Statement of Dr. Carolyn L. Huntoon
Assistant Secretary
for Environmental Management
U. S. Department of Energy
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Mr. Chairman, and Members of the Subcommittee, I appreciate this opportunity to appear before you to discuss the Department of Energy's Environmental Management (EM) program and its Fiscal Year (FY) 2001 budget request.

Our budget request of $6.318 billion for FY 2001 for the EM program will enable the Department to continue our progress cleaning up our sites. The request seeks $5.803 billion in traditional budget authority and $515 million in budget authority to support privatization projects. This is a total increase of approximately $474 million over last year's appropriation.

We are requesting $4,551.5 million in Defense Environmental Restoration and Waste Management (including $420 million for the Federal contribution to the Uranium Enrichment Decontamination and Decommissioning Fund); $1,082.3 million in the Defense Facilities Closure Projects; and $515 million in Defense Environmental Management Privatization. This totals $5,633.8 million in traditional budget authority and $515 million for privatization funding in the Defense accounts. The current appropriations levels in FY 2000 are $4,467.3 million in Defense Environmental Restoration and Waste Management; $1,060.4 million in the Defense Facilities Closure Projects; and $188.3 million in Defense Environmental Management Privatization.

This level of funding supports our safety programs for the protection of workers who carry out cleanup activities across the DOE complex; accelerates cleanup at key sites; enables the Department to be substantially in compliance with legal agreements and requirements; responds to Defense Nuclear Facilities Safety Board recommendations; addresses significant safety risks; and continues efforts to develop alternative technologies that can reduce the cost and schedule of cleanup. Specifically, the request keeps us on track with meeting accelerated closure schedules at Rocky Flats in Colorado, and at the Mound and Fernald sites in Ohio. We also will be able to continue progress at all sites, including treatment and disposal of nuclear waste and safe management of nuclear materials.

The FY 2001 request represents a significant increase over the FY 2000 appropriation, both in traditional budget authority and in funding for privatization projects. We are requesting an additional $147 million in traditional budget authority and $327 million more for privatization, an eight percent increase overall. These additional funds will enable the Department to make more progress in FY 2001 **B** more shipments of transuranic waste to the Waste Isolation Pilot Plant

(WIPP), accelerated cleanup at the Paducah and Portsmouth Gaseous Diffusion Plants, and the completion of EM cleanup at Argonne National Laboratory-West in Idaho, Monticello Remedial Action Project in Utah, and Grand Junction Site in Colorado. With this request we will also be able to maintain the schedule for the design, construction, and operation of a privatized vitrification plant for high-level nuclear waste at the Hanford site in Washington. This waste is currently in underground storage tanks near the Columbia River.

INTRODUCTION

Before discussing our FY 2001 budget request, I would like to provide an overview of our program and describe some of the actions I have taken since being confirmed as Assistant Secretary for Environmental Management in July 1999, as well as highlight some of our accomplishments in the past year and our planned achievements for the current fiscal year.

A. MEETING THE CHALLENGE OF THE ENVIRONMENTAL LEGACY

The Environmental Management program is responsible for managing and cleaning up the environmental legacy of the nation's nuclear weapons program and government-sponsored nuclear energy research. Since last July, I have visited many of the former nuclear weapons production sites in the DOE complex **B** including the Hanford Site; Idaho National Engineering and Environmental Laboratory; Oak Ridge Reservation; the gaseous diffusion plants in Paducah, Kentucky, and in Portsmouth, Ohio; Rocky Flats; the Savannah River Site; Fernald and Mound sites in Ohio; and Los Alamos. If there is one common theme at all of these very diverse facilities across the country, it is the challenge presented by the magnitude and complexity of the task we face in managing large volumes of nuclear wastes, safeguarding materials that could be used in nuclear weapons, and remediating extensive surface and groundwater contamination.

In total, we are responsible for addressing an estimated 1.7 trillion gallons of contaminated ground water and 40 million cubic meters of contaminated soil and debris. EM is responsible for safely storing and guarding more than 18 metric tons of weapons-usable plutonium, enough for hundreds of nuclear weapons. Our inventory includes over two thousand tons of intensely radioactive spent nuclear fuel, some of which is corroding. EM is also responsible for storage, treatment, and disposal of radioactive and hazardous waste, including over 340,000 cubic meters of high-level waste stored at Hanford, Idaho and Savannah River sites; and for deactivation and decommissioning of about 4,000 facilities that are no longer needed to support the Department's mission. In addition, the EM program also has responsibility for critical nuclear non-proliferation programs to accept and safely manage spent nuclear fuel from foreign research reactors that contains weapons-usable highly enriched uranium.

Completing the cleanup of the legacy from nuclear weapons production will meet our legal and moral obligation to those communities and states that supported our national defense effort and helped win both the Second World War and the Cold War. Completing this cleanup will allow us to turn lands and facilities to other public uses and allow the Department to focus on its science,

security, and energy missions.

B. PRINCIPLES AND PRIORITIES FOR THE EM PROGRAM

The actual tasks of remediating contamination and storing, treating, and disposing of wastes are performed exclusively in the field, at the sites where the contamination and wastes are located. The role of Headquarters is to provide program guidance and management as to how this work will be conducted. I have established several management principles and priorities that will guide the program under my leadership. They are:

- **$** Safety first;
- **$** Reduce risks;
- **$** Meet our commitments;
- **$** Accelerate site cleanup and project completion;
- **$** Strengthen project management;
- **$** Integrate nuclear waste and materials management and operations to take advantage of site capabilities across the DOE complex;
- **$** Build public confidence and involve stakeholders in our cleanup decisions and actions;
- **$** Develop an effective long-term stewardship program -- at many sites after cleanup is completed the Department will retain responsibilities for long-term monitoring and maintenance; and
- **$** Apply the best science and technology to solve technical problems and reduce costs.

I reorganized the EM Headquarters office to implement these principles and better align the EM program with our goals. The new structure groups management of closure sites together to ensure the lessons learned about facilitating closure are shared across the complex. It also establishes specific organizations focused on safety, project management, and long-term stewardship, as well as science and technology and cross-complex integration. The re-organization, formally in place last November, provides stability to an organization that had seen significant personnel reductions in the past few years and establishes permanent managers and staff throughout the organization.

I will continue to work towards cleaning up as many of the remaining contaminated sites as possible by 2006, safely and cost-effectively. By working toward this goal, we not only reduce the hazards presently facing our workforce and the public, but also reduce the long-term financial

burden on the taxpayer. For every year that a site remains open because cleanup has not been completed, we are paying a "mortgage" of overhead costs for activities such as site security, facility operations, personnel, and safety. Our budget request, and our organization in

Headquarters, is now structured to emphasize site closure, and site/project completion at our larger sites and our sites with continuing missions.

C. PROGRESS AND ACCOMPLISHMENTS IN CLEANING UP AND CLOSING SITES

I am pleased to report that our program has produced substantial cleanup results at contaminated nuclear facilities around the country. Our accomplishments reflect the program=s continued commitment to performance-based management, establishing stretch goals and performance measures that demonstrate our progress in on-the-ground environmental cleanup and meeting our goals. For example:

$ The Waste Isolation Pilot Plant (WIPP) opened and began disposal operations in March 1999. Since its opening through November 1999, 44 shipments of transuranic waste have been sent to WIPP for disposal from Los Alamos National Laboratory, Rocky Flats, and Idaho National Engineering and Environmental Laboratory (INEEL). We expect that the Hanford and Savannah River sites will begin shipping waste to WIPP in FY 2000.

$ At Rocky Flats, we continued to make great strides towards meeting our 2006 closure goal, including completing shipments of plutonium pits to the Pantex Plant in Texas and shipments of highly enriched uranium to the Y-12 facility in Oak Ridge Tennessee. In addition, we demolished a plutonium research facility and made 12 shipments of transuranic waste to WIPP.

$ EM completed its cleanup work at three more sites in FY 1999 and will cleanup two more sites by the end of FY 2000. This will bring the number of completed sites to 71, with 42 sites remaining.

$ At the Hanford Site, we restarted plutonium stabilization activities to reduce the risks posed by unstable plutonium materials. We have made significant progress in reducing the urgent risks associated with the 177 underground high-level waste tanks at the Hanford site, some of which are known to have leaked to the surrounding soils threatening ground water and the nearby Columbia River. We resolved high priority safety issues in several tanks, such as the generation of high heat in one tank and a rise in the surface level in another. We are also interim stabilizing single-shell tanks, transferring free liquids in the tanks to more secure double-shelled tanks. We have begun pumping free liquids from six single-shelled tanks, meeting all milestones in the Consent Decree with the State of Washington. In addition, in August 2000 we expect to make a decision on whether to authorize the construction of the privatized facility to vitrify the liquid tank waste.

$ At INEEL, we completed construction of a dry storage facility for the Three Mile Island spent nuclear fuel and began transfer of the fuel to the facility. We also made four shipments of transuranic waste to WIPP, meeting a major milestone in the settlement agreement with the State of Idaho, signed in October 1995. In addition, we expect to

begin construction on the Advanced Mixed Waste Treatment facility in FY 2000.

- In FY 1999, we disposed of 49,000 cubic meters of low-level waste, 14,000 cubic meters of mixed low level waste, and 282 cubic meters of transuranic waste at disposal facilities at DOE sites and at commercial disposal facilities.

- At the Mound Plant in Miamisburg Ohio, we continue progress toward the 2004 closure goal. In FY 1999 we completed shipment of all remaining legacy low-level and mixed low-level waste from the site. By the end of FY 2000, we expect to complete the removal of all remaining nuclear materials from the site and complete decommissioning of three more buildings.

- Also at Mound, we transferred two buildings and 27 acres to the City of Miamisburg in FY 1999, and we expect to deed over two more buildings and another 100 acres in FY 2000.

- We continued to successfully operate the high-level waste vitrification facility in South Carolina where last year we produced 236 canisters of vitrified high level waste. In FY 2000, we expect to produce at least 200 more canisters at the Savannah River Site facility, bringing the total canisters poured at this facility to more than 900 canisters since the facility began operating in 1996.

- We awarded the privatization contract for the design, construction, operation and capping of a waste disposal facility at Oak Ridge for up to 400,000 cubic meters contaminated soils and debris. In addition, we expect to issue a Record of Decision for the transuranic waste treatment project at Oak Ridge.

- In support of non-proliferation goals, we have now completed a total of fourteen shipments of spent nuclear fuel from foreign research reactors from 23 countries including Brazil, South Korea, and Venezuela.

- On-the-ground use of new innovative technologies continues to increase. During FY1999, DOE sites used innovative technologies 218 times in cleanup activities. For example, the Segmented Gate System (SGS) was successfully used for projects at Sandia National Laboratories and Los Alamos. This technology is a computer-controlled mechanical sorter that separates clean soil from contaminated waste streams, thereby significantly reducing the volume of waste to be packaged and disposed of and reducing costs by up to 75 percent.

- Also in FY 1999, 40 innovative technologies were made available for use for the first time. One such technology is the Multifunction Corrosion Probe now being used in the tanks at Hanford. This technology helps reduce the volume of tank waste by allowing workers to directly monitor the rate of tank corrosion and add only the minimum amount of sodium

hydroxide necessary to inhibit corrosion.

$ During FY 2000, the sites expect to deploy new technology at least 60 times in cleanup activities. For example, the Lasagna electro-osmosis process will be used to remove groundwater contaminants at the Paducah Gaseous Diffusion Plant.

THE FY 2001 REQUEST

The FY 2001 budget request of $5.803 billion in traditional budget authority and $515 million in budget authority to support privatization projects will enable EM to continue making progress across the country. In FY 2001, we will continue to give priority to high risk problems such as stabilizing and ensuring the security of plutonium at several sites; stabilizing tanks containing high-level radioactive waste; and ensuring the safe storage of spent nuclear fuel, including foreign research reactor fuel in support of non-proliferation goals. We will continue to move closer to the goal of completing the cleanup of Rocky Flats, the Mound Site and Fernald by 2006. We will complete the cleanup of three additional DOE sites. We will accelerate the cleanup of the uranium enrichment plants at Portsmouth, Ohio, and Paducah, Kentucky, and will significantly increase the number of shipments to WIPP. We also are requesting funds to begin construction of the privatized high-level waste vitrification plant at the Hanford site.

A. SAFETY FIRST

The safety of our workers is our highest priority. We will not compromise the safety of our workers in any of our activities. As our cleanup accelerates, we must ensure that we have truly implemented and institutionalized Integrated Safety Management **B** the systems, procedures, and behavioral attitudes in place to continually improve our safety performance. In the recent EM reorganization, I created the Office of Safety, Health and Security to consolidate EM=s resources, expertise and experience in these areas. A primary objective of this office is to ensure all EM personnel understand their responsibilities in the areas of safety and security so that these concepts and practices are integral to all EM programs and activities. Safety culture flows from actions by the senior management of an organization. These actions enforce the understanding at every level that constant attention to safety has incremental beneficial effects, and the absence of these actions can almost guarantee adverse consequences. We are improving our safety orientation and performance as we strive to become a leader in safety throughout the DOE complex, with an approach to and record in safety that meets or exceeds the best private industrial firms. Managers at all levels are responsible to monitor, take appropriate actions to ensure that a commitment to safety is engendered throughout the organization, and participate in feedback systems so that continual improvements can be realized. We will be successful when we consider safety in everything we do **B** whether it is budget allocation, work formulation and prioritization, or staffing.

B. MORE PROGRESS IN REDUCING RISKS

Move spent nuclear fuel from K Basins at Hanford B The FY 2001 request furthers our efforts to protect the Columbia River by beginning the removal of spent nuclear fuel from K-Basins at the

Hanford Site in Washington. Our request will enable us to meet the milestone to begin fuel removal in November 2000. This project will carry out a first-of-a-kind technical solution to move 2,100 metric tons of corroding spent nuclear fuel from at-risk wet storage conditions in the K-East and K-West basins adjacent to the Columbia River into safe, dry storage in a new facility away from the river.

Achieving this milestone will represent a significant accomplishment for a project that previously suffered from technical and management problems that delayed schedules and increased costs. We are now on track with a new baseline established in December 1998 that provides a realistic means to move this spent fuel to a safer facility and location.

Move Three Mile Island Spent Nuclear Fuel to Safe Storage B At INEEL, we will complete the transfer of Three Mile Island spent nuclear fuel to dry storage and the transfer of spent nuclear fuel at the Idaho Nuclear Technology and Engineering Center (INTEC) from aging, deteriorating underwater storage to safer storage facilities. These transfers reduce environmental and safety risks and fulfill commitments in the Idaho Settlement Agreement.

Stabilize Plutonium at Hanford and Savannah River Sites B We are reducing risks by stabilizing plutonium-bearing materials at the Hanford and the Savannah River Sites. At Hanford, we will continue stabilization of plutonium-bearing materials and oxides at the Plutonium Finishing Plant. In addition, we will begin operating the bagless transfer system for packaging plutonium-bearing materials and complete brushing and repackaging of plutonium metal inventory. These stabilization activities support our commitment to the Defense Nuclear Facilities Safety Board and are a critical step in the deactivation of Plutonium Finishing Plant, which will significantly reduce mortgage costs at Hanford.

The request supports critical work to stabilize plutonium residues and other plutonium-bearing materials from the Savannah River Site and other sites across the complex, including plutonium residues and other plutonium-bearing materials from the Rocky Flats site in Colorado, in the F-Canyon and H-Canyon at Savannah River. Stabilization of these Aat risk@ materials is critical in resolving health and safety concerns surrounding these radioactive materials, since they are now in liquid or unstable forms unsuitable for long-term storage; in supporting closure goals at Rocky Flats; and in responding to Defense Nuclear Facilities Safety Board recommendations.

Stabilize High-Level Waste in Underground Storage Tanks at Hanford B In FY 2001, we will continue improving safety of the high-level waste tanks by resolving high priority safety issues such as flammable gas generation and continuing interim stabilization work that involves pumping liquid waste from single-shelled tanks into double-shelled tanks. The remaining two tanks which are suspected of having leaked in the past will be pumped during FY 2001.

Receive Foreign Research Reactor Fuel -- The FY 2001 request continues support for the return of spent nuclear fuel containing uranium originally enriched in the United States from foreign research reactors around the world. This program reduces the threat of nuclear

proliferation by ensuring enriched uranium will not be used to make nuclear weapons. It also supports a U.S. nuclear weapons nonproliferation policy calling for the reduction and eventual elimination of the use of highly enriched uranium in civil programs worldwide.

Spent nuclear fuel will be shipped from research reactors in Argentina, Austria, Italy, Sweden, Denmark, Germany and Japan to the United States in FY 2001, and the Department is working with other interested, eligible foreign research reactors in The Netherlands, Chile, and Indonesia in an attempt to include additional countries in the 2001 shipment schedule.

Blend-down of Highly Enriched Uranium at Savannah River B The FY 2001 EM request includes $37.9 million to support a creative approach to convert the Department=s store of surplus highly enriched uranium to low enriched uranium for use as a commercial reactor fuel, offering a means to eliminate the proliferation risk posed by this weapons-grade material. The "Blend-Down" project, managed by the Office of Fissile Materials Disposition, is a collaboration between DOE and the Tennessee Valley Authority (TVA), which will use the converted fuel in its nuclear power reactors. The project is highly beneficial to both agencies. First, blending down the highly enriched uranium to low enriched uranium furthers DOE's non-proliferation goals. Second, it will reduce DOE's long-term liabilities and risks associated with storing the material as highly enriched uranium or converting it to a waste form for disposal. Third, transferring the low enriched uranium solution to TVA's vendors will satisfy a DOE commitment to the Defense Nuclear Facilities Safety Board. Fourth, TVA will realize significant savings as compared to buying virgin fuel on the open market. Depending on actual program costs and uranium market prices, DOE may ultimately receive a share of the savings.

The request will provide for a loading station at the Savannah River Site to transfer the uranium solutions from the H-area tanks to shipping containers and fund other infrastructure requirements for the project at the site. The project will use existing reprocessing facilities at the site and, as currently planned, will not extend the life of Savannah River reprocessing facilities or increase EM operational funding requirements.

C. MEETING OUR COMMITMENTS

At the FY 2001 request level of $6.318 billion, EM will be substantially in compliance with applicable environmental and other legal requirements. Most of our activities are governed by Federal and state environmental statutes and regulations and enforceable agreements between the Department and Federal and state agencies. We are committed to complying with these legal requirements and agreements. In addition, we plan to meet our commitments to the Defense Nuclear Facilities Safety Board. In several cases, we need to work closely with our regulators and the Board as well as our stakeholders and Tribal Nations, on the appropriate schedule and milestones for our program. We will continue to work to reduce costs and accelerate schedules so that we can meet our compliance requirements in the most practical and cost-effective manner.

D. ACCELERATING SITE CLEANUP AND PROJECT COMPLETION

Complete More Site Cleanups B In FY 2001, we will continue to make progress toward the goal of cleaning up as many of the remaining contaminated sites as possible by 2006, safely and cost-effectively. At the start of FY 1997, shortly after the EM program first established this goal, 61 of the 113 sites in the EM program required active cleanup. We now have completed cleanup at 69 sites, and have 44 sites that still require active cleanup. We plan to complete cleanup at two additional sites this fiscal year and at three sites in FY 2001 **B** Argonne National Laboratory-West in Idaho, Monticello Remedial Action Project in Utah, and Grand Junction Site in Colorado. In fact, we are accelerating the cleanup at Grand Junction to 2001 from 2002 as initially planned. We plan to reduce the number of cleanup sites remaining to 39 by the end of FY 2001.

Make Progress Toward Closing Rocky Flats by 2006 B The budget request of $664.7 million supports closure of Rocky Flats by December 15, 2006, the closure date targeted in the new cost-plus-incentive-fee contract with Kaiser-Hill that took effect February 1, 2000. The Rocky Flats site is the largest site challenged to accelerate site cleanup and achieve closure in 2006, and to date significant progress has been made towards making this goal a reality. Despite the many challenges facing the closure of Rocky Flats, we are confident that the terms and conditions of the closure contract, including the schedule and performance incentives, better position us to achieve our goal of realizing substantial savings and dramatic risk reduction through accelerated closure. Critical elements in the closure strategy are stable funding for the life of the project, and the ability to move nuclear materials and radioactive wastes from the site, which requires that other sites **B** often DOE sites **B** are available and prepared to accept the materials. The coordination of these planned shipping campaigns to the receiver sites demonstrates the Department-wide commitment to the goal of achieving accelerated closure of Rocky Flats.

In FY 2000, we began operating under a baseline that supports closure in 2006, which replaced a baseline for completing cleanup in 2010, and our activities and schedules for FY 2001 are consistent with this baseline. Under this baseline, by the end of 2001, we will:

- complete 98 percent of plutonium residues packaging for shipment;
- complete the draining of the liquid plutonium from the pipes in Building 771 and remove the pipes in preparation for demolishing the building;
- complete 88 percent of plutonium metal and oxides packaging for shipment;
- complete 80 percent of plutonium metal and oxides off-site shipments.

The new closure contract, valued at nearly $4.0 billion plus incentive payments, requires Kaiser-Hill to submit a revised baseline reflecting the terms and conditions of the contract by the end of June 2000. The specific activities detailed within the FY 2001 request will be adjusted pending review and acceptance of the new baseline.

Under the new contract, the Department and Kaiser-Hill are better positioned to safely achieve site closure by 2006. We have clearly come a long way since the previous contractor estimated a few years ago that it would take $30 billion and 30 years to complete cleanup at Rocky Flats.

Increase Shipments to WIPP B The FY 2001 budget request of $194.5 million, a $13 million increase over the FY 2000 appropriation, supports more shipments of transuranic waste to WIPP in New Mexico. The FY 2001 request supports shipments of contact-handled transuranic waste at a rate of 13 shipments per week by the end of FY 2001, a significant increase over the end-of-year rate of two shipments per week in FY 1999, and five shipments per week in FY 2000. The number of shipments will increase from about 120 in FY 2000 to about 485 in FY 2001, from Rocky Flats, Los Alamos, INEEL, Hanford, and the Savannah River Site. We will also be completing remote-handled transuranic waste equipment upgrades and regulatory submittals, in preparation for beginning remote-handled waste shipments in FY 2002.

Begin the Construction Phase of High-level Waste Treatment Facility at Hanford B The FY 2001 request provides $450 million in budget authority to support the privatization project to develop treatment facilities to vitrify at least 10 percent by volume of the 54 million gallons of high-level waste now stored in underground tanks at the Hanford Site in Washington, a project managed by DOE=s Office of River Protection. This significant increase over the request of $105.7 million in the FY 2000 appropriation anticipates a decision in FY 2000 authorizing the contractor, BNFL, Inc., to proceed with the start of the construction phase for the facilities. The project is now in a phase in which the contractor will complete 30 percent of the design process, obtain financing, and submit a fixed-price bid. The Department will evaluate the contractor's proposal, as well as determine whether all other critical elements, such as the delivery of the waste to the facility, are in place and ready to support the project and the schedule. Based on this in-depth evaluation, the Department will make a decision, expected in August 2000, on whether to proceed. If the Department authorizes construction to proceed, the amount requested in FY 2001 will allow the contractor to initiate long-lead procurements and begin construction.

We are requesting less for FY 2001 than previously indicated because design work has progressed at a slower pace than originally anticipated. We are confident that we will have sufficient design completed to make the authorization to proceed decision in August as scheduled, but we intend to develop a robust and complete design before beginning construction and long-lead procurement. As a result, construction and long-lead procurement activities will not be at the same pace in FY 2001 as indicated previously. This approach will provide the Department and the Congress with additional confidence in the project before we move forward.

In addition, we are requesting $382 million in traditional budget authority for the Office of River Protection, a $44 million increase from last year. This funding enables the Department to mitigate the hazards associated with the high level waste in the tanks and safely maintain them. It also funds the preparation of the tank farm retrieval system that will deliver tank waste to the privatized treatment facility. The schedule for developing the waste delivery system and preparing waste must be fully integrated with the privatized facility schedule in order for the treatment to begin on time. We will be determining the readiness of this waste feed system when making the decision next August regarding the authorization-to-proceed with a treatment facility. This part of the project will continue to be funded through traditional budget authority, as reflected in this

year=s request.

Accelerate Cleanup at Portsmouth and Paducah B Our FY 2001 budget request responds to concerns raised by investigations by DOE=s Office of Environment, Safety and Health (EH) about the pace of cleanup, and fulfils the Secretary's commitment to seek additional funds to accelerate cleanup of environmental contamination at the gaseous diffusion plants at Paducah, Kentucky and Portsmouth, Ohio. This also meets the recommendations in the Conference Report for the FY 2000 Energy and Water Development Appropriations Act to substantially

increase funding for cleanup of these two sites. These plants were used to enrich uranium for defense and energy purposes and were transferred to the U.S. Enrichment Corporation in 1998.

The Department is requesting $78 million for Paducah in FY 2001, nearly $24 million more than in FY 2000 and almost a two-fold increase from the appropriation in FY 1999. These funds will allow us to complete the removal of "Drum Mountain," a large scrap pile containing thousands of drums, which is a suspected source of contamination of the Big and Little Bayou Creeks from surface run-off. We will remove the remaining 51,000 tons of contaminated scrap metal stored in outside storage areas, allowing characterization of the ground underneath the piles. The funds will be used to continue stabilization activities in two shut down buildings. We will also be able to characterize and dispose of the remaining 9,000 drums of low-level radioactive waste, some of which are currently stored in deteriorating drums, and ship 2,000 drums of mixed waste to an off-site disposal facility. These activities address specific concerns raised by the EH investigation team.

The request provides $76.2 million for cleanup activities at the Portsmouth Gaseous Diffusion Plant, about $30 million more than in FY 2000. This funding will allow the site to complete final corrective actions for the groundwater plumes on the south side of the site containing such chemical contaminants as polychlorinated byphenyls (PCBs), trichloroethylene (TCE), and chromium and begin design and construction for soil and ground water contamination on the north side. We will also dispose of contaminated soil and accelerate characterization and disposal of mixed hazardous and radioactive waste. The increased funding will keep us on track with completing environmental restoration activities by FY 2002 and waste management activities by FY 2006.

We also have submitted a supplemental request for $16 million in FY 2000 to accelerate work at the Portsmouth and Paducah plants. The request is currently under review by Congress.

Make Progress Toward Closure at Ohio Sites B At the Fernald Environmental Management Project, we will continue accelerating closure of this former uranium production facility. We will place a permanent cap on Cell 1 of the On-site Disposal Facility using an innovative capping technology. This facility, designed to have seven cells with an option for an eighth, is enabling us to accelerate disposal of contaminated soil and debris resulting from cleanup and building demolition.

At the Mound Plant in Ohio, we will accelerate tritium decontamination in buildings on the "critical path" to closure, completing decontamination of three of eight acres in the Semi-Works building, one of three significant, contaminated buildings that comprise the tritium complex. We will also continue demolition of surplus buildings. Of the 107 buildings to be removed from the site, approximately 50 percent will be either demolished or auctioned off by FY 2001.

Begin Work at the Uranium Mill Tailings Site in Moab B The budget request also includes a proposal that the Department undertake cleanup of a uranium mill tailings site in Moab, Utah,

formerly owned by the now-bankrupt Atlas Corporation. The tailings contain low-levels of radioactivity from uranium, radium and their decay products, as well as hazardous constituents that present a small but continuing risk for contamination of the Colorado River. There have been concerns expressed by the U.S. Fish and Wildlife Service, as well as local communities and downstream States, about the risks posed to the river. Located next to the river, the site is in a major tourist area because of its proximity to two National Parks. The Department believes it is important to preserve these national treasures and restore the environment. Our experience with cleanup of older uranium mill tailings sites, many of which were located along streams and rivers, makes the Department well-suited to this task. We are proposing to work with Congress to develop legislation that would direct the Department to undertake this $200 to $300 million cleanup project to relocate and stabilize the Moab tailings at a secure site, away from the river. We are requesting $10 million in FY 2001 in the Non-defense account to initiate activities at this site.

E. STRENGTHEN PROJECT MANAGEMENT

Project management principles and practices provide the discipline for EM to achieve its cleanup goals efficiently. To effectively oversee and manage our contractor workforce, we must be knowledgeable of and employ state-of-the-industry project management practices. I have created an Office of Project Management within EM to set project management policies and procedures, conduct independent project reviews, and train our staff in project management practices. This office is working with organizations such as the Construction Industry Institute, the Project Management Institute, and the National Aeronautics and Space Administration, to bring state-of-the-art project management tools and training into the EM program to enable us to better manage our projects.

Many of our sites have improved their project baselines and project management practices in the last year. The Oak Ridge Operations Office completed a comprehensive revision of their baselines that provides the most complete and thorough baselines to date for their sites. The Idaho Operations Office implemented a process for re-estimating about half of their baselines, resulting in higher confidence in their estimates. A new baseline for the project at the Hanford site to move spent nuclear fuel from the aging K-Basins to safer, dry storage was established in FY 1999 that provided the first realistic and achievable cost and schedule to accomplish the transfer of the fuel. The Rocky Flats site revised its baseline to reflect a 2006 closure rather than the 2010 closure date in last year's baseline. Additional improvements in baselines are under way this year at Idaho and Rocky Flats with selected improvements elsewhere.

Over the past year we have developed and implemented a system of internal controls. We are requiring that all work be organized into discrete projects and that baselines be documented, and have established a change-control system. EM has re-instituted a rigorous Achange-control@ and critical decision process with defined thresholds for approval to enable us to better control our projects. Finally, I am formalizing quarterly reviews of major systems and other high visibility projects.

The Department has created the Office of Engineering and Construction Management within the Office of the Chief Financial Officer to provide a Department-wide focus on project management policies, tools, and procedures. EM is working closely with this office to develop and implement a new DOE Order governing project management. Included in this Order will be enhanced policies on change control, critical decision approval by the Deputy Secretary for Major Systems, quarterly project reviews, and monthly project performance reporting.

F. INTEGRATE WASTE AND MATERIALS MANAGEMENT

Sharing information and the unique capabilities for managing and treating nuclear wastes and materials at many of our sites is critical to our success. Our integration initiative seeks to consolidate treatment, storage and disposal facilities and use available capacity rather than construct new facilities; apply innovative technologies at multiple sites; and apply lessons learned and site successes complex-wide.

We have several key initiatives to facilitate sites closure by moving materials to other sites for interim storage, with requested funds supporting the necessary activities in both the receiving and the sending sites. The Department has made substantial progress in consolidating storage of certain special nuclear materials from the Rocky Flats site in Colorado. In FY 1999, Rocky Flats completed shipments of plutonium weapons pits to the Pantex Plant in Texas and highly enriched uranium to the Y-12 Plant in Oak Ridge, Tennessee. Rocky Flats also began shipments of plutonium scrub alloy to the Savannah River Site in South Carolina in FY 1999; we will complete these shipments this year. This consolidation of nuclear materials has supported our 2006 closure goal for Rocky Flats and reduced the cost of maintaining security for the remaining special nuclear materials. The Department is also preparing to ship containers of excess plutonium to the Savannah River Site for storage in modified K-Reactor Area facilities. These shipments are scheduled to begin in FY 2000.

The Department has made progress in identifying sites that will treat and dispose of similar wastes generated by sites across the DOE complex. In December 1999, after extensive technical analyses and consultation with state representatives and other stakeholders, we announced our site preferences for disposal of DOE low-level and mixed low-level waste based on the Waste Management Programmatic Environmental Impact Statement. This allowed us to complete a formal Record of Decision in February 2000 on low-level and mixed low-level waste treatment and disposal facilities, after further consultations with the affected states. The decisions, when implemented, will result in more efficient waste disposal operations as well as development of capabilities that do not currently exist. These capabilities are needed to move waste from storage to disposal and support cleanup and closure of sites.

The opening of WIPP in New Mexico for disposal operations in March 1999 provides a good example of the benefits of integration, ultimately reducing costs and risks. For decades a large amount of transuranic waste has been stored at about two dozen sites across the United States.

Beginning disposal operations at WIPP provides a means for the Department to permanently dispose of this long-lived radioactive waste while reducing the number of sites where this waste is stored. WIPP is critical for closing sites like Rocky Flats; for meeting compliance obligations for more than a dozen other sites, including the Idaho Settlement Agreement; and for reducing storage costs and risks to the public. In October 1999, the State of New Mexico Environment Department issued a final hazardous waste permit that became effective in November 1999. The permit allows WIPP to dispose of mixed transuranic waste. The Department is working to implement the permit while challenging several provisions that we believe are inappropriate, such as financial assurance requirements and certain technical requirements. It is critical that these issues are successfully resolved so that our waste management commitments and goals for WIPP can be met. From March 26, 1999, when WIPP began disposal operations until November 1999 when shipments were temporarily stopped to align the program with requirements in the newly-issued RCRA permit, WIPP received 44 shipments of non-mixed waste from three sites **B** Los Alamos, Rocky Flats, and INEEL.

Finally, the transport of radioactive waste and material between sites is critical to the success of our integration priorities. Our transportation program, which successfully moved spent nuclear fuel, containing U.S. enriched uranium, from research reactors around the world to the U.S. for safe storage, is applying its success to other DOE shipments. EM is working with other DOE program offices and with the sites to develop a corporate strategy that will enable us to identify future packaging and transportation needs, to support aggressive shipping schedules, and to utilize our transportation assets more efficiently.

G. BUILD PUBLIC CONFIDENCE

We have found that performing good technical work is not enough. Getting the job done requires cooperation with regulators and others outside of DOE that have a stake in our actions. By working cooperatively with regulators, stakeholders, local communities and the Tribal Nations, we have improved the efficiency of the EM program and have been able to meet our regulatory commitments in a more efficient and cost-effective way. Our request continues support for effective public participation through continued relationships with states and site-specific and national advisory boards, as well as funding for Indian tribes potentially affected by our activities.

H. DEVELOP EFFECTIVE LONG-TERM STEWARDSHIP

As the Department completes stabilization, cleanup and disposal of waste, we must consider the next and final stage in the cleanup process: meeting our enduring environmental protection obligations through long-term stewardship. At most sites the Department is performing cleanup that will make the land available for other uses, but not necessarily unrestricted use, because of the presence of residual contaminants or deliberate entombment of waste or facilities. The Department has been completing cleanup that results in substantial risk and maintenance cost reductions. Similar to the cleanup of private sites, cleanup to levels allowing for unrestricted use

often cannot be achieved at DOE sites for economic or technical reasons and has not been demanded by regulators. The Department has been able to take advantage of the Superfund administrative reforms developed by the U.S. Environmental Protection Agency (EPA) to allow anticipated future land use to be considered in developing cleanup remedies.

The goal of long-term stewardship is the sustainable protection of human health and the environment after cleanup, disposal or stabilization is completed. A robust long-term stewardship program emphasizes good project management, the value of applying the best science and technology to manage residual hazards, and increasing public confidence through effective involvement of State and local governments, Tribal Nations, and stakeholders in long-term stewardship decision making. A reliable long-term stewardship program can also provide confidence to regulators and the public that non-removal remedies are acceptable because the Department can be trusted to care for the sites after the waste is contained in place.

Most of the explicit long-term stewardship activities in the field are conducted by our staff in Grand Junction, Colorado. This office is responsible for long-term stewardship at approximately 30 sites across the United States in FY 2000. These sites range from large uranium mill tailings sites (mostly in Colorado, Arizona, Utah, and New Mexico), former nuclear weapons productions facilities (e.g., Pinellas, Florida) and commercial nuclear fuel cycle facilities (e.g., AMAX in Parkersburg, West Virginia) that did work for the federal government.

During the past year, the Department has taken action to strengthen its long-term stewardship program. First, we increased the budget for long-term stewardship to respond to the greater demand resulting from the completion of more cleanups. Our FY 2001 budget request for the long-term stewardship program managed by our Grand Junction Office, is more than $5 million, an increase of approximately 60 percent over the FY 2000 budget level. The budget largely reflects the expected transition of new responsibilities to the Grand Junction Office for long-term stewardship of the Monticello and Weldon Spring sites when they complete cleanup. This funding will provide continued cost-effective stewardship of approximately 35 sites in 2001, which is more than a 50 percent increase since 1999, when Grand Junction managed 25 sites. This funding will enable us to comply with Nuclear Regulatory Commission (NRC) permit requirements for long-term surveillance and maintenance for closed uranium mill tailings sites, as well as for increased responsibilities under Superfund and hazardous waste laws for protecting human health and the environment at several additional sites where closure occurred with residual contamination in place.

Second, we recently established an Office of Long-Term Stewardship at our Headquarters office. The office is addressing these emerging challenges with responsibility for field guidance and policy development, technical analysis, and identification of science and technology needs., While this may be the first office addressing long-term stewardship in the Federal government, I would suggest to you that it will not be the last. This is because the issues we are grappling with are not unique to the Department of Energy. This new Office is located within and funded through our Office of Science and Technology. This reflects the fact that we intend to continue investing in

science and technology to help ensure that the protections provided by our remedies can be maintained as cost-effectively as possible for the necessary duration.

There are a number of activities that this office will complete by the end of this year that will help establish the basis for a stronger long-term stewardship program. First, EM is responding to the mandate in the FY 2000 National Defense Authorization Act (NDAA) to report to Congress by October 1, 2000, on the Department=s long-term stewardship responsibilities. This report will provide the best available information on the cost, scope, and schedule for long-term stewardship at sites and portions of sites in sufficient detail to undertake the necessary stewardship responsibilities.
Third, we are preparing a study on long-term stewardship pursuant to the lawsuit settlement agreement *(Natural Resource Defense Council, et. al. v. Richardson, et. al., Civ. No. 97-963 (SS) (D.D.C. Dec. 12, 1998))*. The study will address national, programmatic, and cross-cutting issues related to long-term stewardship.

The management system required for performing long-term stewardship as cost-effectively as possible will likely build on the existing EM system. However, there may also be an additional need for new technologies, new contracting mechanisms, and new specialized personnel to ensure reliable and cost-effective long-term stewardship. This is what we are now examining as we accelerate our efforts to complete cleanup and close more sites, which in turn will require more long-term stewardship.

I. SOLVING PROBLEMS THROUGH SCIENCE AND TECHNOLOGY

Our investments in science and technology are providing the scientific knowledge and new technologies necessary to help us reduce the cost and time frame of the complex-wide cleanup effort, and enable us to tackle cleanup problems that had no effective solutions. We are requesting $196.5 million in fiscal year 2001 for investments in both basic and applied research. These funds will target our highest priority needs and will be applied across the spectrum of science and technology work from basic research through deployment among EM's five major problem areas: mixed waste, high-level tank waste, subsurface contamination, deactivation and decommissioning, and nuclear materials.

Our science and technology program has made a significant impact on how we conduct our cleanup operations. Over 75 percent of the approximately 250 innovative solutions made available for use over the past ten years are making real on-the-ground contributions. For instance:

- **$** Site characterization represents a large portion of the cost for environmental restoration activities. We now have very sophisticated, safe methods to identify, characterize, quantify and monitor contamination.

- **$** New remotely operated machines now exist to perform work in conditions that are too

hazardous for humans, such as inside radioactive waste tanks.

- **$** Among the new technologies making a difference is a process that uses a concentrated caustic solution to dissolve and remove large quantities of unwanted nonradioactive elements in the sludge, thereby decreasing waste volume (Enhanced Sludge Washing). This process has been selected as the technology to be used to pretreat Hanford tank sludges where it is expected to avoid $4.8 billion in costs compared to other technology choices.

- **$** An in-ground "wall" of iron filings (Permeable Reactive Treatment Wall) has been installed at the Kansas City Plant and Monticello Uranium Mill Site to remove contaminants from groundwater as the water passes through the "wall." This eliminates the need for a more costly Apump and treat@ system.

- **$** A third Passive Reactive Barrier is in place in the Solar Ponds at Rocky Flats to destroy nitrates and remove uranium from groundwater; compared against a thirty-year pump-and-treat baseline, this technology will save more than an estimated $20 million. Other reactive barriers deployed at Rocky Flats have been designed to destroy chlorinated solvents and capture radionuclides.

- **$** Optimized use of the existing re-injection well network at the Fernald site in Ohio will enable the site to accelerate ground water remediation. It may enable us to complete groundwater remediation as much as 17 years ahead of schedule, potentially saving the Department up to $50 million.

EM's science and technology program is also now providing on-the-ground technical assistance, sending some of our top scientists out of the laboratory and into the field to help with specific technical problems. Our first formal technical assistance effort was to identify solutions for groundwater remediation at the Paducah Gaseous Diffusion Plant in Kentucky. The Federally led team, including four national laboratories, responded quickly and produced a strong plan for aggressive remediation of the contaminants in the groundwater and the soil. It is my intention to continue this approach to ensure our cleanup efforts are based on technically defensible decisions.

We are also pleased with the progress of our EM Science Program (EMSP), which is conducted in partnership with DOE's Office of Science. Since its inception in fiscal year 1996, EMSP has invested over $224 million in support of 274 research projects. Our open, competitive approach has ensured the highest caliber of research involving 90 universities, 13 national laboratories, and 22 other governmental and private laboratories. Research is being conducted in 34 states and the District of Columbia, two Canadian provinces, Australia, Russia, the United Kingdom, and the Czech Republic. Our efforts are already providing some encouraging results. For instance, a high-level waste research project, being led by Pacific Northwest National Laboratory, focuses on determining the effect of radiation on the stability of glasses and ceramics at an atomic, microscopic and macroscopic level. Because these materials are an integral part of the planning

for the final waste forms of a number of DOE waste streams, an understanding of how radioactive materials influence their long-term stability is critical in material selection.

The increasing number of deployments of new technologies to solve real cleanup problems demonstrates that the field is recognizing their value. Preliminary data, now being verified, indicate that during fiscal year 1999, DOE sites used innovative technologies 218 times in cleanup activities,129 of which were first uses by the site. Of these deployments, 166 were science and technology-sponsored technologies. This is a definite and dramatic improvement over previous years. Since the inception of this program, we have seen nearly 450 deployments at DOE sites of 194 new technologies that were sponsored by EM's science and technology program. The accelerated site technology deployment effort initiated in FY 1998 has contributed to these increased deployments. A total of 47 projects have been initiated that involve a total of 92 technologies. From a total life-cycle EM investment of $300 million, we estimate a $1.5 billion in life-cycle savings. Selections for new projects for fiscal year 2000 will be announced in March.

To help ensure that this upward deployment trend continues, the Department is in the process of evaluating contracts with our site contractors to provide better incentives for them to use innovative technologies. We believe contract incentives, coupled with the integration of our technology developers and users, will ensure that the innovative technology we are providing is used to accomplish our cleanup goals cheaper, faster and safely.

CONCLUSION

In conclusion, the Department is making progress in cleaning up the legacy of contamination left from the nuclear weapons production process. We are reducing our most serious risks, accelerating and finishing cleanups at sites across the country, safely storing and safeguarding weapons-usable nuclear materials, and reducing the long-term costs of the program. We will continue to improve our project management, make the most effective use of our unique resources across the DOE complex, use science and technology to reduce costs and schedules, and maintain our focus on worker safety. We pledge to continue to work closely and cooperatively with the Congress to ensure that this progress continues and that we can meet the challenges ahead in the most effective way.

APPENDIX A
SUMMARY OF THE FY 2001 BUDGET

The total FY 2001 budget request for the Department of Energy=s Environmental Management Program is $5.8 billion in traditional budget authority and $515 million of privatization funding. The FY 2001 appropriation will fund cleanup at sites in 19 states across the Nation. Five sites receive two-thirds of Environmental Management funding -- Savannah River Site in South Carolina, the Richland Operations Office Hanford Site and Office of River Protection at the Hanford Site in Washington, Rocky Flats in Colorado, Idaho National Engineering and Environmental Laboratory in Idaho, and Oak Ridge Reservation in Tennessee. This section describes progress and highlights from the FY 2001 budget request for the major Environmental Management sites and other selected sites.

We are requesting $4,551.5 million in Defense Environmental Restoration and Waste Management (including $420 million for the Federal contribution to the Uranium Enrichment Decontamination and Decommissioning Fund); $1,082.3 million in the Defense Facilities Closure Projects; and $515 million in Defense Environmental Management Privatization. This totals $5,633.8 million in traditional budget authority and $515 million for privatization funding in the Defense accounts. The current appropriations levels in FY 2000 are $4,467.3 million in Defense Environmental Restoration and Waste Management; $1,060.4 million in the Defense Facilities Closure Projects; and $188.3 million in Defense Environmental Management Privatization.

Our FY 2001 budget proposal provides details on each project, including performance measures, which we use to hold managers accountable, and expect to be held accountable by Congress. We would like to summarize the budget request and some major activities for several sites:

1. Savannah River Site, South Carolina
2. Hanford Site, Washington
   - Office of River Protection
   - Richland Operations Office
3. Rocky Flats Environmental Technology Site, Colorado
4. Idaho National Engineering and Environmental Laboratory, Idaho
5. Oak Ridge Reservation, Tennessee
6. Fernald Environmental Management Project, Ohio
7. Waste Isolation Pilot Plant, New Mexico
8. Los Alamos National Laboratory, New Mexico
9. Miamisburg Environmental Management Project (Mound), Ohio
10. Nevada Test Site, Nevada
11. Lawrence Livermore National Laboratory, California

1. Savannah River Site, South Carolina

FY 2001 Request (in thousands):

Defense, Site/Project Completion	$ 452,871
Defense, Post 2006 Completion	$ 814,013
Subtotal	$1,266,884
Pension Fund Offset	$ (50,000)
Total	$1,216,884

The Savannah River Site continues its work to stabilize legacy nuclear materials and spent fuel from both the Savannah River Site and other sites across the complex, including plutonium residues and other plutonium-bearing materials from the Rocky Flats site in Colorado. This work is critical to resolve health and safety concerns, since these radioactive materials are now in liquid or unstable forms unsuitable for long-term storage, and to support closure goals at Rocky Flats. It is being carried out in response to Defense Nuclear Facilities Safety Board recommendations. In July 1997, the Secretary of Energy approved the operation of both the F-Canyon and H-Canyon for the stabilization of Aat-risk@ nuclear materials. In FY 1999, these canyons stabilized plutonium residues and other nuclear materials. Activities were begun to characterize and repackage the Savannah River Site plutonium residues for stabilization.

In FY 2000 and FY 2001, we will continue to operate the two canyons as well as FB-Line, 235-F, and HB-Line to stabilize plutonium-bearing materials and spent nuclear fuel. The budget request also includes activities associated with future vitrification of americium/curium solutions and, as discussed previously, the Highly Enriched Uranium Blend Down Project.

We are not requesting funding for the Actinide Packaging and Storage Facility in FY 2001. In light of the 1999 decision by the Department identifying Savannah River Site as the preferred location for new missions related to excess plutonium disposition, we have decided to temporarily suspend work on this facility until we can reevaluate the site=s overall requirements and options to ensure, for example, that any facility developed is properly sized and integrated with other facilities, given these new missions. We are, however, continuing modification of facilities in the K-Area and are ready to receive surplus plutonium-bearing materials from Rocky Flats supporting the accelerated closure of that site.

Much of the EM work at the Savannah River Site that will be completed after FY 2006 involves management of approximately 34 million gallons of high-level waste in tanks, including vitrifying waste for final disposal and removing waste from storage tanks so the tanks can be closed. In FY 1999, the Savannah River Site workers closed another storage tank, removing waste and backfilling with grout, and produced 236 canisters of vitrified waste in the Defense Waste processing Facility (DWPF), 36 canisters above their FY 1999 goal. As of February 2000, we had a total of 775 canisters of vitrified waste in storage. The DWPF goal for production of canisters in FY 2001 is 200.

Due to the long-term nature of this project, we are able to develop and insert new and innovative

technologies in the high level waste treatment train. We are currently moving forward with technologies that will make it easier to retrieve waste, to improve the way we decontaminate our canisters once they are filled, to reduce worker exposure through use of high efficiency filters that can be regenerated and reused, and to increase waste loading. These advances will allow DWPF to operate more efficiently and ensure that our goals for increasing canister production are realized.

In-Tank Precipitation operations were terminated in January 1998 because we were unable to successfully pre-treat the waste and limit the levels of benzene generation in the tanks to safe and manageable levels. Pre-treatment of the waste is necessary to separate the high-activity and low-activity wastes, in order to minimize the amount of waste that must be vitrified and disposed in a deep geologic repository. We undertook a systems engineering analysis, which was reviewed by a panel of independent experts, to evaluate all possible alternatives. The Department will continue research and development in FY 2001 on technology alternatives to support a decision on which technology to pursue.

The FY 2001 budget request continues support for receipt and storage at the Savannah River Site of spent nuclear fuel from domestic and foreign research reactors in support of national and international non-proliferation goals. In FY 2001, we expect to receive 49 casks of spent nuclear fuel from foreign and domestic sources and safely store them at the Savannah River Site=s basins. By the end of FY 2001, we expect to have received almost one-third of the spent fuel assemblies that we know other countries plan to return.

We will also continue to treat and reduce our legacy of mixed and low-level waste at the site through continued operation of the Consolidated Incinerator Facility (473 cubic meters will be treated in FY 2001). The first shipment of Savannah River Site transuranic waste to the Waste Isolation Pilot Plant will occur in September 2000; four additional shipments are scheduled for FY 2001.

We will also continue to aggressively pursue the use of new technology to characterize and cleanup contaminated release sites and ground waste plumes. We are using the Vadose Zone Monitoring System to determine how fast and in what concentration contaminants are traveling to the ground water. This approach provides sensitive early warning of aquifer contamination from the E-Area shallow disposal trenches. In FY 2000 we will deploy a steam injection system, recently used at our Portsmouth site, to destroy chlorinated solvents beneath the 321-M Solvent Storage Area. This could replace the technology currently being used at the site and reduce the time of cleanup by more than 20 years. In FY 2001, we will complete remediation of one release site and assessments for eight others. We will also operate eight ground water remediation systems.

Finally, scientists and engineers at the Savannah River Site have been collaborating to develop a cost-effective path forward for some of the spent fuel through research and development of new technologies. This work is helping to address one of our most daunting problems **B** how to

manage spent nuclear fuel and other nuclear materials without chemical separations. Our investment in the Alternative Technology Program has shown progress. A draft Environmental Impact Statement (EIS) identifying the Amelt-and-dilute@ process as the preferred alternative technology to prepare aluminum-based spent nuclear fuel for geologic disposal was issued in December 1998, and a final EIS is expected to be issued in March 2000. The FY 2001 budget contains funds for the construction and startup of the L-Area Experimental Facility to demonstrate the viability of the melt and dilute process which will provide a firm basis for the design and construction of the full-scale facility. As other countries begin to address similar problems, these new U.S.-developed technologies will be available to help.

2. Hanford Site, Washington

Office of River Protection
FY 2001 Request (in thousands):

Defense, Post 2006 Completion	$382,139
Defense, Privatization	$450,000
Total	$832,139

Richland Operations Office
FY 2001 Request (in thousands):

Defense, Site/Project Completion	$349,467
Defense, Post 2006 Completion	$375,313
Non-defense, Site/Project Completion	$ 1,500
Total	$726,280

The Hanford Site in Washington remains perhaps our greatest cleanup challenge. The 560-square mile site was carved out of a broad curve of the Columbia River during World War II. It is now the nation=s largest former nuclear weapons production site, and the cleanup of the Hanford Site is the largest, most technically complex, environmental cleanup project yet undertaken. The site contains large amounts of spent nuclear fuel, unstable weapons grade plutonium, 177 underground tanks containing 54 million gallons of high-level radioactive waste tanks, and more than 100 square miles of contaminated ground water. It is important not to lose sight of the successes and accomplishments that have occurred despite the serious remaining challenges. We believe that our FY 2001 budget request for Hanford addresses the requirements for continued cleanup progress.

Following Congressional direction in the *Strom Thurmond National Defense Authorization Act for Fiscal Year 1999*, the Department established the Office of River Protection (ORP) in December 1998. ORP is responsible for all aspects of the Tank Waste Remediation System **B** to store, treat, and immobilize the high-level radioactive Hanford Site tank waste in a sound, safe, and cost effective manner. Roles, responsibilities, and authorities for ORP are more fully specified in the *Integrated Management Plan* submitted to Congress in January 1999. The ORP reports directly to the Assistant Secretary for Environmental Management.

The Richland Operations Office manages all aspects of the Hanford Site except the Tank Waste Remediation Program.

Office of River Protection

ORP works with the Richland Operations Office to protect the health and safety of the public, workers, and the environment and to control hazardous materials to protect the Columbia River. Under the Defense Environmental Management, Post 2006 Completion account, ORP manages the Tank Waste Remediation System Project located on the central plateau (200 Area) of the Hanford Site. Treatment of the tank waste will be performed in two phases. Phase I will provide treatment for at least 10 percent of the waste by volume and 20 to 25 percent of the radioactivity in the tanks and is being carried out by a contractor on a fixed price for services basis (privatization). The storage, retrieval, and disposition of the waste will be managed by ORP using a conventional cost reimbursement contract. In August 1998, the Department of Energy signed a contract with BNFL, Inc. that allowed for an initial 24-month period to enable the contractor to develop more of the design for the treatment facility and to obtain financing and submit a fixed-price bid.

In FY 2000, the Department will decide whether to authorize BNFL, Inc. to proceed to construction and operation, based on an evaluation of whether the proposal represents the best value for the taxpayer. To date, pilot testing has provided strong technical confirmation of pretreatment and vitrification capabilities. DOE and BNFL, Inc. have reached preliminary agreement on pricing methodology and major contractual terms. Financing of the project appears viable based on in depth discussions with financial institutions. BNFL, Inc. has mobilized a design and engineering team of over 600 people to support the privatization effort.

Management of 177 underground high-level waste tanks remains one of the biggest challenges at the Hanford site. We have made significant progress in reducing the urgent risks associated with these tanks. The high heat safety issue was resolved in tank C-106 by diluting the waste and transferring it to a larger double-shell tank with a higher heat removal capacity. The surface level rise issue was resolved in tank SY-101 by dissolving the crust on the surface of the waste through a series of waste transfers and back dilutions. Elimination of the crust will reduce the retention of flammable concentrations of gas in SY-101. We signed a Consent Decree with the State of Washington which established a schedule for interim stabilization of the single-shell tanks. To date, we have met all Consent Decree milestones, which includes initiating pumping of free liquids from six single-shell tanks. The contract for maintenance and operations of the tank farms, which will provide waste feed to the privatized treatment facility, has been placed directly under ORP.

For FY 2001, ORP will continue improving tank safety by resolving high priority safety issues such as flammable gas generation and by transferring free liquids from single-shell tanks to double-shell tanks in accordance with the Consent Decree schedule. The remaining two tanks which are suspected of having leaked will be pumped during FY 2001. In addition, design and construction will continue on tank farm retrieval systems and other infrastructure improvements necessary to support future waste feed delivery to the privatized treatment facility. One of these improvements is the use of a multi-function corrosion probe. This probe reduces the amount of sodium hydroxide that needs to be added to inhibit corrosion by allowing site workers to directly

monitor the rate of tank corrosion. The potential savings from the use of this technology is in excess of $100 million.

The FY 2001 request for $450 million in privatization funding will be used to maintain momentum on high-level waste treatment design, initiate actions to proceed with long lead project procurement and construction, manage the project, and meet contractual commitments in the unlikely event of a termination of the privatization contract. It will provide the contractor and the financial community with assurance that costs incurred to mobilize the team, secure financing, and demobilize the team in the event of a contract termination will be fully supported.

Richland Operations Office

The goals for the Hanford Site are the restoration of the Columbia River corridor (the majority of the Hanford land, including the river shoreline); transition of Hanford=s 200 Area Acentral plateau@ to long-term waste treatment and storage; and utilization of the government=s Hanford assets, including land, cleanup technologies, and experience for the taxpayers.

The Department is continuing to remediate waste sites and dispose of the contaminated soil and debris in the Environmental Restoration Disposal Facility (ERDF). In FY 1999, ERDF received over 320,000 cubic meters of contaminated soil and debris from cleanup sites along the Columbia River corridor. In FY 2000 ERDF will receive over 170,000 cubic meters to complete interim closure of Cells 1 and 2, and will complete construction of new cells 3 and 4.

We are also pursuing the use of innovative technology to solve problems in the subsurface. In 1999, we deployed the In-Situ Redox Manipulation (ISRM) technology to treat groundwater contaminated with chromium. ISRM creates a chemically altered treatment zone in the subsurface to reduce the mobility of chromium. This technology is expected to save more than $6 million compared to the pump-and-treat technology that the site had planned to use.

In FY 1999, we restarted stabilization of plutonium oxides at the Plutonium Finishing Plant. In FY 2000, stabilization activities will be expanded to begin stabilization of plutonium-bearing solutions and residues, as well as the continuation of plutonium oxide stabilization. Stabilization activities will eliminate the risk posed by the plutonium bearing materials and is a critical step in the deactivation of Plutonium Finishing Plant, which will significantly reduce mortgage costs at Hanford.

In addition, we continue to decommission the reactor facilities in the 100 Area through the Interim Safe Storage Project. In FY 1999, the D and DR reactor stacks were demolished, and F and DR reactor decommissioning is proceeding ahead of schedule. In FY 2000 and 2001, decommissioning activities will continue at the DR and F reactors as well as at the 233-S Plutonium Concentration Facility.

The Spent Nuclear Fuel Project will complete fuel retrieval, drying, transport, and storage system

testing in FY 2000. Additionally, non-mixed transuranic waste has been prepared for shipment to the Waste Isolation Pilot Plant, and the shipments will be initiated in FY 2000.
In addition, our FY 2001 budget request supports a number of key commitments, including:

- Begin K-West Basin spent fuel removal, drying, and transport to the Canister Storage Building for dry storage; this effort will begin to remediate one of the highest risks at the Hanford Site posed by the fuel stored in the aging K Basins near the Columbia River.
- Complete 13 waste site remediations in the Hanford 100 and 300 Areas, and send 240,025 cubic meters of contaminated soil and debris to ERDF.
- Complete 12 shipments of 55 cubic meters of transuranic waste to Waste Isolation Pilot Plant for disposal.
- Initiate and complete thermal treatment of 717 cubic meters of mixed low-level waste at a contract facility.
- The Hanford Site Groundwater/Vadose Zone Integration Project will implement the high-priority Science and Technology activities identified in FY 2000.
- Complete stabilization of 2,045 liters (cumulative total of 2,316 of 4,300 liters) of plutonium-bearing solutions and 500 containers (cumulative total of 1,050 of 5,845 containers) of plutonium metals and oxides at the Plutonium Finishing Plant.
- Begin operations of the bagless transfer system for packaging of plutonium-bearing materials, and complete brushing and repackaging of plutonium metal inventory at the Plutonium Finishing Plant.

3. Rocky Flats Environmental Technology Site, Colorado
FY 2001 Request (in thousands):

Defense, Facilities Closure Projects	$664,675

Almost two-thirds (61 percent) of the Defense Closure Account request supports accelerated cleanup at the Rocky Flats Site, a former nuclear weapons production facility located 16 miles northwest of Denver, Colorado. The site was used to shape plutonium and uranium weapons components and for other defense-related production work. The cleanup poses significant challenges because of the large amounts of plutonium and other compounds remaining in tanks and production lines, the significant volumes of hazardous and radioactive wastes stored throughout the site, and widespread contamination of soils, sediments, and groundwater.

The Rocky Flats Site is one of the highlighted projects, and certainly the largest site, for our goal of accelerating site cleanup and closure by 2006. There are many challenges facing this project, but we are confident that by remaining focused on our goal we can produce substantial savings and provide dramatic risk reduction. We recently awarded Kaiser-Hill, L.L.C. a closure contract valued at approximately $4 billion (excluding incentive payments) to complete the closure of the site. The target closure date is December 15, 2006, although the contracts includes incentives for accelerated completion and reduction in fee for any delay beyond the targeted end date. This contract became effective February 1, 2000, and Kaiser-Hill is in the process of developing a revised 2006 baseline which will reflect the provisions of the new cost-plus-incentive-fee contract.

These provisions include cost and schedule incentives focused on ensuring the cleanup is conducted safely in full compliance with all safety, health, environmental and safeguard and security requirements. The contract also stipulates an assumption that level funding at $657 million will be provided through December 2006. Under the contract terms, Kaiser-Hill is assuming more financial responsibility than any site management contractor in the history of DOE. Significant progress has been made over the past year to transition from the previous 2010 Closure Baseline to 2006 Closure Project Baseline submitted last May. However, this contract formalizes the Department=s commitment to achieve the closure of Rocky Flats by the end of 2006, and better positions the Department and Kaiser-Hill to meet -- or even exceed -- this. We have clearly come a long way since the earlier estimates that it would take $30 billion and 30 years to complete cleanup at Rocky Flats.

The key ingredient for closing Rocky Flats is being able to move nuclear materials and waste off of the site. Making progress in this critical area requires not only preparing the materials and waste for shipment, but also making sure that the receiving sites are ready. We have made some significant progress, such as exceeding our planned shipments of low-level and mixed-low level waste for offsite disposal in FY 1999. Also, we initiated shipments of transuranic waste to WIPP, disposing of 65 cubic meters in FY 1999, and we are expecting to receive approval from the New Mexico Environment Department to resume transuranic waste shipments under the RCRA Part B Permit very soon. Rocky Flats will be the first site to be certified by New Mexico as meeting the requirements of the permit. In total, there are nearly 15,000 cubic meters of transuranic waste and approximately 100,000 kilograms of plutonium residues that need to be packaged and sent to WIPP. There are also approximately 2,300 containers of nuclear materials which must be shipped off site by the end of 2002 to allow for the closure of the Protected Area, a critical step in the 2006 Closure Project Baseline.

The Department has clearly made enormous progress both in reducing risks at the site, and in greatly improving our management plans for cleanup and closure. Approximately 35 metric tons of plutonium residues have been stabilized and/or repackaged to date, and we expect to stabilize or repackage 41 metric tons in FY 2000. In FY 1999 we completed the shipments of pits to Pantex and weapons-grade uranium to Y-12. We also shipped nearly half of the plutonium scrub alloy to Savannah River Site, and this campaign will soon be completed. Currently, we are continuing our preparations to initiate the shipment of plutonium metals and oxides to Savannah River for storage in the recently opened K-Area.

We are making progress on demolishing buildings at Rocky Flats, not only reducing risks but also reducing mortgage costs required to maintain those excess buildings. The demolition of the Building 779 cluster **B** which once held 133 contaminated glove boxes **B** was completed in early January. Our efforts to reduce risks and mortgages includes the use of innovative technology. For example, we are using new ways to stabilize and remove contamination using strippable coatings. These coatings are sprayed onto the surfaces of contaminated walls to reduce airborne contamination and worker exposure. In some cases airborne contamination is reduced by a factor of 900. In FY 2000 we are moving forward with an automated robotic size reduction and

packaging process. This technology which will be deployed in Building 776/777 will improve worker safety and increase efficiency by allowing workers to remotely dismantle plutonium contaminated glove boxes.

The FY 2000 appropriation and FY 2001 budget request for Rocky Flats ($664.7 million each year) fund the activities we have already identified as necessary for accelerated closure. We are committed to producing the following results:

- **$** Make significant progress in the decontamination and decommissioning of Building 771 by tapping, draining and removing remaining liquid process systems and dismantling, size reducing and packaging glove boxes, tanks and other equipment for shipment.

- **$** Ship nearly 8,000 cubic meters of radioactive waste offsite for disposal.

- **$** Process more than 16 metric tons of plutonium residues in preparation for safe disposition.

- **$** Package 960 containers of plutonium.

- **$** Ship over 1,000 containers of plutonium metals and oxides to the K-Area at the Savannah River Site.

We are fully committed to maintaining our progress towards the accelerated cleanup at Rocky Flats, thereby reducing risk and long-term costs. We also understand the vital role of accelerated site closure to the community where commercial and residential development along the Denver-Boulder corridor has reached nearly to the fence line of Rocky Flats.

4. Idaho National Engineering and Environmental Laboratory, Idaho
FY 2001 Request (in thousands):

Defense, Site/Project Completion	$100,692
Defense, Post 2006 Completion	$348,711
Non-defense, Site/Project Completion	$ 1,856
Defense, Privatization	$ 90,092
Subtotal	$541,351
Use of Prior Year Balances (Defense)	$ (34,317)
Use of Prior Year Balances (Privatization)	$ (25,092)
Total	$481,942

The FY 2001 budget request for the Idaho National Engineering and Environmental Laboratory (INEEL) supports the receipt and safe interim storage of spent nuclear fuel, including Naval and domestic and foreign research fuel; the storage and treatment of high level waste in 11 underground tanks; the cleanup of six Arelease sites,@ or contaminated areas, and two surplus facilities; and the management of legacy waste, including transuranic waste to be shipped to the Waste Isolation Pilot Plant (WIPP). Many of the critical activities at the site are in accordance

with the Settlement Agreement signed with the State of Idaho in 1995.

One of the most complex challenges at INEEL is the remediation of buried wastes, contaminated release sites, contaminated soils, and ground water. Progress has been made under the Operable Unit 7-10 Staged Interim Action Project for the cleanup of Pit 9 at the Radioactive Waste Management Complex (RWMC) with the insertion of 20 probes into the pit and the planned sample coring of waste and soils later this year. A strategic review of the Pit 9/RWMC remediation effort is currently underway to determine an appropriate path forward. Progress at Test Area North is being made with the application of bioremediation to the cleanup of the ground water plume at the injection well. At the Test Reactor Area, remediation of identified release sites will be completed in FY 2001, two years ahead of schedule. This includes four additional release sites added since the signing of the Record of Decision. At the Idaho Nuclear Technology and Engineering Center (INTEC), with the signing of the Record of Decision in FY 1999, we are undertaking the complex process of remediating soil and ground water release sites while continuing to operate INTEC for spent fuel storage and waste management missions. In addition, we have plans to design and build the Idaho CERCLA Disposal Facility at this site, which will be used for the disposal of contaminated soils generated in the cleanup of INTEC and other contaminated sites at the INEEL.

INEEL plays a key role in providing safe storage and management of spent nuclear fuel in support of the Administration=s non-proliferation goals. INEEL received shipments of foreign research reactor fuel in FY 1998 and FY 1999 and will continue to receive shipments in FY 2000 and 2001. In addition, INEEL is actively improving storage conditions at the site, transferring fuel from wet to dry storage, or from aging facilities to modern, state-of-the-art facilities. For example, we expect to complete the transfer of all spent nuclear fuel in wet storage in the CPP-603 South Basin to improved storage facilities well in advance of the Settlement Agreement milestone date of December 31, 2000. We will also complete moving Three Mile Island spent nuclear fuel and core debris from wet storage at Test Area North to dry storage at INTEC by the June 1, 2001, Idaho Settlement Agreement milestone date. The Department also plans to award a privatization contract in FY 2000 for the packaging and safe interim storage of other spent nuclear fuel at the INEEL. The FY 2001 budget request includes the use of $25 million in prior year balances for this project in the privatization account.

A substantial portion of the INEEL budget request supports the management of high level waste. INEEL has about 1.3 million gallons of liquid sodium-bearing waste stored in 11 underground tanks, and about 150,000 cubic feet of calcined mixed high level waste in separate robust temporary storage. Through June 2000, we will calcine a small percentage of the liquid. Calcined waste is in a more stable (solid granular) form for storage and is reduced in volume. After June 1, 2000, the calcining facility will be placed in standby mode as required by the State of Idaho, until an environmentally safe, technically viable, and economic path forward can be identified for the final treatment of the calcine and liquid. A draft environmental impact statement (EIS) for the high-level waste alternatives has been issued, and a final EIS is planned for the end of FY 2000. An associated Record of Decision is planned in early FY 2001. Support activities include

sampling and characterizing the liquid tank contents in FY 1999 and FY 2000, the sampling and characterization of air emissions from the calcining facility in FY 1999 and FY 2000, and submission of the first tank closure plan to the State in early FY 2001 to permanently close tanks as they are emptied and removed from service.

In FY 1999, we deployed the Light Duty Utility Arm (LDUA) in Tank WM-188. The LDUA is the core of a suite of technologies that can inspect, sample, and retrieve waste remotely through openings in the tank dome. In this case, we visually inspected the tank interior and obtained samples of the tank waste. We are moving forward in 2000 to inspect and obtain samples from two additional tanks. This information is critical to the preparation of the first tank closure plan due to the State in early FY 2001.

INEEL has approximately 65,000 cubic meters of stored transuranic waste and mixed low-level waste contaminated with transuranic radionuclides that must be removed from the State of Idaho under the terms of the 1995 Settlement Agreement. We continue to make progress in characterizing and processing the transuranic waste for shipment to the WIPP for disposal. In FY 1999, the INEEL completed its first shipment of non-mixed transuranic waste to the WIPP, meeting a Settlement Agreement milestone, and additional shipments for a total of 26 cubic meters. In FY 2000 and 2001, the amounts of transuranic waste to be shipped to the WIPP will increase to 96 and 1,160 cubic meters, respectively. Progress also continues on the Advanced Mixed Waste Treatment Project, a privatization project that will greatly increase the INEEL=s processing capability for this waste. The National Environmental Policy Act evaluation for the project was completed in FY 1999, and all environmental regulatory permits for the project are expected to be received in FY 2000, enabling facility construction to begin in FY 2000. Construction activities are targeted to continue in FY 2001 and FY 2002, and the facility is expected to begin operations in FY 2003. We are requesting $65 million in privatization budget authority for this project.

INEEL now operates under the sponsorship of EM, and has been designated a lead laboratory assisting DOE with its Environmental Quality mission. The INEEL will continue to perform world-class scientific research and development, technology demonstration and deployment, and systems analysis and integration in support of EM across the DOE complex. A major initiative in subsurface science will improve the understanding of contaminant transport and fate in the subsurface environment. This will result in better decision-making and allow DOE to consider alternatives to baseline plans for cleanup, resulting in more efficient use of available resources. This initiative and other related activities will ensure a sound scientific basis for decision-making and full integration of science and technology into INEEL and EM operations.

As part of EM=s Lead Program Secretarial Office designation with respect to INEEL, EM assumes the function of landlord. This responsibility entails all construction, maintenance, and site-wide management of shared essential systems such as utilities, roads and infrastructure. This important function enables the safe and efficient accomplishment of the long-term and varied programs assigned to the INEEL.

5. Oak Ridge Reservation, Tennessee

FY 2001 Request (in thousands):

Defense, Post 2006 Completion	$293,896
UE D&D Fund	$118,838
Total	$412,734

The Oak Ridge Reservation is comprised of three facilities -- the Y-12 Plant, the East Tennessee Technology Park (ETTP) (formerly the K-25 uranium enrichment facility), and the Oak Ridge National Laboratory (ORNL). Funding for environmental management activities at Oak Ridge is included in the Defense, Post-2006 Completion Account, with funding for the cleanup of ETTP coming from both this account and the Uranium Enrichment Decontamination and Decommissioning Fund.

The Department continues its efforts to reindustrialize facilities in Oak Ridge, particularly at ETTP. The primary goal is to clean up ETTP as quickly and as safely as possible so that the site can be reused as an industrial park. As of September 1999, about 850,000 square feet of space has been leased to 30 private companies in a total of 51 separate leases. In some cases, the Department has conducted cleanup of the building and, in other cases, the private company is undertaking the cleanup. Overall, we estimate that this strategy will save $165 million in life-cycle costs. We are making good progress on the largest decommissioning project to date at ETTP. Cleanup of K-33, the first DOE uranium enrichment facility to be decommissioned, is already 27 percent complete as of February 2000, and most of the project=s infrastructure is in place. The K-33 building is the largest building the Department has decommissioned to date. We will begin operations of the supercompactor in October 2000, which will reduce the volume of waste generated by cleanup of the buildings at ETTP and thereby reduce disposal costs.

The Department has developed a DOE-wide policy to ensure that the health and safety of private industry workers at ETTP and other leased facilities are protected. The Department plans to evaluate the application of the reindustrialization approach at other sites to accelerate cleanup, reduce costs, and create private sector jobs.

The FY 2001 request continues support for the decommissioning of the Molten Salt Reactor Experiment at ORNL. This experimental nuclear reactor was designed to use a fuel of highly-reactive uranium-233 blended with a molten salt coolant. After 4-1/2 years of operation, the reactor was shut down in December 1969. The EM program has made substantial progress, with input from the National Academy of Sciences, in stabilizing and deactivating this reactor. For example, the EM program has installed and continues operation of a system to remove reactive gases from the reactor tanks and keep the reactor systems below atmospheric pressure until the fuel salt can be removed. In FY 2001, we plan to complete the equipment installation and readiness assessment for fuel salt removal and convert uranium captured in the sodium fluoride traps to a stable oxide for storage.

We have completed cleanup of the fourth of eight highly radioactive waste storage tanks, called the AGunite Tanks,@ at ORNL and have started work on the next tank, expected to be completed six months ahead of schedule. The tanks were built in 1943 and were used for waste from chemical separations (reprocessing) operations until the late 1970's. The tanks vary in size, with some having a capacity of 170,000 gallons (approximately the size of a 4-bedroom house). The estimated cost of the project is now $80 million, less than half the original estimate of $200 million. A key factor in the accelerated schedule has been the development of a variety of remote remediation technologies, such as the AHoudini@ vehicle and a robotic arm that provide access to the tank interior, which have allowed work to proceed on two tanks simultaneously, rather than sequentially as initially planned. The lessons learned in deploying new technologies in the Gunite tanks are being shared with the Office of River Protection to accelerate cleanup of the tanks at Hanford.

The Toxic Substances Control Act (TSCA) incinerator at Oak Ridge, permitted by the State to treat mixed radioactive and hazardous wastes regulated by the Resource Conservation and Recovery Act and by EPA to treat PCB-contaminated wastes regulated under TSCA, offers unique capability within the DOE system. In addition to treating wastes generated by Oak Ridge facilities, the TSCA incinerator has also been used to treat wastes from other sites in the DOE complex, providing a cost-effective and integrated approach to managing these wastes. However, the Governor of Tennessee rejected the Department=s proposed annual burn plans for FY 1999 and FY 2000, citing equity concerns. Responding to these concerns, the Department limited the use of the incinerator to wastes generated at DOE sites managed by the Oak Ridge Operations Office. However, the publication of the Record of Decision for disposal of DOE low-level and mixed low-level waste in February 2000 based on the Waste Management Programmatic EIS should address the Governor=s concern regarding the availability of disposal for waste from Oak Ridge.

Construction of the Environmental Management Waste Management Facility is scheduled to be completed in FY 2001, allowing operations to begin soon after. This facility has been designed for disposal of CERCLA wastes generated during the cleanup of the Oak Ridge Reservation. The facility is the critical component of the Department=s cleanup plan for the Oak Ridge Reservation.

6. Fernald Environmental Management Project, Ohio
FY 2001 Request (in thousands):

Defense, Facilities Closure Projects	$290,793

The cleanup activities at Fernald Environmental Management Project account for more than $290 million, or 27 percent of the funding in the Defense Facilities Closure Projects Account. The Fernald site, encompassing approximately 1,050 acres near Cincinnati, produced uranium for nuclear weapons from 1951 to the end of Cold War in 1989. Nearly forty years of uranium production left the Fernald Site with soil and groundwater contamination, a large backlog of wastes, including some unstable liquids, as well as stored nuclear materials such as depleted and enriched uranium. Several years of cleanup progress have included stabilization of liquid uranium

solutions, off-site shipment of low-level waste, and deactivation, decontamination and demolition of several large industrial buildings at Fernald. The current baseline calls for cleanup to be completed by FY 2008, but the Department is seeking to complete work by FY 2006. Groundwater remediation and long-term institutional controls will be necessary after active cleanup is completed.

One approach we are taking to achieve the accelerated closure goal is the use of new technology. For example, we are saving time and money by using a suite of technologies that identify, in real time, radioactive contaminants in the soil. This rapid characterization reduces the amount of soil we have to excavate and improves worker productivity. We have already deployed this technology in three separate areas at Fernald. We estimate these technologies will reduce remediation cost by over $30 million.

In FY 2000, we will continue to dispose of waste into the On-site Disposal Facility, including debris from the completion of decontamination and decommissioning of all nuclear facilities and on-site contaminated soil. In FY 2001, we will complete the placement of a permanent cap on Cell 1. The availability of this facility is enabling us to accelerate disposal of contaminated soil and debris resulting from cleanup and building demolition at a significant cost savings.

For the Silos project, in FY 1999 we awarded subcontracts for Silos 1 and 2, and Silo 3. In FY 2000 we will initiate pre-operational activities for Silo 3 remediation and in FY 2001 plan to initiate remediation of Silo 3, submit draft Record of Decision Amendment to the Environmental Protection Agency, and continue construction of Silos 1 and 2 Accelerated Waste Retrieval.

We will continue to excavate and load Waste Pit material into railcars and transport these materials by rail for disposal. In FY 1999, we disposed of 32,241 cubic meters of treated waste and are planning to treat and dispose of 92,570 cubic meters in FY 2000 and 91,570 cubic meters in FY 2001.

Finally, Fernald personnel have continued the process of razing deactivated and decontaminated industrial buildings. They completed demolition of 6 of the 11 major facility complexes (Maintenance Building/Tank Farm Complex), and plan to complete Plant 5 Complex in FY 2000, and, in FY 2000, continue decontamination and decommissioning of Plant 6 Complex, and initiate the East Warehouse Complex resulting in outyear reductions in mortgage and landlord costs.

7. Waste Isolation Pilot Plant, New Mexico
FY 2001 Request (in thousands):

Defense, Post 2006 Completion	$194,498

Opening and operating WIPP is a key element of the Department=s strategy to provide for the permanent disposal of the Department=s inventory of radioactive transuranic waste. Currently a large amount of transuranic waste, more than 100,000 cubic meters, is being stored at more than two dozen sites around the United States. In many cases, this waste has been stored for decades. By shipping this waste to WIPP for disposal, the Department will be able to reduce the number of sites where this type of waste is stored, reducing the costs of storing this waste and the long-term risks to the public and the environment.

On March 26, 1999, WIPP began operations, receiving its first shipment of defense-generated, non-mixed, transuranic waste from Los Alamos National Laboratory. The first shipment from INEEL was made in April 1999, thereby meeting an important milestone in the Idaho Settlement Agreement between the Department and the State of Idaho. The first shipment from the Rocky Flats site to WIPP was made in June 1999 and represented the first step in meeting the Department=s commitment to complete cleanup and site closure by December 2006.

On October 27, 1999, the State of New Mexico issued the final Resource Conservation and Recovery Act (RCRA) permit, with an effective date of November 26, 1999. The permit contains

numerous new provisions which must be incorporated in the generator and storage sites procedures, and staff must be trained to the new requirements. Quality assurance audits must be performed by DOE and audit reports must be submitted to the New Mexico Environment Department for approval before shipments under the permit can begin. The Department is striving to meet all permit requirements so that waste shipments can quickly resume, but has legally challenged certain provisions of the permit, including the financial assurance and certain technical requirements.

Rocky Flats is the first site scheduled to resume shipments under the permit. DOE conducted a quality assurance audit at Rocky Flats in December, and submitted the audit report to New Mexico in late January. New Mexico approval of the audit report is expected by late February, and shipments are expected to resume within the next several weeks.

The FY 2001 budget request will allow WIPP to increase the receipt of contact-handled transuranic waste shipments from about 120 shipments in FY 2000 to about 485 shipments in FY 2001. The five sites scheduled to ship transuranic waste to WIPP in both FY 2000 and FY 2001 are Rocky Flats, INEEL, Hanford, Los Alamos, and Savannah River Site.

The Carlsbad Area Office and the Office of Science and Technology have teamed up to develop and introduce technologies that reduce risk, ensure proper certification of shipments, and increase the movement of waste from storage to disposal. One of these technologies, HANDS-55, is a robotic system that handles and segregates waste in 55 gallon drums. This technology not only improves worker health and safety but will increase the throughput of waste available for final disposal.

The funding request for FY 2001 includes $20.8 million that will be paid into a trust fund established by the Department to meet the financial assurance requirements of the RCRA permit. In previous years, these funds were used to provide economic assistance to the State of New Mexico, as required by the WIPP Land Withdrawal Act of 1996, but the Energy and Water Development Appropriations Act for FY 2000 allowed the Department to use funds otherwise available to New Mexico for economic assistance to meet financial assurance requirements.

The WIPP program also funds a variety of institutional programs that provide for operational oversight and other assistance for affected governments and stakeholder groups. Funds are included in the request for cooperative agreements with the Indian Tribes, Environmental Evaluation Group, Western Governors Association, and other State regional groups.

The Department is relying on a privatization approach to procure shipping casks for transuranic waste transportation. This project received $19,605,000 in budget authority in the Defense Privatization account in FY 1999 for the purchase of waste shipping containers to ship remote-handled transuranic waste from the generator sites to WIPP. The FY 2001 budget request proposes to reduce this privatization funding to $15,513,000. This contract is expected to be awarded in June 2000.

We have withdrawn the privatization project for transportation services for contact-handled transuranic waste and are funding this work through traditional appropriations. In 1999, Congress approved a reprogramming that allowed the EM program to acquire 12 contact-handled transuranic waste shipping containers to meet an urgent need for additional containers. EM reevaluated the acquisition strategy for the remaining transportation services and concluded that the project no longer fit the profile for privatization. The remainder of the capital equipment will now be funded from within the Post-2006 Account. The $21 million for this privatization project will be used to offset the request for the Spent nuclear Fuel Dry Storage Project at INEEL.

8. Los Alamos National Laboratory, New Mexico

FY 2001 Request (in thousands)

Defense, Post 2006 Completion	$92,129
Non-Defense, Post 2006 Completion	$ 3,981
Total	$96,110

Our goal at Los Alamos National Laboratory is to complete cleanup work by 2013 and disposition of legacy waste by 2015. Through FY 1999, the Department completed remediation of 1,401 of 2,000 Arelease sites,@ or specific areas where releases of contaminants had occurred, and had decommissioned 41 out of 145 surplus facilities. We plan to complete cleanup of two release sites and two facilities in FY 2000 and five release sites and one facility in FY 2001.

A little more than half of the FY 2001 request for Los Alamos funding is devoted to environmental restoration work, such as drilling new regional ground water wells to characterize the hydrogeology. It also includes cleanup work in anticipation of transferring land to the community. As required by law, DOE has identified ten parcels totaling about 4000 acres for potential transfer to the County of Los Alamos and the San Ildefenso Pueblos. We have published a final Environmental Impact Statement on the land transfers and a supporting Environmental Restoration Report, and are now preparing an implementation plan for cleanup of all land parcels that will be submitted to Congress in spring of 2000. DOE intends to follow a phased approach in accomplishing the land transfers, starting with the transfer of the relatively simple, uncontaminated parcels in 2000 and continuing with the transfer of the more complex sites in the later years. The Department has budgeted approximately $4 million in FY 2000 and FY 2001 to address cleanup requirements for the ten parcels under consideration.

The Los Alamos legacy waste project provides for the treatment, storage, and disposal of all legacy waste that is presently in storage at the Los Alamos National Laboratory. The legacy waste consists of mixed low-level waste, transuranic waste, and mixed transuranic waste. The waste was generated at 33 Technical Areas and is treated, stored, and disposed of in compliance with applicable Federal and State of New Mexico requirements.

Los Alamos has accelerated the treatment and disposal of legacy mixed low-level waste and retrieval of legacy transuranic waste (both transuranic and mixed transuranic) stored on asphalt

pads under earthen cover, and now expects to complete these activities a year earlier than previously planned. Treatment and disposal of legacy mixed low-level waste with an identified path for disposal is now planned to be completed in FY 2003. Retrieval of legacy transuranic and mixed transuranic waste stored on Asphalt Pads 1 and 4 has been completed. Retrieval of waste drums on Pad 2 will begin during FY 2000 with completion now scheduled for FY 2002. Los Alamos National Laboratory was the first DOE site to receive authority to certify transuranic waste for shipment to the WIPP and the first DOE site to ship transuranic waste to the WIPP. We have completed 17 shipments of legacy transuranic waste to the WIPP during FY 1999. Los Alamos plans to make 28 shipments to WIPP in FY 2001, which includes transuranic waste from the EM and Defense Programs.

The Department designated Los Alamos as the lead laboratory for research and development efforts to support the Department=s nuclear materials management. In this capacity, Los Alamos provides solutions to complex-wide technical and operational issues associated with stabilization and storage of plutonium and other nuclear materials.

9. Miamisburg Environmental Management Project (Mound)
FY 2001 Request (in thousands):

Defense, Facilities Closure Projects	$94,353

The Miamisburg Environmental Management Project, a 306-acre facility near Dayton, Ohio used for tritium and plutonium operations, consists of 152 buildings and approximately 230 potentially contaminated soil areas. We have a goal of completing cleanup of the site prior to 2006 and we are making good progress. By the end of FY 2000, nearly one-half of the 107 buildings scheduled for removal will have been demolished or auctioned off, a quarter of the 42 buildings scheduled to be transferred to the City of Miamisburg will have been decommissioned and decontaminated, and two-thirds of the potential soil release sites will have been remediated.

In FY 1999, Mound completed the disposition of its legacy low-level, mixed low-level and hazardous chemical waste streams. In FY 2000 the site will complete the disposition of its remaining legacy nuclear materials, generally sealed sources that were used to calibrate and test equipment. The site will remove or cleanup three additional buildings in each of fiscal years 2000 and 2001 and will remediate six soil areas in FY 2000 and nine more in FY 2001. More importantly, the site will continue to accelerate remediation of the tritium operations facilities. This project comprises three highly contaminated, complex buildings and constitutes the site=s Acritical path@ for cleanup and closure.

We have negotiated an agreement to transfer the ownership of the site to the City of Miamisburg as remediation of discrete parcels are completed. In 1999, we transferred two buildings and 27 acres and this year we expect to deed over two more buildings and another 100 acres. Currently, 30 private businesses, employing 350 workers, are leasing facilities at Mound. The Department=s Office of Nuclear Energy=s radioisotope heat source program will remain at Mound after the cleanup and transfer of the rest of the site is concluded. The program will retain three of the site=s

current buildings.

10. Nevada Test Site and Operations Office, Nevada
FY 2001 Request (in thousands):
Defense, Post 2006 Completion $90,212

The Nevada Operations Office manages $90 million for cleanup and waste management activities at the Nevada Test Site, as well as remediation of eight other inactive sites contaminated by past DOE nuclear testing in five states (Alaska, Colorado, Mississippi, Nevada, and New Mexico). The Nevada Test Site (NTS) is located 65 miles North of Las Vegas and encompasses 1,350 square miles (an area roughly the size of Rhode Island). In addition to the cleanup of radioactive contamination resulting from above- and below-ground testing of nuclear weapons and management of its on-site waste, NTS plays a crucial role for other DOE sites as one of the major low-level waste disposal facilities in the DOE complex.

The Department expects to complete restoration of the surface areas at the inactive test sites other than NTS and to complete shipments of transuranic waste from NTS to WIPP by FY 2006. The Department will continue to operate low-level waste disposal facilities at NTS for the DOE complex. Institutional controls and groundwater monitoring will be maintained at closed sites for the foreseeable future.

We are making progress in cleaning up contamination at NTS and in addressing concerns about ground water contamination. We plan to complete the cleanup of 575, or about 28 percent, of the Arelease sites@ at NTS by 2000. We will continue groundwater characterization efforts. Based on new scientific findings about transport of plutonium and other actinides in groundwater, the Department is increasing its efforts to characterize groundwater at NTS and improve our understanding of this complex issue. Two additional wells will be drilled in FY 2001 at the underground test area at Frenchman Flat, per recommendation of the groundwater peer review group and the State, to validate ongoing monitoring and modeling of the site.

NTS will continue its important role as a disposal site for low level radioactive waste from other DOE sites. In FY 2000, the Department expects to dispose of more than 14,000 cubic meters of low-level waste, more than half of which is from other DOE sites and plans to dispose of 11,000 cubic meters of low level radioactive waste at NTS in FY 2001. In December 1999, the Department announced its site preferences for disposal of DOE low-level and mixed low-level waste based on the Waste Management Programmatic Environmental Impact Statement, identifying NTS as one of two disposal sites in the DOE complex, and on February 25, 2000, we published a formal Record of Decision.

The FY 2001 request provides for characterization of transuranic waste drums, in preparation for shipment to begin to the Waste Isolation Pilot Plant in FY 2002. We expect to open the transportation waste corridor from the Nevada Test Site to WIPP in the end of FY 2001.

11	Lawrence Livermore National Laboratory	
	Defense, Post 2006 Completion	$48,500
	Defense, Site/Project Completion	$ 2,000
	Total	$50,500

Lawrence Livermore National Laboratory consists of two geographical sites **B** the Main Site, an operating weapons research and development laboratory, and Site 300, located about 15 miles east of the Main Site, which has been used to test high explosives and other technologies for defense programs. The EM program is responsible for waste management of both legacy and waste generated from on-going operations. It also is responsible for remediation of the site, which includes cleanup of hazardous contaminant releases to the soil and ground water contamination at the Main Site, and releases of hazardous and radioactive materials to soil and ground water from landfills, drum storage areas, and dry wells at Site 300. Both sites are listed on the Superfund National Priorities List and have cleanup agreements with U.S. EPA and the State of California.

At the Main Site, we are making significant progress using pump and treat technology to capture and contain contaminant groundwater plumes moving offsite. We are using an aggressive cleanup strategy to contain and extract groundwater contaminants, which supplements the existing permanent treatment system network with portable treatment units, and emphasizes specific source area removal. In FY 1999, we expanded the permanent groundwater treatment facilities and installed several portable treatment units to remove contaminants at several locations. In FY 2000 we are evaluating several advanced technologies that would enable us to cost-effectively remediate source areas in fine-grained sediments where contaminants are hard to reach. In FY 2001, we plan to apply an electro-osmosis technology to remove groundwater contaminants more effectively and to install additional extraction wells and portable treatment units. Cleanup of the Main Site is scheduled to be completed in 2007.

In FY 1999, we began operation of a treatment facility to treat explosive wastes. In FY 2000, we have completed testing of the Molten Salt Oxidation unit for treating mixed low-level and hazardous waste and have awarded a contract to a commercial vendor who will own and operate the treatment unit to treat waste. In FY 2001 we will complete construction of the Decontamination and Waste Treatment Facility, a treatment system for mixed low-level waste, and begin operational testing.

At Site 300, we have focused on removal actions such as capping the Pit 6 Landfill to control release and getting groundwater treatment systems in place to contain off-site plume migration, and on characterizing the contamination at the site. In FY 1999, we installed a cost-efficient portable groundwater unit to treat groundwater and control plume migration from the site. In FY 2000, we will issue final plans and schedules for site-wide cleanup of the site and begin design work in FY 2001. We will also begin operation of an innovative groundwater treatment system in a canyon in the southeast part of the site using the Iron Filing/Geosyphon technology to remediate high concentrations of contaminants in groundwater. We plan to complete cleanup at Site 300 by

2008.