil and groundwater remediation by 2007.
 - < Ship transuranic waste offsite by 2011.
 - < Complete demolition of buildings by 2012.
 - < Complete cleanup activities by 2014.

Cost Savings from Acceleration

The most impressive aspect of this budget is that it fully reflects each site's new accelerated risk reduction and cleanup strategies. The FY 2004 request builds on the cleanup reform initiatives begun in FY 2003. The investment made in FY 2003 followed by the requested funding in the FY 2004 budget will allow EM to keep its new accelerated risk reduction and cleanup strategies on track, thereby eliminating cost and schedule growth. EM believes it can achieve greater than \$50 billion in life-cycle savings, and is committed to a stretch goal of \$100 billion. For example, Savannah River has committed to complete all cleanup work in 2025 and achieve up to \$12 billion in cost savings. Figure 2 provides a sample of some of the potential life-cycle savings that EM believes achievable through implementation of its accelerated risk reduction and closure strategies.

Figure 2



Management Reforms

Previous proposals to accelerate clean up and reduce life-cycle cost were typically challenged as mere efforts to disengage or otherwise minimize our commitments. This is hardly the case today. The EM program’s accelerated risk reduction cleanup initiatives are premised on a set of management reforms. These reforms, although separate and distinct, are not mutually exclusive of each other and, taken together, create a synergy and catalyst that will facilitate success in accelerating risk reduction and cleanup at reduced life-cycle costs.

One of the key management reforms is the human capital revitalization that strongly supports the President’s Management Agenda. This reform focuses on building a high-performing culture that will attract and retain talented managers and staff who will deliver sustained performance excellence. To that end, we are building a more robust performance accountability system that holds each manager and employee accountable for actions and results and to reward accordingly. Individual performance management is being fully integrated into EM organizational goals; executives are being held accountable for achieving strategic program objectives, creating innovation, and supporting continuous improvement. We have completed two phases of senior executive reassignments between both the Field and Headquarters. The reassignments have successfully leveraged the unique talents of the EM executive cadre and forced better integration between the Field and Headquarters of the real and on-the-ground challenges confronting the EM program. The reassignments have also instilled a bias for action and creativity. Subsequent rotations and increased Field deployments will continue as EM builds

development opportunities for its management and professional staffs. We developed and are implementing an executive mentoring program with our senior executives with the objective of having a cadre of executives who are well-rounded and are prepared to effectively lead irrespective of the position to which they might accrue. We are becoming a flatter and more effective organization with a goal to have an organization structure that is clearly aligned to deliver on our accelerated risk reduction and closure initiative. Finally, by acquiring and developing staff with the appropriate skills and deploying to satisfy the needs of the EM mission, we will be able to appropriately size and staff the organization to meet the program's goals.

A second reform is development and implementation of an acquisition strategy. Bad acquisition decisions can literally cost billions of dollars and many lost opportunities, increase the length of time workers and the public are potentially exposed, and result in higher liabilities in terms of life-cycle cost. We are pursuing a strategy that will both increase competition by enlarging the pool of potential contractors competing for our work and increase the accountability of our contractors to deliver real, meaningful clean up. We plan to aggressively use and manage the acquisition process as one tool to drive contract performance. Our acquisition strategy will focus on five areas. First, we will "unbundle" work into smaller packages where it makes sense. Second, we will drive innovation and improve cost performance through the use of small and smaller businesses, complementing the unbundling strategy. Third, we will actively promote innovation in our cleanup work through the competitive process where improved performance is required. Fourth, we will extend or modify contracts where excellent performance has been clearly demonstrated. Fifth, we will modify and change our acquisition processes to support these strategies in order to allow them to be successfully implemented.

A third reform is the development and implementation of a new budget structure to support the budget planning and execution of the accelerated risk reduction and closure initiative. Implementation of this new structure will complement other management reform initiatives by focusing on completion or endpoint, clearly delineating how resources will be utilized (i.e., for direct cleanup activities or for other activities in the program that only indirectly relate (or not at all) to on-the-ground cleanup activities), affording flexibility to accountable managers, and communicating the goals and objectives that we value. This is a structure that clearly identifies scope and resources that directly support the core accelerated clean up and risk reduction mission from those that do not. The new structure consolidates risk reduction and completion activities into only two appropriations (one defense and one non-defense) in addition to the existing Uranium Enrichment Decontamination and Decommissioning Fund, removes barriers to facilitate better resource utilization, and segments accelerated completion into three distinct accounts to highlight accountability. For example, there has been a substantial reduction of line item construction project funding controls. A careful review of existing EM projects indicated that many are providing only extensions of life expectancy for buildings/facilities until cleanup can be completed. For that reason, the Department is proposing these projects not be treated as capital assets requiring line item controls. Instead they are proposed as sub-projects funded with operations and maintenance funds (see Budget Appendix for details on these projects). Finally, in support of the President's Management Agenda, this new structure will support integration of performance and budget for the EM program. Appendix C to this Executive Summary provides detail of the new budget structure, including the new Project Baseline Summaries, that are presented in the FY 2004 budget.

A fourth reform is the implementation of a strict configuration management system that baselines a number of key, critical program elements. Examples of some of the key elements include the Performance Management Plans, EM corporate performance metrics, contract performance

measures/incentives, and life-cycle costs. Strict change control and monitoring of these key elements will facilitate a high confidence level that the goals and direction of the accelerated cleanup initiative are being met.

EM has also begun a dedicated effort to identify and implement changes in ten areas emphasized in the Top-to-Bottom Review that are critical to the success of the program. EM has focused these activities into special projects, each with a complex-wide perspective. Successful execution of these projects is crucial to improving the performance of the program and eliminating many of the barriers that have thwarted previous initiatives to accelerate clean up and reduce life-cycle cost. For example, two of the projects, “High Level Waste” risk reduction and “Spent Nuclear Fuel” risk reduction are expected to greatly contribute to the reduction in the life-cycle dollars for the EM program.

There is strong support and enthusiasm within the Department and the Administration to find a better way. We all believe we have a rare opportunity to demonstrate a good return for the investment and find more efficient and effective ways of advancing environmental clean up. The FY 2004 budget request is a key step in achieving these objectives.

Budget Request and Structure

The following table portrays the FY 2004 Request along with the FY 2002 Comparable Appropriation and the FY 2003 Comparable Request by Operations/Field Office. Appendix D provides ancillary tables with additional detail.

Environmental Management Overview

(dollars in thousands)

<u>Operations/Field Office</u>	FY 2002 Comparable Appropriation	FY 2003 Comparable Request	FY 2004 Request
Carlsbad	214,676	209,734	214,207
Chicago	34,697	40,096	41,515
Idaho	465,947	524,582	530,888
Oak Ridge	440,699	452,485	480,980
Paducah	124,367	101,264	175,946
Portsmouth	187,494	177,378	280,615
Ohio	520,811	558,524	564,394
Richland	791,595	851,691	962,778
Office of River Protection	1,023,484	1,126,858	1,079,316
Rocky Flats	663,512	664,000	663,959
Savannah River	1,162,910	1,249,676	1,359,287
Various Locations:			
Albuquerque Operations Office	145,858	161,912	166,216
Nevada Operations Office	84,966	92,860	90,336
Oakland Operations Office	54,103	65,320	61,975
Technology Development and Deployment	200,189	92,000	63,920
Headquarters	194,547	218,269	211,802
Program Direction	301,422	292,491	292,144
D&D Fund Deposit	420,000	442,000	452,000
Subtotal, Environmental Management	7,031,277	7,321,140	7,692,278
Offsets	(497,226)	(443,344)	(453,344)
Total, Environmental Management	6,534,051	6,877,796	7,238,934

Significant Program Shifts

Focusing the Environmental Management Program Resources on Clean Up

Currently, EM is responsible for funding program elements that do not support an accelerated cleanup and closure mission. Examples include pollution prevention programs, radiological and environmental laboratories and services, economic and financial assistance programs, and many others.

While many of these annually-appropriated activities are important to government operations, they may not provide significant near-term benefits to accelerating risk reduction and site clean up. EM success requires a laser-like focus on its core mission of clean up and closure.

As we are able to reach agreement with the appropriate organizations to transfer non-cleanup activities to other Departmental organizations, target transfers and full-time equivalent transfers will follow accordingly.

Transfers to the Environmental Management Program

In FY 2003, EM assumed responsibility for management of the Fast Flux Test Facility at the Hanford Site and for its eventual deactivation and decommissioning. The Fast Flux Test Facility is a U.S.-owned sodium-cooled reactor that has been used in the past for advanced nuclear testing in fuels, materials, and reactor safety, as well as for the production of different isotopes for medical and industrial research. The reactor was shut down in 1992 and subsequently maintained in a standby status to make it available for potential future missions. In December 2001, the Department determined that restart of the Fast Flux Test Facility was not feasible and issued a final decision to permanently deactivate the facility.

In accordance with EM's cleanup mission, EM will undertake the deactivation and decommissioning of the Fast Flux Test Facility. Responsibility for the facility transferred from the Department's Office of Nuclear Energy, Science and Technology program to EM in FY 2003. The deactivation and decommissioning of the Fast Flux Test Facility will be carried out in two phases. The first phase will attack critical path items such as fuel and other hazardous component removal while a final end state determination is made. The second phase will execute the end state decision. The FY 2004 request is the first time in which EM will request funding for the Fast Flux Test Facility scope of work.

Transfers from the Environmental Management Program

In FY 2004, the below identified program elements will no longer be included in the EM budget. They represent activities that, while important to overall DOE operations, are not part of the core accelerated risk reduction and closure mission. The final item listed is a transfer to another government entity.

- Environmental Management staff at the National Energy Technology Laboratory transferred to the new Office of Legacy Management.
- The Analytical Services Program transferred to the Office of Environment, Safety and Health.
- The Radiological and Environmental Sciences Laboratory transferred to the Office of Environment, Safety and Health.
- Pre-existing liabilities and long-term contractor liabilities from the Non-Defense EM appropriation transferred to the Office of Legacy Management.

- The Long-term Stewardship Program, including the Grand Junction Office-managed activities at Uranium Mill Tailings Remedial Action sites, Monticello Mill site, Pinellas, and Maxey Flats, transferred to the Office of Legacy Management.
- Management responsibility (Lead Program Secretarial Office) for the Idaho Operations Office transferred to the Director for Nuclear Energy, Science and Technology.
- The Environmental Measurements Laboratory transfers to the new Department of Homeland Security.

Performance Measurement

One of the major findings of the February 2002 Top-to-Bottom review was that EM's cleanup strategies were not based on comprehensive, coherent, technically-based risk prioritization. Strategies pursued were not well conceived and integrated such that when executed, they were costly and not proportional to the risks posed to human health and the environment. As a result of the review and its recommendations, EM is aggressively transitioning from a cleanup program based on risk management and containment to one focused on accelerated risk reduction and cleanup. Performance measurement is integral to the success of the EM program in achieving its accelerated risk reduction and cleanup goals. By clearly defining expectations through the establishment of performance measures, responsibility is explicitly defined and accountability firmly established regarding the achievement of agreed to expectations.

Performance measurement of the EM program consists of "corporate" measures that provide a comprehensive programmatic perspective on progress. It also includes site and project-specific milestones which are used to demonstrate whether a project and site are on track to achieve their agreed to expectations and schedule. EM's corporate measures are quantitative and focus on the accomplishment of risk-reducing actions which lead to site completion. Each corporate measure is tracked in the context of the total measure (life-cycle) necessary to complete each site as well as the EM program as a whole.

In October 2002, the Assistant Secretary for Environmental Management established a new set of corporate performance measures for the program. The new measures will enable EM to more comprehensively track progress against its accelerated risk reduction and closure objectives. EM will continue to track corporate measures such as the number of geographic sites completed, the amount of transuranic waste disposed, and the number of plutonium metal/oxides packaged. New corporate measures such as the volume of liquid waste in inventory eliminated, number of liquid waste tanks closed, number of enriched uranium containers packaged, and amount of depleted and other uranium packaged have been added. The new corporate measures which have been added are key to the successful execution of EM's accelerated cleanup strategies.

EM's new corporate performance measures appear for the first time in this budget document. The reporting of FY 2003 and FY 2004 targets and life-cycle totals in the following table are based on each site's Performance Management Plans or accelerated cleanup strategies. Through the establishment of fiscal year targets for each new corporate measure, expectations and accountability for those expectations are clearly established. The full range of corporate performance measures are under strict configuration control. Regular senior management reviews between Headquarters and the Field will be

held throughout the year to monitor progress. Through the establishment of EM's new corporate measures and having developed clear lines of accountability for what is expected to be accomplished, EM will be able to more meaningfully track progress towards achieving its mission - cleaning up the legacy created by over 50 years of nuclear weapons production and energy research by accelerating risk reduction and site closure.

The EM program participated in two Program Assessment Rating Tool reviews: a review of the overall EM program and the review of the Office of Science and Technology. Both reviews identified that EM is generally effective in planning and managing cleanup activities but the program has significant difficulty in completing its work on time and within budget. The Program Assessment Rating Tool reviews substantiates what EM already recognized from the February 2002 Top-to-Bottom Review of the program. In clearly defining expectations through the establishment of meaningful corporate performance measures, responsibility and accountability can be firmly established, enabling EM to more comprehensively track progress against its accelerated risk reduction and closure objectives. The Office of Environmental Management is currently in the process of establishing site resource-loaded baselines which are expected to be completed during FY 2003. The establishment of these site baselines will enable the program to more meaningfully monitor and evaluate actual performance against the new accelerated baselines. The Office of Environmental Management believes significant strides have been made in its ability to monitor and demonstrate performance through the establishment of new corporate measures, implementation of a strict configuration management system, and the expected completion of new accelerated site baselines in FY 2003. The Office of Environmental Management acknowledges that the program needs to continue to improve upon the progress made to date to further develop project management techniques and associated cost and schedule performance measures. This will enable EM to demonstrate more clearly performance in meeting the program goals of accelerated risk reduction and site cleanup, thereby reducing life-cycle costs.

Corporate Performance Measures - EM Program Totals ^a

	FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	Complete through FY 2004	Life-cycle ^b
Number of Plutonium Metal or Oxide Containers Packaged for Long-Term Storage	1,022	2,836	955	5,275	5,482
Number of Enriched Uranium Containers Packaged for Long-Term Storage	0	293	1,310	3,251	9,178
Amount of Plutonium or Uranium Residues Packaged for Disposition (kg bulk)	17,814	934	254	107,706	107,782
Amount of Depleted and Other Uranium Packaged for Disposition (MT)	0	1,815	0	4,915	742,149
Volume of Liquid Waste in Inventory Eliminated (Thousands of Gallons)	0	700	1,300	2,000	88,000
Number of Liquid Waste Tanks Closed	0	1	9	12	241
Number of High-Level Waste Containers Packaged for Final Disposition	173	130	250	1,992	21,305
Amount of Spent Nuclear Fuel Packaged for Final Disposition (MTHM)	511	857	633	2,129	2,420
Volume of Transuranic Waste Shipped for Disposal at WIPP (m3)	5,122	4,135	12,170	24,025	134,435
Volume of Low-Level and Mixed Low-Level Waste Disposed (m3)	105,808	78,149	90,690	502,994	1,258,091
Number of Material Access Areas Eliminated . . .	0	0	1	7	14
Number of Nuclear Facility Completions	1	2	5	24	523
Number of Radioactive Facility Completions	19	10	37	171	804
Number of Industrial Facility Completions	101	43	98	650	2,421
Number of Geographic Sites Eliminated ^c	1	2	0	77	114
Number of Remediation Completions (# of Release Sites)	122	197	180	5,428	10,082

^a This chart provides a consistent set of performance measures for the total EM program. The project-level justification provides a brief life cycle scope description and performance measures (in the context of life cycle quantity) and key accomplishments/planned milestones.

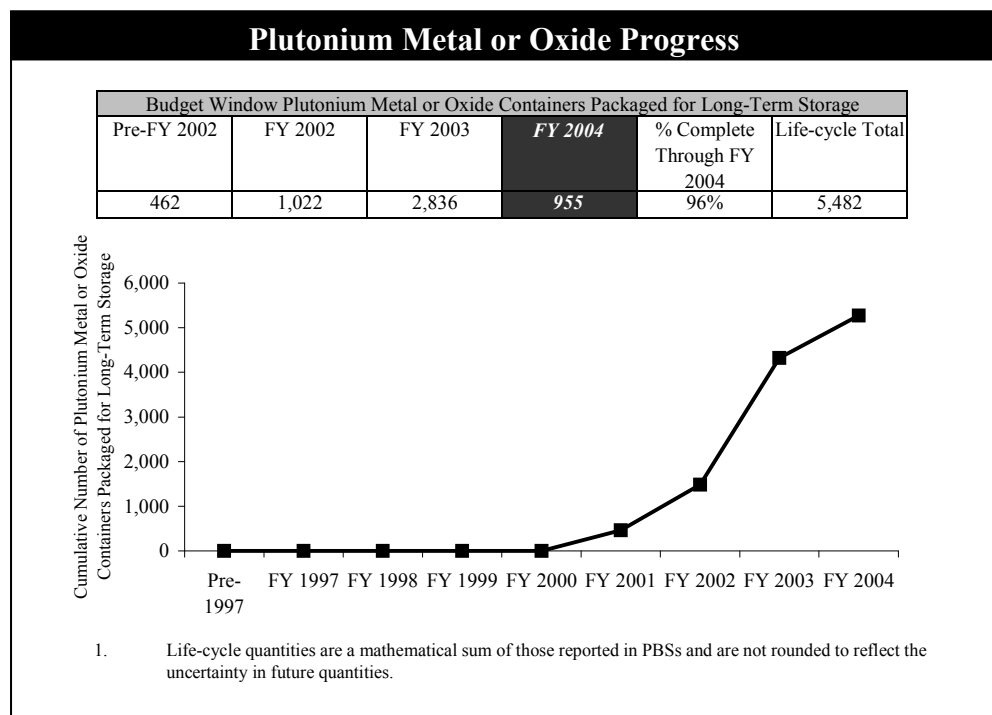
^b Life-cycle estimates for release sites, facilities, and high-level waste containers include pre-1997 actuals. Quantities for all other measures except low-level and mixed low-level waste disposal begin in 1997. Low-level and mixed low-level waste disposal begins in 1998.

^c The change in life-cycle reflects the addition of the Moab/Atlas site.

Nuclear Materials

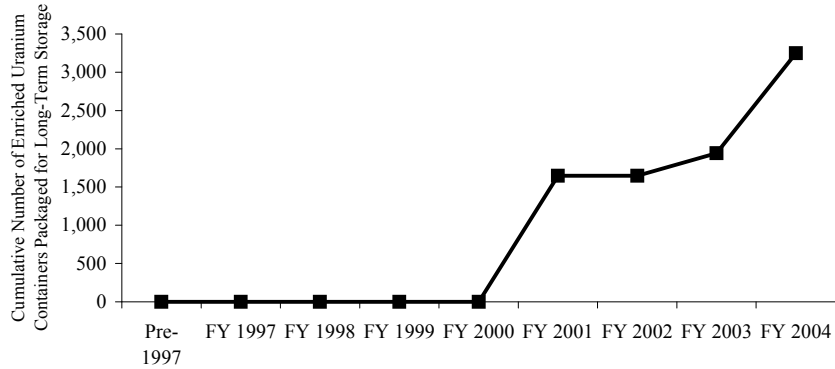
The Top-to-Bottom Review of the EM Program emphasized the importance of stabilizing and packaging nuclear materials for long-term storage or disposition. Reducing the inventory of high risk nuclear materials by preparing it for long-term storage or disposition quantitatively measures EM's progress towards environmental, safety, and security risk reduction and indicates a reduction in an activity that is a major cost driver for the EM program. The following four corporate performance measures (and the identification of the sites which mainly contributes to each of the measures) are depicted below.

- Plutonium metal or oxide containers packaged for long-term storage (Hanford Site, Rocky Flats Site, and Savannah River Site);
- Enriched uranium containers packaged for long-term storage (Hanford Site, Savannah River Site, Idaho National Engineering and Environmental Laboratory, and Oak Ridge Reservation);
- Plutonium or uranium residues packaged for disposition (Rocky Flats Site); and
- Depleted and other uranium packaged for disposition (Oak Ridge Reservation, Paducah and Portsmouth).



Enriched Uranium Progress

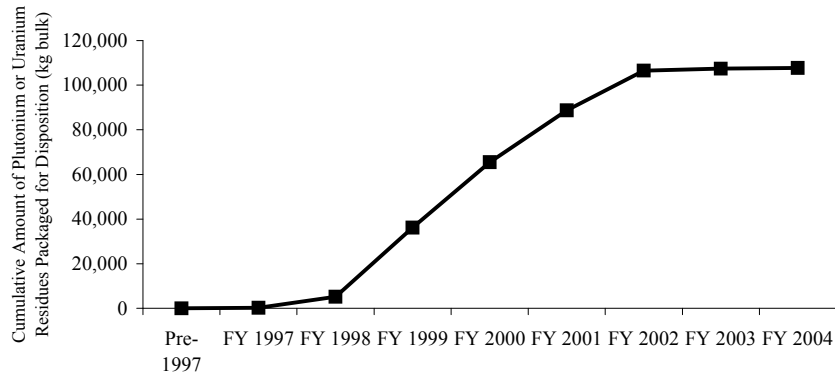
Budget Window Enriched Uranium Containers Packaged for Long-Term Storage					
Pre-FY 2002	FY 2002	FY 2003	<i>FY 2004</i>	% Complete Through FY 2004	Life-cycle Total
1,648	0	293	<i>1,310</i>	35%	9,178



- Life-cycle quantities are a mathematical sum of those reported in PBSs and are not rounded to reflect the uncertainty in future quantities.

Plutonium or Uranium Residues Progress

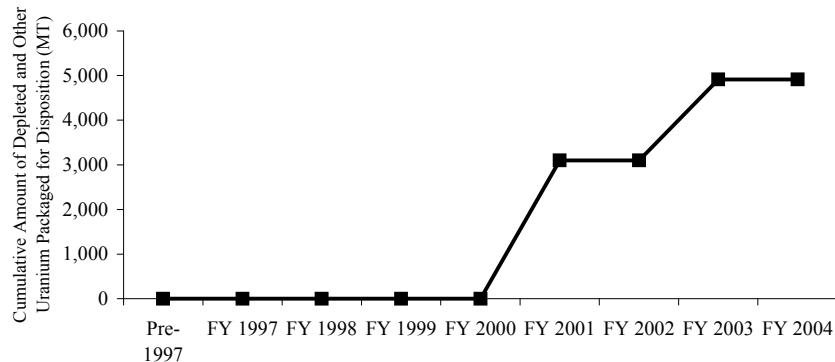
Budget Window Plutonium or Uranium Residues Packaged for Disposition (kg bulk)					
Pre-FY 2002	FY 2002	FY 2003	<i>FY 2004</i>	% Complete Through FY 2004	Life-cycle Total
88,705	17,814	934	<i>254</i>	100%	107,782



- Life-cycle quantities are a mathematical sum of those reported in PBSs and are not rounded to reflect the uncertainty in future quantities.

Depleted and Other Uranium Progress

Budget Window Depleted and Other Uranium Packaged for Disposition (MT)					
Pre-FY 2002	FY 2002	FY 2003	<i>FY 2004</i>	% Complete Through FY 2004	Life-cycle Total
3,100	0	1,815	0	1%	742,149



1. Life-cycle quantities are a mathematical sum of those reported in PBSs and are not rounded to reflect the uncertainty in future quantities.

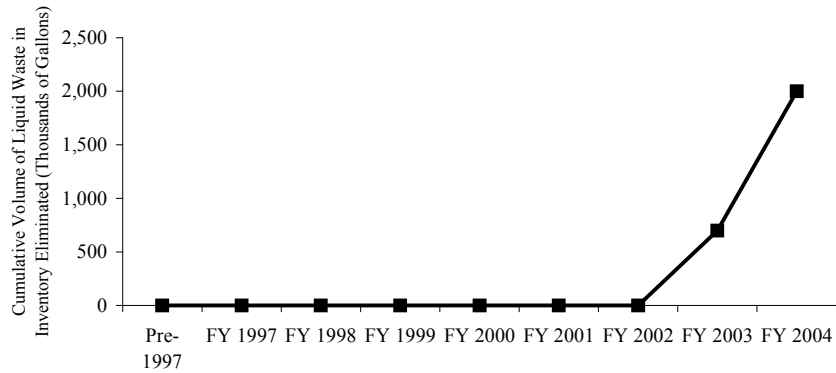
Liquid Waste

By reducing the amount of high risk radioactive liquid waste in inventory and subsequently closing the liquid waste tanks, EM is demonstrating tangible evidence of the program's goal to accelerate reduction of the highest risks in the complex and site cleanup. In addition to eliminating high risk material, corresponding life-cycle cost reductions are achieved for an activity that is a major cost driver to the EM program. The following two corporate performance measures (and the identification of the sites which mainly contributes to each of the measures) are depicted below.

- Liquid waste in inventory eliminated (Hanford Site and Savannah River Site) and
- Liquid waste tanks closed (Hanford Site, Savannah River Site, and Idaho National Engineering and Environmental Laboratory).

Liquid Waste in Inventory Progress

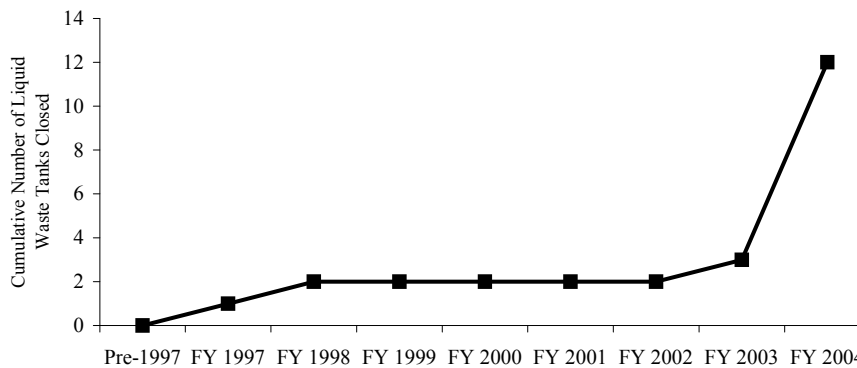
Budget Window Liquid Waste in Inventory Eliminated (Thousands of Gallons)					
Pre-FY 2002	FY 2002	FY 2003	<i>FY 2004</i>	% Complete Through FY 2004	Life-cycle Total
0	0	700	<i>1,300</i>	2%	88,000



1. Life-cycle quantities are a mathematical sum of those reported in PBSs and are not rounded to reflect the uncertainty in future quantities.

Liquid Waste Tank Progress

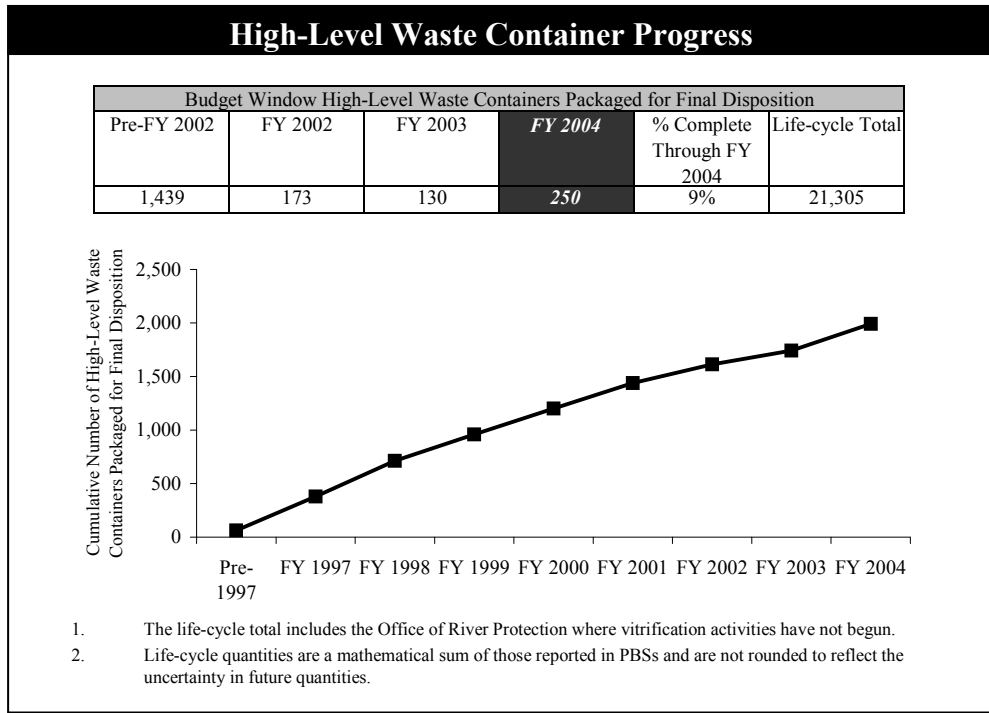
Budget Window Liquid Waste Tanks Closed					
Pre-FY 2002	FY 2002	FY 2003	<i>FY 2004</i>	% Complete Through FY 2004	Life-cycle Total
2	0	1	<i>9</i>	5%	241



1. Life-cycle quantities are a mathematical sum of those reported in PBSs and are not rounded to reflect the uncertainty in future quantities.

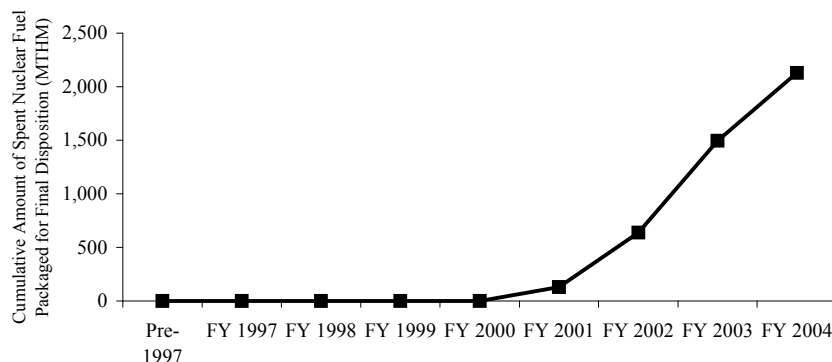
High-Level Waste and Spent Nuclear Fuel

The EM program is preparing high-level waste and spent nuclear fuel for final disposition in order to ensure the material is ready for disposal in the federal geologic repository. Completion of high-level waste and spent nuclear fuel activities indicates the reduction of both high risk and cost incurring activities. The Hanford Site, Savannah River Site, and Idaho National Engineering and Environmental Laboratory primarily contribute to both the high-level waste measure and the spent nuclear fuel measure. Both corporate performance measures are depicted below.



Spent Nuclear Fuel Progress

Budget Window Spent Nuclear Fuel Packaged for Final Disposition (MTHM)					
Pre-FY 2002	FY 2002	FY 2003	<i>FY 2004</i>	% Complete Through FY 2004	Life-cycle Total
128	511	857	<i>633</i>	88%	2,420



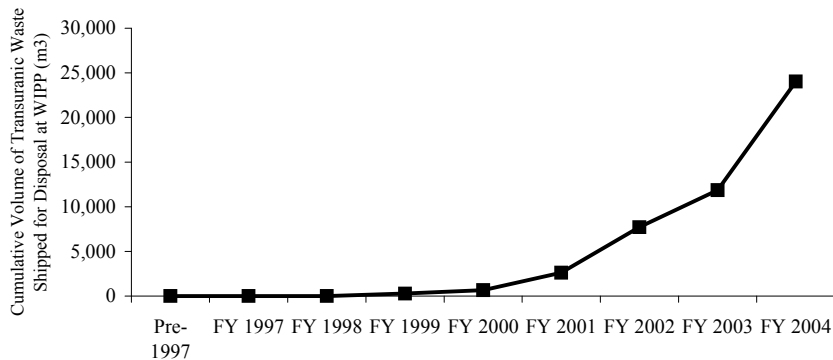
- Life-cycle quantities are a mathematical sum of those reported in PBSs and are not rounded to reflect the uncertainty in future quantities.

Transuranic Waste and Low-Level Waste/Mixed Low-Level Waste

The shipment of transuranic waste to the Waste Isolation Pilot Plant measures a site's progress towards accelerating cleanup and reducing risk. Idaho National Engineering and Environmental Laboratory, Savannah River Site, Rocky Flats Site, Los Alamos National Laboratory, and the Hanford Site principally contribute to the transuranic waste corporate measure. The disposal of low-level waste/mixed low-level waste reflects the intensity of cleanup activities at a site. A number of sites contribute to the low-level waste/mixed low-level measure. The two corporate measures portrayed below demonstrate progress towards EM's ultimate goal of site completion.

Transuranic Waste Progress

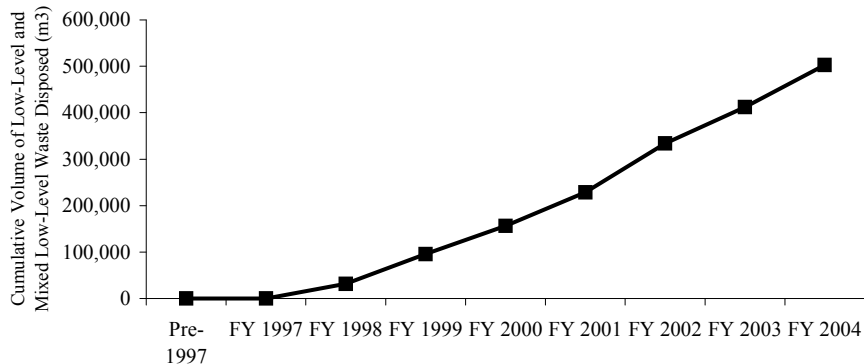
Budget Window Transuranic Waste Shipped for Disposal at WIPP (m3)					
Pre-FY 2002	FY 2002	FY 2003	<i>FY 2004</i>	% Complete Through FY 2004	Life-cycle Total
2,598	5,122	4,135	<i>12,170</i>	18%	134,435



1. The life-cycle total does not reach the legal limit of the Waste Isolation Pilot Plant (WIPP).
2. Life-cycle quantities are a mathematical sum of those reported in PBSs and are not rounded to reflect the uncertainty in future quantities.

Low-Level and Mixed Low-Level Waste Progress

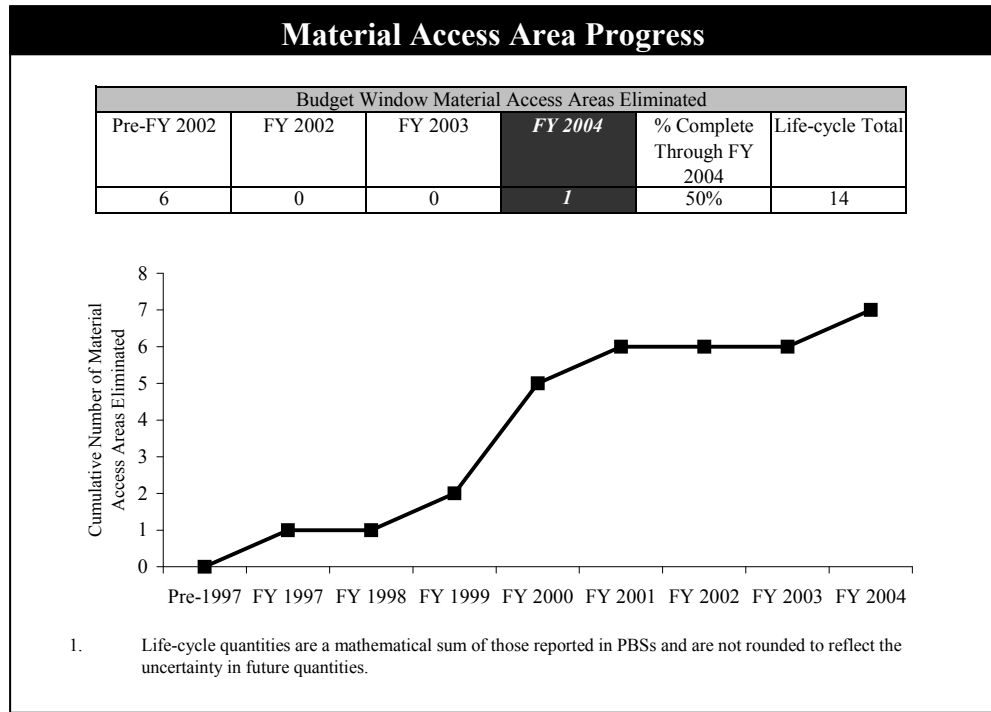
Budget Window Low-Level and Mixed Low-Level Waste Disposed (m3)					
Pre-FY 2002	FY 2002	FY 2003	<i>FY 2004</i>	% Complete Through FY 2004	Life-cycle Total
228,347	105,808	78,149	<i>90,690</i>	40%	1,258,091



1. Life-cycle quantities are a mathematical sum of those reported in PBSs and are not rounded to reflect the uncertainty in future quantities.

Material Access Areas

The elimination of a Material Access Area indicates the completion of a segment of work, thus removing the need for safeguards and security in the area. This is an obvious indicator of a site's work towards reducing risk to workers, the public, and the environment. Rocky Flats Site, Savannah River Site, the Hanford Site, and Idaho National Engineering and Environmental Laboratory contribute to this corporate measure, which is depicted below.

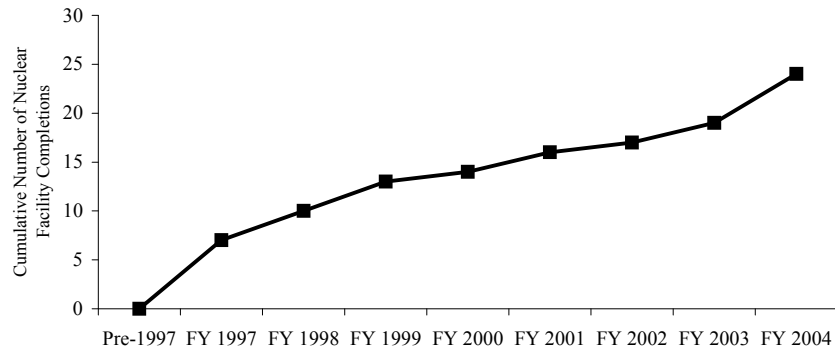


Facility Completions

Three corporate performance measures (i.e., nuclear, radioactive, and industrial facilities) encompass facility completions; measured are the number of facilities that have reached their end state within the EM program. The endpoint corresponds to one of the following: decommissioning, deactivation, dismantlement, demolition, or responsibility for the facility is transferred to another program or owner. Facility completions is an excellent indicator of EM's progress towards site cleanup. Many sites contribute to facility completions, which are portrayed below.

Nuclear Facility Progress

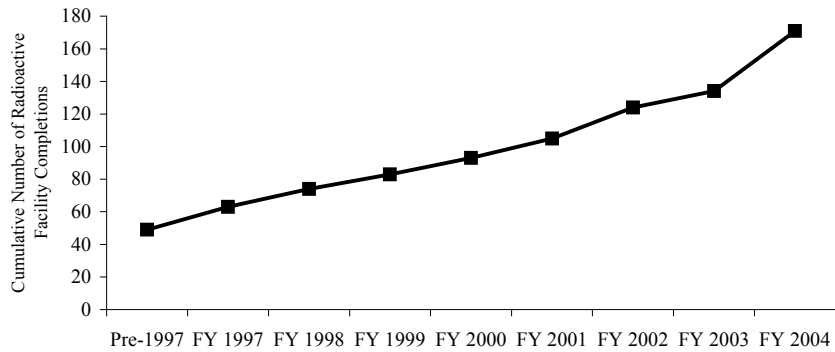
Budget Window Nuclear Facility Completions					
Pre-FY 2002	FY 2002	FY 2003	<i>FY 2004</i>	% Complete Through FY 2004	Life-cycle Total
16	1	2	5	5%	523



1. Pre-1997 actuals are included in life-cycle totals.
2. The life-cycle total is based on the list of facilities for which EM is responsible.
3. Life-cycle quantities are a mathematical sum of those reported in PBSs and are not rounded to reflect the uncertainty in future quantities.

Radioactive Facility Progress

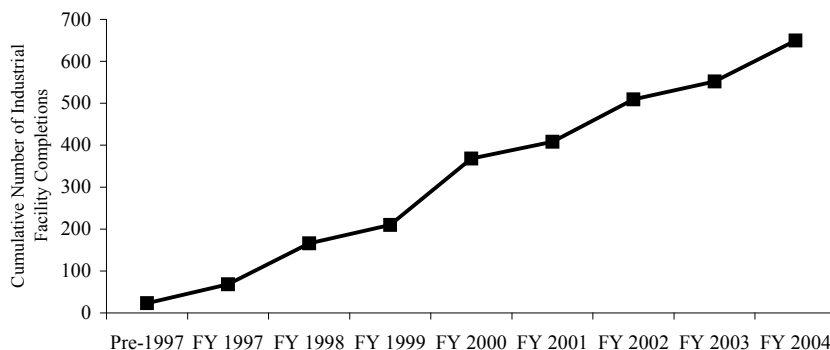
Budget Window Radioactive Facility Completions					
Pre-FY 2002	FY 2002	FY 2003	<i>FY 2004</i>	% Complete Through FY 2004	Life-cycle Total
105	19	10	37	21%	804



1. Pre-1997 actuals are included in life-cycle totals.
2. The life-cycle total is based on the list of facilities for which EM is responsible.
3. Life-cycle quantities are a mathematical sum of those reported in PBSs and are not rounded to reflect the uncertainty in future quantities.

Industrial Facility Progress

Budget Window Industrial Facility Completions					
Pre-FY 2002	FY 2002	FY 2003	<i>FY 2004</i>	% Complete Through FY 2004	Life-cycle Total
408	101	43	<i>98</i>	27%	2,421



1. Pre-1997 actuals are included in life-cycle totals.
2. The life-cycle total is based on the list of facilities for which EM is responsible.
3. Life-cycle quantities are a mathematical sum of those reported in PBSs and are not rounded to reflect the uncertainty in future quantities.

Remediation and Geographic Sites Completions

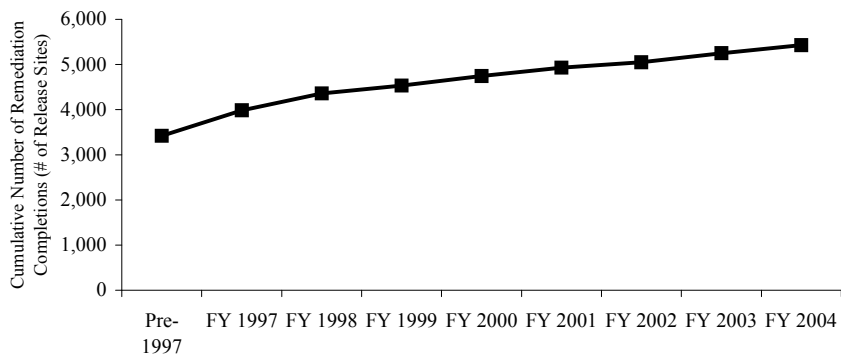
In order to complete a geographic site (e.g., Fernald), EM must complete remediation of any release sites present at the site. The completion of release sites, discrete areas of contamination at a site, is a good indicator of a site's progress towards completion. All sites except for the Waste Isolation Pilot Plant contribute to this corporate measure.

Completion of a geographic site best reflects EM's goal of accelerating cleanup and reducing risk. A geographic site in its entirety is considered complete when active remediation has been completed in accordance with the terms and conditions of cleanup agreements. EM tracks cleanup responsibilities for 114 contaminated sites. In FY 2003, EM plans to complete two sites, the Maxey Flats Disposal Site and the Salmon Site. No geographic site completions are presently scheduled for FY 2004.

These two corporate performance measures are shown below.

Remediation Completion Progress

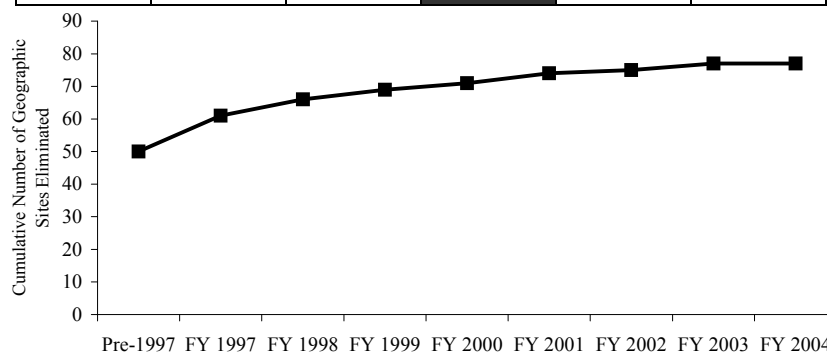
Budget Window Remediation Completions (# of Release Sites)					
Pre-FY 2002	FY 2002	FY 2003	<i>FY 2004</i>	% Complete Through FY 2004	Life-cycle Total
4,929	122	197	<i>180</i>	54%	10,082



1. Pre-1997 actuals are included in life-cycle totals.
2. The life-cycle total is based on the list of release sites for which EM is responsible.
3. Life-cycle quantities are a mathematical sum of those reported in PBSS and are not rounded to reflect the uncertainty in future quantities.

Geographic Site Progress

Budget Window Geographic Sites Eliminated					
Pre-FY 2002	FY 2002	FY 2003	<i>FY 2004</i>	% Complete Through FY 2004	Life-cycle Total
74	1	2	<i>0</i>	68%	114



1. Completions include two UMTRA sites (Belfield and Bowman, ND) whose designation as UMTRA sites was revoked in FY 1998.
2. The change in the life-cycle total reflects the addition of the Moab/Atlas site.
3. Excludes 21 FUSRAP sites transferred to the U.S. Army Corps of Engineers in FY 1998.
4. Life-cycle quantities are a mathematical sum of those reported in PBSS and are not rounded to reflect the uncertainty in future quantities.

Appendix A

Site Descriptions

Site Descriptions

Argonne National Laboratory-East

Argonne National Laboratory-East is a research laboratory occupying a 700-acre tract of land located approximately 22 miles southwest of downtown Chicago in DuPage County, Illinois.

It is an Office of Science multi-disciplinary research and development laboratory that conducts basic and applied research to support the development of energy-related technologies. Energy-related research projects include: safety studies for light-water reactors; development of components and materials for fission and fusion reactors; superconductivity research; coal power improvements; synchrotron radiation sources; and waste heat utilization. Further research includes: medical radioisotope technology; environmental research; genetics research; materials engineering; ceramics; carcinogenesis; and the biological effects of ionizing radiation. Argonne National Laboratory-East is the home for the Advanced Photon Source Facility, which provides experimental capability with the use of photons for industry, government, and academic scientists to create advances in pharmaceuticals, adhesives, food processing, and many other applications.

Argonne National Laboratory-West

The Argonne National Laboratory-West site is located 35 miles west of Idaho Falls, Idaho, and is operated by the University of Chicago under the direction of the Chicago Operations Office. The site was constructed for the purpose of carrying out research and development for liquid metal fast breeder reactor technology. The current mission for the Argonne National Laboratory-West includes technology development for spent nuclear fuel and radioactive waste treatment, and reactor and fuel cycle safety.

Ashtabula Closure Project

The Ashtabula Closure Project site, located in Ashtabula, Ohio, is owned and operated by the RMI Titanium Company. The site is contaminated with both radiological and hazardous materials resulting from previous operations for the DOE. The Ashtabula Closure Project requires decontamination and decommissioning of buildings and the remediation of contaminated soils and groundwater to allow unrestricted use of the site. Upon closure in FY 2006, the site will be released back to RMI Titanium Company for unrestricted use.

Brookhaven National Laboratory

The Brookhaven National Laboratory site is an Office of Science multi-purpose research and development laboratory located in central Suffolk County on Long Island, about 60 miles east of New York City. Brookhaven National Laboratory's current mission is to conduct fundamental research, including concept development, design, construction, and operation of large complex research facilities. These facilities are used for both basic and applied research in high energy and nuclear physics; in basic energy sciences emphasizing fundamental research on biological, chemical, and physical phenomena underlying energy-related transfer, conversion and storage systems; in life sciences; and in nuclear medical applications. Soil, groundwater, and surface water sediment were contaminated from past operations, resulting in the site being placed on the U.S. Environmental Protection Agency's National Priorities (Superfund) List.

Columbus Closure Project

The Columbus Closure Project is comprised of two geographic sites (King Avenue and West Jefferson) located in and near Columbus, Ohio. Research and development work was performed at these facilities for DOE and its predecessors agencies. The 14 affected buildings and grounds are privately-owned by Battelle Memorial Institute. The Columbus Closure Project consists of 15 radioactively contaminated facilities and two release sites, of which 12 facility clean ups were completed by the end of FY 2001. The original scope of decontamination activities at King Avenue has been completed.

Energy Technology Engineering Center

The Energy Technology Engineering Center is a DOE facility located on 90 acres of land leased from Boeing North America Incorporated in Simi Valley, California. The environmental restoration activities at the Energy Technology Engineering Center are to remediate contaminated groundwater, complete decontamination and decommissioning of several remaining radiological facilities, deactivate and clean up existing sodium facilities, provide landlord functions, and perform waste characterization and off-site disposal.

Fernald Closure Project

The Fernald Closure Project site encompasses approximately 1,050 acres, located 17 miles northwest of Cincinnati, Ohio. High purity uranium metal products were produced at Fernald for DOE and its predecessor agencies from 1951 to 1989. Thorium was also processed, on a smaller scale. Uranium processing operations at Fernald were limited to a fenced, 136-acre tract known as the Production Area. In November 1989, the Environmental Protection Agency placed the Fernald site on the National Priorities List, and in April 1990 DOE and the U.S. and Ohio Environmental Protection Agencies entered into a Consent Agreement (since amended) for site remediation. Clean up of contaminated facilities, soils, groundwater and waste pits and disposition of waste in three silos will be accomplished by 2006.

General Atomics

The General Atomics site is privately-owned and operated, and is located near San Diego, California. General Atomics has maintained and operated a Hot Cell Facility for over 30 years to conduct both government and commercially funded nuclear research and development. Department of Energy cleanup efforts are focused on cleanup of the Hot Cell Facility and surrounding contaminated soils. The General Atomics Hot Cell project is comprised of two release sites, which were completed in FY 2000. Cleanup activities were finalized with the disposal of contaminated soil in FY 2001. Shipment of the irradiated fuel materials to the Idaho National Engineering and Environmental Laboratory for interim storage remains to be completed in FY 2003.

General Electric

The General Electric site is a privately-owned site located near Pleasanton, California. Activities are focused on clean up of a High-Level Alpha Hot Cell and a glove box enclosure. Baseline plans are to negotiate a cost-shared contract with General Electric. Once facility clean up is completed it will be returned to the landowners for future use.

Grand Junction

The Grand Junction Office is located immediately south of the City of Grand Junction, Colorado, on a 57 acre site adjacent to the Gunnison River. The Grand Junction Office's primary mission is the closure of small sites and the long-term surveillance and maintenance of completed sites. Grand Junction Office project assignments for the EM program include the Atlas Corporation Moab Site in Utah and the Rocky Flats Wildlife Refuge and Museum. Other Grand Junction Office mission activities are described as part of the Office of Legacy Management budget request.

Hanford Site - Richland Operations Office

The United States Department of Energy's Richland Operations Office manages the Department's Hanford Site, except for the High-Level Waste Tank Farms, in Southeastern Washington State. The 1,465 square kilometer (560 square mile) site is bounded on the north by over 80 kilometers (50 miles) of the Columbia River, known as the Hanford Reach.

Hanford was established in secrecy during World War II to produce plutonium for the nation's nuclear weapons. Peak production years were reached in the 1960s when nine production reactors were in operation along the river. The last to be decommissioned was the N-Reactor and its spent nuclear fuel in the K-Basins is now being relocated to higher ground in the central plateau, known as the 200 Area. The Plutonium Finishing Plant is one of the last production facilities that remains operational - but only to process and stabilize remaining plutonium materials. Research and development is conducted by Pacific Northwest National Laboratories in the 300 Area. Support facilities are located in the 1100 Area, most of which have been turned over to the local community. Soil and groundwater contamination has resulted from past operations, placing the site on the National Priorities (Superfund) List. The Hanford mission is now site cleanup and environmental restoration to protect the Columbia River. The cleanup is covered by commitments in a 1989 consent agreement, known as the Tri-Party Agreement, among the Department of Energy, the Environmental Protection Agency, and the Washington State Department of Ecology.

Hanford Site - Office of River Protection

In order to more effectively manage the River Protection Project and in response to Section 3139 of the *Strom Thurmond National Defense Authorization Act for Fiscal Year 1999*, the Secretary of Energy established the Office of River Protection at the Hanford Site in the State of Washington. The Office of River Protection is responsible for the storage, treatment, and immobilization of tank waste and the operation, maintenance, engineering, and construction activities in the 200 Area tank farms. The 200 Area tank farms are located in the central plateau of the Hanford Site and are 7 miles south and 10 miles west of the Columbia River. They include 177 underground storage tanks (149 single-shell and 28 double-shell) containing approximately 190 million curies in more than 53 million gallons of radioactive waste from past processing operations. The Office of River Protection will manage the complex River Protection Project activities to ensure successful immobilization and disposal of high-level wastes and the ultimate protection of the Columbia River resources.

Idaho National Engineering and Environmental Laboratory

The Idaho National Engineering and Environmental Laboratory, established as the National Reactor Testing Station in 1949, occupies 890 square miles in the Snake River Plain of Southeastern Idaho. Over the years, 52 reactors have been constructed and operated at the Idaho National Engineering and Environmental Laboratory. The Idaho National Engineering and Environmental Laboratory has nine

primary facilities as well as administrative, engineering, and research laboratories in Idaho Falls, approximately 50 miles east of the site. Other activities at the Laboratory over the last five decades include nuclear technology research, defense programs, engineering testing and operations, as well as ongoing projects to develop, demonstrate, and transfer advanced engineering technology and systems to private industry. These activities have resulted in an inventory of high-level waste and an inventory and continued generation of mixed low-level and low-level waste. Waste storage, treatment, and disposal capabilities for these ongoing programs are provided through operations at the Waste Reduction Operations Complex, the Radioactive Waste Management Complex, Test Area North, and the Idaho Nuclear Technology Engineering Center (formerly the Idaho Chemical Processing Plant).

The Idaho National Engineering and Environmental Laboratory is responsible for storing and dispositioning approximately 253 metric tons of spent nuclear fuel from a number of sources, including the Navy, foreign and domestic research reactors, and some commercial reactors, along with Department of Energy owned fuel. The site is on the U.S. Environmental Protection Agency's National Priorities (Superfund) List, and environmental remediation activities are required at ten Waste Area Groups encompassing 50 different operable units, which are comprised of 501 release sites. Infrastructure projects ensure the integrity of required facilities until all commitments are completed.

Kansas City Plant

The Kansas City Plant is part of a Federal complex located in south Kansas City, Missouri. In FY 1993, the Department closed several facilities across the country and consolidated the production of non-nuclear components for nuclear weapons at the Kansas City Plant. The site is composed of 41 release sites, 40 of which have been completed. Advanced technologies (Iron Filing Passive Treatment and Six-Phase Heating) are being employed to reduce soil contamination and to reduce groundwater cleanup time and cost. Activities necessary to transition to a long-term surveillance and maintenance program will also be performed when clean up nears completion. Institutional controls and groundwater treatment and monitoring will continue indefinitely after cleanup efforts are completed under the responsibility of the landlord program (National Nuclear Security Administration).

Laboratory for Energy-Related Health Research

The Laboratory for Energy-Related Health Research site is located at the University of California, Davis. Research at the Laboratory originally focused on the health effects from chronic exposure to radionuclides using animal subjects to simulate radiation effects on humans. The Department terminated the research program and closed the Laboratory in 1988. Environmental restoration activities are directed toward cleaning up DOE areas of site contamination for release to the University of California, Davis. The Laboratory for Energy-Related Health Research site is comprised of 17 release sites and 1 facility. The majority of waste characterization and off-site disposal are planned for completion by FY 2004. However, there will be the need for participation in business closure and Comprehensive Environmental Response, Compensation, and Liability Act closure activities until FY 2005.

Lawrence Berkeley National Laboratory

The 200-acre Lawrence Berkeley National Laboratory site is located adjacent to the University of California in Berkeley, California. Remediation activities at the Laboratory focus on characterization and remediation of contaminated soil and groundwater. Currently, Environmental Management remediation activities include 185 release sites. The waste management activities provide compliant storage, treatment, and off-site disposal of both legacy and currently generated hazardous and

radioactive waste. The financial responsibility for the newly generated waste project was transferred to the generating DOE program (Office of Science) in FY 2001.

Lawrence Livermore National Laboratory

The Lawrence Livermore National Laboratory is a multi-disciplinary research and development laboratory focused on national defense, which has two geographic locations in northern California. The Livermore Site is approximately one square mile and is located 40 miles east of San Francisco, near the City of Livermore. Site 300 is comprised of about 11 square miles and is located 15 miles southeast of the Livermore Site. Both the Livermore Site and Site 300 are on the Environmental Protection Agency's National Priorities List. Environmental restoration activities at the Lawrence Livermore National Laboratory are focused on identifying contaminated groundwater and soil from past operations and implementing appropriate cleanup actions. Lawrence Livermore National Laboratory is divided into nine Operable Units, one at the Livermore Site and eight at Site 300 with a total of 193 release sites. Waste management activities are directed at compliant storage, treatment, and off-site shipment for disposal of both legacy and newly generated hazardous and radioactive waste.

Los Alamos National Laboratory

The Los Alamos National Laboratory encompasses over 43 square miles in northern New Mexico and is divided into 47 technical areas that are used for scientific sites, experimental areas, waste disposal locations, roads and utilities, and safety and security buffers. The Los Alamos National Laboratory and its subcontractors employ approximately 13,000 people. Major programs include applied research in nuclear and conventional weapons development, nuclear fission and fusion, nuclear safeguards and security, and environmental and energy research. The waste produced includes low-level, mixed, hazardous, transuranic and sanitary waste streams, and small amounts of other waste from research. The primary waste management activities include storage, treatment, and disposal of transuranic and mixed low-level waste. All newly generated waste activities were transferred to the Office of Defense Programs in FY 1999. The Laboratory is comprised of approximately 1,800 release sites within the currently defined EM scope.

Lovelace Respiratory Research Institute

The Lovelace Respiratory Research Institute is located on Kirtland Air Force Base in Albuquerque, New Mexico. The site currently operates under a cooperative agreement with the Department of Energy to conduct biomedical research. All environmental restoration sites have been cleaned up. Monitoring and surveillance of the sites continues to support closure and to monitor the reduction of nitrates in groundwater beneath the former wastewater lagoons. The EM Program manages hazardous, low-level radioactive, mixed, transuranic, and non-hazardous biomedical wastes generated from ongoing DOE research activities in an efficient and environmentally sound manner.

Mound Closure Project

The Mound Closure Project encompasses the Mound Plant, which is located on 306 acres in Miamisburg, Ohio, ten miles south of Dayton. The plant was built in the late 1940s to support research and development, testing, and production activities for the Department's defense nuclear weapons complex and energy research programs. The mission continued until 1994, when these activities were transferred to other DOE facilities. The mission involved production of components that contained tritium, plutonium, and other radioisotopes, and processing large quantities of high explosives. As a result of these past operations, the buildings, soil, and groundwater are contaminated with radioactive and hazardous chemicals. Mound is on the National Priorities List and a Federal Facility Agreement to

remediate the site has been negotiated with the Ohio and United States Environmental Protection Agencies.

The end-state for the Mound site is to either demolish or transfer all buildings and land to the Miamisburg Mound Community Improvement Corporation, an agent for the City of Miamisburg, for economic development. Levels of residual contamination left on-site will be below industrial use standards.

Nevada Test Site and Off-Sites

The Nevada Test Site is located 65 miles northwest of the city of Las Vegas and encompasses 1,573 square miles, an area roughly the size of Rhode Island. The activities are wide-spread, geographically diverse, and are the result of 928 historical above-ground and below-ground nuclear tests conducted at the Nevada Test Site. In addition to surface cleanup, the regional groundwater model indicates a potential for migration of underground contaminants toward public receptors. The Nevada Test Site mission also includes safe storage and disposal of low-level radioactive wastes generated by Department of Energy activities throughout the complex. Storage of transuranic waste and disposal of low-level waste (the low-level wastes that are received from the on-site and off-site generators) are carried out according to the current Nevada Test Site Environmental Impact Statement Record of Decision and other regulatory requirements. Only 22 currently approved generators are permitted to dispose of waste at the Nevada Test Site. In addition, Nevada is responsible for clean up at the Tonopah Test Range in Nevada and nine contaminated off-site locations (one site completed) in five states (Alaska, Colorado, Mississippi, New Mexico, and Nevada).

Oak Ridge Reservation

The Oak Ridge Reservation encompasses about 37,000 acres in east Tennessee and is comprised of three facilities: the East Tennessee Technology Park; the Oak Ridge National Laboratory; and the Y-12 Plant. These facilities are described in detail below. In addition, there are some private properties that are not located on the Oak Ridge Reservation (the Atomic City Auto Parts Site and the David Witherspoon Sites) that are being cleaned up under the auspices of Oak Ridge.

Oak Ridge - East Tennessee Technology Park

The East Tennessee Technology Park site occupies 1,500 acres adjacent to the Clinch River, approximately 13 miles west of Oak Ridge, Tennessee. It was originally built as an uranium enrichment facility using uranium hexafluoride for Defense Programs. The majority of the 125 major buildings on the site have been inactive since uranium enrichment production ceased in 1985. The site is being transitioned to the private sector through a major reindustrialization effort. Most Oak Ridge legacy waste is stored at the East Tennessee Technology Park and the Toxic Substances Control Act incinerator is the key operating waste treatment facility. All waste types are stored, treated, and disposed in compliance with regulations.

Oak Ridge National Laboratory

Activities carried out at the 3,300 acre Oak Ridge National Laboratory historically have supported both the defense production operations and civilian energy research effort. This group of facilities requires cleanup resulting from a variety of research and development activities, which were supported by multiple DOE programs over a long period of time. Clean up includes environmental remediation, decontamination and decommissioning of radioactively-contaminated facilities, and disposition of legacy low, mixed low-level, and transuranic waste. The Oak Ridge National Laboratory currently

conducts applied and basic research in energy technologies and the physical and life sciences. Transuranic, low-level, mixed low-level, hazardous, sanitary, and industrial wastes are generated from these operations.

Oak Ridge - Y-12

The Y-12 site is approximately 811 acres and is located about two miles southwest of Oak Ridge, Tennessee. The Y-12 site originally was a uranium processing facility and now dismantles nuclear weapons components and serves as one of the nation's store houses for special nuclear materials. The Y-12 site has 15 operable units within three areas; Chestnut Ridge, Upper East Fork of Poplar Creek, and Bear Creek Valley. The types of contamination include radioactive, hazardous, and mixed wastes. The West End Treatment Facility treats organic liquid waste produced by National Nuclear Security Administration activities. The sanitary landfills for all of the Oak Ridge Reservation are located at Y-12.

Paducah Gaseous Diffusion Plant

The Paducah Gaseous Diffusion Plant, located just outside Paducah, Kentucky, is owned by DOE. The United States Enrichment Corporation leases facilities at the site for commercial uranium enrichment purposes. Paducah's EM mission includes environmental cleanup, facility decontamination and decommissioning, and waste management; management of depleted uranium hexafluoride; and maintenance of non-leased buildings and grounds. The security aspect of the mission includes physical protection of government employees, property, classified and unclassified information through use of protective forces and physical security instrumentation, information security, cyber security, personnel security, material control and accountability, and program management.

Pantex Plant

The Pantex Plant is located near Amarillo, Texas, and has responsibility for dismantlement and maintenance of the Nation's nuclear weapons stockpile and storage of plutonium from dismantled weapons. At the Pantex Plant, EM activities consist primarily of clean up of contaminated soils and groundwater. In FY 1994, the site was placed on the National Priorities List, thereby requiring remediation under the Comprehensive Environmental Response, Compensation, and Liability Act authority. Past activities have resulted in soil and groundwater contamination, which is being remediated. Groundwater pump and treat will likely be needed to continue after cleanup actions are complete under the auspices of the National Nuclear Security Administration as landlord. However, technology development activities are underway through the Innovative Treatment Remediation Demonstration program to try to accelerate groundwater clean up at the Pantex Plant.

Portsmouth Gaseous Diffusion Plant

The Portsmouth Gaseous Diffusion Plant, located in Piketon, Ohio (approximately 22 miles north of Portsmouth and 75 miles south of Columbus), is owned by DOE. Portsmouth's mission includes environmental cleanup, facility decontamination and decommissioning, and waste management; management of depleted uranium hexafluoride generated prior to privatization of the United States Enrichment Corporation in July 1998; completion of the highly-enriched uranium shutdown and removal program; and maintenance of non-leased buildings and grounds. The United States Enrichment Corporation announced their intention to stop enrichment operations at Portsmouth in FY 2001, and DOE announced its intentions to initiate activities to place the facility in cold standby. The security aspect of the mission includes physical protection of government employees, property, classified and unclassified information through use of protective forces and physical security instrumentation,

information security, cyber security, personnel security, material control and accountability, and program management.

Rocky Flats

The Rocky Flats Environmental Technology Site is located about 10 miles northwest of Denver, Colorado, on about 11 square miles at the base of the Rocky Mountains. The Rocky Flats Plant was established by the Atomic Energy Commission in 1951 as one of seven production plants in the United States Weapons Complex. Its mission was to manufacture nuclear weapons components from materials such as plutonium, beryllium, and uranium. When operations ceased, large amounts of plutonium, plutonium compounds, and metallic residues remained in the production lines, tanks, and process furnaces at various facilities at the site. Significant volumes of hazardous and radioactive waste generated during production operations were also present throughout numerous buildings and soil was contaminated, resulting in the site being placed on the National Priorities List.

In 1991, the Rocky Flats Plant transitioned to a new mission: cleaning up contamination and waste from past production activities and transitioning its facilities to cleanup in a manner that is safe, environmentally and socially responsible, physically secure, and cost-effective. It was at this time that the Rocky Flats Plant became the Rocky Flats Environmental Technology Site.

Sandia National Laboratories-New Mexico

The Sandia National Laboratories-New Mexico site located in Albuquerque, New Mexico, is a research and development facility with a primary mission of developing and testing non-nuclear components of nuclear weapons. The Sandia Environmental Restoration Project involves the remediation of inactive waste disposal and release sites at Albuquerque and other off-site locations. These sites have known or suspected releases of hazardous, radioactive, or mixed waste.

Savannah River Site

The complex covers 310 square miles encompassing parts of Aiken, Barnwell, and Allendale counties in South Carolina, bordering the Savannah River. The Savannah River Site encompasses 13 separate areas; five isotope production areas, which are permanently shutdown; heavy water processing facilities; chemical processing and waste management facilities, including tank farm areas and the Defense Waste Processing Facility for vitrifying high-level waste; administrative offices, laboratories and technical shops. Also included are facilities which support research and development associated with spent nuclear materials processing; and low-level waste disposal, reactor fuels, and solid waste disposal areas. The current mission of the site includes nuclear facility operations, applied research, waste management, nuclear materials and spent nuclear fuel management, environmental restoration, and facility decontamination and decommissioning. A major aspect of the site operations is stabilizing liquid high-level waste stored in tanks through vitrification at the Defense Waste Processing Facility and associated tank closures, and stabilization of nuclear materials in chemical processing canyons. Due to past operations and disposal practices, the Savannah River Site was placed on the National Priorities List in 1989.

Separations Process Research Unit

The Separations Process Research Unit located in Schenectady, New York, as part of the Knolls Atomic Power Laboratory, is an inactive complex that requires facility decontamination and decommissioning and environmental cleanup. The facilities have been placed in safe shutdown with the Office of Naval Reactor Program maintaining landlord responsibilities. Characterization activities have begun.

South Valley Superfund Site

The Department is a Potentially Responsible Party at the South Valley Site in Albuquerque, New Mexico. Currently, groundwater monitoring and groundwater remediation system operation and maintenance activities by a private contractor to the potentially responsible parties are ongoing at this site. The Government has prepaid its share of remediation costs through the year 2003. A new buy out settlement to cover the years beyond 2003 is expected to be negotiated. The State of New Mexico has filed a suit against the U.S. Government and other parties for natural resource damages resulting from contamination of groundwater.

Stanford Linear Accelerator Center

The Stanford Linear Accelerator Center site is a 426-acre site located near Stanford University in California. It is managed for DOE by Stanford University where theoretical research in high-energy particle physics is conducted. Remediation efforts focus on the cleanup of polychlorinated biphenyl contaminated soil sites and several solvent contaminated groundwater and soil sites. Responsibility for waste management activities was transferred to the Office of Science, the generating DOE program, in FY 1998.

Waste Isolation Pilot Plant

The Waste Isolation Pilot Plant is comprised of surface support buildings, a waste-handling building, four shafts, and the mined underground operations area. The facility is designed for deep geological disposal of defense-generated transuranic waste resulting from nuclear weapons production, dismantlement, and site cleanup. The repository is located in southeastern New Mexico near Carlsbad, 2,150 feet (655 meters) underground in bedded salt. The bedded salt where transuranic waste is being disposed has been stable for over 225 million years and, through extensive computer modeling and experiments, the Department of Energy has successfully demonstrated to the Environmental Protection Agency that the salt will remain stable for at least the next 10,000 years. On March 26, 1999, the Waste Isolation Pilot Plant received its first shipment of non-mixed contact-handled transuranic waste from the Los Alamos National Laboratory.

West Valley Demonstration Project

The West Valley Demonstration Project is located at the Western New York Nuclear Service Center near West Valley, New York, 35 miles south of Buffalo. The Center was developed by a private company with government support to process commercial spent nuclear fuel to extract plutonium and uranium and operated from 1966 to 1972.

The West Valley Demonstration Project Act (Public Law 96-368) was enacted in 1980 and directed the Department of Energy to carry out a high-level waste solidification demonstration project. The principal operation at West Valley thus far has been the solidification of liquid high-level waste into borosilicate glass using vitrification. With vitrification treatment operations complete, the Project has transitioned into its next major phase which is decontamination, shipment of project-generated waste off-site for

disposal, and decommissioning. A Remote-Handled Waste Facility is under construction which will allow project personnel to safely remotely handle, size reduce, sort, characterize, and package the project's high activity waste in preparation for off-site shipment and disposal. Following site decontamination and waste shipment activities, the Project will pursue final dispositioning and site closure, which will be implemented consistent with an Environmental Impact Statement for Decommissioning and/or Long-Term Stewardship, which is currently under development.

Appendix B

Completion Dates and Life Cycle Costs of Remaining Cleanup Sites

Completion Dates and Life Cycle Costs of Remaining Cleanup Sites

Site	Completion Date (Calendar Year)	Life-Cycle Cost (current year dollars in thousands) ^a
Laboratory for Energy-Related Health Research	2005	36,807
Amchitka Site	2005	-- ^b
Rocky Flats Environmental Technology Site	2006	9,086,983
Fernald Closure Project	2006	3,595,542
Mound Closure Project	2006	1,617,384
Columbus Closure Project	2006	163,438
Ashtabula Closure Project	2006	157,057
Sandia National Laboratories - Albuquerque	2006	372,365
Kansas City Plant	2006	223,968
Lawrence Berkeley National Laboratory	2006	34,366
Stanford Linear Accelerator Center	2006	25,993
Lawrence Livermore National Laboratory Livermore Site/Site 300	2006/2008	786,291 ^c
Energy Technology Engineering Center	2007	211,041
Brookhaven National Laboratory	2008	379,255
Pantex Plant	2008	454,635
Argonne National Laboratory - East	2009	58,757
Central Nevada Test Area	2010	-- ^b
Project Shoal Area	2010	-- ^b
Rio Blanco Site	2010	-- ^b
Atlas Site (Moab)	2011	325,581
Rulison Site	2012	-- ^b
West Valley Demonstration Project	2012	1,871,382

^a Comparable (in current dollars) to the FY 2002 environmental liability on which the Department's FY 2002 financial statement are based. Financial statements are reported in constant dollars.

^b Nevada off sites life cycles cannot be credibly separated from, and are included in, the Nevada Test Site life cycle of \$7,136,987.

^c Includes life cycle costs of both Lawrence Livermore Laboratory Livermore Site and Site 300.

Site	Completion Date (Calendar Year)	Life-Cycle Cost (current year dollars in thousands) ^a
Separations Process Research Unit	2014	245,287
Gasbuggy Site	2014	-- ^b
Gnome-Coach Site	2014	-- ^b
General Electric Vallecitos	2014	22,000
Oak Ridge Reservation	2015	6,379,218
Los Alamos National Laboratory	2015	1,561,689
Savannah River Site	2025	44,064,156
Portsmouth Gaseous Diffusion Plant	2025	6,593,143
Tonopah Test Range Area	2027	-- ^b
Nevada Test Site	2027	7,136,987 ^b
Paducah Gaseous Diffusion Plant	2030	2,471,485
Hanford Site	2035	74,528,585
Idaho National Engineering and Environmental Laboratory ...	2035	20,512,393
Waste Isolation Pilot Plant	2035	8,999,039
Other	--	1,026,540 ^c
Sites Total		192,941,367
Other		27,428,006 ^d
Total		220,369,373

^a Comparable (in current dollars) to the FY 2002 environmental liability on which the Department's FY 2002 financial statements are based. Financial statements are reported in constant dollars.

^b Nevada off sites life cycles cannot be credibly separated from, and are included in, the Nevada Test Site life cycle of \$7,136,987.

^c Includes life cycle costs for Ohio Field Office and former Albuquerque and Oakland Operations Offices, that cannot be credibly allocated to their respective sites.

^d Includes cost for technology development, decontamination and decommissioning fund contributions, program direction, and headquarters activities.

Appendix C

FY 2004 Budget Structure

Budget Structure by Appropriation, Account, and Project Baseline Summary

Defense Site Acceleration Completion: 2006 Accelerated Completions

Carlsbad	CB-0900: Pre-2004 Completions
Idaho	ID-OPS-0900-D: Pre-2004 Completions (Defense)
Oak Ridge	OR-0013A: Solid Waste Stabilization and Disposition-2006
Oak Ridge	OR-0030: Soil and Water Remediation-Melton Valley
Oak Ridge	OR-0900-D: Pre-2004 Completions (Defense)
Ohio	OH-AB-0030: Soil and Water Remediation-Ashtabula
Ohio	OH-CL-0040: Nuclear Facility D&D-West Jefferson
Ohio	OH-FN-0013: Solid Waste Stabilization and Disposition-Fernald
Ohio	OH-FN-0030: Soil and Water Remediation-Fernald
Ohio	OH-FN-0050: Non-Nuclear Facility D&D-Fernald
Ohio	OH-MB-0013: Solid Waste Stabilization and Disposition-Miamisburg
Ohio	OH-MB-0030: Soil and Water Remediation-Miamisburg
Ohio	OH-MB-0040: Nuclear Facility D&D-Miamisburg
Ohio	OH-OPS-0900-D: Pre-2004 Completions (Defense)
Portsmouth	PO-0900: Pre-2004 Completions
Richland	RL-0900: Pre-2004 Completions
Rocky Flats	RF-0011: NM Stabilization and Disposition
Rocky Flats	RF-0013: Solid Waste Stabilization and Disposition
Rocky Flats	RF-0030: Soil and Water Remediation
Rocky Flats	RF-0040: Nuclear Facility D&D-North Side Facility Closures
Rocky Flats	RF-0041: Nuclear Facility D&D-South Side Facility Closures
Savannah River	SR-0011A: NM Stabilization and Disposition-2006
Savannah River	SR-0900: Pre-2004 Completions
Various Locations	VL-FAO-0900: Pre-2004 Completions
Various Locations	VL-KCP-0030: Soil and Water Remediation-Kansas City Plant
Various Locations	VL-SN-0030: Soil and Water Remediation-Sandia
Various Locations	VL-LLNL-0013: Solid Waste Stabilization and Disposition-Lawrence Livermore National Laboratory
Various Locations	VL-LLNL-0030: Soil and Water Remediation-Lawrence Livermore National Laboratory - Main Site

Defense Site Acceleration Completion: 2012 Accelerated Completions

Idaho	ID-INEEL-0011: NM Stabilization and Disposition
Idaho	ID-INEEL-0012B-D: SNF Stabilization and Disposition-2012 (Defense)
Idaho	ID-INEEL-0013: Solid Waste Stabilization and Disposition
Idaho	ID-INEEL-0014B: Radioactive Liquid Tank Waste Stabilization and Disposition-2012
Idaho	ID-INEEL-0030B: Soil and Water Remediation-2012
Idaho	ID-INEEL-0040B: Nuclear Facility D&D-2012

Idaho	ID-INEEL-0050B: Non-Nuclear Facility D&D-2012
Oak Ridge	OR-0013B: Solid Waste Stabilization and Disposition-2012
Oak Ridge	OR-0031: Soil and Water Remediation-Offsites
Oak Ridge	OR-0043: Nuclear Facility D&D-East Tennessee Technology Park (Defense)
Richland	RL-0011: NM Stabilization and Disposition-PFP
Richland	RL-0012: SNF Stabilization and Disposition
Richland	RL-0041: Nuclear Facility D&D-River Corridor Closure Project
River Protection	ORP-0060: Major Construction-Waste Treatment Plant
Savannah River	SR-0011B: NM Stabilization and Disposition-2012
Various Locations	VL-LANL-0013: Solid Waste Stabilization and Disposition-LANL Legacy
Various Locations	VL-PX-0030: Soil and Water Remediation-Pantex
Various Locations	VL-PX-0040: Nuclear Facility D&D-Pantex
Various Locations	VL-NV-0013: Solid Waste Stabilization and Disposition-Nevada Test Site
Various Locations	VL-LLNL-0031: Soil and Water Remediation-Lawrence Livermore National Laboratory - Site 300
Various Locations	VL-FOO-0013B-D: Solid Waste Stabilization and Disposition-Oakland Sites-2012 (Defense)

Defense Site Acceleration Completion: 2035 Accelerated Completions

Carlsbad	CB-0080: Operate Waste Disposal Facility-WIPP
Carlsbad	CB-0090: Transportation-WIPP
Idaho	ID-INEEL-0012C: SNF Stabilization and Disposition-2035
Idaho	ID-INEEL-0014C: Radioactive Liquid Tank Waste Stabilization and Disposition-2035
Idaho	ID-INEEL-0030C: Soil and Water Remediation-2035
Idaho	ID-INEEL-0040C: Nuclear Facility D&D-2035
Idaho	ID-INEEL-0050C: Non-Nuclear Facility D&D-2035
Oak Ridge	OR-0041: Nuclear Facility D&D-Y-12
Oak Ridge	OR-0042: Nuclear Facility D&D-Oak Ridge National Laboratory
Richland	RL-0013: Solid Waste Stabilization and Disposition-200 Area
Richland	RL-0030: Soil and Water Remediation-Groundwater/Vadose Zone
Richland	RL-0040: Nuclear Facility D&D-Remainder of Hanford
Richland	RL-0080: Operate Waste Disposal Facility
River Protection	ORP-0014: Radioactive Liquid Tank Waste Stabilization and Disposition
Savannah River	SR-0011C: NM Stabilization and Disposition-2035
Savannah River	SR-0012: SNF Stabilization and Disposition
Savannah River	SR-0013: Solid Waste Stabilization and Disposition
Savannah River	SR-0014C: Radioactive Liquid Tank Waste Stabilization and Disposition-2035
Savannah River	SR-0030: Soil and Water Remediation
Savannah River	SR-0040: Nuclear Facility D&D
Various Locations	VL-LANL-0030: Soil and Water Remediation-LANL
Various Locations	VL-NV-0030: Soil and Water Remediation-Nevada Test Site and Offsites
Various Locations	VL-NV-0080: Operate Waste Disposal Facility-Nevada
Various Locations	VL-SPRU-0040: Nuclear Facility D&D-Separations Process Research Unit

Defense Site Acceleration Completion: Safeguards and Security

Carlsbad CB-0020: Safeguards and Security
Oak Ridge OR-0020: Safeguards and Security
Ohio OH-FN-0020: Safeguards and Security-Fernald
Ohio OH-MB-0020: Safeguards and Security-Miamisburg
Ohio OH-WV-0020: Safeguards and Security-West Valley
Paducah PA-0020: Safeguards and Security
Portsmouth PO-0020: Safeguards and Security
Richland RL-0020: Safeguards and Security
Rocky Flats RF-0020: Safeguards and Security
Savannah River SR-0020: Safeguards and Security

Defense Site Acceleration Completion: Technology Development and Deployment

Technology Development HQ-TD-0100: Technology Development

Defense Environmental Services: Non-Closure Environmental Activities

Headquarters HQ-HLW-0014X: Radioactive Liquid Tank Waste Stabilization and Disposition-Storage Operations Awaiting Geologic Repository
Headquarters HQ-MS-0100: Policy, Management, and Technical Support
Headquarters HQ-OPS-0900: Pre-2004 Completions
Headquarters HQ-SNF-0012X: SNF Stabilization and Disposition-Storage Operations Awaiting Geologic Repository
Headquarters HQ-SNF-0012Y: SNF Stabilization and Disposition-New/Upgraded Facilities Awaiting Geologic Repository
Headquarters HQ-SW-0013X: Solid Waste Stabilization and Disposition-Science Current Generation
Headquarters HQ-SW-0013Y: Solid Waste Stabilization and Disposition-NNSA Current Generation
Idaho ID-GJ-0102: Rocky Flats Wildlife Refuge and Museum
Oak Ridge OR-0101: Oak Ridge Contract/Post-Closure Liabilities/Administration
Ohio OH-FN-0100: Fernald Post-Closure Administration
Ohio OH-MB-0100: Miamisburg Post-Closure Administration
Rocky Flats RF-0100: Rocky Flats Environmental Technology Site Contract Liabilities
Savannah River SR-0100: Non-Closure Mission Support
Various Locations VL-FAO-0100-D: Nuclear Material Stewardship (Defense)
Various Locations VL-SV-0100: South Valley Superfund

Defense Environmental Services: Community and Regulatory Support

Carlsbad CB-0100: US/Mexico/Border/Material Partnership Initiative
Carlsbad CB-0101: Economic Assistance to the State of New Mexico
Idaho ID-INEEL-0100: Idaho Community and Regulatory Support
Oak Ridge OR-0100: Oak Ridge Reservation Community & Regulatory Support (Defense)
Ohio OH-FN-0101: Fernald Community and Regulatory Support
Ohio OH-MB-0101: Miamisburg Community and Regulatory Support
Richland RL-0100: Richland Community and Regulatory Support

Rocky Flats	RF-0101: Rocky Flats Community and Regulatory Support
Savannah River	SR-0101: Savannah River Community and Regulatory Support
Various Locations	VL-FAO-0101: Misc Programs and Agreements in Principle
Various Locations	VL-NV-0100: Nevada Community and Regulatory Support
Various Locations	VL-FOO-0100-D: Oakland Community and Regulatory Support (Defense)

Defense Environmental Services: Program Direction

Program Direction	HQ-PD-0100: Program Direction
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Defense Environmental Services: Federal Contribution to the Uranium Enrichment D&D Fund

D&D Fund Deposit	HQ-DD-0100: Federal Contribution to the Uranium Enrichment D&D Fund
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Non-Defense Site Acceleration Completion: 2006 Accelerated Completions

Chicago	CH-ANLE-0030: Soil and Water Remediation-Argonne National Laboratory-East
Chicago	CH-ANLW-0030: Soil and Water Remediation-Argonne National Laboratory-West
Chicago	CH-BRNL-0030: Soil and Water Remediation-Brookhaven National Laboratory
Chicago	CH-BRNL-0040: Nuclear Facility D&D-Brookhaven Graphite Research Reactor
Chicago	CH-OPS-0900: Pre-2004 Completions
Chicago	CH-PPPL-0030: Soil and Water Remediation-Princeton Site A/B
Oak Ridge	OR-0900-N: Pre-2004 Completions (Non-Defense)
Ohio	OH-OPS-0900-N: Pre-2004 Completions (Non-Defense)
Ohio	OH-WV-0012: SNF Stabilization and Disposition-West Valley
Various Locations	VL-ITL-0030: Soil and Water Remediation-Inhalation Toxicology Laboratory
Various Locations	VL-GA-0012: SNF Stabilization and Disposition-General Atomics
Various Locations	VL-LEHR-0040: Nuclear Facility D&D-Laboratory for Energy-Related Health Research
Various Locations	VL-LBNL-0030: Soil and Water Remediation-Lawrence Berkeley National Laboratory
Various Locations	VL-FOO-0900-N: Pre-2004 Completions (Non-Defense)
Various Locations	VL-SLAC-0030: Soil and Water Remediation-Stanford Linear Accelerator Center

Non-Defense Site Acceleration Completion: 2012 Accelerated Completions

Chicago	CH-ANLE-0040: Nuclear Facility D&D-Argonne National Laboratory-East
Chicago	CH-BRNL-0041: Nuclear Facility D&D-High Flux Beam Reactor
Ohio	OH-WV-0013: Solid Waste Stabilization and Disposition-West Valley
Ohio	OH-WV-0040: Nuclear Facility D&D-West Valley
Various Locations	VL-ETEC-0040: Nuclear Facility D&D-Energy Technology Engineering Center
Various Locations	VL-FOO-0013B-N: Solid Waste Stabilization and Disposition-Oakland Sites-2012 (Non-Defense)

Non-Defense Site Acceleration Completion: 2035 Accelerated Completions

Idaho	ID-GJ-0031: Soil and Water Remediation-Moab
Ohio	OH-WV-0014: Radioactive Liquid Tank Waste Stabilization and Disposition-West Valley High-Level Waste Storage
Various Locations	VL-LANL-0040-N: Nuclear Facility D&D-LANL (Non-Defense)
Various Locations	VL-GE-0040: Nuclear Facility D&D-General Electric

Non-Defense Environmental Services: Non-Closure Environmental Activities

Oak Ridge	OR-0011Y: NM Stabilization and Disposition-ETTP Uranium Facilities Management
Paducah	PA-0011: NM Stabilization and Disposition-Paducah Uranium Facilities Management
Paducah	PA-0011X: NM Stabilization and Disposition-Depleted Uranium Hexafluoride Conversion
Paducah	PA-0101: Paducah Contract/Post-Closure Liabilities/Administration (Non-Defense)
Portsmouth	PO-0011: NM Stabilization and Disposition-Portsmouth Other Uranium Facilities Management
Portsmouth	PO-0011X: NM Stabilization and Disposition-Depleted Uranium Hexafluoride Conversion
Portsmouth	PO-0041: Nuclear Facility D&D-Portsmouth GCEP
Portsmouth	PO-0101: Portsmouth Cold Standby
Various Locations	VL-FAO-0100-N: Nuclear Material Stewardship (Non-Defense)

Non-Defense Environmental Services: Community and Regulatory Support

Chicago	CH-BRNL-0100: Brookhaven Community and Regulatory Support
Paducah	PA-0100: Paducah Community and Regulatory Support (Non-Defense)
Portsmouth	PO-0100: Portsmouth Community and Regulatory Support (Non-Defense)
Various Locations	VL-FOO-0100-N: Oakland Community and Regulatory Support (Non-Defense)

Non-Defense Environmental Services: Environmental Cleanup Projects

Richland	RL-0042: Nuclear Facility D&D-Fast Flux Test Facility Project
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Uranium Enrichment Decontamination and Decommissioning Fund: Uranium Enrichment D&D Fund

Headquarters	HQ-UR-0100: Reimbursements to Uranium/Thorium Licensees
Oak Ridge	OR-0040: Nuclear Facility D&D-East Tennessee Technology Park (D&D Fund)
Oak Ridge	OR-0102: East Tennessee Technology Park Contract/Post-Closure Liabilities/Administration
Oak Ridge	OR-0103: Oak Ridge Reservation Community & Regulatory Support (D&D Fund)
Paducah	PA-0013: Solid Waste Stabilization and Disposition
Paducah	PA-0040: Nuclear Facility D&D-Paducah
Paducah	PA-0102: Paducah Contract/Post-Closure Liabilities/Administration (D&D Fund)
Paducah	PA-0103: Paducah Community and Regulatory Support (D&D Fund)
Portsmouth	PO-0013: Solid Waste Stabilization and Disposition
Portsmouth	PO-0040: Nuclear Facility D&D-Portsmouth
Portsmouth	PO-0103: Portsmouth Contract/Post-Closure Liabilities/Administration (D&D Fund)
Portsmouth	PO-0104: Portsmouth Community and Regulatory Support (D&D Fund)

Appendix D
Ancillary Tables

EM Corporate Performance Measures ^{a b}

Totals by Site ^c

	Quantities				
	Pre- FY 2002	FY 2002 Actuals	FY 2003 Estimate	FY 2004 Estimate	Life-cycle
Carlsbad					
Waste Isolation Pilot Plant					
Geographic Sites Eliminated (# of sites)	0	0	0	0	1
Chicago					
Ames Laboratory					
Geographic Sites Eliminated (# of sites)	1	0	0	0	1
Argonne National Laboratory - East					
Radioactive Facility Completions (# of facilities)	61	2	3	0	78
Geographic Sites Eliminated (# of sites)	0	0	0	0	1
Remediation Complete (# of release sites)	435	4	4	3	446
Argonne National Laboratory - West					
Geographic Sites Eliminated (# of sites)	1	0	0	0	1
Remediation Complete (# of release sites)	37	0	0	0	37
Brookhaven National Laboratory					
Radioactive Facility Completions (# of facilities)	2	1	0	1	10
Geographic Sites Eliminated (# of sites)	0	0	0	0	1
Remediation Complete (# of release sites)	67	1	0	0	76
Chicago Operations Office					
Low-Level and Mixed Low-Level Waste Disposed (cubic meters)	537	0	0	0	537
Geographic Sites Eliminated (# of sites)	3	0	0	0	3
Remediation Complete (# of release sites)	30	0	0	0	30

^a This chart provides a consistent set of performance measures for the total EM program. The project-level justification provides a description of significant activities for each project including performance measures and project-specific milestones, as applicable.

^b Life-cycle estimates for release sites, facilities, and high-level waste containers include pre-1997 actuals. Quantities for all other measures except low-level and mixed low-level waste disposal begin in 1997. Low-level and mixed low-level waste disposal begins in 1998.

^c A site consists of groups of installations, for which EM may report Budget Authority separately yet report costs and performance measures collectively.

	Pre- FY 2002	FY 2002 Actuals	FY 2003 Estimate	FY 2004 Estimate	Life-cycle
Fermi National Accelerator Laboratory Geographic Sites Eliminated (# of sites)	1	0	0	0	1
Princeton Plasma Physics Laboratory Geographic Sites Eliminated (# of sites)	1	0	0	0	1
Headquarters					
Idaho National Engineering and Environmental Laboratory Spent Nuclear Fuel Packaged for Final Disposition (MTHM)	0	0	0	0	253
Lawrence Livermore National Laboratory Transuranic Waste Shipped for Disposal at WIPP (cubic meters)	0	0	0	105	105
Low-Level and Mixed Low-Level Waste Disposed (cubic meters)	336	0	0	0	336
Oak Ridge Reservation Low-Level and Mixed Low-Level Waste Disposed (cubic meters)	6,597	466	5,416	1,812	14,291
Idaho					
Grand Junction Office Geographic Sites Eliminated (# of sites)	1	0	0	0	1
Idaho National Engineering and Environmental Laboratory Enriched Uranium Packaged for Long-Term Storage (# of containers)	0	0	68	698	1,106
Depleted and Other Uranium Packaged for Disposition (metric tons)	0	0	0	0	0
Liquid Waste in Inventory Eliminated (thousands of gallons)	0	0	0	0	900
Liquid Waste Tanks Closed (# of tanks)	0	0	1	1	11
High-Level Waste Packaged for Final Disposition (# of containers)	0	0	0	0	4,200
Transuranic Waste shipped for Disposal at WIPP (cubic meters)	816	2,050	623	7,615	66,139
Low-Level and Mixed Low-Level Waste Disposed (cubic meters)	18,140	4,345	4,450	8,540	98,550
Material Access Areas Eliminated (# of areas)	0	0	0	0	1
Nuclear Facility Completions (# of facilities)	13	0	0	0	86
Radioactive Facility Completions (# of facilities)	4	1	0	3	37
Industrial Facility Completions (# of facilities)	46	0	3	4	242
Geographic Sites Eliminated (# of sites)	0	0	0	0	1
Remediation Complete (# of release sites)	84	13	41	3	268
Idaho Operations Office Remediation Complete (# of release sites)	233	0	0	0	233

	Pre- FY 2002	FY 2002 Actuals	FY 2003 Estimate	FY 2004 Estimate	Life-cycle
Maxey Flats					
Geographic Sites Eliminated (# of sites)	0	0	1	0	1
Moab					
Geographic Sites Eliminated (# of sites)	0	0	0	0	1
Monticello					
Geographic Sites Eliminated (# of sites)	1	0	0	0	1
Pinellas					
Geographic Sites Eliminated (# of sites)	1	0	0	0	1
Ohio					
Ashtabula Environmental Management Project					
Low-Level and Mixed Low-Level Waste Disposed (cubic meters)	8	2	94	0	104
Radioactive Facility Completions (# of facilities)	7	8	2	0	25
Industrial Facility Completions (# of facilities)	0	1	0	0	7
Geographic Sites Eliminated (# of sites)	0	0	0	0	1
Remediation Complete (# of release sites)	0	0	0	0	3
Columbus Environmental Management Project					
Nuclear Facility Completions (# of facilities)	0	0	0	0	1
Radioactive Facility Completions (# of facilities)	12	0	0	2	14
Geographic Sites Eliminated (# of sites)	1	0	0	0	2
Remediation Complete (# of release sites)	1	0	0	0	2
Fernald Environmental Management Project					
Low-Level and Mixed Low-Level Waste Disposed (cubic meters)	4,201	316	2,962	15	7,494
Radioactive Facility Completions (# of facilities)	14	2	4	4	29
Industrial Facility Completions (# of facilities)	0	0	0	1	1
Geographic Sites Eliminated (# of sites)	0	0	0	0	1
Remediation Complete (# of release sites)	2	0	0	0	6
Miamisburg Environmental Management Project					
Low-Level and Mixed Low-Level Waste Disposed (cubic meters)	3,947	0	0	0	3,947
Nuclear Facility Completions (# of facilities)	0	0	0	0	8
Radioactive Facility Completions (# of facilities)	0	0	0	0	11
Industrial Facility Completions (# of facilities)	37	22	3	10	116
Geographic Sites Eliminated (# of sites)	0	0	0	0	1
Remediation Complete (# of release sites)	99	5	4	2	178
Ohio Field Office					
High-Level Waste Packaged for Final Disposition (# of containers)	262	13	0	0	275

	Pre- FY 2002	FY 2002 Actuals	FY 2003 Estimate	FY 2004 Estimate	Life-cycle
West Valley Demonstration Project					
Liquid Waste Tanks Closed (# of tanks)	0	0	0	0	2
Transuranic Waste Shipped for Disposal at WIPP (cubic meters)	0	0	0	0	692
Low-Level and Mixed Low-Level Waste Disposed (cubic meters)	3,555	467	0	0	23,844
Geographic Sites Eliminated (# of sites)	0	0	0	0	1
Remediation Complete (# of release sites)	0	0	0	0	1
<u>Oak Ridge</u>					
FUSRAP					
Geographic Sites Eliminated (# of sites)	25	0	0	0	25
Oak Ridge Operations Office					
Geographic Sites Eliminated (# of sites)	1	0	0	0	1
Oak Ridge Reservation					
Enriched Uranium Packaged for Long-Term Storage (# of containers)	0	0	0	0	673
Depleted and Other Uranium Packaged for Disposition (metric tons)	0	0	0	0	56,988
Transuranic Waste Shipped for Disposal at WIPP (cubic meters)	0	0	0	250	646
Low-Level and Mixed Low-Level Waste Disposed (cubic meters)	19,106	4,155	4,522	8,752	53,478
Nuclear Facility Completions (# of facilities)	2	0	0	0	28
Radioactive Facility Completions (# of facilities)	1	5	0	5	48
Industrial Facility Completions (# of facilities)	71	6	7	17	170
Geographic Sites Eliminated (# of sites)	1	0	0	0	2
Remediation Complete (# of release sites)	216	33	8	20	650
Weldon Spring Site					
Geographic Sites Eliminated (# of sites)	0	1	0	0	1
<u>Paducah</u>					
Paducah Gaseous Diffusion Plant					
Enriched Uranium Packaged for Long-Term Storage (# of containers)	0	0	0	0	182
Depleted and Other Uranium Packaged for Disposition (metric tons)	0	0	0	0	453,312
Low-Level and Mixed Low-Level Waste Disposed (cubic meters)	683	0	1,875	75	14,719
Radioactive Facility Completions (# of facilities)	0	0	0	0	2
Geographic Sites Eliminated (# of sites)	0	0	0	0	1
Remediation Complete (# of release sites)	83	0	3	1	237

Pre-FY 2002	FY 2002 Actuals	FY 2003 Estimate	FY 2004 Estimate	Life-cycle
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Portsmouth

Portsmouth Gaseous Diffusion Plant

Enriched Uranium Packaged for Long-Term Storage (# of containers)	0	0	0	0	1,450
Depleted and Other Uranium Packaged for Disposition (metric tons)	0	0	0	0	205,567
Low-Level and Mixed Low-Level Waste Disposed (cubic meters)	9,106	4,143	2,003	1,143	32,972
Geographic Sites Eliminated (# of sites)	0	0	0	0	1
Remediation Complete (# of release sites)	141	0	2	0	157

Rocky Flats

Rocky Flats Environmental Technology Site

Plutonium Metal or Oxide Packaged for Long-Term Storage (# of containers)	62	922	716	0	1,700
Plutonium or Uranium Residues Packaged for Disposition (kg/bulk)	87,907	15,994	0	0	103,901
Transuranic Waste Shipped for Disposal at WIPP (cubic meters)	1,356	2,903	2,065	2,344	12,355
Low-Level and Mixed Low-Level Waste Disposed (cubic meters)	12,815	2,797	39,788	53,882	210,798
Material Access Areas Eliminated (# of areas)	6	0	0	1	7
Nuclear Facility Completions (# of facilities)	1	0	0	1	6
Radioactive Facility Completions (# of facilities)	0	0	0	14	54
Industrial Facility Completions (# of facilities)	99	52	6	40	317
Geographic Sites Eliminated (# of sites)	0	0	0	0	1
Remediation Complete (# of release sites)	170	7	9	8	240

Richland

Hanford Site

Plutonium Metal or Oxide Packaged for Long-Term Storage (# of containers)	400	100	2,000	532	3,032
Enriched Uranium Packaged for Long-Term Storage (# of containers)	1,648	0	0	0	2,958
Plutonium or Uranium Residues Packaged for Disposition (kg/bulk)	665	1,731	895	176	3,467
Depleted and Other Uranium Packaged for Disposition (metric tons)	3,100	0	0	0	3,100
Spent Nuclear Fuel Packaged for Final Disposition (MTHM)	127	511	855	632	2,131
Transuranic Waste Shipped for Disposal at WIPP (cubic meters)	81	18	78	200	28,369
Low-Level and Mixed Low-Level Waste Disposed (cubic meters)	28,648	4,200	5,537	4,648	153,487
Material Access Areas Eliminated (# of areas)	0	0	0	0	2
Nuclear Facility Completions (# of facilities)	0	1	2	2	172
Radioactive Facility Completions (# of facilities)	0	0	1	2	415
Industrial Facility Completions (# of facilities)	142	19	3	3	855

	Pre-FY 2002	FY 2002 Actuals	FY 2003 Estimate	FY 2004 Estimate	Life-cycle
Geographic Sites Eliminated (# of sites)	0	0	0	0	1
Remediation Complete (# of release sites)	218	12	32	37	1,618

River Protection

Office of River Protection

Liquid Waste in Inventory Eliminated (thousands of gallons)	0	0	0	0	54,000
Liquid Waste Tanks Closed (# of tanks)	0	0	0	6	177
High-Level Waste Packaged for Final Disposition (# of containers)	0	0	0	0	11,770
Transuranic Waste Shipped for Disposal at WIPP (cubic meters)	0	0	0	0	5,500
Low-Level and Mixed Low-Level Waste Disposed (cubic meters)	0	0	0	0	262,300
Nuclear Facility Completions (# of facilities)	0	0	0	0	18
Radioactive Facility Completions (# of facilities)	0	0	0	0	28
Industrial Facility Completions (# of facilities)	0	0	0	0	102
Remediation Complete (# of release sites)	5	0	0	0	322

Savannah River

Savannah River Site

Plutonium Metal or Oxide Packaged for Long-Term Storage (# of containers)	0	0	120	423	750
Enriched Uranium Packaged for Long-Term Storage (# of containers)	0	0	225	612	2,809
Plutonium or Uranium Residues Packaged for Disposition (kg/bulk)	133	89	39	78	414
Depleted and Other Uranium Packaged for Disposition (metric tons)	0	0	1,815	0	23,182
Liquid Waste in Inventory Eliminated (thousands of gallons)	0	0	700	1,300	33,100
Liquid Waste Tanks Closed (# of tanks)	2	0	0	2	51
High-Level Waste Packaged for Final Disposition (# of containers)	1,177	160	130	250	5,060
Spent Nuclear Fuel Packaged for Final Disposition (MTHM)	0	0	2	1	36
Transuranic Waste Shipped for Disposal at WIPP (cubic meters)	60	136	840	840	15,326
Low-Level and Mixed Low-Level Waste Disposed (cubic meters)	33,093	14,171	11,012	10,744	219,526
Material Access Areas Eliminated (# of areas)	0	0	0	0	4
Nuclear Facility Completions (# of facilities)	0	0	0	2	200
Radioactive Facility Completions (# of facilities)	0	0	0	5	45
Industrial Facility Completions (# of facilities)	0	0	21	23	592
Geographic Sites Eliminated (# of sites)	0	0	0	0	1
Remediation Complete (# of release sites)	267	14	13	13	515

Pre-FY 2002	FY 2002 Actuals	FY 2003 Estimate	FY 2004 Estimate	Life-cycle
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Various Locations

Albuquerque Operations Office					
Low-Level and Mixed Low-Level Waste Disposed (cubic meters)	1,319	0	0	0	1,325
Geographic Sites Eliminated (# of sites)	5	0	0	0	5
Remediation Complete (# of release sites)	155	0	0	0	155
Grand Junction Office (Oxnard Facility)					
Geographic Sites Eliminated (# of sites)	1	0	0	0	1
Inhalation Toxicology Laboratory					
Low-Level and Mixed Low-Level Waste Disposed (cubic meters)	0	0	35	35	105
Geographic Sites Eliminated (# of sites)	1	0	0	0	1
Remediation Complete (# of release sites)	9	0	0	0	9
Kansas City Plant					
Geographic Sites Eliminated (# of sites)	0	0	0	0	1
Remediation Complete (# of release sites)	40	0	0	0	41
Los Alamos National Laboratory					
Transuranic Waste Shipped for Disposal at WIPP (cubic meters)	285	15	412	618	4,420
Low-Level and Mixed Low-Level Waste Disposed (cubic meters)	891	4,994	24	0	5,909
Radioactive Facility Completions (# of facilities)	0	0	0	0	1
Geographic Sites Eliminated (# of sites)	0	0	0	0	1
Remediation Complete (# of release sites)	1,309	3	8	4	1,816
Pantex Plant					
Industrial Facility Completions (# of facilities)	1	0	0	0	5
Geographic Sites Eliminated (# of sites)	0	0	0	0	1
Remediation Complete (# of release sites)	93	0	2	0	250
Sandia National Laboratories					
Low-Level and Mixed Low-Level Waste Disposed (cubic meters)	8	0	0	0	8
Radioactive Facility Completions (# of facilities)	1	0	0	0	1
Geographic Sites Eliminated (# of sites)	1	0	0	0	2
Remediation Complete (# of release sites)	248	1	1	3	256
South Valley Superfund Site					
Geographic Sites Eliminated (# of sites)	1	0	0	0	1
Remediation Complete (# of release sites)	1	0	0	0	1
UMTRA - Surface					
Geographic Sites Eliminated (# of sites)	24	0	0	0	24

	Pre- FY 2002	FY 2002 Actuals	FY 2003 Estimate	FY 2004 Estimate	Life-cycle
Nevada Operations Office					
Low-Level and Mixed Low-Level Waste Disposed (cubic meters)	81,616	65,717	0	0	147,333
Geographic Sites Eliminated (# of sites)	1	0	1	0	9
Remediation Complete (# of release sites)	664	15	46	55	2,101
Nevada Test Site					
Transuranic Waste Shipped for Disposal at WIPP (cubic meters)	0	0	18	198	734
Geographic Sites Eliminated (# of sites)	0	0	0	0	2
Energy Technology Engineering Center					
Transuranic Waste Shipped for Disposal at WIPP (cubic meters)	0	0	11	0	11
Low-Level and Mixed Low-Level Waste Disposed (cubic meters)	130	7	56	390	1,335
Radioactive Facility Completions (# of facilities)	3	0	0	1	6
Industrial Facility Completions (# of facilities)	11	1	0	0	13
Geographic Sites Eliminated (# of sites)	0	0	0	0	1
Remediation Complete (# of release sites)	4	0	0	3	10
General Atomics					
Spent Nuclear Fuel Packaged for Final Disposition (MTHM)	1	0	0	0	1
Low-Level and Mixed Low-Level Waste Disposed (cubic meters)	1,716	0	0	0	1,716
Geographic Sites Eliminated (# of sites)	1	0	0	0	1
Remediation Complete (# of release sites)	2	0	0	0	2
General Electric					
Geographic Sites Eliminated (# of sites)	0	0	0	0	1
Geothermal Test Facility					
Geographic Sites Eliminated (# of sites)	1	0	0	0	1
Laboratory for Energy-Related Health Research					
Low-Level and Mixed Low-Level Waste Disposed (cubic meters)	943	1	0	4	948
Industrial Facility Completions (# of facilities)	1	0	0	0	1
Geographic Sites Eliminated (# of sites)	0	0	0	0	1
Remediation Complete (# of release sites)	7	6	3	1	17
Lawrence Berkeley National Laboratory					
Remediation Complete (# of release sites)	136	0	17	21	185
Transuranic Waste Shipped for Disposal at WIPP (cubic meters)	0	0	88	0	88
Low-Level and Mixed Low-Level Waste Disposed (cubic meters)	683	26	375	650	2,759

	Pre- FY 2002	FY 2002 Actuals	FY 2003 Estimate	FY 2004 Estimate	Life-cycle
Geographic Sites Eliminated (# of sites)	0	0	0	0	1
Remediation Complete (# of release sites)	157	5	4	4	193
Lawrence Livermore National Laboratory					
Geographic Sites Eliminated (# of sites)	0	0	0	0	2
Oakland Operations Office					
Low-Level and Mixed Low-Level Waste Disposed (cubic meters)	271	1	0	0	272
Remediation Complete (# of release sites)	3	0	0	0	3
Separations Process Research Unit					
Transuranic Waste Shipped for Disposal at WIPP (cubic meters)	0	0	0	0	50
Nuclear Facility Completions (# of facilities)	0	0	0	0	4
Geographic Sites Eliminated (# of sites)	0	0	0	0	1
Remediation Complete (# of release sites)	0	0	0	0	6
Stanford Linear Accelerator Center					
Geographic Sites Eliminated (# of sites)	0	0	0	0	1
Remediation Complete (# of release sites)	13	3	0	2	18

Environmental Management Federal Staffing

(Full-Time Equivalents)

	FY 2002 Comparable Appropriation	FY 2003 Comparable Request	FY 2004 Request
Albuquerque	52	47	45
Carlsbad	64	55	53
Chicago	41	24	23
Idaho	105	73	68
Nevada	51	36	34
Oakland	68	62	60
Oak Ridge	135	121	118
Portsmouth/Paducah	19	19	19
Ohio	201	183	179
Richland	377	346	338
River Protection	123	110	107
Rocky Flats	177	159	156
Savannah River	454	414	408
Subtotal, Field Offices	1,867	1,649	1,608
Headquarters	395	364	364
Total, Full-Time Equivalents	2,262	2,013	1,972

Funding by Installation

(dollars in thousands)

	FY 2002 Comparable Appropriation	FY 2003 Comparable Request	FY 2004 Request
Carlsbad			
Carlsbad Field Office	27,804	26,450	25,972
Waste Isolation Pilot Plant	186,872	183,284	188,235
Total, Carlsbad	214,676	209,734	214,207
Chicago			
Argonne National Laboratory-East	4,083	3,239	1,890
Argonne National Laboratory-West	538	410	0
Brookhaven National Laboratory	28,394	35,995	39,499
Chicago Operations Office	1,682	325	0
Princeton Plasma Physics Laboratory	0	127	126
Total, Chicago	34,697	40,096	41,515
Idaho			
Atlas Site	3,400	1,316	2,000
Grand Junction	585	1,269	1,252
Idaho National Engineering & Environmental Laboratory ...	450,362	517,659	527,636
Idaho Operations Office	11,600	4,338	0
Total, Idaho	465,947	524,582	530,888
Oak Ridge			
East Tennessee Technology Park	125,198	176,855	184,130
Oak Ridge National Laboratory	31,387	45,075	41,772
Oak Ridge Operations Office	34,900	0	0
Oak Ridge Reservation	193,916	207,667	208,389
Y-12 Plant	55,298	22,888	46,689
Total, Oak Ridge	440,699	452,485	480,980
Paducah Gaseous Diffusion Plant	124,367	101,264	175,946
Portsmouth Gaseous Diffusion Plant	187,494	177,378	280,615

(dollars in thousands)

	FY 2002 Comparable Appropriation	FY 2003 Comparable Request	FY 2004 Request
Ohio			
Ashtabula	16,000	16,000	15,970
Columbus	16,100	21,100	23,058
Fernald	287,129	324,186	323,414
Miamisburg	96,777	100,028	99,824
Ohio Field Office	35,017	0	0
West Valley	69,788	97,210	102,128
Total, Ohio	520,811	558,524	564,394
Richland			
Hanford Site	779,448	837,421	949,629
Richland Operations Office	12,147	14,270	13,149
Total, Richland	791,595	851,691	962,778
River Protection			
Office of River Protection	1,023,484	1,126,858	1,079,316
Rocky Flats			
Rocky Flats Environmental Technology Site	657,911	657,122	658,201
Rocky Flats Field Office	5,601	6,878	5,758
Total, Rocky Flats	663,512	664,000	663,959
Savannah River			
Savannah River Operations Office	30,319	22,000	21,984
Savannah River Site	1,132,591	1,227,676	1,337,303
Total, Savannah River	1,162,910	1,249,676	1,359,287
Headquarters			
Headquarters	71,238	72,316	86,495
Idaho National Engineering Laboratory	54,630	63,479	58,625
Lawrence Livermore National Laboratory	21,272	21,000	20,675
Oak Ridge National Laboratory	6,376	6,565	9,038
Y-12 Plant	26,647	28,374	19,236
River Protection	4,755	5,255	0
Savannah River Site	9,629	21,280	17,733
Total, Headquarters	194,547	218,269	211,802

(dollars in thousands)

	FY 2002 Comparable Appropriation	FY 2003 Comparable Request	FY 2004 Request
D&D Fund Deposit	420,000	442,000	452,000
Program Direction	301,422	292,491	292,144
Technology Development	200,189	92,000	63,920
Various Locations			
Albuquerque Operations Office	30,240	16,096	3,495
Inhalation Toxicology Laboratory	1,391	1,072	483
Kansas City Plant	2,475	2,370	2,095
Los Alamos National Laboratory	74,047	100,283	116,613
Pantex Plant	13,547	15,618	21,433
Sandia National Laboratories	21,992	24,773	22,097
South Valley	2,166	1,700	0
Nevada Off-Sites/Operations Office	13,868	16,245	17,531
Nevada Test Site	71,098	76,615	72,805
Energy Technology Engineering Center	17,005	18,174	18,467
General Atomics	298	200	0
Laboratory for Energy-Related Health Research	5,864	4,798	3,318
Lawrence Berkeley National Laboratory	3,482	3,187	3,272
Lawrence Livermore National Laboratory	20,956	30,389	28,318
Oakland Operations Office	2,689	1,209	619
Separations Process Research Unit	1,205	4,329	5,565
Stanford Linear Accelerator Center	2,604	3,034	2,416
Total, Various Locations	284,927	320,092	318,527
Subtotal, Environmental Management	7,031,277	7,321,140	7,692,278
Use of Prior Year Balances (Defense)	-67,580	0	0
Reimbursable Work (S&S) (Offset)	-1,547	-1,344	-1,344
Use of Prior Year Balances (UE D&D Fund)	-3,000	0	0
SR Pension Fund (Defense ER&WM)	-5,099	0	0
D&D Fund Deposit (Offset)	-420,000	-442,000	-452,000
Total, Environmental Management	6,534,051	6,877,796	7,238,934

Funding Distribution by Appropriation and Program Account

(dollars in thousands)

	FY 2002 Comparable Appropriation	FY 2003 Comparable Request	FY 2004 Request
Defense Site Acceleration Completion			
2006 Accelerated Completions	1,207,401	1,231,911	1,245,171
2012 Accelerated Completions	2,075,289	2,192,088	2,228,314
2035 Accelerated Completions	1,627,631	1,884,074	1,978,597
Safeguards and Security	244,361	221,614	299,977
Technology Development and Deployment	200,189	92,000	63,920
Subtotal, Defense Site Acceleration Completion	5,354,871	5,621,687	5,815,979
Defense Environmental Services			
Non-Closure Environmental Activities	237,483	259,771	189,698
Community and Regulatory Support	66,222	66,151	61,337
Federal Contribution to the UE D&D Fund	420,000	442,000	452,000
Program Direction	301,422	292,491	292,144
Subtotal, Defense Environmental Services	1,025,127	1,060,413	995,179
Non-Defense Site Acceleration			
2006 Accelerated Completions	110,430	53,979	48,677
2012 Accelerated Completions	80,692	111,826	119,750
2035 Accelerated Completions	3,400	1,776	2,448
Subtotal, Non-Defense Site Acceleration	194,522	167,581	170,875
Non-Defense Environmental Services			
Non-Closure Environmental Activities	106,359	133,791	247,245
Community and Regulatory Support	5,442	3,079	1,034
Environmental Cleanup Projects	36,439	36,100	43,842
Subtotal, Non-Defense Environmental Services	148,240	172,970	292,121

(dollars in thousands)

	FY 2002 Comparable Appropriation	FY 2003 Comparable Request	FY 2004 Request
Uranium Enrichment Decontamination & Decommissioning Fund			
Uranium Enrichment D&D Fund	308,517	298,489	418,124
Subtotal, Uranium Enrichment D&D Fund	308,517	298,489	418,124
Subtotal, Environmental Management	7,031,277	7,321,140	7,692,278
UE D&D Fund Deposit (Offset)	-420,000	-442,000	-452,000
Use of Prior Year Balances (Defense)	-67,580	0	0
Reimbursable Work (Defense)	-1,547	-1,344	-1,344
Dupont Pension (Defense)	-5,099	0	0
Use of Prior Year Balances (UE D&D Fund)	-3,000	0	0
Total, Environmental Management	6,534,051	6,877,796	7,238,934

Detailed Internal Statistical Table - Budget Authority

(dollars in thousands)

	FY 2002 Comparable Appropriation	FY 2003 Comparable Request	FY 2004 Request
Defense Site Acceleration Completion			
2006 Accelerated Completions			
Operating	1,207,401	1,231,911	1,245,171
2012 Accelerated Completions			
Operating	1,407,383	1,500,969	1,512,554
Construction:			
01-D-414 Project Engineering and Design, Cathodic Protection System Expansion, ID	104	0	0
01-D-416 Waste Treatment and Immobilization Plant, RL	665,000	690,000	690,000
02-D-402 Cathodic Protection System Expansion, ID	2,802	1,119	1,126
04-D-414 Project Engineering and Design, 3013 Container Surveillance Capability in 235-F, SR	0	0	3,000
04-D-414 Project Engineering and Design, Sodium Bearing Waste, ID	0	0	20,500
04-D-423 3013 Container Surveillance Capability in 235- F, SR	<u>0</u>	<u>0</u>	<u>1,134</u>
Subtotal, Construction	<u>667,906</u>	<u>691,119</u>	<u>715,760</u>
Subtotal, 2012 Accelerated Completions	2,075,289	2,192,088	2,228,314
2035 Accelerated Completions			
Operating	1,627,631	1,868,911	1,892,884
Construction:			
03-D-403 Immobilized HLW Interim Storage Facility, RL	0	6,363	13,954
03-D-414 Project Engineering and Design, Salt Waste Processing Facility Alternative, SR	0	7,500	51,500
03-D-414 Project Engineering and Design, Glass Waste Storage Building #2, SR	0	1,300	0
04-D-408 Glass Waste Storage Building #2, SR	<u>0</u>	<u>0</u>	<u>20,259</u>
Subtotal, Construction	<u>0</u>	<u>15,163</u>	<u>85,713</u>
Subtotal, 2035 Accelerated Completions	1,627,631	1,884,074	1,978,597

(dollars in thousands)

	FY 2002 Comparable Appropriation	FY 2003 Comparable Request	FY 2004 Request
Safeguards and Security			
Operating	244,361	221,614	299,977
Technology Development and Deployment			
Operating	200,189	92,000	63,920
Subtotal, Defense Site Acceleration Completion	5,354,871	5,621,687	5,815,979
Defense Environmental Services			
Non-Closure Environmental Activities			
Operating	234,442	254,646	189,698
Construction:			
01-D-414 Project Engineering and Design, Immobilized HLW Interim Storage Facility, RL	<u>3,041</u>	<u>5,125</u>	<u>0</u>
Subtotal, Non-Closure Environmental Activities	237,483	259,771	189,698
Community and Regulatory Support			
Operating	66,222	66,151	61,337
Federal Contribution to the UE D&D Fund			
Operating	420,000	442,000	452,000
Program Direction			
Operating	301,422	292,491	292,144
Subtotal, Defense Environmental Services	1,025,127	1,060,413	995,179
Non-Defense Site Acceleration			
2006 Accelerated Completions			
Operating	110,430	53,979	48,677
2012 Accelerated Completions			
Operating	80,692	111,826	119,750
2035 Accelerated Completions			
Operating	3,400	1,776	2,448
Subtotal, Non-Defense Site Acceleration	194,522	167,581	170,875
Non-Defense Environmental Services			
Non-Closure Environmental Activities			
Operating	96,359	123,791	160,445
Construction:			

(dollars in thousands)

	FY 2002 Comparable Appropriation	FY 2003 Comparable Request	FY 2004 Request
02-U-101 Depleted Uranium Hexafluoride Conversion Project, Paducah, KY & Portsmouth, OH	<u>10,000</u>	<u>10,000</u>	<u>86,800</u>
Subtotal, Construction	<u>10,000</u>	<u>10,000</u>	<u>86,800</u>
Subtotal, Non-Closure Environmental Activities	106,359	133,791	247,245
Community and Regulatory Support			
Operating	5,442	3,079	1,034
Environmental Cleanup Projects			
Operating	<u>36,439</u>	<u>36,100</u>	<u>43,842</u>
Total, Non-Defense Environmental Services	<u>148,240</u>	<u>172,970</u>	<u>292,121</u>
Uranium Enrichment Decontamination & Decommissioning Fund			
Uranium Enrichment D&D Fund			
Operating	<u>308,517</u>	<u>298,489</u>	<u>418,124</u>
Subtotal, Uranium Enrichment D&D Fund	<u>308,517</u>	<u>298,489</u>	<u>418,124</u>
Subtotal, Environmental Management	7,031,277	7,321,140	7,692,278
UE D&D Fund Deposit (Offset)	-420,000	-442,000	-452,000
Use of Prior Year Balances (Defense) (Offset)	-67,580	0	0
Reimbursable Work (Defense)	-1,547	-1,344	-1,344
Dupont Pension (Defense)	-5,099	0	0
Use of Prior Year Balances (UE D&D Fund)	<u>-3,000</u>	<u>0</u>	<u>0</u>
Total, Environmental Management	<u>6,534,051</u>	<u>6,877,796</u>	<u>7,238,934</u>

Budget Authority
Estimates by Project Baseline Summary Category

(Dollars in Thousands)

	FY 2002 Comparable Appropriation	FY 2003 Comparable Request	FY 2004 Request
Nuclear Material Stabilization and Disposition	592,338	614,958	711,515
Spent Nuclear Fuel Stabilization and Disposition	403,617	410,845	376,192
Solid Waste Stabilization and Disposition	949,848	1,009,248	1,050,967
Radioactive Liquid Waste Stabilization and Disposition	863,087	1,062,605	1,051,863
Radioactive Liquid Waste Stabilization and Disposition - Major Construction	665,000	690,000	690,000
Safeguards and Security	244,361	221,614	299,977
Soil and Water Remediation	680,542	867,241	866,612
Nuclear Facility Decontamination and Decommissioning	1,095,039	1,106,390	1,272,342
Non-Nuclear Facility Decontamination and Decommissioning	31,264	25,208	55,807
Operate Waste Disposal Facility	154,916	163,256	157,954
Waste and Material Transportation	43,522	35,624	45,247
Technology Development	200,189	92,000	63,920
Community and Regulatory Support	43,763	43,108	41,632
Program Direction	301,422	292,491	292,144
Federal Contribution to the Uranium Enrichment D&D Fund . .	420,000	442,000	452,000
Pre-2004 Completions	105,392	40,663	0
Other	236,977	203,889	264,106
Subtotal, EM	7,031,277	7,321,140	7,692,278
Uranium Enrichment D&D Fund Offset	-420,000	-442,000	-452,000
Use of Prior Year Balances	-70,580	0	0
Reimbursable Work	-1,547	-1,344	-1,344
Dupont Pension Offset	-5,099	0	0
Total, EM	6,534,051	6,877,796	7,238,934

Environmental Management

Budget Authority Distribution and Lifecycle Costs by Project Baseline Summary

(dollars in thousands)

Office/ Installation	Project Number	Project Name	Costs	Budget Authority					Planned Compl. Date
			Lifecycle (current \$) 1997-2070	Prior Year (FY97-01)	FY 2002 Current Approp	FY 2003 Current Approp	FY 2004 Request	Unappropri- ated Balance	
Carlsbad									
WIPP	CB-0020	Safeguards and Security	162,819	2,798	2,739	2,506	3,461	151,315	9/30/2035
WIPP	CB-0080	Operate Waste Disposal Facility -WIPP	7,281,215	821,287	143,350	147,660	142,988	6,025,930	9/30/2035
WIPP	CB-0090	Transportation - WIPP	1,306,130	103,461	43,522	35,624	45,247	1,078,276	9/30/2030
WIPP	CB-0100	US/Mexico/Border/Materials Partnership Initiative	3,386	3,000	3,000	0	0	See below ^a	9/30/2006
WIPP	CB-0101	Economic Assistance to the State of New Mexico	244,113	0	22,065	23,944	22,511	175,593	9/30/2011
WIPP	CB-0900	Pre-2004 Completions	1,376	40,605	0	0	0	0 ^b	9/30/2003
Subtotal, Carlsbad			<u>8,999,039</u>	<u>971,151</u>	<u>214,676</u>	<u>209,734</u>	<u>214,207</u>	<u>7,431,114</u>	
Chicago									
ANL-E	CH-ANLE-0030	Soil and Water Remediation-Argonne National Laboratory-East	30,691	21,944	4,060	2,856	1,542	289	9/30/2003
ANL-E	CH-ANLE-0040	Nuclear Facility D&D-Argonne National Laboratory -East	28,066	26,164	23	383	348	1,148	9/30/2009
ANL-W	CH-ANLW-0030	Soil and Water Remediation-Argonne National Laboratory-West	7,939	6,445	538	410	0	546	9/30/2003

^a The unappropriated balance cannot be determined until EM conducts the 2003 lifecycle cost estimate for this project.

^b A portion of the Budget Authority in FY 1997-2001 includes funding for a privatization project that was canceled and was used as a "Use of Prior Year Balances" offset in future years. Thus, there are no lifecycle costs related to this privatization project resulting in a lower overall lifecycle cost than the budget authority appropriated for this PBS.

(dollars in thousands)

Office/ Installation	Project Number	Project Name	Costs	Budget Authority				Unappropriated Balance	Planned Compl. Date
			Lifecycle (current \$) 1997-2070	Prior Year (FY97-01)	FY 2002 Current Approp	FY 2003 Current Approp	FY 2004 Request		
BRNL	CH-BRNL-0030	Soil and Water Remediation-Brookhaven National Laboratory	227,144	95,551	18,060	25,429	30,241	57,863	9/30/2005
BRNL	CH-BRNL-0040	Nuclear Facility D&D-Brookhaven Graphite Research Reactor	49,144	17,034	8,894	8,941	7,279	6,996	9/30/2005
BRNL	CH-BRNL-0041	Nuclear Facility D&D-High Flux Beam Reactor	98,768	0	1,240	1,280	1,320	94,928	9/30/2008
BRNL	CH-BRNL-0100	Brookhaven Community and Regulatory Support	4,199	1,929	200	345	659	1,066	9/30/2008
CH Ops	CH-OPS-0900	Pre-2004 Completions	175,192	106,765	1,682	325	0	0	9/30/2003
CH Ops	CH-PPPL-0030	Soil and Water Remediation-Princeton Site A/B	936	1,006	0	127	126	See below ^a	9/30/2004
Subtotal, Chicago			<u>622,079</u>	<u>276,838</u>	<u>34,697</u>	<u>40,096</u>	<u>41,515</u>	<u>162,836</u>	

Idaho

GJO	ID-GJ-0031	Soil and Water Remediation-Moab	325,581	1,950	3,400	1,316	2,000	316,915	9/30/2017
GJO	ID-GJ-0102	Rocky Flats Wildlife Refuge and Museum	3,566	0	585	1,269	1,252	460	9/30/2005
INEEL	ID-INEEL-0011	NM Stabilization and Disposition	10,800	0	2,000	1,500	300	7,000	9/30/2009
INEEL	ID-INEEL-0012B-D	SNF Stabilization and Disposition- 2012(Defense)	1,040,305	320,602	48,157	53,522	43,726	574,298	9/30/2012
INEEL	ID-INEEL-12C	SNF Stabilization and Disposition-2035	335,394	0	0	0	0	335,394	9/30/2035
INEEL	ID-INEEL-0013	Solid Waste Stabilization and Disposition	1,930,202	808,702	177,138	189,479	224,341	530,542	9/30/2012
INEEL	ID-INEEL-0014B	Radioactive Liquid Tank Waste Stabilization and Disposition-2012	2,337,167	509,469	107,146	140,281	133,566	1,446,705	9/30/2012
INEEL	ID-INEEL-0014C	Radioactive Liquid Tank Waste Stabilization and Disposition-2035	3,121,986	0	0	0	0	3,121,986	9/30/2035
INEEL	ID-INEEL-0030B	Soil and Water Remediation-2012	1,312,208	313,055	106,843	116,852	106,720	668,738	9/30/2012
INEEL	ID-INEEL-0030C	Soil and Water Remediation-2035	5,444,651	0	0	0	0	5,444,651	9/30/2035
INEEL	ID-INEEL-0040B	Nuclear Facility D&D-2012	151,334	36,833	1,887	4,226	6,680	101,708	9/30/2012
INEEL	ID-INEEL-0040C	Nuclear Facility D&D-2035	521,482	0	0	0	0	521,482	9/30/2035
INEEL	ID-INEEL-0050B	Non-Nuclear Facility D&D-2012	244,074	19,143	3,779	8,464	9,059	203,629	9/30/2012

^a The unappropriated balance cannot be determined until EM conducts the 2003 lifecycle cost estimate for this project.

(dollars in thousands)

Office/ Installation	Project Number	Project Name	Costs	Budget Authority				Unappropriated Balance	Planned Compl. Date
			Lifecycle (current \$) 1997-2070	Prior Year (FY97-01)	FY 2002 Current Approp	FY 2003 Current Approp	FY 2004 Request		
INEEL	ID-INEEL-0050C	Non-Nuclear Facility D&D-2035	1,044,518	0	0	0	0	1,044,518	9/30/2035
INEEL	ID-INEEL-0100	Idaho Community and Regulatory Support	286,000	17,062	3,412	3,335	3,244	258,947	9/30/2035
Idaho Ops	ID-OPS-0900-D	Pre-2004 Completions (Defense)	279,878	250,653	11,600	4,338	0	0	9/30/2003
Subtotal, Idaho			<u>18,389,146</u>	<u>2,277,469</u>	<u>465,947</u>	<u>524,582</u>	<u>530,888</u>	<u>14,576,973</u>	

Oak Ridge

ETTP	OR-0011Y	NM Stabilization and Disposition-ETTP Uranium Facilities Management	84,261	5,455	8,462	16,381	12,394	41,569	9/30/2008
ORR	OR-0013A	Solid Waste Stabilization and Disposition-2006	323,969	235,843	57,218	52,560	61,506	See below ^a	9/30/2008
ORR	OR-0013B	Solid Waste Stabilization and Disposition-2012	982,798	478,465	89,622	76,574	50,556	287,581	9/30/2015
ORR	OR-0020	Safeguards and Security	82,964	11,435	11,584	13,164	17,162	29,619	9/30/2015
ORR	OR-0030	Soil and Water Remediation-Melton Valley	332,146	93,760	22,711	46,291	60,119	109,265	9/30/2006
ORR	OR-0031	Soil and Water Remediation-Offsites	105,397	23,407	0	4,242	3,773	73,975	9/30/2008
ETTP	OR-0040	Nuclear Facility D&D-East Tennessee Technology Park (D&D Fund)	1,796,950	466,977	105,116	146,715	151,163	926,979	9/30/2008
Y-12	OR-0041	Nuclear Facility D&D-Y-12	887,297	125,871	55,298	22,888	46,689	636,551	9/30/2015
ORNL	OR-0042	Nuclear Facility D&D-Oak Ridge National Laboratory	606,123	71,099	31,387	45,075	41,772	416,790	9/30/2015
ETTP	OR-0043	Nuclear Facility D&D-East Tennessee Technology Park (Defense)	100,278	45,970	2,918	4,585	5,665	41,140	9/30/2008
ORR	OR-0100	Oak Ridge Reservation Community & Regulatory Support (Defense)	103,087	43,072	2,449	3,924	3,777	49,865	9/30/2015
ORR	OR-0101	Oak Ridge Contract/Post ClosureLiabilities/Administration	165,108	87,444	10,332	10,912	10,208	46,212	9/30/2015

^a The unappropriated balance cannot be determined until EM conducts the 2003 lifecycle cost estimate for this project.

(dollars in thousands)

Office/ Installation	Project Number	Project Name	Costs	Budget Authority				Unappropriated Balance	Planned Compl. Date
			Lifecycle (current \$) 1997-2070	Prior Year (FY97-01)	FY 2002 Current Approp	FY 2003 Current Approp	FY 2004 Request		
ETTP	OR-0102	East Tennessee Technology Park Contract/Post-Closure Liabilities/Administration	127,987	43,125	8,702	9,174	14,908	52,078	9/30/2015
ORR	OR-0103	Oak Ridge Reservation Community & Regulatory Support (D&D Fund)	53,973	0	0	0	1,288	52,685	9/30/2015
ORR	OR-0900-D	Pre-2004 Completions (Defense)	16,828	29,941	0	0	0	0	9/30/2003
ORR	OR-0900-N	Pre-2004 Completions (Non-Defense)	610,052	587,977	34,900	0	0	0	9/30/2003
Subtotal, Oak Ridge			<u>6,379,218</u>	<u>2,349,841</u>	<u>440,699</u>	<u>452,485</u>	<u>480,980</u>	<u>2,764,309</u>	
<u>Paducah</u>									
Paducah	PA-0011	NM Stabilization and Disposition-Paducah Uranium Facilities Management	77,218	5,582	5,354	12,760	4,267	49,255	9/30/2010
Paducah	PA-0011X	NM Stabilization and Disposition-Depleted Uranium Hexafluoride Conversion	1,216,278	1,653	5,000	5,000	45,000	1,159,625	9/30/2035
Paducah	PA-0013	Solid Waste Stabilization and Disposition	233,933	90,422	21,749	9,440	14,625	97,697	9/30/2010
Paducah	PA-0020	Safeguards and Security	76,366	2,698	4,103	6,849	6,993	55,723	9/30/2010
Paducah	PA-0040	Nuclear Facility D&D-Paducah	777,759	167,027	75,967	58,447	97,137	379,181	9/30/2010
Paducah	PA-0100	Paducah Community & Regulatory Support (Non-Defense)	27,842	4,926	5,016	2,714	336	14,850	9/30/2010
Paducah	PA-0101	Paducah Contract/Post-Closure Liabilities/Administration (Non-Defense)	4,357	0	0	479	479	3,399	9/30/2010
Paducah	PA-0102	Paducah Contract/Post Closure Liabilities/Administration (D&D Fund)	44,727	4,940	5,455	4,169	5,119	25,044	9/30/2010
Paducah	PA-0103	Paducah Community and Regulatory Support (D&D Fund)	13,005	0	1,723	1,406	1,990	7,886	9/30/2010
Subtotal, Paducah			<u>2,471,485</u>	<u>277,248</u>	<u>124,367</u>	<u>101,264</u>	<u>175,946</u>	<u>1,792,660</u>	
<u>Portsmouth</u>									
Portsmouth	PO-0011	NM Stabilization and Disposition-Portsmouth Other Uranium Facilities Management	117,413	19,278	9,563	10,950	16,523	61,099	9/30/2035

(dollars in thousands)

Office/ Installation	Project Number	Project Name	Costs	Budget Authority				Unappropriated Balance	Planned Compl. Date
			Lifecycle (current \$) 1997-2070	Prior Year (FY97-01)	FY 2002 Current Approp	FY 2003 Current Approp	FY 2004 Request		
Portsmouth	PO-0011X	NM Stabilization and Disposition-Depleted Uranium Hexafluoride Conversion	1,216,277	1,653	5,000	5,000	45,000	1,159,624	9/30/2035
Portsmouth	PO-0013	Solid Waste Stabilization and Disposition	299,266	110,294	35,409	25,676	49,682	78,205	9/30/2006
Portsmouth	PO-0020	Safeguards and Security	164,970	7,755	11,646	11,917	16,116	117,536	9/30/2006
Portsmouth	PO-0040	Nuclear Facility D&D-Portsmouth	4,412,939	135,875	44,780	41,962	30,602	4,159,720	9/30/2002
Portsmouth	PO-0041	Nuclear Facility D&D-Portsmouth GCEP	0	0	0	0	20,000	See below ^a	9/30/2006
Portsmouth	PO-0100	Portsmouth Community and Regulatory Support (Defense)	2,104	0	0	0	0	2,104	10/01/2003
Portsmouth	PO-0101	Portsmouth Cold Standby	352,885	16,964	70,480	81,373	102,082	81,986	9/30/2008
Portsmouth	PO-0103	Portsmouth Contract/Post Closure Liabilities/Administration (D&D Fund)	20,950	774	8,616	500	610	10,450	9/30/2009
Portsmouth	PO-0104	Portsmouth Community and Regulatory Support (D&D Fund)	6,339	0	0	0	0	6,339	10/01/2003
Portsmouth	PO-0900	Pre-2004 Completions	0	0	2,000	0	0	0 ^b	9/30/2003
Subtotal, Portsmouth			<u>6,593,143</u>	<u>292,593</u>	<u>187,494</u>	<u>177,378</u>	<u>280,615</u>	<u>5,677,063</u>	

Ohio

Ashtabula	OH-AB-0030	Soil and Water Remediation-Ashtabula	157,057	77,675	16,000	16,000	15,970	31,412	9/30/2006
Columbus	OH-CL-0040	Nuclear Facility D&D-West Jefferson	163,438	71,610	16,100	21,100	23,058	31,570	12/31/2006
Fernald	OH-FN-0013	Solid Waste Stabilization and Disposition-Fernald	1,557,567	721,074	207,941	236,802	203,365	188,385	9/30/2007
Fernald	OH-FN-0020	Safeguards and Security-Fernald	25,635	4,701	4,701	2,890	3,945	9,398	9/30/2007
Fernald	OH-FN-0030	Soil and Water Remediation-Fernald	1,070,141	502,895	45,264	65,982	67,884	388,116	9/30/2007
Fernald	OH-FN-0050	Non-Nuclear Facility D&D-Fernald	328,363	104,431	27,485	16,744	46,748	132,955	9/30/2007
Fernald	OH-FN-0100	Fernald Post-Closure Administration	598,006	0	0	0	0	598,006	9/30/2070

^a The unappropriated balance cannot be determined until EM conducts the 2003 lifecycle cost estimate for this project.

^b The FY 2002 Budget Authority reflects funding for a privatization project that was canceled. Thus, there are no lifecycle costs related to this privatization project resulting in a lower overall lifecycle cost than the budget authority appropriated for this PBS.

(dollars in thousands)

Office/ Installation	Project Number	Project Name	Costs	Budget Authority				Unappropriated Balance	Planned Compl. Date
			Lifecycle (current \$) 1997-2070	Prior Year (FY97-01)	FY 2002 Current Approp	FY 2003 Current Approp	FY 2004 Request		
Fernald	OH-FN-0101	Fernald Community & Regulatory Support	15,830	6,735	1,738	1,768	1,472	4,117	9/30/2007
Miamisburg	OH-MB-0013	Solid Waste Stabilization and Disposition- Miamisburg	190,531	98,741	22,294	17,592	18,359	33,545	9/30/2006
Miamisburg	OH-MB-0020	Safeguards and Security-Miamisburg	51,461	17,354	5,778	4,678	3,893	19,758	9/30/2006
Miamisburg	OH-MB-0030	Soil and Water Remediation-Miamisburg	156,937	53,620	14,869	16,365	18,968	53,115	9/30/2006
Miamisburg	OH-MB-0040	Nuclear Facility D&D-Miamisburg	545,973	279,153	52,482	60,743	57,307	96,288	9/30/2006
Miamisburg	OH-MB-0100	Miamisburg Post-Closure Administration	663,833	0	0	0	0	663,833	9/30/2063
Miamisburg	OH-MB-0101	Miamisburg Community & Regulatory Support	8,649	4,048	1,354	650	1,297	1,300	9/30/2006
OH Office	OH-OPS-0900-D	Pre-2004 Completions (Defense)	57,726	187,390	12,560	0	0	See below ^a	9/30/2003
OH Office	OH-OPS-0900-N	Pre-2004 Completions (Non-Defense)	396,094	237,218	22,457	0	0	136,419	9/30/2003
West Valley	OH-WV-0012	SNF Stabilization and Disposition-West Valley	29,425	24,196	6,200	3,600	0	See below ^a	9/30/2004
West Valley	OH-WV-0013	Solid Waste Stabilization and Disposition-West Valley	438,995	32,550	25,550	32,585	39,800	308,510	9/30/2012
West Valley	OH-WV-0014	Radioactive Liquid Waste Stabilization and Disposition-West Valley High-Level Waste Storage	339,685	0	0	0	0	339,685	9/30/2035
West Valley	OH-WV-0020	Safeguards and Security-West Valley	33,735	1,977	2,245	2,210	2,570	24,733	9/30/2035
West Valley	OH-WV-0040	Nuclear Facility D&D-West Valley	1,029,542	111,275	35,793	58,815	59,758	763,901	9/30/2012
Subtotal, Ohio			<u>7,858,623</u>	<u>2,536,643</u>	<u>520,811</u>	<u>558,524</u>	<u>564,394</u>	<u>3,825,046</u>	
Richland									
Hanford	RL-0011	NM Stabilization and Disposition-PFP	1,630,193	565,318	109,161	124,870	145,360	685,484	9/30/2009
Hanford	RL-0012	SNF Stabilization and Disposition	1,729,436	1,048,045	208,940	184,574	172,457	115,420	9/30/2006

^a The unappropriated balance cannot be determined until EM conducts the 2003 lifecycle cost estimate for this project.

(dollars in thousands)

Office/ Installation	Project Number	Project Name	Costs	Budget Authority				Unappropriated Balance	Planned Compl. Date
			Lifecycle (current \$) 1997-2070	Prior Year (FY97-01)	FY 2002 Current Approp	FY 2003 Current Approp	FY 2004 Request		
Hanford	RL-0013	Solid Waste Stabilization and Disposition-200 Area	7,177,165	530,703	92,597	137,543	156,486	6,259,836	9/30/2035
Hanford	RL-0020	Safeguards & Security	2,077,008	54,189	54,844	54,654	73,107	1,840,214	9/30/2035
Hanford	RL-0030	Soil and Water Remediation-Groundwater Vadose Zone	1,368,192	123,028	29,489	40,136	47,312	1,128,227	9/30/2035
Hanford	RL-0040	Nuclear Facility D&D-Remainder of Hanford	8,682,961	325,963	93,633	89,695	118,898	8,054,772	9/30/2035
Hanford	RL-0041	Nuclear Facility D&D-River Corridor Closure Project	3,779,435	625,346	147,233	160,220	182,639	2,663,997	9/30/2012
Hanford	RL-0042	Nuclear Facility D&D-Fast Flux Test Facility Project	1,258,309	230,166	36,439	36,100	43,842	911,762	9/30/2013
Hanford	RL-0080	Operate Waste Disposal Facility	435,929	38,089	7,112	9,629	9,528	371,571	9/30/2035
Hanford	RL-0100	Richland Community and Regulatory Support	481,304	57,462	12,147	14,270	13,149	384,276	9/30/2035
Hanford	RL-0900	Pre-2004 Completions	129,821	129,698	0	0	0	0	9/30/2003
Subtotal, Richland			<u>28,749,753</u>	<u>3,728,007</u>	<u>791,595</u>	<u>851,691</u>	<u>962,778</u>	<u>22,415,559</u>	
River Protection									
ORP	ORP-0014	Radioactive Liquid Tank Waste Stabilization and Disposition	38,221,536	1,606,121	358,484	436,858	389,316	35,430,757	9/30/2035
ORP	ORP-0060	Major Construction-Waste Treatment Plant	6,017,331	891,844	665,000	690,000	690,000	3,080,487	7/31/2011
Subtotal, River Protection			<u>44,238,867</u>	<u>2,497,965</u>	<u>1,023,484</u>	<u>1,126,858</u>	<u>1,079,316</u>	<u>38,511,244</u>	
Rocky Flats									
RFETS	RF-0011	NM Stabilization and Disposition	457,901	205,794	27,372	18,807	600	205,328	2/24/2004
RFETS	RF-0013	Solid Waste Stabilization and Disposition	820,978	502,374	104,701	105,700	86,953	21,250	12/15/2006
RFFO	RF-0020	Safeguards and Security	345,944	46,866	43,896	29,593	28,550	197,039	12/15/2006
RFETS	RF-0030	Soil and Water Remediation	2,124,861	920,703	140,983	204,609	224,990	633,576	12/15/2006
RFETS	RF-0040	Nuclear Facility D&D-North Side Facility Closures	1,881,300	961,521	245,069	202,990	198,794	272,926	12/15/2006
RFETS	RF-0041	Nuclear Facility D&D-South Side Facility Closures	890,896	414,076	95,890	95,423	118,314	167,193	12/15/2006

(dollars in thousands)

Office/ Installation	Project Number	Project Name	Costs	Budget Authority				Unappropriated Balance	Planned Compl. Date
			Lifecycle (current \$) 1997-2070	Prior Year (FY97-01)	FY 2002 Current Approp	FY 2003 Current Approp	FY 2004 Request		
RFETS	RF-0100	Rocky Flats Environmental Technology Site Contract Liabilities	2,526,988	33,400	1,500	3,500	2,500	2,486,088	9/30/2070
RFFO	RF-0101	Rocky Flats Community and Regulatory Support	38,115	20,300	4,101	3,378	3,258	7,078	9/30/2007
Subtotal, Rocky Flats			<u>9,086,983</u>	<u>3,105,034</u>	<u>663,512</u>	<u>664,000</u>	<u>663,959</u>	<u>3,990,478</u>	
<u>Savannah River</u>									
SRS	SR-0011A	NM Stabilization and Disposition-2006	122,438	108,355	32,165	3,133	211	See below ^a	9/30/2004
SRS	SR-0011B	NM Stabilization and Disposition-2012	4,504,244	1,665,104	345,563	367,592	367,388	1,758,597	9/30/2008
SRS	SR-0011C	NM Stabilization and Disposition-2035	1,459,013	317,183	42,698	48,965	74,472	975,695	9/30/2020
SRS	SR-0012	SNF Stabilization and Disposition	396,703	168,200	21,468	28,251	34,702	144,082	9/30/2020
SRS	SR-0013	Solid Waste Stabilization and Disposition	3,858,263	374,676	76,122	78,430	86,462	3,242,573	9/30/2025
SRS	SR-0014C	Radioactive Liquid Tank Waste Stabilization and Disposition-2035	14,535,134	1,988,259	392,702	480,211	528,981	11,144,981	9/30/2020
SRS	SR-0020	Safeguards and Security	4,972,169	311,706	102,825	93,153	144,180	4,320,305	9/30/2025
SRS	SR-0030	Soil and Water Remediation	3,336,776	533,318	98,332	109,000	70,369	2,525,757	9/30/2025
SRS	SR-0040	Nuclear Facility D&D	8,210,092	139,940	20,716	18,941	30,538	7,999,957	9/30/2025
SRS	SR-0100	Non-Closure Mission Support	575,764	79,256	14,272	14,457	14,447	453,332	9/30/2025
SR Ops	SR-0101	Savannah River Community and Regulatory Support	265,015	35,948	7,528	7,543	7,537	206,459	9/30/2025
SR Ops	SR-0900	Pre-2004 Completions	195,846	143,420	8,519	0	0	43,907	9/30/2003
Subtotal, Savannah River			<u>42,431,457</u>	<u>5,865,365</u>	<u>1,162,910</u>	<u>1,249,676</u>	<u>1,359,287</u>	<u>32,815,645</u>	
<u>Technology Development</u>									
	HQ-TD-0100	Technology Development	<u>3,337,650</u>	<u>1,129,217</u>	<u>200,189</u>	<u>92,000</u>	<u>63,920</u>	<u>1,852,324</u>	9/30/2035

^a The unappropriated balance cannot be determined until EM conducts the 2003 lifecycle cost estimate for this project.

(dollars in thousands)

Office/ Installation	Project Number	Project Name	Costs	Budget Authority				Unappropriated Balance	Planned Compl. Date
			Lifecycle (current \$) 1997-2070	Prior Year (FY97-01)	FY 2002 Current Approp	FY 2003 Current Approp	FY 2004 Request		
D&D Fund Deposit									
	HQ-DD-0100	Federal Contribution to the Uranium Enrichment D&D Fund	4,737,812	2,001,812	420,000	442,000	452,000	1,422,000	9/30/2007
Program Direction									
	HQ-PD-0100	Program Direction	13,009,893	1,616,158	301,422	292,491	292,144	10,507,678	9/30/2035
Headquarters									
Multiple ^a	HQ-HLW-0014X	Radioactive Liquid Tank Waste Stabilization and Disposition-Storage Operations Awaiting Geologic Repository	593,622	33,281	4,755	5,255	0	550,331	9/30/2035
HQ	HQ-MS-0100	Policy, Management and Technical Support	4,831,231	462,974	66,664	35,316	35,495	4,230,782	9/30/2035
HQ	HQ-OPS-0900	Pre-2004 Completions	800,000	42,840	3,574	36,000	0	717,586	9/30/2003
Multiple ^b	HQ-SNF-0012X	SNF Stabilization and Disposition-Storage Operations Awaiting Geologic Repository	4,819,047	96,178	14,927	31,360	32,603	4,643,979	9/30/2035
INEEL	HQ-SNF-0012Y	SNF Stabilization and Disposition- New/Upgraded Facilities Awaiting Geologic Repository	163,907	77,077	49,332	53,399	43,755	See below ^c	9/30/2004
ORNL	HQ-SW-0013X	Solid Waste Stabilization and Disposition- Science Current Generation	48,482	25,731	6,376	6,565	9,038	772	9/30/2005
Multiple ^d	HQ-SW-0013Y	Solid Waste Stabilization and Disposition- NNSA Current Generation	422,635	114,932	47,919	49,374	39,911	170,499	9/30/2006

^a Includes budget authority/lifecycle costs for activities at River Protection and Savannah River.

^b Includes budget authority/lifecycle costs for activities at Idaho, Hanford and Savannah River.

^c The unappropriated balance cannot be determined until EM conducts the 2003 lifecycle cost estimate for this project.

^d Includes budget authority/lifecycle costs for activities at Y-12 and Lawrence Livermore National Laboratory.

(dollars in thousands)

Office/ Installation	Project Number	Project Name	Costs	Budget Authority				Unappropriated Balance	Planned Compl. Date
			Lifecycle (current \$) 1997-2070	Prior Year (FY97-01)	FY 2002 Current Approp	FY 2003 Current Approp	FY 2004 Request		
HQ	HQ-UR-0100	Reimbursements to Uranium/Thorium Licensees	496,125	247,842	1,000	1,000	51,000	195,283	9/30/2015
Subtotal, Headquarters			<u>12,175,049</u>	<u>1,100,855</u>	<u>194,547</u>	<u>218,269</u>	<u>211,802</u>	<u>10,509,232</u>	
Various Locations									
AL Ops	VLFAO-0100-D	Nuclear Material Stewardship (Defense)	101,732	70,443	15,081	10,664	489	5,055	9/30/2010
AL Ops	VLFAO-0100-N	Nuclear Material Stewardship (Non-Defense)	15,579	11,769	2,500	1,848	1,500	See below ^a	9/30/2010
AL Ops	VLFAO-0101	Misc Programs and Agreements in Principles	175,525	67,946	4,559	3,584	1,506	97,930	9/30/2015
AL Ops	VL-FAO-0900	Pre-2004 Completions	232,667	210,963	8,100	0	0	0	9/30/2003
ITL	VL-ITL-0030	Soil and Water Remediation-Inhalation Toxicology Laboratory	9,159	3,305	1,391	1,072	483	2,908	9/30/2006
KCP	VL-KCP-0030	Soil and Water Remediation-Kansas City Plant	223,968	14,489	2,475	2,370	2,095	202,539	9/30/2006
LANL	VL-LANL-0013	Solid Waste Stabilization and Disposition-LANL Legacy	421,429	112,864	24,943	30,036	43,338	210,248	9/30/2011
LANL	VL-LANL-0030	Soil and Water Remediation-LANL	1,123,904	269,009	49,104	69,787	72,827	663,177	9/30/2015
LANL	VL-LANL-0040-N	Nuclear Facility D&D-LANL (Non-Defense)	16,356	0	0	460	448	15,448	9/30/2020
Pantex	VL-PX-0030	Soil and Water Remediation-Pantex	436,775	61,061	13,447	15,518	18,692	328,057	9/30/2008
Pantex	VL-PX-0040	Nuclear Facility D&D-Pantex	17,860	0	100	100	2,741	14,919	9/30/2007
SNL	VL-SN-0030	Soil and Water Remediation-Sandia	372,365	132,989	21,992	24,773	22,097	170,514	9/29/2006
South Valley	VL-SV-0100	South Valley Superfund	3,562	2,308	2,166	1,700	0	See below ^a	9/30/2003
NTS	VL-NV-0013	Solid Waste Stabilization and Disposition-Nevada Test Site	81,755	26,658	10,910	8,133	10,363	25,691	9/30/2007
NTS/ Offsites	VL-NV-0030	Soil and Water Remediation-Nevada Test Site and Offsites	6,453,345	320,304	65,958	75,085	71,007	5,920,991	9/30/2035
NTS	VL-NV-0080	Operate Waste Disposal Facility Nevada	489,424	36,171	4,454	5,967	5,438	437,394	9/30/2035
NV Ops	VL-NV-0100	Nevada Community and Regulatory Support	112,463	13,584	3,644	3,675	3,528	88,032	9/30/2035

^a The unappropriated balance cannot be determined until EM conducts the 2003 lifecycle cost estimate for this project.

(dollars in thousands)

Office/ Installation	Project Number	Project Name	Costs	Budget Authority				Unappropriated Balance	Planned Compl. Date
			Lifecycle (current \$) 1997-2070	Prior Year (FY97-01)	FY 2002 Current Approp	FY 2003 Current Approp	FY 2004 Request		
ETEC	VL-ETEC-0040	Nuclear Facility D&D-Energy Technology Engineering Center	206,869	85,572	17,005	18,174	18,467	67,651	9/30/2007
OK Ops	VL-FOO-0013B-D	Solid Waste Stabilization and Disposition-Oakland Sites-2012 (Defense)	17,106	12,404	1,157	520	465	2,560	9/30/2014
OK Ops	VL-FOO-0013B-N	Solid Waste Stabilization and Disposition-Oakland Sites-2012 (Non-Defense)	6,575	8,620	1,081	589	57	See below ^a	9/30/2014
OK Ops	VL-FOO-0100-D	Oakland Community and Regulatory Support (Defense)	5,284	4,855	225	80	58	66	9/30/2008
OK Ops	VL-FOO-0100-N	Oakland Community and Regulatory Support (Non-Defense)	2,472	3,410	226	20	39	See below ^a	9/30/2008
OK Ops	VL-FOO-0900-N	Pre-2004 Completions (Non-Defense)	20,839	22,090	0	0	0	See below ^a	10/1/2002
General Atomics	VL-GA-0012	SNF Stabilization and Disposition-General Atomics	14,941	12,482	298	200	0	0	9/30/2003
General Electric	VL-GE-0012	Nuclear Facility D&D-General Electric	22,000	0	0	0	0	22,000	9/30/2014
LBNL	VL-LBNL-0030	Soil and Water Remediation-Lawrence Berkeley National Laboratory	34,366	16,886	3,482	3,187	3,272	7,539	9/30/2006
LEHR	VL-LEHR-0040	Nuclear Facility D&D-Laboratory for Energy Related Heath Research	40,979	26,424	5,864	4,798	3,318	575	9/30/2005
LLNL	VL-LLNL-0013	Solid Waste Stabilization and Disposition-Lawrence Livermore National Laboratory	102,244	135,857	1,416	7,589	4,609	See below ^a	9/30/2006
LLNL	VL-LLNL-0030	Soil and Water Remediation-Lawrence Livermore National Laboratory-Main Site	138,905	59,223	10,195	12,000	13,224	44,263	9/30/2006
LLNL	VL-LLNL-0031	Soil and Water Remediation-Lawrence Livermore National Laboratory-Site	122,507	50,871	9,345	10,800	10,485	41,006	9/30/2008

^a The unappropriated balance cannot be determined until EM conducts the 2003 lifecycle cost estimate for this project.

(dollars in thousands)

Office/ Installation	Project Number	Project Name	Costs	Budget Authority				Unappropriated Balance	Planned Compl. Date
			Lifecycle (current \$) 1997-2070	Prior Year (FY97-01)	FY 2002 Current Approp	FY 2003 Current Approp	FY 2004 Request		
SLAC	VL-SLAC-0030	Soil and Remediation-Stanford Linear Accelerator Center	20,934	7,190	2,604	3,034	2,416	5,690	9/30/2006
SPRU	VL-SPRU-0040	Nuclear Facility D&D-Separations Process Research Unit	245,287	4,044	1,205	4,329	5,565	230,144	9/30/2014
Subtotal, Various Locations			<u>11,289,176</u>	<u>1,803,791</u>	<u>284,927</u>	<u>320,092</u>	<u>318,527</u>	<u>8,604,397</u>	
Subtotal, EM			220,369,373	31,829,987	7,031,277	7,321,140	7,692,278	166,858,558	
UE D&D Fund Deposit (Offset)			-4,898,643	-2,001,812	-420,000	-442,000	-452,000	-1,582,831	
Use of Prior Year Balances (Defense)			-529,407	-461,827	-67,580	0	0	0	
Reimbursable Work (Defense S&S)			-4,235	0	-1,547	-1,344	-1,344	0	
Dupont Pension (Defense) (Offset)			-71,799	-66,700	-5,099	0	0	0	
Use of Prior Year Balances (Non-Defense)			-30,728	-30,728	0	0	0	0	
Use of Prior Year Balances (UE D&D Fund)			-3,000	0	-3,000	0	0	0	
Total, EM			<u>214,831,561</u>	<u>29,268,920</u>	<u>6,534,051</u>	<u>6,877,796</u>	<u>7,238,934</u>	<u>165,275,727</u>	

Environmental Management FY 2004 Request

Corporate Performance Measure Quantities by Project Baseline Summary ^{a b}

Office/ Installation	Project Number	Project Name / Measure	Prior to FY 2002	FY 2002 Actuals	FY 2003 Estimate	FY 2004 Estimate	Balance Remaining	Life-Cycle Quantity ^a
Chicago								
ANL-E	CH-ANLE-0030	Soil and Water Remediation-Argonne National Laboratory-East Remediation Complete (# of release sites)	435	4	4	3	-	446
ANL-E	CH-ANLE-0040	Nuclear Facility D&D-Argonne National Laboratory-East Radioactive Facility Completions (# of facilities)	61	2	3	-	12	78
ANL-W	CH-ANLW-0030	Soil and Water Remediation-Argonne National Laboratory-West Remediation Complete (# of release sites)	37	-	-	-	-	37
BNL	CH-BRNL-0030	Soil and Water Remediation-Brookhaven National Laboratory Remediation Complete (# of release sites)	66	1	-	-	8	75
BNL	CH-BRNL-0040	Nuclear Facility D&D-Brookhaven Graphite Research Reactor Radioactive Facility Completions (# of facilities)	2	1	-	1	6	10
		Remediation Complete (# of release sites)	1	-	-	-	-	1

^a Life-cycle estimates for release sites, facilities, and high-level waste canisters include pre-1997 actuals. Quantities for all other measures except low-level and mixed low-level waste disposal begin in 1997. Low-level and mixed low-level waste disposal begins in 1998.

^b This chart provides a consistent set of performance measures for the total EM program. The project-level justification provides a description of significant activities for each project including performance measures and project-specific budget milestones, as applicable.

Office/ Installation	Project Number	Project Name / Measure	Prior to FY 2002	FY 2002 Actuals	FY 2003 Estimate	FY 2004 Estimate	Balance Remaining	Life-Cycle Quantity ^a
CH Ops	CH-OPS-0900	Pre-2004 Completions						
		Low-Level and Mixed Low-Level Waste Disposed (cubic meters)	537	-	-	-	-	537
		Remediation Complete (# of release sites)	30	-	-	-	-	30
Headquarters								
INEEL	HQ-SNF-0012X	SNF Stabilization and Disposition-Storage Operations Awaiting Geologic Repository Spent Nuclear Fuel Packaged for Final Disposition (MTHM)	-	-	-	-	253	253
ORR	HQ-SW-0013X	Solid Waste Stabilization and Disposition- Science Current Generation						
		Low-Level and Mixed Low-Level Waste Disposed (cubic meters)	2,543	162	1,018	341	-	4,064
LLNL	HQ-SW-0013Y	Solid Waste Stabilization and Disposition-NNSA Current Generation						
		Transuranic Waste Shipped for Disposal at WIPP (cubic meters)	-	-	-	105	-	105
		Low-Level and Mixed Low-Level Waste Disposed (cubic meters)	336	-	-	-	-	336
ORR	HQ-SW-0013Y	Solid Waste Stabilization and Disposition-NNSA Current Generation						
		Low-Level and Mixed Low-Level Waste Disposed (cubic meters)	4,054	304	4,398	1,471	-	10,227
Idaho								
INEEL	ID-INEEL-0011	SNF Stabilization and Disposition-2012 (Defense)						
		Enriched Uranium Packaged for Long- Term Storage (# of containers)	-	-	68	698	340	1,106
		Depleted and Other Uranium Packaged for Disposition (metric tons)	-	-	-	-	0	0
		Material Access Areas Eliminated (# of areas)	-	-	-	-	1	1
INEEL	ID-INEEL-0013	Solid Waste Stabilization and Disposition Transuranic Waste Shipped for Disposal at WIPP (cubic meters)	816	2,050	623	7,615	53,147	64,251

Office/ Installation	Project Number	Project Name / Measure	Prior to FY 2002	FY 2002 Actuals	FY 2003 Estimate	FY 2004 Estimate	Balance Remaining	Life-Cycle Quantity ^a
		Low-Level and Mixed Low-Level Waste Disposed (cubic meters)	18,140	4,345	4,450	8,540	41,955	77,430
INEEL	ID-INEEL-0014B	Radioactive Liquid Tank Waste Stabilization and Disposition-2012						
		Liquid Waste in Inventory Eliminated (thousands of gallons)	-	-	-	-	900	900
		Liquid Waste Tanks Closed (# of tanks)	-	-	1	1	9	11
		Transuranic Waste Shipped for Disposal at WIPP (cubic meters)	-	-	-	-	1,130	1,130
INEEL	ID-INEEL-0014C	Radioactive Liquid Tank Waste Stabilization and Disposition-2035						
		High-Level Waste Packaged for Final Disposition (# of containers)	-	-	-	-	4,200	4,200
INEEL	ID-INEEL-0030B	Soil and Water Remediation-2012						
		Remediation Complete (# of release sites)	84	13	41	3	16	157
INEEL	ID-INEEL-0030C	Soil and Water Remediation-2035						
		Transuranic Waste Shipped for Disposal at WIPP (cubic meters)	-	-	-	-	758	758
		Low-Level and Mixed Low-Level Waste Disposed (cubic meters)	-	-	-	-	21,120	21,120
		Remediation Complete (# of release sites)	-	-	-	-	111	111
INEEL	ID-INEEL-0040B	Nuclear Facility D&D-2012						
		Nuclear Facility Completions (# of facilities)	13	-	-	-	2	15
INEEL	ID-INEEL-0040C	Nuclear Facility D&D-2035						
		Nuclear Facility Completions (# of facilities)	-	-	-	-	71	71
INEEL	ID-INEEL-0050B	Non-Nuclear Facility D&D-2012						
		Radioactive Facility Completions (# of facilities)	4	1	-	3	11	19
		Industrial Facility Completions (# of facilities)	46	-	3	4	18	71
INEEL	ID-INEEL-0050C	Non-Nuclear Facility D&D-2035						
		Radioactive Facility Completions (# of facilities)	-	-	-	-	18	18

Office/ Installation	Project Number	Project Name / Measure	Prior to FY 2002	FY 2002 Actuals	FY 2003 Estimate	FY 2004 Estimate	Balance Remaining	Life-Cycle Quantity ^a
		Industrial Facility Completions (# of facilities)	-	-	-	-	171	171
ID Ops	ID-OPS-0900	Pre-2004 Completions						
		Remediation Complete (# of release sites)	233	-	-	-	-	233
Ohio								
Ashtabula	OH-AB-0030	Soil and Water Remediation-Ashtabula						
		Low-Level and Mixed Low-Level Waste Disposed (cubic meters)	8	2	94	-	-	104
		Radioactive Facility Completions (# of facilities)	7	8	2	-	8	25
		Industrial Facility Completions (# of facilities)	-	1	-	-	6	7
		Remediation Complete (# of release sites)	-	-	-	-	3	3
Columbus	OH-CL-0040	Nuclear Facility D&D-West Jefferson						
		Nuclear Facility Completions (# of facilities)	-	-	-	-	1	1
		Radioactive Facility Completions (# of facilities)	12	-	-	2	-	14
		Remediation Complete (# of release sites)	1	-	-	-	1	2
Fernald	OH-FN-0013	Solid Waste Stabilization and Disposition-Fernald						
		Low-Level and Mixed Low-Level Waste Disposed (cubic meters)	4,201	316	2,962	15	-	7,494
		Remediation Complete (# of release sites)	2	-	-	-	2	4
Fernald	OH-FN-0030	Soil and Water Remediation-Fernald						
		Remediation Complete (# of release sites)	-	-	-	-	2	2
Fernald	OH-FN-0050	Non-Nuclear Facility D&D-Fernald						
		Radioactive Facility Completions (# of facilities)	14	2	4	4	5	29
		Industrial Facility Completions (# of facilities)	-	-	-	1	-	1

Office/ Installation	Project Number	Project Name / Measure	Prior to FY 2002	FY 2002 Actuals	FY 2003 Estimate	FY 2004 Estimate	Balance Remaining	Life-Cycle Quantity ^a
Miamisburg	OH-MB-0013	Solid Waste Stabilization and Disposition- Miamisburg Low-Level and Mixed Low-Level Waste Disposed (cubic meters)	3,947	-	-	-	-	3,947
Miamisburg	OH-MB-0030	Soil and Water Remediation-Miamisburg Remediation Complete (# of release sites)	99	5	4	2	68	178
Miamisburg	OH-MB-0040	Nuclear Facility D&D-Miamisburg Nuclear Facility Completions (# of facilities)	-	-	-	-	8	8
		Radioactive Facility Completions (# of facilities)	-	-	-	-	11	11
		Industrial Facility Completions (# of facilities)	37	22	3	10	44	116
OH Ops	OH-OPS-0900-N	Pre-2004 Completions (Non-Defense) High-Level Waste Packaged for Final Disposition (# of containers)	262	13	-	-	-	275
WVDP	OH-WV-0013	Solid Waste Stabilization and Disposition-West Valley Transuranic Waste Shipped for Disposal at WIPP (cubic meters)	-	-	-	-	692	692
		Low-Level and Mixed Low-Level Waste Disposed (cubic meters)	3,555	467	-	-	19,822	23,844
WVDP	OH-WV-0040	Nuclear Facility D&D-West Valley Liquid Waste Tanks Closed (# of tanks)	-	-	-	-	2	2
		Remediation Complete (# of release sites)	-	-	-	-	1	1
<u>Oak Ridge</u>								
ORR	OR-0011Y	NM Stabilization and Disposition-ETTP Uranium Facilities Management Depleted and Other Uranium Packaged for Disposition (metric tons)	-	-	-	-	56,988	56,988
		Enriched Uranium Packaged for Long- Term Storage (# of containers)	-	-	-	-	673	673
ORR	OR-0013A	Solid Waste Stabilization and Disposition-2006 Low-Level and Mixed Low-Level Waste Disposed (cubic meters)	3,109	2,247	2,157	7,503	13,358	28,374

Office/ Installation	Project Number	Project Name / Measure	Prior to FY 2002	FY 2002 Actuals	FY 2003 Estimate	FY 2004 Estimate	Balance Remaining	Life-Cycle Quantity ^a
ORR	OR-0013B	Solid Waste Stabilization and Disposition-2012 Transuranic Waste Shipped for Disposal at WIPP (cubic meters)	-	-	-	250	396	646
		Low-Level and Mixed Low-Level Waste Disposed (cubic meters)	3,784	1,908	2,365	1,249	3,585	12,891
ORR	OR-0030	Soil and Water Remediation-Melton Valley Radioactive Facility Completions (# of facilities)	-	2	-	1	10	13
		Industrial Facility Completions (# of facilities)	1	1	-	-	-	2
		Remediation Complete (# of release sites)	24	2	1	18	54	99
ORR	OR-0031	Soil and Water Remediation-Offsites Remediation Complete (# of release sites)	5	-	1	-	4	10
ORR	OR-0040	Nuclear Facility D&D-East Tennessee Technology Park (D&D Fund)						
		Low-Level and Mixed Low-Level Waste Disposed (cubic meters)	5,178	-	-	-	-	5,178
		Nuclear Facility Completions (# of facilities)	2	-	-	-	10	12
		Radioactive Facility Completions (# of facilities)	1	-	-	3	2	6
		Industrial Facility Completions (# of facilities)	64	-	7	14	58	143
		Remediation Complete (# of release sites)	18	-	1	2	119	140
ORR	OR-0041	Nuclear Facility D&D-Y-12 Industrial Facility Completions (# of facilities)	1	-	-	3	2	6
		Remediation Complete (# of release sites)	24	1	3	-	110	138
ORR	OR-0042	Nuclear Facility D&D-Oak Ridge National Laboratory						
		Nuclear Facility Completions (# of facilities)	-	-	-	-	16	16
		Radioactive Facility Completions (# of facilities)	-	3	-	1	25	29

Office/ Installation	Project Number	Project Name / Measure	Prior to FY 2002	FY 2002 Actuals	FY 2003 Estimate	FY 2004 Estimate	Balance Remaining	Life-Cycle Quantity ^a
		Industrial Facility Completions (# of facilities)	2	5	-	-	9	16
		Remediation Complete (# of release sites)	50	28	2	-	84	164
ORR	OR-0043	Nuclear Facility D&D-East Tennessee Technology Park (Defense)						
		Low-Level and Mixed Low-Level Waste Disposed (cubic meters)	7,035	-	-	-	-	7,035
ORR	OR-0900-D	Pre-2004 Completions (Defense)						
		Remediation Complete (# of release sites)	74	-	-	-	-	74
ORR	OR-0900-N	Pre-2004 Completions (Non-Defense)						
		Industrial Facility Completions (# of facilities)	3	-	-	-	-	3
		Remediation Complete (# of release sites)	21	2	-	-	2	25
Paducah								
Paducah	PA-0011	NM Stabilization and Disposition-Paducah Uranium Facilities Management						
		Enriched Uranium Packaged for Long-Term Storage (# of containers)	-	0	-	-	182	182
Paducah	PA-0011X	NM Stabilization and Disposition-Depleted Uranium Hexafluoride Conversion						
		Depleted and Other Uranium Packaged for Disposition (metric tons)	-	-	-	-	453,312	453,312
Paducah	PA-0013	Solid Waste Stabilization and Disposition						
		Low-Level and Mixed Low-Level Waste Disposed (cubic meters)	683	-	1,875	75	12,086	14,719
Paducah	PA-0040	Nuclear Facility D&D-Paducah						
		Radioactive Facility Completions (# of facilities)	-	-	-	-	2	2
		Remediation Complete (# of release sites)	82	-	3	1	150	236
Paducah	PA-0900	Pre-2004 Completions						
		Remediation Complete (# of release sites)	1	-	-	-	-	1

Office/ Installation	Project Number	Project Name / Measure	Prior to FY 2002	FY 2002 Actuals	FY 2003 Estimate	FY 2004 Estimate	Balance Remaining	Life-Cycle Quantity ^a
Portsmouth								
Portsmouth	PO-0011	NM Stabilization and Disposition-Portsmouth Uranium Facilities Management Enriched Uranium Packaged for Long- Term Storage (# of containers)	-	-	-	-	1,450	1,450
Portsmouth	PO-0011X	NM Stabilization and Disposition-Depleted Uranium Hexafluoride Conversion Depleted and Other Uranium Packaged for Disposition (metric tons)	-	-	-	-	205,567	205,567
Portsmouth	PO-0013	Solid Waste Stabilization and Disposition Low-Level and Mixed Low-Level Waste Disposed (cubic meters)	9,106	4,143	2,003	1,143	16,578	32,972
Portsmouth	PO-0040	Nuclear Facility D&D-Portsmouth Remediation Complete (# of release sites)	11	-	2	-	14	27
Portsmouth	PO-0900	Pre-2004 Completions Remediation Complete (# of release sites)	130	-	-	-	-	130
Rocky Flats								
RFETS	RF-0011	NM Stabilization and Disposition Plutonium Metal or Oxide Packaged for Long-Term Storage (# of containers) Plutonium or Uranium Residues Packaged for Disposition (kg/bulk)	62	922	716	-	-	1,700
RFETS	RF-0013	Solid Waste Stabilization and Disposition Transuranic Waste Shipped for Disposal at WIPP (cubic meters) Low-Level and Mixed Low-Level Waste Disposed (cubic meters)	87,907	15,994	-	-	-	103,901
RFETS	RF-0030	Soil and Water Remediation Remediation Complete (# of release sites)	12,815	2,797	39,788	53,882	101,516	210,798
RFETS	RF-0040	Nuclear Facility D&D-North Side Facility Closures Material Access Areas Eliminated (# of areas)	170	7	9	8	46	240
			5	-	-	1	-	6

Office/ Installation	Project Number	Project Name / Measure	Prior to FY 2002	FY 2002 Actuals	FY 2003 Estimate	FY 2004 Estimate	Balance Remaining	Life-Cycle Quantity ^a
		Nuclear Facility Completions (# of facilities)	1	-	-	1	4	6
		Radioactive Facility Completions (# of facilities)	-	-	-	7	15	22
		Industrial Facility Completions (# of facilities)	34	34	4	40	29	141
RFETS	RF-0041	Nuclear Facility D&D-South Side Facility Closures						
		Material Access Areas Eliminated (# of areas)	1	-	-	-	-	1
		Radioactive Facility Completions (# of facilities)	-	-	-	7	25	32
		Industrial Facility Completions (# of facilities)	65	18	2	-	91	176
RF Ops	RF-0100	Rocky Flats Environmental Technology Site Contract Liabilities						
Richland								
Hanford	RL-0011	NM Stabilization and Disposition-PFP Plutonium Metal or Oxide Packaged for Long-Term Storage (# of containers)	400	100	2,000	500	-	3,000
		Plutonium or Uranium Residues Packaged for Disposition (kg/bulk)	665	1,731	895	176	-	3,467
		Material Access Areas Eliminated (# of areas)	-	-	-	-	2	2
		Nuclear Facility Completions (# of facilities)	-	1	2	-	57	60
Hanford	RL-0012	SNF Stabilization and Disposition Spent Nuclear Fuel Packaged for Final Disposition (MTHM)	127	511	855	631	-	2,124
Hanford	RL-0013	Solid Waste Stabilization and Disposition-200 Area						
		Transuranic Waste Shipped for Disposal at WIPP (cubic meters)	81	18	78	200	27,992	28,369
		Low-Level and Mixed Low-Level Waste Disposed (cubic meters)	28,648	4,200	5,537	4,648	110,454	153,487
Hanford	RL-0040	Nuclear Facility D&D-Remainder of Hanford						

Office/ Installation	Project Number	Project Name / Measure	Prior to FY 2002	FY 2002 Actuals	FY 2003 Estimate	FY 2004 Estimate	Balance Remaining	Life-Cycle Quantity ^a
		Nuclear Facility Completions (# of facilities)	-	-	-	2	96	98
		Radioactive Facility Completions (# of facilities)	-	-	-	-	342	342
		Industrial Facility Completions (# of facilities)	141	13	2	3	477	636
		Remediation Complete (# of release sites)	5	-	-	-	855	860
Hanford	RL-0041	Nuclear Facility D&D-River Corridor Closure Project						
		Enriched Uranium Packaged for Long-Term Storage (# of containers)	1,648	-	-	-	1,310	2,958
		Depleted and Other Uranium Packaged for Disposition (metric tons)	3,100	-	-	-	-	3,100
		Nuclear Facility Completions (# of facilities)	-	-	-	-	14	14
		Radioactive Facility Completions (# of facilities)	-	-	1	2	47	50
		Industrial Facility Completions (# of facilities)	1	6	1	-	211	219
		Remediation Complete (# of release sites)	213	12	32	37	464	758
Hanford	RL-0042	Nuclear Facility D&D-Fast Flux Test Facility Project						
		Plutonium Metal or Oxide Packaged for Long-Term Storage (# of containers)	-	-	-	32	-	32
		Spent Nuclear Fuel Packaged for Final Disposition (MTHM)	-	-	-	1	6	7
		Radioactive Facility Completions (# of facilities)	-	-	-	-	23	23
<u>River Protection</u>								
ORP	ORP-0014	Radioactive Liquid Tank Waste Stabilization and Disposition						
		Liquid Waste in Inventory Eliminated (thousands of gallons)	-	-	-	-	54,000	54,000
		Liquid Waste Tanks Closed (# of tanks)	-	-	-	6	171	177

Office/ Installation	Project Number	Project Name / Measure	Prior to FY 2002	FY 2002 Actuals	FY 2003 Estimate	FY 2004 Estimate	Balance Remaining	Life-Cycle Quantity ^a
		High-Level Waste Packaged for Final Disposition (# of containers)	-	-	-	-	11,770	11,770
		Transuranic Waste Shipped for Disposal at WIPP (cubic meters)	-	-	-	-	5,500	5,500
		Low-Level and Mixed Low-Level Waste Disposed (cubic meters)	-	-	-	-	262,300	262,300
		Nuclear Facility Completions (# of facilities)	-	-	-	-	18	18
		Radioactive Facility Completions (# of facilities)	-	-	-	-	28	28
		Industrial Facility Completions (# of facilities)	-	-	-	-	102	102
		Remediation Complete (# of release sites)	5	-	-	-	317	322
Savannah River								
SRS	SR-0011B	NM Stabilization and Disposition-2012						
		Plutonium Metal or Oxide Packaged for Long-Term Storage (# of containers)	-	-	120	423	207	750
		Enriched Uranium Packaged for Long-Term Storage (# of containers)	-	-	225	612	1,972	2,809
		Plutonium or Uranium Residues Packaged for Disposition (kg/bulk)	133	89	39	78	76	414
		Depleted and Other Uranium Packaged for Disposition (metric tons)	-	-	1,815	-	21,367	23,182
		Spent Nuclear Fuel Packaged for Final Disposition (MTHM)	-	-	2	1	33	36
SRS	SR-0013	Solid Waste Stabilization and Disposition						
		Transuranic Waste Shipped for Disposal at WIPP (cubic meters)	60	136	840	840	13,450	15,326
		Low-Level and Mixed Low-Level Waste Disposed (cubic meters)	33,093	13,965	11,012	10,744	150,506	219,320
SRS	SR-0014C	Radioactive Liquid Tank Waste Stabilization and Disposition-2035						
		Liquid Waste in Inventory Eliminated (thousands of gallons)	-	-	700	1,300	31,100	33,100
		Liquid Waste Tanks Closed (# of tanks)	2	-	-	2	47	51

Office/ Installation	Project Number	Project Name / Measure	Prior to FY 2002	FY 2002 Actuals	FY 2003 Estimate	FY 2004 Estimate	Balance Remaining	Life-Cycle Quantity ^a
SRS	SR-0020	High-Level Waste Packaged for Final Disposition (# of containers)	1,177	160	130	250	3,343	5,060
SRS	SR-0030	Safeguards and Security Material Access Areas Eliminated (# of areas)	-	-	-	-	4	4
SRS	SR-0040	Soil and Water Remediation Low-Level and Mixed Low-Level Waste Disposed (cubic meters)	-	206	-	-	-	206
SRS	SR-0040	Remediation Complete (# of release sites)	267	14	13	13	208	515
		Nuclear Facility D&D Nuclear Facility Completions (# of facilities)	-	-	-	2	198	200
		Radioactive Facility Completions (# of facilities)	-	-	-	5	40	45
		Industrial Facility Completions (# of facilities)	-	-	21	23	548	592
Various Locations								
AL Ops	VL-FAO-0100-D	Nuclear Material Stewardship (Defense) Low-Level and Mixed Low-Level Waste Disposed (cubic meters)	-	-	-	-	6	6
AL Ops	VL-FAO-0900	Pre-2004 Completions Low-Level and Mixed Low-Level Waste Disposed (cubic meters)	1,319	-	-	-	-	1,319
ITL	VL-ITL-0030	Remediation Complete (# of release sites)	155	-	-	-	-	155
		Soil and Water Remediation-Inhalation Toxicology Laboratory Low-Level and Mixed Low-Level Waste Disposed (cubic meters)	-	-	35	35	35	105
KCP	VL-KCP-0030	Remediation Complete (# of release sites)	9	-	-	-	-	9
LANL	VL-LANL-0013	Soil and Water Remediation-Kansas City Plant Remediation Complete (# of release sites)	40	-	-	-	1	41
		Solid Waste Stabilization and Disposition-LANL Legacy Transuranic Waste Shipped for Disposal at WIPP (cubic meters)	285	15	412	618	3,090	4,420

Office/ Installation	Project Number	Project Name / Measure	Prior to FY 2002	FY 2002 Actuals	FY 2003 Estimate	FY 2004 Estimate	Balance Remaining	Life-Cycle Quantity ^a
		Low-Level and Mixed Low-Level Waste Disposed (cubic meters)	417	42	24	-	-	483
LANL	VL-LANL-0030	Soil and Water Remediation-LANL Low-Level and Mixed Low-Level Waste Disposed (cubic meters)	474	4,952	-	-	-	5,426
		Remediation Complete (# of release sites)	1,309	3	8	4	492	1,816
LANL	VL-LANL-0040-N	Nuclear Facility D&D-LANL (Non-Defense) Radioactive Facility Completions (# of facilities)	-	-	-	-	1	1
Pantex	VL-PX-0030	Soil and Water Remediation-Pantex Remediation Complete (# of release sites)	93	-	2	-	155	250
Pantex	VL-PX-0040	Nuclear Facility D&D-Pantex Industrial Facility Completions (# of facilities)	1	-	-	-	4	5
SNL	VL-SN-0030	Soil and Water Remediation-Sandia Low-Level and Mixed Low-Level Waste Disposed (cubic meters)	8	-	-	-	-	8
		Radioactive Facility Completions (# of facilities)	1	-	-	-	-	1
		Remediation Complete (# of release sites)	248	1	1	3	3	256
South Valley	VL-SV-0100	South Valley Superfund Remediation Complete (# of release sites)	1	-	-	-	-	1
NTS	VL-NV-0013	Solid Waste Stabilization and Disposition- Nevada Test Site Transuranic Waste Shipped for Disposal at WIPP (cubic meters)	-	-	18	198	518	734
NV Ops	VL-NV-0030	Soil and Water Remediation-Nevada Test Site and Offsites Remediation Complete (# of release sites)	664	15	46	55	1,321	2,101
NV Ops	VL-NV-0080	Operate Waste Disposal Facility-Nevada Low-Level and Mixed Low-Level Waste Disposed (cubic meters)	81,616	65,717	-	-	-	147,333
ETEC	VL-ETEC-0040	Nuclear Facility D&D-Energy Technology Engineering Center Transuranic Waste Shipped for Disposal at WIPP (cubic meters)	-	-	11	-	-	11
		Low-Level and Mixed Low-Level Waste Disposed (cubic meters)	130	7	56	390	752	1,335

Office/ Installation	Project Number	Project Name / Measure	Prior to FY 2002	FY 2002 Actuals	FY 2003 Estimate	FY 2004 Estimate	Balance Remaining	Life-Cycle Quantity ^a
		Radioactive Facility Completions (# of facilities)	3	-	-	1	2	6
		Industrial Facility Completions (# of facilities)	11	1	-	-	1	13
OK Ops	VL-FOO-0013B-N	Remediation Complete (# of release sites)	4	-	-	3	3	10
		Solid Waste Stabilization and Disposition- Oakland Sites-2012 (Non-Defense)						
		Low-Level and Mixed Low-Level Waste Disposed (cubic meters)	82	1	-	-	-	83
OK Ops	VL-FOO-0900-N	Pre-2004 Completions (Non-Defense)						
		Low-Level and Mixed Low-Level Waste Disposed (cubic meters)	189	-	-	-	-	189
		Remediation Complete (# of release sites)	3	-	-	-	-	3
GA	VL-GA-0012	SNF Stabilization and Disposition-General Atomics						
		Spent Nuclear Fuel Packaged for Final Disposition (MTHM)	1	-	-	-	-	1
		Low-Level and Mixed Low-Level Waste Disposed (cubic meters)	1,716	-	-	-	-	1,716
		Remediation Complete (# of release sites)	2	-	-	-	-	2
LBNL	VL-LBNL-0030	Soil and Water Remediation-Lawrence Berkeley National Laboratory						
		Remediation Complete (# of release sites)	136	-	17	21	11	185
LEHR	VL-LEHR-0040	Nuclear Facility D&D-Laboratory for Energy- Related Health Research						
		Low-Level and Mixed Low-Level Waste Disposed (cubic meters)	943	1	-	4	-	948
		Industrial Facility Completions (# of facilities)	1	-	-	-	-	1
		Remediation Complete (# of release sites)	7	6	3	1	-	17
LLNL	VL-LLNL-0013	Solid Waste Stabilization and Disposition- Lawrence Livermore National Laboratory						
		Transuranic Waste Shipped for Disposal at WIPP (cubic meters)	-	-	88	-	-	88
		Low-Level and Mixed Low-Level Waste Disposed (cubic meters)	683	26	375	650	1,025	2,759
LLNL	VL-LLNL-0030	Soil and Water Remediation-Lawrence Livermore National Laboratory - Main Site						
		Remediation Complete (# of release sites)	102	2	1	-	15	120

Office/ Installation	Project Number	Project Name / Measure	Prior to FY 2002	FY 2002 Actuals	FY 2003 Estimate	FY 2004 Estimate	Balance Remaining	Life-Cycle Quantity ^a
LLNL	VL-LLNL-0031	Soil and Water Remediation-Lawrence Livermore National Laboratory - Site 300						
		Remediation Complete (# of release sites)	55	3	3	4	8	73
SLAC	VL-SLAC-0030	Soil and Water Remediation-Stanford Linear Accelerator Center						
		Remediation Complete (# of release sites)	13	3	-	2	-	18
SPRU	VL-SPRU-0040	Nuclear Facility D&D-Separations Process Research Unit						
		Transuranic Waste Shipped for Disposal at WIPP (cubic meters)	-	-	-	-	50	50
		Nuclear Facility Completions (# of facilities)	-	-	-	-	4	4
		Remediation Complete (# of release sites)	-	-	-	-	6	6

Budget Appendix

PBS Subprojects Summary

(dollars in thousands)

	Total Estimated Cost (TEC)	Prior Year Appropriations	FY 2002	FY 2003	FY 2004	Unappropriated Balance
<u>Defense Site Acceleration Completion</u>						
<u>2012 Accelerated Completions</u>						
Advanced Mixed Waste Treatment Project, ID, INEEL-0013	632,739	361,513	52,000	105,000	114,226	0
Alternate Storage for PFP Special Nuclear Material, RL, RL-0011	6,700	0	0	900	5,800	0
Exhaust Upgrades, 221-H, SR, SR-0011B	TBD	0	0	0	685	TBD
Total, 2012 Accelerated Completions	N/A	361,513	52,000	105,900	120,711	TBD
<u>2035 Accelerated Completions</u>						
Initial Tank Retrieval Systems, RP, ORP-0014	237,100	57,087	1,844	20,945	17,000	140,224
Tank Farm Restoration & Safe Operations, RP, ORP-0014	216,960	92,784	38,473	33,300	31,000	21,403
A-8 Electrical Substation Upgrade, RL, RL-0040	8,030	0	0	0	288	7,742
High Level Waste Removal from Filled Waste Tanks, SR, SR-0014C	353,037	313,332	11,754	15,324	12,627	0
Saltstone Vault #2, SR, SR-0014C	18,189	0	0	2,912	10,081	5,196
Total, 2035 Accelerated Completions	N/A	463,203	52,071	72,481	70,996	174,565
<u>Defense Environmental Services</u>						
<u>Non-Closure Environmental Activities</u>						
Spent Nuclear Fuel Dry Storage, ID, HQ-SNF-0012Y	223,563	77,077	49,332	53,399	43,755	0
Total, Non-Closure Environmental Activities	N/A	77,077	49,332	53,399	43,755	0
<u>Uranium Enrichment D&D Fund</u>						
<u>Uranium Enrichment D&D Fund</u>						
ETTP Three-Building D&D and Recycle Project, OR, OR-0040	346,644	172,599	73,036	70,719	30,565	0
Total, Uranium Enrichment D&D Fund	N/A	172,599	73,036	70,719	30,565	0

Advanced Mixed Waste Treatment Project

Subproject Detail, Idaho PBS ID-INEEL-0013

1. Construction Schedule

	Fiscal Quarter				Total Estimated Cost (\$000)	Total Project Cost (\$000)
	A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete		
FY 2004 Congressional Request (Preliminary Baseline Estimate)	N/A	N/A	4Q 2000	1Q 2003	632,739	1,209,204

2. Financial Schedule

(dollars in thousands)

Fiscal Year	Appropriations	Obligations	Cost
Prior Years	361,513	361,513	0
2002	52,000	52,000	0
2003	105,000	105,000	41,128
2004	114,226	114,226	162,361
Outyears	0	0	429,250

3. Subproject Description, Justification and Scope

This project has been in development at the Idaho National Engineering and Environmental Laboratory since 1993. A contract was awarded to British Nuclear Fuels, Limited, Inc., on December 20, 1996, for the retrieval, sorting, characterization, storage, pre-treatment, treatment, certification, and loading for transportation of 65,000 cubic meters of transuranic and alpha-contaminated mixed waste located in retrievable storage at the Idaho National Engineering and Environmental Laboratory Radioactive Waste Management Complex. The contract has an option for treatment of up to 120,000 cubic meters of additional DOE mixed wastes. The project scope is to treat Idaho National Engineering and Environmental Laboratory transuranic and alpha-contaminated mixed waste, as well as other Department of Energy (DOE) mixed waste, through a private sector treatment facility located at the Radioactive Waste Management Complex at the Idaho National Engineering and Environmental Laboratory.

The primary wastes to be treated are DOE laboratory and process wastes from Rocky Flats and various DOE facilities. These wastes are currently stored in drums, boxes, and bins at the Transuranic Storage Area of the Radioactive Waste Management Complex. The wastes consist of a heterogeneous mixture of solid materials including paper, cloth, plastic, rubber, glass, graphite, bricks, concrete, metals, nitrate

salts, process sludges, miscellaneous components and some absorbed liquids. Ninety-five percent of the waste is believed to contain both Resource Conservation Recovery Act hazardous waste constituents and radioactivity. Some wastes also contain material regulated under the Toxic Substances and Control Act such as polychlorinated biphenyls (PCBs). No more than 4,100 kilograms (kg) of elemental mercury, and approximately 2.1 million kg of lead are expected in the 65,000 cubic meters. The transuranic waste will be disposed of at the Waste Isolation Pilot Plant near Carlsbad, New Mexico. Non-transuranic wastes, which are not allowed to be disposed of at the Waste Isolation Pilot Plant (e.g. low-level and mixed low-level wastes), will be disposed of in accordance with applicable waste disposal requirements.

This project is necessary to process transuranic and alpha-contaminated mixed waste to produce a disposal ready waste that meets all current requirements for storage, transportation and disposal, including the Waste Isolation Pilot Plant Waste Acceptance Criteria and Resource Conservation and Recovery Act Land Disposal Restrictions. The process will size and/or re-package waste into standardized containers; eliminate excess liquids and corrosive characteristics; minimize volatile organic compounds and hydrogen gas generation; and reduce hydrogen layers to increase the wattage (radioactive components) allowed per container.

This project is necessary to meet the requirement in the October 1995 Idaho Settlement Agreement to ship all retrievably stored transuranic waste out of Idaho by 2015 (target) and no later than 2018. It is also necessary to meet Site Treatment Plan milestones under the Federal Facility Compliance Act. In accordance with the Settlement Agreement and the Site Treatment Plan, facility construction was completed by December 31, 2002, and operations will commence no later than March 31, 2003. The State of Idaho will provide Resource Conservation and Recovery Act and Clean Air Act oversight, while EPA Region 10 will provide oversight under Toxic Substances and Control Act and NESHAPs.

The Advanced Mixed Waste Treatment Project is a privatized, fixed-price contract and will be performed in three phases. Phase I consists of facility permitting, preliminary facility/process design, and establishing the facility safety basis; Phase II consists of final facility/process design, facility construction and system testing; Phase III consists of facility operations, Resource Conservation and Recovery Act Closure, and Decontamination and Decommissioning. The services shall treat waste to meet Resource Conservation and Recovery Act Land Disposal Restrictions and Toxic Substances Control Act requirements, as well as Waste Isolation Pilot Plant Waste Acceptance Criteria. Transportation support for shipment of the wastes from the Idaho National Engineering and Environmental Laboratory to the Waste Isolation Pilot Plant is required and will be performed under a separate Waste Isolation Pilot Plant-managed contract.

All Critical Decisions for the Advanced Mixed Waste Treatment Project have been accomplished, as discussed below:

- CD-0, Approve Mission Need, was accomplished in May 30, 1995, with the issuance of the Record of Decision on the "Department of Energy Programmatic Spent Nuclear Fuel Management and Idaho National Engineering Laboratory Environmental Restoration and Waste Management Programs Final Environmental Impact Statement."
- CD-1, Approve of Preliminary Baseline Range, was accomplished with the December 20, 1996, contract award to British Nuclear Fuels, Limited Inc.

- CD-2, Approve Performance Baseline, was accomplished with the December 20, 1996, contract award to British Nuclear Fuels, Limited, Inc.
- CD-3, Approve Start of Construction, was accomplished by a May 3, 1999, memorandum from the Acting Assistant Secretary for Risk Reduction and Closure to the Acting Manager of the Idaho Operations Office.
- CD-4, Approval of Start of Operations, was accomplished by a May 3, 1999, memorandum from the Acting Assistant Secretary for Risk Reduction and Closure to the Acting Manager of the Idaho Operations Office. This project will require both a Documented Safety Analysis and an Operational Readiness Review and acceptance report, prior to starting operations, as required by applicable laws and DOE Directives.

The FY 2004 funding will provide the final increment of privatized funding required for the price of the Advanced Mixed Waste Treatment Project facility and commissioning in preparation for facility operation. Funds will also cover anticipated amounts for current or potential contractor Requests for Equitable Adjustment. These appropriations will be used to reimburse capital expenditures after services commence.

4. Details of Cost Estimate

(dollars in thousands)		
	Current Estimate	Previous Estimate
Total, facility costs	632,739	568,300
Other Project Costs		
Payments to Vendors	553,694	505,653
Facility Support M&O	22,771	13,731
Subtotal, other project costs	576,465	519,384
Total Project Cost	1,209,204 ^a	1,087,684

^a Increased Total Project Cost in Current Estimate reflects the following: (1) pending and anticipated Requests for Equitable Adjustment resulting from schedule delays caused by legal actions and potential repairs to government furnished property and equipment not known at the time of the negotiated fixed price, (2) increased estimate for processing unit prices occurring after price re-determination resulting from a current forecast, and (3) an updated forecast of termination liability required by the contract.

Alternate Storage for Plutonium Finishing Plant Special Nuclear Materials

Subproject Detail, Richland PBS RL-0011

1. Construction Schedule

	Fiscal Quarter				Total Estimated Cost (\$000)	Total Project Cost (\$000)
	A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete		
FY 2004 Congressional Request (Preliminary Baseline Estimate)	2Q 2003	1Q 2004	2Q 2004	1Q 2005	6,700	8,025

2. Financial Schedule

(dollars in thousands)

Fiscal Year	Appropriations	Obligations	Cost
2003	900 ^a	900	380
2004	5,800	5,800	6,230
2005	0	0	90

3. Subproject Description, Justification and Scope

The nationwide cleanup and closure of former nuclear weapons production facilities is a high priority for the Department of Energy (DOE). These facilities are contaminated with toxic and hazardous materials and many are used to store special nuclear materials. Cleanup and closure activities significantly reduce the potential health and safety risk presented by these aging facilities to employees, the public and the environment. These activities also significantly reduce costs related to surveillance and maintenance and safeguards and security. Consolidation of special nuclear materials into fewer storage locations further reduces cost and schedule impact on cleanup and closure, as well as safeguards and security.

As described in the Hanford Performance Management Plan, all special nuclear materials need to be stabilized and removed out of the Plutonium Finishing Plant by September 2005 or earlier. Consistent with the overall goals of the Environmental Management program to consolidate special nuclear materials at the Savannah River Site, activities are underway, both at Hanford and Savannah River, to support the transportation of the special nuclear materials to that site.

^a Funds provided from FY 2003 Budget Amendment.

However, because of the high costs of maintaining the Protected Area at the Plutonium Finishing Plant and all the associated safeguards and security, if the ability to ship to the Savannah River Site were delayed for any reason, the cost impact on the project would be significant. Therefore, the Department believes it is important to have an alternative storage location for the special nuclear materials. A study was commissioned to select the best alternative (best life cycle cost and earliest payback) for onsite storage of Hanford's special nuclear materials presently stored at the Plutonium Finishing Plant. Based on this study, it was determined that the modification of one of the existing unused grout vaults would be the most cost effective option.

With the modification of one of the grout vaults for the Plutonium Finishing Plant special nuclear materials storage, it will be possible to remove all stabilized and packaged special nuclear materials from the Plutonium Finishing Plant to support the accelerated deactivation and dismantlement schedule, thus allowing the use of un-cleared personnel to do the work. This would also allow the deactivation and dismantlement of the numerous alarm systems at the Plutonium Finishing Plant. Special nuclear materials stored in the grout vault would be readily retrievable for shipment or disposition. The grout vault design would meet the new design basis threat guidance.

In order to support the removal of all special nuclear materials by September 2005, activities would need to begin on the grout vault option in the spring of 2003. This would permit the design and physical modifications to occur in time to support the closure of the Plutonium Finishing Plant.

The FY 2004 deliverables associated with the design, construction and startup of the grout vault storage facility include the following:

- Engineering analysis, design, construction and testing of the grout vault storage facility
- Safety Analysis Report
- Necessary environmental documentation, presently considered to be an environmental assessment
- Operating, training, and maintenance procedures and manuals
- Testing and startup
- Fire Hazards Analysis

The result will be a facility capable of safely and securely storing special nuclear materials, including the loading and unloading of the facility, and any necessary periodic surveillances. The planned period of use would only be until all agreements are in place and transportation off-site is available.

Design will be by an engineering contractor, with construction to be performed by a pre-qualified, fixed price contractor selected on the basis of cost and ability to meet the schedule. The operating contractor will provide project management during design, procurement and construction of the project.

The project will be conducted in accordance with the project management requirements in DOE Order 413.3, Program and Project Management for the Acquisition of Capital Assets.

Compliance with Project Management Order

- Critical Decision - 0: Approve Mission Need – 3Q 2003
- Critical Decision - 1: Approve Preliminary Baseline Range – 3Q 2003

- Critical Decision - 2: Approve Performance Baseline – TBD
- Critical Decision - 3: Approve Start of Construction – TBD
- Critical Decision - 4: Approve Start of Operations – TBD

4. Details of Cost Estimate

(dollars in thousands)		
	Current Estimate	Previous Estimate
Facility Costs		
Design Costs		
Preliminary and Final Design Costs (Design Drawings and Specifications)	300	0
Design/Project Management Costs	80	0
Subtotal, design costs	380	0
Construction Costs		
Project Management	213	0
Buildings and improvements to land	4,190	0
Other (utilities)	277	0
Subtotal, construction costs	4,680	0
Contingencies		
Contingency	1,640	0
Subtotal, facility costs	6,700	0
Other Project Costs		
Conceptual Design	300	0
NEPA Documentation	110	0
Other Project Related Costs	915	0
Subtotal, other project costs	1,325	0
Total Project Cost	8,025	0

Exhaust Upgrades, 221-H

Subproject Detail, Savannah River PBS SR-0011B

1. Schedule History

	Fiscal Quarter				Total Estimated Cost (TEC) (Design Only) (\$000)	Full Total Estimated Cost (TEC) Projection Range (\$000)
	A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete		
FY 2004 Budget Request	1Q 2004	4Q 2005	N/A	N/A	TBD	TBD

2. Financial Schedule

(dollars in thousands)

Fiscal Year	Appropriations	Obligations	Costs
2004	685	685	685
Outyears	TBD	TBD	TBD

3. Subproject Description, Justification and Scope

The project focuses on the interface between the safety-class canyon exhaust system and the non-safety-class Old HB-Line system currently operating under a Justification for Continued Operation. The project addresses the issues in the Defense Nuclear Facilities Safety Board Staff Issue Report, dated June 4, 2002.

This project will provide exhaust capacity in Building 221 HB-Line. The project replaces the existing HB Line ventilation system located in the 292 H Fan Building with a new ventilation system located on the third level of the 221 H Canyon Building. (Note: the existing HB line Ventilation System Fans in Building 292 H were planned to be replaced/upgraded as a part of the Canyon Exhaust Upgrades Project, Line Item 92-D-140. Identification of non-repairable leakage in ducting upstream of these fans, however, made performance of this scope unwarranted. This project will perform new scope to install an alternate system, independent of the existing system, allowing the existing degraded system to be isolated and abandoned.) These modifications and upgrades will be, at a minimum, necessary to support current and future missions of the HB-Line including, but not necessarily limited to, safeguards and security, ventilation, cooling, fire detection, and nuclear incident monitoring.

The Total Estimated Cost (design and construction) business decision estimate range is under development. The budget authority requested in FY 2004 is for preliminary design. Total Estimated Cost for dismantlement and removal and long-lead equipment will be established during preliminary design.

The project is subject to DOE Order 413.3, Program and Project Management for the Acquisition of Capital Assets, accordingly baselines for Total Project Cost will be established at the completion of Preliminary design (Critical Decision 2: Expected in fourth quarter FY 2004) and after the associated external independent reviews.

Critical Decision - 0 (Approve Mission Need) is expected in the third quarter of FY 2003, with Critical Decision - 1 (Approve Preliminary Baseline Range) expected in the fourth quarter of FY 2003.

Westinghouse Savannah River Company will manage the project for the Savannah River Operations Office. Onsite resources, supplemented with the A/E subcontractors as needed, will perform design, engineering and inspection during the construction of the modifications.

4. Details of Cost Estimate

(dollars in thousands)

	Current Estimate	Previous Estimate
Facility Costs		
Preliminary and Final Design Costs (Design Drawings and Specifications)	TBD	N/A
Design Management Costs	TBD	N/A
Project Management Costs	TBD	N/A
Subtotal, design costs	TBD	N/A
Other Project Costs		
Conceptual Design	700	N/A
Other Project Cost	TBD	N/A
Total Project Cost	TBD	N/A

The project will take place in existing facilities using known processes and take advantage of existing designs. However, at this time the level of confidence in the project estimate is indeterminate based on lack of a pre-conceptual design package (CD-0).

Initial Tank Retrieval Systems

Subproject Detail, Hanford Site PBS ORP-0014

1. Construction Schedule

	Fiscal Quarter				Total Estimated Cost (\$000)	Total Project Cost (\$000)
	A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete		
FY 2004 Budget Request (<i>Current Baseline Estimate</i>)	4Q 1994	3Q 2004	3Q 2000	1Q 2016	237,100	269,900

2. Financial Schedule

(dollars in thousands)

Fiscal Year	Appropriations	Obligations	Costs
Prior Years	57,087	57,087	37,770
2002	1,844 ^a	1,844	7,600
2003	20,945	20,945	20,576
2004	17,000	17,000	20,956
2005	34,845	34,845	34,845
2006	28,000	28,000	28,000
2007	14,000	14,000	17,029
2008	16,000	16,000	19,433
2009	10,000	10,000	12,314
2010	13,000	13,000	13,000
2011	11,000	11,000	11,000
2012	7,000	7,000	7,000
2013	6,379	6,379	6,379
2014	0	0	1,198

3. Subproject Description, Justification and Scope

This project supports the Department's goal to retrieve and stabilize radioactive waste stored in 177 tanks at Hanford by 2035. The project will provide the capability to retrieve and transfer radioactive waste from ten double shell tanks to the Waste Treatment and Immobilization Plant. The scope of this

^a Reflects decrease of \$5,000,000 due to FY 2002 internal reprogramming for higher priority safety and health needs.

project includes mixing and pumping systems for the retrieval of wastes and the waste transfer system between the existing tank farms and the Waste Treatment and Immobilization Plant.

The typical retrieval system for the selected tanks consists of 300 horsepower mixer pumps to mobilize solids in the tank and a transfer system for removal of the tank contents. Tank internal components, such as thermocouple trees, will be replaced with higher strength equipment to withstand the forces induced by the mixer pumps. Monitoring and control systems will be installed to measure performance of the mixer pumps and tank operations. Remote decontamination equipment and disposable containment equipment will be utilized for removal and disposal of tank components. Waste transfer components include upgrades to valve pits (including new jumpers) and waste transfer lines, including the piping required to connect the AP tank farm (the closest tank farm) to the Waste Treatment and Immobilization Plant.

The selected feed and staging tanks contain both supernatant liquids and settled solids, most of which must be mixed before transfer for processing or storage. Initial tank design did not anticipate solid waste transfers, but consolidation and concentration of wastes stored in these tanks, as well as feed specifications supporting vitrification processing, have made such systems necessary. The consolidation of wastes stored in these double shell tanks has supported waste removal from older design and leaking single shell tanks, thereby relieving threats to the environment. Concentration has avoided the need for construction of additional tanks. Additionally, waste mixing and concentration will mitigate safety concerns relating to radiolytic generation of flammable gasses within stored waste.

Designs have been completed for tank retrieval systems in the tanks which will provide the initial feed to the Waste Treatment and Immobilization Plant (AZ-101, AZ-102, AP-102, AP-104, AN-104, and AN-105). The design for the waste transfer system from the AP tank farm to the Waste Treatment and Immobilization Plant has also been completed. Construction of the AZ-101 retrieval system and the waste transfer system is underway. The project has a contingency of \$16,900,000, which is within the contingency allowance per Chapter 11 of DOE G 430.1-1, Project Management.

The FY 2004 budget request will be used for detailed design on two retrieval systems, long lead procurement for two retrieval systems, construction on two retrieval systems, completing construction on the first HLW feed tank (AZ-101) and on the AP waste transfer system to the Waste Treatment Plant, and performing associated project management. This project has met the intent of DOE Order 413.3 requirements for Critical Decisions 0, 1, and 2.

The CH2M HILL Hanford Group will manage the project for the Office of River protection and the onsite engineer-constructor will perform design and construction. Fixed-price contracts will be utilized to the maximum extent possible.

4. Details of Cost Estimate

(dollars in thousands)

	Current Estimate	Previous Estimate
Facility Costs		
Preliminary and final design costs	28,540	27,315
Design management costs	5,700	5,980
Project management costs	6,200	10,645
Subtotal, Design Costs	40,440	43,940
Construction Costs		
Buildings & improvements to land	3,080	300
Specialized equipment	96,140	83,995
Other (major utilities/comp items, specialized facilities, etc.)	12,390	13,350
Removal cost less salvage	14,620	14,620
Inspection, design and project liaison, testing, checkout and acceptance	18,800	22,420
Construction management	13,600	28,770
Project management costs	21,130	11,505
Subtotal, construction costs	179,760	174,960
Contingencies		
Design phase	1,000	3,250
Construction phase	15,900	19,950
Subtotal, contingencies	16,900	23,200
Total, Facility Costs	237,100	242,100
Other Project Costs		
Conceptual Design	1,595	1,595
NEPA	10	10
Other Project Costs	31,195	31,195
Subtotal, Other Project Costs	32,800	32,800
Total Project Cost	269,900	274,900

Tank Farm Restoration and Safe Operations

Subproject Detail, Hanford Site PBS ORP-0014

1. Construction Schedule

	Fiscal Quarter				Total Estimated Cost (\$000)	Total Project Cost (\$000)
	A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete		
FY 2004 Budget Request	2Q 1997	4Q 2003	2Q 1998	3Q 2005	216,960	285,260

2. Financial Schedule

(dollars in thousands)

Fiscal Year	Appropriations	Obligations	Costs
Prior Years	92,784	92,784	85,016
2002	38,473 ^a	38,473	42,579
2003	33,300	33,300	36,550
2004	31,000	31,000	31,000
2005	21,403	21,403	21,815

3. Subproject Description, Justification and Scope

This project installs waste retrieval piping systems and upgrades ancillary equipment in double shell tank farms. This supports the Department's goal to retrieve and stabilize radioactive waste stored in the tanks at Hanford by 2035.

The scope of this project includes upgrades for selected tank farm instrumentation control, tank ventilation, waste transfer, and electrical systems in order to restore these systems to an acceptable design basis. This project is integrated with other planned/ongoing upgrades, waste retrieval, and major maintenance activities to ensure that the combined upgrades are performed in a cost-effective manner and that they will adequately support the overall River Protection Project mission.

During Phase I, the project will provide major upgrades to the waste transfer systems, the master pump shutdown system, and the leak detection system, including transfer piping systems between tank farms. During Phase II, the project will provide upgrades to ventilation and electrical systems and additional transfer systems.

^a Reflects increase of \$5,000,000 from original appropriation for internal reprogramming to meet safety and health requirements.

For the Waste Transfer system, new valve manifold assemblies will be provided in selected pits used for the double-shell tank waste transfer operations. In addition, the project will install three new transfer routes (pipe-in-pipe configuration, equipped with appropriate leak detection and cathodic protection capabilities); one bypassing the A/A valve pit (200 East Area), and two bypassing the 244-S double-contained receiver tank (200 West Area). Existing pits used for the double-shell tank waste transfer operations will have special protective coating applied to the walls, floor, and underside of cover blocks to facilitate decontamination and support compliance with regulatory requirements for secondary containment. New transfer systems will be fully compliant with Resource Conservation and Recovery Act requirements and with Washington State regulations governing hazardous waste handling.

The project will upgrade the master pump shutdown system and associated alarms. All new instrumentation/control equipment will be capable of providing remote readout and/or alarm at selected manned facilities, resulting in a significant reduction in the amount of manual field data collection in the double-shell tank farms.

The project will replace the existing primary ventilation systems for Tank Farms 241-AN, -AP, and -AW with new, high-capacity exhaust filtration systems. A new exhaust stack, along with stack effluent monitoring and ventilation control equipment, will be included in these upgrades. New seal pots and associated condensate piping will be installed to support the collection of condensate from the new ventilation systems and return it to the primary tank system.

The existing electrical power supplies for the equipment supporting the double-shell tanks primary/annulus ventilation systems will be upgraded and/or replaced to provide backup power capabilities.

The project currently has a contingency of \$37,604,000 which is within the contingency allowance per Chapter 11 of DOE G 430.1-1. Project contingency is based on a risk assessment of design maturity, work complexity, and project uncertainties. A summation of risk score assigned to each of the above criteria yields a composite contingency of 17 percent of the Total Estimated Cost.

The FY 2004 Appropriation will be used to complete:

- < The Waste Treatment system tie-in to the Cross-site Transfer Line;
- < Complete procurement and initiate construction of AP Phase 2 upgrades;
- < Complete construction of AW Phase 2 upgrades;
- < Complete construction of the SY Phase 2 upgrades;
- < Complete procurement and initiate and complete construction of the A/A Valve Pit Bypass; and,
- < Complete construction of the 244-S Double Contained Receiver Tank Bypass.

The CH2M HILL Hanford Group will manage the project for the Office of River protection and the onsite engineer-constructor will perform design and construction. Fixed-price contracts will be utilized to the maximum extent possible.

4. Details of Cost Estimate

(dollars in thousands)

	Current Estimate	Previous Request
Facility Costs		
Preliminary and final design costs	30,286	24,368
Design management costs	5,050	8,066
Subtotal, design	35,336	32,374
Construction Costs		
Buildings and improvements to land	45,250	54,026
Specialized equipment	21,784	21,474
Other (major utilities/comp items, specialized facilities, etc.)	7,150	7,150
Removal cost less salvage	4,784	4,784
Project management	23,922	20,633
Inspection, design and project liaison, testing, checkout and acceptance	25,799	30,296
Construction management	15,331	13,494
Subtotal, construction costs	144,020	151,857
Contingencies		
Design phase	1,842	3,387
Construction phase	35,762	29,342
Subtotal, contingencies	37,604	32,729
Total, facility costs	216,960	216,960
Other Project Cost		
Conceptual Design	13,324	13,324
NEPA	12	12
Other Project Costs	54,964	54,964
Subtotal, other project costs	68,300	68,300
Total Project Cost	285,260	285,260

A-8 Electrical Substation Upgrade

Subproject Detail, Richland PBS RL-0040

1. Schedule History

	Fiscal Quarter				Total Estimated Cost (TEC) (\$000)	Total Project Cost (TPC) (\$000)
	A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete		
FY 2004 Budget Request	1Q 2004	2Q 2004	2Q 2005	4Q 2006	8,030	8,311

2. Financial Schedule

(dollars in thousands)

Fiscal Year	Appropriations	Obligations	Costs
2004	288	288	288
2005	7,742	7,742	7,742

3. Subproject Description, Justification and Scope

As part of the Hanford Site Clean-up mission, the U.S. Department of Energy has embarked upon a course of actions to update and maintain Hanford Site core infrastructure until the clean-up mission is completed in 2035. This project upgrade will improve overall electrical system reliability and help meet the long-term environmental cleanup goals set by the U.S. Department of Energy. This modification will also allow for downsizing from the existing 50 MVA transformers, which are significantly underutilized. The upgrades will provide long-term safe and reliable support for the site's cleanup mission.

The A-8 Substation serves as the Hanford Site electrical dispatch center and houses the Supervisory Control and Data Acquisition system. The Supervisory Control and Data Acquisition system monitors status and alarms, and provides remote control to allow the dispatcher to change electrical routing through three primary substations (two in the 100/200 Areas and one in the 300 Area) and two switching stations in the 300 Area. The substation consists of four transformers, three circuit breakers and switching equipment. The substation is operated on a 24-hour (7 days-per-week) basis to maintain continuous electrical coverage of the Hanford Site.

The equipment and systems that are planned for replacement have deteriorated to a point where they could contribute to unscheduled power outages to key facilities. The sub-station contains major equipment that is 33 to 46 years old and is beyond its useful life.

FY 2004 funding will be used for design and engineering activities.

The most current schedule of critical decisions is as shown below:

Compliance With Project Management Orders

- Critical Decision - 1: Mission Need (Critical Decision 0 and 1) - Proposed June 2003
- Critical Decision - 2: Approve of Baseline - Proposed June 2004
- Critical Decision - 3: Start of Construction - Proposed January 2005
- Critical Decision - 4: Completion of Construction/Start of Operations - Proposed September 2006

Conceptual design is to be performed under a cost plus fixed fee contract. A cost plus fixed fee contract would also be used for A-E services in Title II design and Title III engineering, and for construction management services wherever it is practical to compile, in advance of the preparation of plans and specifications, adequate information describing the specific scope of services required. Firm-fixed price contracts would be used to acquire construction.

4. Details of Cost Estimate

(dollars in thousands)		
	Current Estimate	Previous Estimate
Facility Costs		
Preliminary and Final Design Costs	288	N/A
Design Management Costs	0	N/A
Subtotal, Design Costs	288	N/A
Construction Costs		
Buildings and Improvements to Land	929	N/A
Specialized Equipment	4,304	N/A
Inspection, Design, and Project Liaison, Testing, Checkout and Acceptance	807	N/A
Project Management	269	N/A
Construction Management	613	N/A
Subtotal, Construction Costs	6,922	N/A
Contingencies		
Design Phase	8	N/A
Construction Phase	812	N/A
Subtotal, Contingencies	820	N/A
Total, Facility Costs	8,030	N/A
Other Projects Cost		
Conceptual Design	0	0
NEPA	10	0
Other Project Costs	271	0
Subtotal, other project costs	281	0
Total Project Cost	8,311	0

High Level Waste Removal from Filled Waste Tanks

Subproject Detail, Savannah River PBS SR-0014C

1. Construction Schedule

	Fiscal Quarter				Total Estimated Cost (\$000)	Total Project Cost (\$000)
	A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete		
FY 2004 Amended Budget Request (Current Baseline Estimate)	1Q 1979	2Q 2006	2Q 1980	4Q 2006	353,037	426,333

2. Financial Schedule

(dollars in thousands)

Fiscal Year	Appropriations	Obligations	Costs
Prior Years	313,332	313,332	307,588
2002	11,754	11,754	16,893
2003	15,324	15,324	14,074
2004	12,627	12,627	12,000
2005	0	0	2,482

3. Subproject Description, Justification and Scope

The line item project was established in FY 1993 to cover the cost of physical structures, interconnecting piping, pumps and tank infrastructure requirements necessary to remove high level waste from 51 waste storage tanks at the Savannah River Site. Through FY 2002, the project has been instrumental in supporting final closure of two waste tanks (17 & 20), putting infrastructure and waste removal equipment on another 13 tanks (7, 8, 17-20, 24, 40, 42, & 48-51).

The Defense Waste Processing Facility requires removal of waste from the underground storage tanks to be vitrified and stored in canisters. This subproject provides the equipment and infrastructure to remove the waste. Therefore, it is an integral and necessary part of the accelerated clean-up. The Federal Facilities Agreement requires that the site close the 22 remaining non-regulatory compliant waste tanks by FY 2022. These waste tanks do not have approved secondary containment. Some of these tanks have leaked; however, current waste levels have been reduced to below the leak sites. The Site Treatment Plan requires Defense Waste Processing Facility production to average at least 200 canisters per year. If funds are not appropriated for this project, the Savannah River Site will not meet the required Federal Facilities Agreement, Site Treatment Plan regulatory commitments or accelerated clean-up plans; Defense Waste Processing Facility operations will be slowed or stopped; and waste tank space may not be available to support current and future missions.

In FY 2002 this project completed Tank 7 bulk waste removal facilities, Tank 18 bulk waste removal facilities, Tank 37 gravity drain line, and Tank 50 reuse modification. In FY 2003 this project is re-initiating Tank 11 bulk waste removal facilities design and construction and initiating Tank 5 design and construction.

Subparts

Subpart 01: Waste Removal

This subpart provides funds to cover the cost of physical structures, interconnecting piping, pumps and tank infrastructure requirements necessary to remove high level waste from certain waste storage tanks at the Savannah River Tanks (5, 7, 8, 11, 17-20, 24, 40, 42, & 48-51).

Subpart 02: Processing Facility Upgrades

The Processing Facility Upgrades subpart provides the processing upgrades to the Defense Waste Processing Facility, Saltstone, Effluent Treatment Facility or other waste tank farm facility required to support efficient processing of salt and sludge through the High Level Waste System. The scope includes upgrades to the Defense Waste Processing Facility, support for the processing of higher curie content sludge and a missile shield for the nitrogen system. Tank 37 gravity drain line for the 3H evaporator and Tank 50 transfer system modifications were added via baseline change proposal in FY 2001.

In FY 2004, this subproject will complete Tank 11 bulk waste removal facilities and Tank 5 bulk waste removal facilities.

Savannah River has continually searched for more efficient ways to remove waste from tanks. Working with Technology Development and Deployment, submersible pumps are being developed that do not require the expansive steel structures that support the currently used long shafted pumps. By eliminating the cost of designing and constructing this support structure along with bulk waste removal campaigns of months or weeks in lieu of years, these pumps can be procured as capital equipment. Other features of the future scopes of work supporting emptying tanks can be implemented appropriately via operating funds. This allows this project to be closed at completion of current ongoing scopes (Tank 5 and Tank 11 waste removal facilities) with the appropriate baseline changes.

Compliance with Project Management Order

- Critical Decision - 0: Original Completion Date - September 1990 - Rebaselining was reaffirmed by ESAAB in April 2000
- Critical Decision - 1: Approved - June 1991
- Critical Decision - 2: Approved - March 1993
- Critical Decision - 3: Approved - October 1993
- Critical Decision - 4: Forecast - September 2006

External Independent Reviews: February 2000, by Burns & Roe

Design will be performed by site design engineering and via subcontract. Construction and procurement will be accomplished utilizing fixed-price subcontracts awarded on the basis of competitive bidding, where possible.

4. Details of Cost Estimate

(dollars in thousands)

	Current Estimate	Previous Estimate
Facility Costs		
Preliminary and final design costs	94,810	181,734
Design management costs	6,196	11,603
Project management costs	6,087	12,000
Subtotal, design costs	107,093	205,337
Construction phase		
Buildings & improvements to land	4,625	12,341
Specialized equipment	129,352	347,303
Other (major utilities/comp items, specialized facilities, etc.)	58,485	160,243
Removal cost less salvage	7,793	21,353
Inspection, design and project liaison, testing, checkout and acceptance	14,256	39,059
Construction management	8,119	22,119
Project management costs	17,650	48,000
Subtotal, construction costs	240,280	650,418
Contingencies		
Design Phase	750	27,960
Construction Phase	4,914	83,485
Subtotal, contingencies	5,664	111,445
Total, facility costs	353,037	967,200
Other Project Costs		
Conceptual Design	800	800
NEPA	0	0
Other Project Costs	72,496	582,500
Subtotal, other project costs	73,296	583,300
Total Project Cost	426,333	1,550,500

The project team has a high level of confidence in this estimate.

Saltstone Vault #2

Subproject Detail, Savannah River PBS SR-0014C

1. Construction Schedule

	Fiscal Quarter				Total Estimated Cost (\$000)	Total Project Cost (\$000)
	A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete		
FY 2004 Budget Request (<i>Current Baseline Estimate</i>)	1Q 2003	4Q 2003	1Q 2004	2Q 2005	18,189	19,619

2. Financial Schedule

(dollars in thousands)

Fiscal Year	Appropriations	Obligations	Cost
2003	2,912	2,912	2,912
2004	10,081	10,081	10,081
2005	5,196	5,196	5,196

3. Subproject Description, Justification and Scope

This initiative supports the expedited processing of the 37million gallons of high-level waste currently stored at the Savannah River Site by 2019, which is 8 years earlier than scheduled. The need for this vault by mid FY 2005 is based on a new strategy of emptying existing waste storage tanks for ultimate tank closure. This strategy segregates low curie salt waste from other salt waste. By separating the waste, the low curie salt can be disposed of economically in vaults and less will be processed through the Defense Waste Processing Facility and require disposal in a permanent federal facility.

Existing vaults are permitted with the South Carolina Department of Health, Education and Control and accelerating the processing of low level waste will fill the remaining space in FY 2005. Two waste streams feed the vaults, one is from the high-level waste storage tanks and the other is the Effluent Treatment Facility concentrate. The treatment at the Saltstone Facility prior to going into the vault includes mixing the waste streams with cement, flyash and slag. The resulting grout is pumped into the reinforced concrete cell. The grout cures into a solidified waste form called saltstone, which immobilizes and disposes of the salt solution waste containing low levels of radioactivity.

This project will use the existing design with integrity and operational improvements to build the next vault. The vault has reinforced concrete floor and walls. It will have twelve cells, each one holding 6,570 cubic meters (242,500 cubic feet) and have a permanent roof. The total size is 60 meters wide,

180 meters long and 7.6 meters high. The accelerated clean-up plan is to complete one vault every 2 years and start the next vault when the last is finished.

The Management and Operating contractor will use the existing design to construct and procure the vault. Specific scopes of work within this project may be accomplished by fixed-price contracts awarded on the basis of competitive bidding rather than using direct hire construction forces.

4. Details of Cost Estimate

	(dollars in thousands)	
	Current Estimate	Previous Estimate
Facility Costs		
Preliminary and Final Design Costs	2,910	N/A
Design Management Costs included above	0	N/A
Subtotal, design costs	2,910	N/A
Construction Phase		
Construction Costs	10,459	N/A
Construction Management	582	N/A
Project Management	1,328	N/A
Subtotal, construction costs	12,369	N/A
Contingencies		
Design Phase	364	N/A
Construction Phase	2,546	N/A
Subtotal, contingencies	2,910	N/A
Total, facility costs	18,189	N/A
Other Project Costs		
Conceptual Design	0	0
NEPA	0	0
Other Project Costs	1,430	0
Subtotal, other project costs	1,430	0
Total Project Cost	19,619	0

Spent Nuclear Fuel Dry Storage

Subproject Detail, Idaho PBS HQ-SNF-0012Y

1. Construction Schedule

	Fiscal Quarter				Total Estimated Cost (\$000)	Total Project Cost (\$000)
	A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete		
FY 2004 Congressional Request (Preliminary Baseline Estimate)	3Q 2000	4Q 2003	4Q 2003	1Q 2006	223,563	273,027

2. Financial Schedule

(dollars in thousands)

Fiscal Year	Appropriations	Obligations	Cost
Prior Years	77,077	77,077	0
2002	49,332	49,332	66,753
2003	53,399	53,399	0
2004	43,755	43,755	0
Outyears	0	0	156,810

3. Subproject Description, Justification and Scope

The Spent Nuclear Fuel Dry Storage Project is necessary to provide the Idaho National Engineering and Environmental Laboratory with an efficient and cost-effective capability to prepare the Department of Energy (DOE) spent nuclear fuel for shipment and disposal at the monitored geologic repository. This capability is needed to meet the commitment to ship all spent nuclear fuel out of Idaho by 2035, in accordance with the Idaho Settlement Agreement and the Performance Management Plan for accelerating cleanup at the Idaho National Engineering and Environmental Laboratory. The project will provide Nuclear Regulatory Commission-licensed interim dry storage of three types of spent nuclear fuel at the Idaho National Engineering and Environmental Laboratory. The fuel currently resides in facilities at the Idaho National Engineering and Environmental Laboratory, at various universities and at foreign research reactors. The project facilities will be constructed near the Idaho Nuclear Technology and Engineering Center, formerly known as the Idaho Chemical Processing Plant.

This project includes the following services:

- Design and the Nuclear Regulatory Commission license for a spent nuclear fuel dry transfer and storage facility. (The contractor is the licensee.)
- Conceptual design for a Nuclear Regulatory Commission licensed transportation system to transfer the spent nuclear fuel out of Idaho.
- Dry transfer capability to allow cask receipt from the management and operating contractor and dry transfer of spent nuclear fuel assemblies into standard canisters designed for disposal in the monitored geologic repository.
- Construction of the dry transfer and storage facility as defined by the Nuclear Regulatory Commission license.
- Loading of the designated fuels into dry storage.
- Operation of the Dry Transfer and Storage Facility in accordance with the contractor's Nuclear Regulatory Commission license conditions through April 2010.

In May 2000, a contract was awarded to Foster Wheeler Environmental Corporation for the privatized design, licensing, construction, and operation of the Spent Nuclear Fuel Dry Storage Project. The contractor submitted its license application to the Nuclear Regulatory Commission in November 2001. The Nuclear Regulatory Commission docketed the license application for review in March 2002 and provided a schedule for the review process that would result in issuing the license in March 2004.

The privatization funding under PBS HQ-SNF-0012Y covers design and license application preparation, construction costs of the dry transfer facility, procurement of the storage canisters, and the dry storage system. Upon completion of the fixed price design and license application deliverable, which included acceptance of the license application by the Nuclear Regulatory Commission, a payment of \$66,753,288 was made to the contractor from the privatization funds, in accordance with the terms of the contract. The cost plus fixed fee effort during the period the Nuclear Regulatory Commission is reviewing the license application and until the license is issued, will be paid monthly from PBS HQ-SNF-0012X. The fixed price construction of the facilities will be amortized over the first 800 units of spent fuel processed and paid out of the privatization account at fixed unit prices when the fuel is successfully placed in the Nuclear Regulatory Commission licensed dry storage facility. The FY 2004 funding under PBS HQ-SNF-0012Y reflects the final year of funding required for facility construction. Also, if it would become necessary, the funds appropriated for design, licensing, and construction must be available from privatization funds to cover termination of the contract for the convenience of the Government.

The estimated capital cost of the project (\$223,563,000) is based on the actual contract price (including an estimate of earned incentive, escalation, and risk that remains with DOE). The contract start-up is scheduled for December 31, 2005. The contract contains an incentive for earlier start of operation as well as a provision for assessing liquidated damages in the event of a delay.

In addition to the capital cost, a total of \$49,464,000 will be provided to support activities during the Nuclear Regulatory Commission license review process and for dry transfer and interim storage operations.

There are no critical decisions remaining on this project:

- CD-0, Approve Mission Need, was completed by Headquarters in March 1996
- CD-1, Approve Preliminary Baseline Range, was completed by Headquarters in January 1997.
- CD-2, Approve Performance Baseline, was completed in January 2000. In May 2000, the contract was awarded for the privatized design, construction and start-up of the Nuclear Regulatory Commission licensed facility.
- CD-3, Approve Start of Construction, not applicable due to the privatization nature of the contract and because the Nuclear Regulatory Commission has regulatory authority for licensing the facility.
- CD 4, Approve Start of Operations, similarly not applicable.

The level of confidence for completing the project within the current total estimate of cost is high because the project is fixed price, utilizes known technology, and is based on a proven design previously licensed by the Nuclear Regulatory Commission. Also, although certain risks remain with DOE consistent with the contract, these risks have been analyzed by DOE and are reflected in the current Total Estimated Cost.

4. Details of Cost Estimate

(dollars in thousands)		
	Current Estimate	Previous Estimate
Total, facility costs	223,563	223,563
Other Project Costs		
Facility Licensing/Operations	49,464	49,464
Subtotal, other project costs	49,464	49,464
Total Project Cost	273,027	273,027

East Tennessee Technology Park Three-Building Decontamination and Decommissioning and Recycle Project

Subproject Detail, Oak Ridge PBS OR-0040

1. Construction Schedule

	Fiscal Quarter				Total Estimated Cost (\$000)	Total Project Cost (\$000)
	A-E Work Initiated	A-E Work Completed	Mobilization Start	Physical Construction Complete		
FY 2004 Budget Request	N/A	N/A	4Q 1997	2Q 2004	346,644	346,644

2. Financial Schedule (Operating Expense Funded)

(dollars in thousands)

Fiscal Year	Appropriations	Obligations	Cost
Prior Years	172,599	172,599	156,107
2002	73,036	73,036	84,972
2003	70,719	70,719	75,000
2004	30,290	30,290	30,565
Outyears	0	0	0

3. Project Description, Justification and Scope

The East Tennessee Technology Park gaseous diffusion process buildings were permanently closed in 1987, and the uranium enrichment mission transferred to the United States Enrichment Corporation at Portsmouth, Ohio, and Paducah, Kentucky. The three buildings of the project are filled with diffusion equipment which is contaminated with uranium and contains barrier material representing a classified technology requiring provisions for security and protection. The three buildings are currently unusable and require continuous surveillance and maintenance activities estimated to cost approximately \$80,700,000 for the 10-year period FY 1997 through FY 2006 (estimate taken from *Engineering Evaluation/Cost Analysis*, DOE/OR/02-1579&D1, April 1997).

The challenge for this project is to link the ability to remove equipment/material and to clean up the buildings with some economically viable salvage/recycle of the equipment/material in an effort to lower the overall cost to the Government. The cost recovery portion of the project (the equipment and material) required unique contractor capabilities due to the contamination present, the classified nature of much of the recyclable material, and the limited market for previously-contaminated material.

The East Tennessee Technology Park Three Building Decontamination and Decommissioning and Recycling Project encompasses Buildings K-29, K-31, and K-33. The three buildings contain approximately 45 percent of the five East Tennessee Technology Park Gaseous Diffusion Plant building materials.

The following table summarizes the quantity of contaminated or potentially contaminated metal planned to be removed from the facilities, decontaminated and processed as appropriate, and economically recycled.

East Tennessee Technology Park Three Building Decontamination and Decommissioning and Recycling Initiative Quantity Data

	(building)		
	K-29	K-31	K-33
Building Size (Gross Sq. Ft.)	451,000	1,660,000	2,780,000
Metal Quantities for Processing			
Fe Metals (Tons)	10,624	31,678	62,489
Nickel (Tons)	692	1,563	3,752
Copper (Tons)	1,165	2,810	7,036
Aluminum (Tons)	899	2,301	4,140

The scope of the East Tennessee Technology Park Three-Building Decontamination and Decommissioning and Recycle Project includes the following:

- Perform decontamination and decommissioning and recycle under fixed-price contract.
- Perform surveillance and maintenance services.
- Remove all process equipment and materials from the three buildings.
- Decontaminate vacant areas within the buildings to industrial reuse standards.
- Decontaminate and recycle the majority of materials and equipment.
- Disposal of all waste.
- Provide the buildings ready for industrial occupancy as they are completed.

The three building concept is the beginning of full decontamination and decommissioning of the five East Tennessee Technology Park Gaseous Diffusion Plant buildings. The concept directly supports reindustrialization, which is targeted as an essential mission by DOE resulting in accelerated cleanup, cost savings, and indirect benefits to the Oak Ridge work force and community. The Department has signed an agreement with the Community Reuse Organization of East Tennessee to encourage utilization of the East Tennessee Technology Park site. This agreement allows the Community Reuse Organization of East Tennessee to lease the facilities from DOE and in turn sublease them to outside companies to use them for a variety of activities. The three buildings of the proposed concept will be

leased to the Community Reuse Organization of East Tennessee, one by one, as soon as building decontamination is completed.

The intent of this project is to find the best economical match between the Government's desire to have the three buildings cleaned up and available for alternative use, and to minimize the overall cost of accomplishing the task. British Nuclear Fuels, Limited, in fulfilling this charge, brings their expertise in cleaning up similar diffusion facilities at Capenhurst, Great Britain. The decontamination and recycle enterprises will be negotiated and established by British Nuclear Fuels, Limited. Recyclable materials will be recovered and delivered to these enterprises in forms that meet the acceptance and fulfill the specialized and focused needs of British Nuclear Fuels, Limited's, business associates.

In this concept, British Nuclear Fuels, Limited, and its subcontractors have expertise in each of the decontamination and decommissioning, recycle, and waste disposal areas needed to perform the scope of work described above. British Nuclear Fuels, Limited, was selected through a competitive process, whereby, an announcement was published in the Commerce Business Daily requesting expressions of interest from all parties desiring to perform the decontamination and decommissioning of the three process buildings. Several responses were received, but only British Nuclear Fuels, Limited, met all the terms set forth in the published announcement. Therefore, British Nuclear Fuels, Limited, was awarded a fixed-price contract for delivering vacant and decontaminated buildings to DOE/Oak Ridge Operations Office. The work will be performed utilizing external licensing by the Tennessee Department of Environment and Conservation (which has Nuclear Regulatory Commission oversight responsibilities in Tennessee) and under the Office of Safety and Health Administration rules (off-site) and DOE oversight (on-site) utilizing Work Smart Standards.

In this approach, savings occur (estimated at approximately \$450,000,000 over the traditional management and operating approach) due to a combination of efforts including: (1) reduced engineering and management overhead and fees; (2) reduced surveillance and maintenance cost; (3) efficiencies in the approach to recycle and building decontamination based on British Nuclear Fuels, Limited's, successful experiences at Capenhurst; (4) reduced contingency due also to British Nuclear Fuels, Limited's experience and confidence based on Capenhurst decontamination and decommissioning; and (5) DOE's assignment of all materials in the three buildings to British Nuclear Fuels, Limited. In return for these benefits, British Nuclear Fuels, Limited, takes responsibility for recycle/salvage activities through whatever means British Nuclear Fuels, Limited, selects, including waste containers or other products fabricated from recycled metal. British Nuclear Fuels, Limited, is following an approach that disposes of more low-valued metal than in the previous approach; and British Nuclear Fuels, Limited, is using the least-net-cost method for decontamination and recycle of other assets.

Additional benefits to the Department from the East Tennessee Technology Park Three-Building Decontamination and Decommissioning and Recycle Project includes:

- Reduced risk to the public, workers, and the environment by accomplishing decontamination and decommissioning of the buildings sooner than planned. Risk is related to the deposited uranium products left in the Gaseous Diffusion Plant systems at shutdown, coupled with the fact that neither the systems nor buildings are designed for long-term storage of nuclear materials.
- Risk is assumed by the contractor during cleanup, including risks of waste handling and disposal.

- Removal of process systems eliminates fissile material hold-ups as well as risk of potential criticality accidents. This is consistent with requirements within the Defense Nuclear Facilities Safety Board 94-1 Implementation Plan.
- The approach leaves buildings standing that will be used by DOE and the Community Reuse Organization of East Tennessee in efforts to reindustrialize the East Tennessee Technology Park.
- The approach results in the further establishment and verification of efficient decontamination and decommissioning methods that will be made available to DOE for use at other facilities.
- Further, incidental benefits include the establishment of equipment/metal decontamination and recycle capabilities in Oak Ridge that will maintain jobs in the region. British Nuclear Fuels, Limited's, approach allows for management and operating worker transition to the private sector and will create approximately 900 replacement jobs.

British Nuclear Fuels, Limited, will finance the project, design the decontamination facilities, apply for and receive required permits and licenses, construct necessary facilities and bring them on-line, operate the facilities to decontaminate metals and equipment, salvage metal and equipment, and deactivate the decontamination facilities. British Nuclear Fuels, Limited, will recover the resources it has invested both through recycle activities and through the delivery of vacated and decontaminated building space paid for by DOE on a fixed-unit-price basis. The underlying intent is to transfer the primary share of the financial, performance, and operational responsibility from the government to British Nuclear Fuels, Limited.

The Department will request sufficient annual appropriations to cover the anticipated scope of work to be performed by British Nuclear Fuels, Limited, and the necessary support costs such as independent verification support, with an appropriate rate of return in the event the contractor defaults or DOE chooses to cancel for Government convenience. Provisions will be included in the contract to ensure that current year work scope is limited to the available funding within the contract. Additional liabilities for a Government termination for convenience would amount to approximately \$30,000,000 for demobilization, cleanup of the decontamination and decommissioning workshop, supercompactor, cost incurred to date without payments, and relocation and severance pay for affected employees. Should termination occur, the additional funding would be identified within the then current funding at the Oak Ridge Operations Office.

The total cost of the decontamination and decommissioning, recycling, and waste disposal is larger than the value of the material and products that can be removed from the three buildings by approximately \$280,000,000 to \$290,000,000 which reflects the Government's contractual liability. The contractor will incur substantial up-front expenses such as design and construction of a disassembly and size reduction workshop to be located on-site, design and construction of the supercompactor, and design and construction of a nickel electro-refining facility (located either on-site or off-site). Payments to the contractor are to be consistent with services provided, (e.g., areas of the buildings cleaned of equipment and material). The payments will be made from annual appropriations based on: (1) the original obligation for the contractor's start-up costs; (2) amortization of the contractor's capital costs; (3) removal and decontamination of equipment/material; (4) recycling of materials; (5) decontamination of the buildings; and (6) disposal of wastes.

4. Details of Cost Estimate

(dollars in thousands)		
	Current Estimate	Previous Estimate
Facility Costs		
Construction Costs		
Removal cost less salvage (British Nuclear Fuels, Limited, contract)	271,178	270,496
Project Support Costs	24,486	24,486
Subtotal, construction costs	295,664	294,982
Contingencies		
Construction Phase	50,980	53,103
Total, facility costs	346,644	348,085
Other Project Costs		
Facility Licensing/Operations	0	0
NEPA	0	0
Other Project Costs	0	0
Subtotal, other project costs	0	0
Total Project Cost	346,644	348,085

The National Academy of Sciences recommendation (*Affordable Cleanup?*, February 1996) included a least cost scenario to accomplish the East Tennessee Technology Park Gaseous Diffusion Plant Decontamination and Decommissioning program. While the National Academy of Sciences did not intend for the *Affordable Cleanup?* document to represent a detailed cost estimate, a scaling exercise is included that bounds the five-building cleanup in the range from \$510,770,000 to \$935,960,000. This bound can be pro-rated to a three-building bound with the range from \$204,308,000 to \$374,484,000 with a mid-point of \$289,396,000. These estimates are unescalated dollars, the mid-point amount escalated is \$321,438,000.