

**Statement of  
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United States Department of Energy  
Before the  
Subcommittee on Strategic Forces  
Committee on Armed Services  
United States Senate**

**April 21, 2010**

Good afternoon, Chairman Nelson, Ranking Member Vitter, and Members of the Subcommittee. I am pleased to be here to today to answer your questions on the President's Fiscal Year (FY) 2011 budget request for the Department of Energy's (DOE) Office of Environmental Management (EM).

**Program Status**

In FY 2011, EM will continue to build on over 20 years of cleanup progress and will focus on investments to sustain risk reduction and strengthen technology. EM has made substantial progress in nearly every area of nuclear waste cleanup, including stabilizing and consolidating high-risk material such as tank waste and surplus special nuclear material (SNM). Progress also includes the near completion of transferring spent nuclear fuel (SNF) from wet to dry storage and disposing of large quantities of transuranic (TRU) waste, low-level waste (LLW), and mixed low-level waste (MLLW). Much work remains but demonstrable progress has been made.

EM will continue to seek ways to maximize reduction of environmental, safety, and health risks in a safe, secure, compliant, and cost-effective manner. The current EM life-cycle cost (LCC) estimate range, which covers the period of 1997 through completion, is \$275 to \$329 billion. This includes \$82 billion in actual costs from 1997 through 2009, and an additional estimate of \$193 to \$247 billion to complete EM's remaining mission.

EM is analyzing its project plans to further optimize the program. This strategic planning effort will concentrate on the technical, programmatic, and performance challenges facing the cleanup projects. It is focused on footprint reduction and near-term completions to reduce monitoring and maintenance costs and on alternative approaches to disposition tank waste and surplus SNM and SNF.

EM cleanup objectives will continue to be advanced in FY 2011 by the infusion of \$6 billion from the American Recovery and Reinvestment Act of 2009 (Recovery Act). Through April 2010, EM has obligated \$5.6 billion and spent \$1.7 billion, respectively leading to thousands of jobs created and/or saved at the EM sites. The Recovery Act funding is being used to further drive the EM footprint reduction of 40 percent by September 2011, removal of 2 million tons of mill tailings at the Moab site, accelerate by seven years the disposition of legacy TRU waste inventories at 11 sites, and build out the

infrastructure needed to support high-level waste processing operations. EM will use Recovery Act funding to accelerate legacy cleanup completion at three small sites: the Brookhaven National Laboratory and Separations Process Research Unit in New York; and the Stanford Linear Accelerator Center in California. EM will continue to build on its success in utilizing small businesses to advance its cleanup objectives. In FY 2009, EM obligated \$697 million of Recovery Act funding and \$1.6 billion of base program funding for a total of \$2.3 billion awarded to small businesses.

### **Program Strategies**

EM continues to adhere to a “Safety First” culture that integrates environment, safety, and health requirements and controls into all work activities. EM’s goal is to keep our employees, the public, our stakeholders, and the states where cleanup sites are located safe from radioactive and hazardous materials contamination. EM plans to continue improving safety performance by further integrating safety into all work activities and by incorporating requirements and controls into every project, with the goal of achieving zero accidents or incidents.

EM’s vision is to complete quality work safely, on schedule, and within cost in order to deliver demonstrated value to the American taxpayer. EM is introducing a new Business Model/Approach to achieve this vision. In addition to the safety performance goal, mentioned above, EM’s new approach includes improving Project Management through restructuring the project portfolio, adapting the Office of Science construction project review model to EM projects, establishing performance metrics for EM operating projects, aligning project and contract management, and streamlining the acquisition process. EM is aligning Headquarters and Field Operations in order to streamline decision-making and improve efficiency. We plan to utilize science and technology to optimize the efficiency of tank waste, surplus SNM, SNF, and groundwater treatment and disposition. Through these changes, EM plans to achieve excellence in management and leadership with the objective of making EM the employer of choice in the federal government.

EM will continue to conduct construction project reviews. These reviews examine all aspects of a construction project, including project management, technology, design, engineering, safety, environment, security, and quality assurance. The process relies on expert knowledge and experience of world-class engineers, scientists, and managers sourced from federal staff, DOE contractors, engineering firms, national laboratories, and the academic community. These reviews assess the progress of each of its major projects and determine their overall health and ability to meet cost and schedule goals. Scheduled approximately every six to nine months, these reviews are intended to reduce the risk of project failure by identifying existing and potential concerns in a timely manner. In FY 2009, all five major construction projects were reviewed with the findings ranging from technical to financial. In FY 2010, EM plans to conduct up to 10 reviews of its major projects and other capital asset projects, as needed, to follow up on previous findings and continue to assess the ability of the project to meet its scope, schedule and cost

objectives. As such, these reviews will provide EM leadership an “early warning” of possible problems so that corrections can be made.

### **Highlights of FY 2011 Request**

EM’s overarching goal is to complete the cleanup of the legacy of the Cold War in a safe, secure, and compliant manner, on schedule and within budget. EM will continue to pursue its cleanup objectives and regulatory commitments, overlaying risk reduction and best business practices. In FY 2011, EM is well positioned to meet its regulatory compliance milestones.

In FY 2011, EM intends to reduce its operation footprint from 900 square miles to approximately 540 square miles, a 40 percent reduction, with the goal of achieving a 90 percent reduction by 2015. In FY 2011, EM will also complete the legacy cleanup at Brookhaven National Laboratory and the Separations Process Research Unit in New York, and at the General Electric Vallecitos Nuclear Center and Stanford Linear Accelerator Center in California.

EM’s cleanup priorities have not changed and we remain committed to:

- Activities to maintain safe, secure, and compliant operations within the EM complex
- Radioactive tank waste stabilization, treatment, and disposal
- SNF storage, receipt, and disposition
- SNM consolidation, processing, and disposition
- High priority groundwater remediation
- TRU waste and MLLW/LLW disposition
- Soil and groundwater remediation
- Excess facilities decontamination and decommissioning (D&D)

EM’s FY 2011 budget request funds radioactive liquid tank waste activities that are a large part of the cleanup challenge EM faces at its Hanford, Savannah River and Idaho sites allowing the program to progress on its tank waste retrieval commitments and fund construction on tank waste treatment facilities. The request also targets \$60 million in funding for Hanford’s Office of River Protection to invest in developing technology that can be inserted into the project’s schedule that can yield significant cost savings and reduce the period of execution. Specifically, this funding will be utilized to solve near-term technical risks that have been identified and used to leverage and bring forth new technologies by focusing on such critical areas as: waste chemistry issues associated with characterization and separation; and advanced retrieval technologies. EM will continue to coordinate with the DOE Office of Science, national laboratories, and other federal and private organizations to address technology gaps in tank waste processing technologies.

The request also provides an additional \$50 million to accelerate completion of the design of the Waste Treatment and Immobilization Plant (WTP) at Hanford—boosting the budget for the plant in FY 2011 to \$740 million. This funding will enable the

acceleration of design and focus on mitigating project risks early and getting the design matured to 90 or 100 percent as quickly as possible.

EM will also continue to strengthen and deploy groundwater and D&D cleanup technologies as they are vital to the long-term success of our mission. Specifically, EM will continue the development of an integrated, high-performance computer modeling capability for waste degradation and contaminant release. This state-of-the-art scientific tool will enable robust and standardized assessments of performance and risk for EM cleanup and closure activities. This tool will also help EM better estimate cleanup time and costs, and reduce uncertainties and risks associated with subsurface contaminant behavior and transport processes.

**FY 2011 Budget Request**

The Department’s FY 2011 budget request for EM is \$6.05 billion, of which \$5.59 billion is for defense environmental cleanup activities. Examples of planned activities and milestones for FY 2011 by site-specific categories are:

**Idaho**

**(Dollars in thousands)**

<b>FY 2009 Appropriation</b>	<b>FY 2009 Recovery Act</b>	<b>FY 2010 Request</b>	<b>FY 2010 Appropriation</b>	<b>FY 2011 Request</b>
<b>\$489,239</b>	<b>\$467,875</b>	<b>\$411,168</b>	<b>\$469,168</b>	<b>\$412,000</b>

- *Complete construction and readiness testing in preparation for startup of operations of the Sodium Bearing Waste Facility.*

The Sodium Bearing Waste Treatment Project supports DOE's EM mission of safely storing and treating liquid radioactive wastes. This project will treat approximately 900,000 gallons of sodium bearing waste stored in tanks that are 35 to 45 years old. The treatment of this waste will enable EM to meet the Notice of Noncompliance – Consent Order Modification to cease use of the Tank Farm Facility by December 31, 2012. In FY 2011, the Sodium Bearing Waste facility construction and readiness testing will be complete.

- *Ship CH-TRU waste to WIPP, and dispose of MLLW and LLW, as required in the 1995 Idaho Settlement Agreement.*

During FY 2011, 5,700 cubic meters of CH-TRU waste will be shipped to WIPP for disposal. In addition, 2,050 cubic meters of MLLW/LLW will be shipped for disposal by September 2011.

**Los Alamos National Laboratory**

(Dollars in thousands)

<b>FY 2009 Appropriation</b>	<b>FY 2009 Recovery Act</b>	<b>FY 2010 Request</b>	<b>FY 2010 Appropriation</b>	<b>FY 2011 Request</b>
<b>\$226,082</b>	<b>\$211,775</b>	<b>\$191,938</b>	<b>\$199,438</b>	<b>\$200,000</b>

- *Continue characterization and certification of TRU waste for shipment to WIPP.*

The Solid Waste Stabilization and Disposition Project is comprised of the treatment, storage, and disposal of legacy TRU waste and MLLW generated between 1970 and 1999 at Los Alamos National Laboratory (LANL). The end-state of this project is the safe disposal of legacy waste at LANL. In FY 2011, LANL plans to package 2,000 drum equivalents of TRU waste for disposition, support of up to three shipments a week to WIPP, and disposition up to 300 cubic meters of LLW.

- *Maintain soil and water remediation.*

The LANL Soil and Water Remediation Project scope includes identification, investigation, and remediation of chemical and/or radiological contamination attributable to past Laboratory operations and practices. The remaining scope of the project includes characterization, monitoring, and protection of the surface and groundwater at the Laboratory and approximately 860 Potential Release Sites left to be investigated, remediated or closed by evaluation and assessment of human health and ecological risks. In FY 2011, activities include completion of characterization activities for Upper Cañada del Buey, Two Mile, and Canyon de Valle Aggregate Areas.

**Oak Ridge**

(Dollars in thousands)

<b>FY 2009 Appropriation</b>	<b>FY 2009 Recovery Act</b>	<b>FY 2010 Request</b>	<b>FY 2010 Appropriation</b>	<b>FY 2011 Request</b>
<b>\$498,688</b>	<b>\$755,110</b>	<b>\$411,168</b>	<b>\$436,168</b>	<b>\$450,000</b>

- *Continue design for construction of annex and Building 3019 modifications for the Uranium-233 (U-233) down-blending process.*

The Oak Ridge National Laboratory maintains the Department's inventory of U-233 which is currently stored in Building 3019. The FY 2011 funding request will support the completion of 90 percent design for construction of annex and building 3019 modifications in preparation for future disposal. Benefits include reducing safeguards and security requirements and eliminating long-term worker safety and criticality concerns.

**Richland**

**(Dollars in thousands)**

<b>FY 2009 Appropriation</b>	<b>FY 2009 Recovery Act</b>	<b>FY 2010 Request</b>	<b>FY 2010 Appropriation</b>	<b>FY 2011 Request</b>
<b>\$1,057,496</b>	<b>\$1,634,500</b>	<b>\$993,503</b>	<b>\$1,080,503</b>	<b>\$1,041,822</b>

- *Continue remediation and facility D&D within the River Corridor.*

In FY 2011, cleanup activities in the River Corridor include: complete excavation of three of five 100-H burial grounds; complete 22 interim remedial actions at the 100 B/C Area; complete disposition of eight facilities; and initiate interim safe storage of the 105-KE Reactor and D4 100K Area facilities. These efforts will assist in reducing the Richland site footprint by up to 40 percent in 2011.

- *Maintain base operations to treat and dispose of LLW, MLLW, and TRU waste, as well as, ship CH-TRU waste to WIPP for disposal.*

In FY 2011, activities include: provide core management and base operations to store, treat, and disposition LLW, MLLW, and TRU waste at the Central Waste Complex and manage off-site commercial MLLW waste treatment/disposal contracts; provide base operations of disposal trenches for Hanford's MLLW; provide the base operations necessary to store and treat MLLW and TRU waste at the T Plant Complex; and to ship up to 1,825 cubic meters of CH-TRU waste.

**River Protection**

**(Dollars in thousands)**

<b>FY 2009 Appropriation</b>	<b>FY 2009 Recovery Act</b>	<b>FY 2010 Request</b>	<b>FY 2010 Appropriation</b>	<b>FY 2011 Request</b>
<b>\$1,009,043</b>	<b>\$326,035</b>	<b>\$1,098,000</b>	<b>\$1,098,000</b>	<b>\$1,158,178</b>

- *Manage the tank farms in a safe and compliant manner until closure.*

The radioactive waste stored in the Hanford tanks was produced as part of the nation's defense program. In order to protect the Columbia River, the waste must be removed and processed to a form suitable for disposal and the tanks stabilized. To accomplish these goals, in FY 2011, activities include: complete two 242-A Evaporator Campaigns for space management; complete retrieval of two C-Farm Single-Shell Tanks; complete removal of six hose-in-hose transfer lines; initiate C-200 Closure Demonstration Project; and continue to perform single-shell tank integrity evaluations.

- *Continue construction of the WTP complex.*

WTP is critical to the completion of the Hanford tank waste program by providing the primary treatment capability to immobilize (vitrify) the radioactive tank waste at the Hanford Site. The WTP complex includes five major facilities: Pretreatment Facility, High-Level Waste Facility, Low-Activity Waste Facility, Analytical Laboratory, and the Balance of Facilities. In FY 2011, activities include: complete vessel upgrades for three spent resin collection and dewatering vessels to incorporate revised seismic assessment criteria at the Pretreatment Facility; complete civil engineering design (Title II) and Architectural design at the High-Level Waste Facility; complete 80 percent of bulk process piping installation and 65 percent of bulk conduit installation at the Low-Activity Waste Facility; complete 90 percent of bulk piping installation at the Analytical Laboratory; and accept delivery of the Anhydrous Ammonia System at the Balance of Facilities.

### Savannah River Site

(Dollars in thousands)

FY 2009 Appropriation	FY 2009 Recovery Act	FY 2010 Request	FY 2010 Appropriation	FY 2011 Request
\$1,361,479	\$1,615,400	\$1,342,013	\$1,342,013	\$1,349,863

- *Continue consolidation and disposition of SNM.*

The receipt, storage, and disposition of materials at SRS allows for de-inventory and shutdown of facilities at other DOE complex sites, providing substantial risk reduction and significant mortgage reduction savings to the Department. In FY 2011, activities include: SRS continue to receive weapons grade surplus non-pit plutonium from LANL and Lawrence Livermore National Laboratory; develop a program to reduce the risk to personnel and the environment by reducing the residual plutonium-238 contamination in the F Area Materials Storage Facility (235-F); continue processing nuclear materials as well as purchase of cold chemicals and other materials for operations of H Canyon and HB Line; support L to H shipments to H Canyon; and perform H Canyon/HB Line infrastructure upgrades.

- *Reduce radioactive liquid waste.*

The mission of the tank waste program at SRS is to safely and efficiently treat, stabilize, and dispose of approximately 37 million gallons of legacy radioactive waste currently stored in 49 underground storage tanks. In FY 2011, activities include: continue operation of interim salt processing facilities; support H Canyon receipts of newly generated waste; continue operation of the Defense Waste Processing Facility and complete 297 canisters of glass waste; continue construction of the Salt Waste Processing Facility; continue saltstone production and disposal operations as well as vault construction; and support Tank 48 Return to Service Project.

## WIPP

(Dollars in thousands)

<b>FY 2009 Appropriation</b>	<b>FY 2009 Recovery Act</b>	<b>FY 2010 Request</b>	<b>FY 2010 Appropriation</b>	<b>FY 2011 Request</b>
<b>\$236,785</b>	<b>\$172,375</b>	<b>\$224,981</b>	<b>\$234,981</b>	<b>\$225,000</b>

- *Operate WIPP in a safe and compliant manner and dispose of CH and remote-handled (RH) TRU waste from 27 DOE sites.*

WIPP in Carlsbad, New Mexico, is the nation's only mined geologic repository for the permanent disposal of defense-generated TRU waste. In FY 2011, the budget request supports maintaining an average shipping capability of 21 CH and 5 RH-TRU waste shipments per week. In addition WIPP will increase characterization efforts at TRU waste generator sites to increase inventory of shippable waste and increase WIPP's efficiency.

## Conclusion

Chairman Nelson, Ranking Member Vitter, and Members of the Subcommittee, I am honored to be here today representing the Office of Environmental Management. My program continues to pursue its cleanup objectives within the overall framework of achieving the greatest risk reduction benefit per radioactive content and overlaying regulatory compliance commitments and best business practices to maximize cleanup progress. We do that by continuing to address our highest priority cleanup activities in FY 2011 while using Recovery Act funding to continue making progress on the twin goals of life-cycle cost management and footprint reduction. We are also integrating other equally important strategies into the cleanup activities so that we may complete quality work safely, on schedule and within cost thereby delivering demonstrated value to the American taxpayer.

I am pleased to answer any questions you may have.