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HEARING

ON

NATIONAL DEFENSE AUTHORIZATION ACT FOR FISCAL YEAR 2011

AND

OVERSIGHT OF PREVIOUSLY AUTHORIZED PROGRAMS

BEFORE THE

COMMITTEE ON ARMED SERVICES
HOUSE OF REPRESENTATIVES
ONE HUNDRED ELEVENTH CONGRESS

SECOND SESSION

SUBCOMMITTEE ON STRATEGIC FORCES HEARING

ON

BUDGET REQUEST FOR DEPARTMENT OF ENERGY ATOMIC ENERGY DEFENSE ACTIVITIES

HEARING HELD
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HOUSE OF REPRESENTATIVES,
COMMITTEE ON ARMED SERVICES,
SUBCOMMITTEE ON STRATEGIC FORCES,
Washington, DC, Thursday, March 25, 2010.

The subcommittee met, pursuant to call, at 1:40 p.m., in room 2118, Rayburn House Office Building, Hon. James Langevin (chairman of the subcommittee) presiding.

OPENING STATEMENT OF HON. JAMES R. LANGEVIN, A REPRESENTATIVE FROM RHODE ISLAND, CHAIRMAN, SUBCOMMITTEE ON STRATEGIC FORCES

Mr. LANGEVIN. Good afternoon. This hearing of the Subcommittee on Strategic Forces will now come to order. Today we will be taking testimony on the Department of Energy's (DOE's) Fiscal Year 2011 Budget for Atomic Energy Defense Activities. The President's budget request for DOE's defense activities, including nuclear weapons nonproliferation and waste cleanup is almost $18 billion for fiscal year 2011, an increase of over 7 percent from last year's appropriated level. This request, which must be authorized by our committee, amounts to almost two-thirds of the entire budget request for the Department of Energy.

Let me begin the hearing today by welcoming our three distinguished witnesses. First, we have Mr. Tom D'Agostino, the Under Secretary of Energy for Nuclear Security and Administrator of the National Nuclear Security Administration (NNSA). Mr. Secretary, it is a pleasure to have you here once again.

Mr. D'Agostino is a graduate of the Naval Academy and the Naval War College. As an officer in the nuclear Navy, he distinguished himself as the program manager for the Seawolf submarine propulsion system. He retired from the Navy Reserve as a Captain. And since joining the DOE in 1990, Mr. D'Agostino has had a distinguished career in increasingly responsible roles, assuring the safety, security, and reliability of the Nation's nuclear stockpile.

Mr. LANGEVIN. Welcome back to the subcommittee.

Secretary D'AGOSTINO. Thank you, sir.

Mr. LANGEVIN. Second, Dr. Inés Triay, DOE's Assistant Secretary for Environmental Management, has agreed to appear before the subcommittee today. Dr. Triay received her bachelor's degree in chemistry and her doctorate degree in physical chemistry from the University of Miami in Florida. Her career has included key positions at the Los Alamos National Laboratory and, as DOE's

manager of the Carlsbad Field Office in New Mexico, she spearheaded national efforts to accelerate the cleanup of transuranic waste sites and disposal at the Waste Isolation Pilot Plant (WIPP) in Carlsbad. Since joining DOE's headquarters staff in 2005, she has worked tirelessly to expedite the cleanup of the legacy left behind by DOE's Cold War nuclear programs. Welcome back, Dr. Triay, and I look forward to your testimony here today as well.

Secretary TRIAY. Thank you very much.

Mr. LANGEVIN. Finally, Dr. Peter Winokur, Chairman of the Defense Nuclear Facilities Safety Board (DNFSB), is with us this afternoon. This is Dr. Winokur's first opportunity to appear before the subcommittee and this will be the first public appearance as Chairman of the DNFSB, having just been appointed to that post by President Obama last Friday.

Congratulations, Dr. Winokur, on that.

Dr. Winokur received his bachelor's degree in physics from Cooper Union in New York and his doctorate from the University of Maryland. He has worked in senior technical positions at Sandia National Laboratories and the Army's Harry Diamond Laboratories and has been a member of the Defense Science Board since 2006.

Welcome again, Dr. Winokur, to you too and, again, to all of our witnesses and thank you for being here today. We greatly look forward to your testimony.

This committee has a long history of supporting the critical missions performed by the Department, including ensuring the reliability, safety, and security of our nuclear stockpile; conducting the scientific, engineering and production activities necessary to support the stockpile; keeping our nuclear weapons and the weapons complex safe from physical, cyber, and other threats; leading the government's international nuclear nonproliferation efforts; and cleaning up the environmental legacy of nuclear stockpile work.

But the committee has also had an equally longstanding record of vigilant oversight. In the late 1990s, in the wake of security and safety problems in the nuclear weapons complex, committee members, including Mac Thornberry and now-Under Secretary Ellen Tauscher, spearheaded efforts to enact Title 32 of the National Defense Authorization Act for Fiscal Year 2000 and, as you know, create the NNSA as a separately organized agency within the Department of Energy.

In the late 1980s when the high cost of cleaning up the legacy Cold War weapons production was just beginning to be uncovered, John Spratt and now-Senator John Kyl led this committee's efforts to create a separate organization within the Department to manage the environmental cleanup program.

During that same era, the committee played a key role in ensuring that the Department's operational activities would be subject to oversight by an independent body by leading the legislative effort to establish the Defense Nuclear Facilities Safety Board as part of the National Defense Authorization Act for Fiscal Year 1989. So, you see, each of your organizations can trace its heritage to the rigorous oversight performed by this subcommittee.

Having assumed the chairmanship of the subcommittee just last summer, let me assure the witnesses that I am committed to continuing our tradition of rigorous oversight and doing so in a very

bipartisan manner. I look forward to partnering with you in the efforts that you perform for our Nation, and we are grateful to all of you for your service. That said, we are eager to hear your testimony on the Fiscal Year 2011 budget request.

Under Secretary D'Agostino, I am especially interested in how the NNSA intends to implement the Stockpile Management Plan mandated by section 3113 of the National Defense Authorization Act for Fiscal Year 2010. This statute is probably the most recent example of the bipartisan efforts of our committee, and I believe it can form the framework for an enduring consensus to ensure the health, safety, and the security of the stockpile.

Assistant Secretary Triay, last year's economic stimulus package contained more than $5 billion to accelerate defense environmental cleanup activities. We look forward to hearing from you on how these funds have been used and how efforts undertaken with stimulus funding differ from the core work of the cleanup program originally as it began.

And finally, Chairman Winokur, I believe it is only the fifth time that the board has appeared before the subcommittee in its 20-year history, and the first time since 1996. In your testimony here today, I would like you to please provide us with your candid views about the most challenging safety issues that DOE and NNSA face, both in ongoing operations and in the construction of new facilities. These are some of the concerns that we hope you will address in your statements this afternoon and during our discussions that will follow your testimony. And again, we look forward to hearing from you.

[The prepared statement of Mr. Langevin can be found in the Appendix on page 33.]

With that, let me turn now to the ranking member, Mr. Turner, for any comments that he may have. Mr. Turner.

STATEMENT OF HON. MICHAEL TURNER, A REPRESENTATIVE FROM OHIO, RANKING MEMBER, SUBCOMMITTEE ON STRATEGIC FORCES

Mr. TURNER. Thank you, Mr. Chairman. I also would like to welcome Mr. D'Agostino and Dr. Triay and Dr. Winokur. I also understand that you were just confirmed last week by the Senate. Congratulations on your confirmation. And I want to thank all of you for your leadership and for your work, your service to the Nation, and we look forward to hearing your message here today. As I noted last week during our hearing on U.S. strategic posture, we are in the midst of some potentially significant changes in our nuclear policy and posture. The nuclear policy review, excuse me, the Nuclear Posture Review, NPR, should be released within the coming weeks and, according to press reports, the U.S. and Russia are close to completing a new Strategic Arms Reduction Treaty, START. These events are likely to have considerable implications for our Nation's nuclear stockpile and infrastructure.

At this same budget hearing last year, I commented that fiscal year 2010 was a year of "treading water." The Science and Engineering campaigns were stagnant, key decisions on warhead refurbishment were avoided, and key construction projects were halted. The Strategic Posture Commission observed that NNSA had a rea-

sonable plan for transforming the complex but lacked the needed funding. All these decisions were on hold pending the completion of the NPR, which we still have not received.

Mr. D'Agostino, last year, you testified that we were in a "one-year budget scenario ... There are a lot of flatline numbers when you look at our program, particularly into the out-years." Continuing to quote you, you said, "I don't like the idea of having flatline numbers in the out-years, because it sends a signal to our workforce that the country thinks it has got no future." You are right. Flatline numbers do send a signal, which is why it is a welcome change to see a 13-percent increase in this year's budget request for NNSA.

What this request tells us that is that the Administration does recognize, as Vice President Biden recently said, that our "nuclear complex and experts were neglected and underfunded."

However, commitment to the sustainment and modernization of our Nation's deterrence capabilities cannot be measured with a single year's budget request, so I hope to see this new level of commitment continuing into the out-years.

It appears that the Administration has embraced the Stockpile Management Program established by this committee last year, and will fund more comprehensive Life Extension Programs, surveillance activities, warhead safety and security enhancements, and infrastructure modernization.

Mr. D'Agostino, I hope that you will address these efforts in your testimony today. I do want to pause for a minute to give you credit. I have spoken to you privately and I want to say it publicly the amount of credit I think you deserve for this. You have been very outspoken on the needs of the NNSA. You have provided a plan for addressing the issues that have been raised and you have been successful as a voice in the Administration for securing this important additional investment, and I appreciate your commitment and accomplishment here.

Secretary D'AGOSTINO. Thank you, sir.

Mr. TURNER. I would also like your thought on the recent JASON report on life extension options for U.S. nuclear weapons. I was concerned about how certain findings in the report were being interpreted—basically, that "everything is fine, stick with the status quo"—because that is not what I was hearing in briefings and visits to the labs. So I asked the three nuclear security lab directors to comment on these findings, and earlier today I released their letters to me.

One lab director wrote that certain findings "understate ... the challenges and risks ... [and] also understate the future risks that we must anticipate" in sustaining the nuclear U.S. stockpile. Another wrote that current approaches cannot sustain our weapons for decades because "the available mitigation actions ... are reaching their limits." The Strategic Posture Commission concluded that current warhead Life Extension Programs could not be counted on indefinitely.

We would ask today whether you could help us understand why improvements in the safety, security, and reliability of the stockpile would require changes from current life extension approaches.

The committee also must have confidence that the additional funds received by NNSA can be spent wisely, whether in the weapons activities account or nonproliferation account. In previous years, the nonproliferation program had difficulty executing the funding it received and, as a result, carried over large unspent balances from year to year. This year, the nonproliferation program request has grown by 26 percent. This growth is a reflection of the President's direction, provided in a speech last April in Prague, to secure all vulnerable nuclear material around the world within four years.

This is a noble undertaking but, a year later, the subcommittee still has not received the Administration's plans. Therefore, it is difficult to assess whether this 26-percent plus-up can be spent wisely.

In the area of Environmental Management (EM), I want to take a moment to highlight a success story. Miamisburg Mound, in my district in Ohio, was once a key Cold War-era nuclear production facility. After an extensive Environmental Management cleanup effort—thanks in large part to the leadership of Dr. Triay and her predecessors—Mound has been redeveloped into a business park for high-tech companies.

I also want to recognize that Bob DeGrasse had a hand in that, also, as he has gone through various phases of his career.

There are many other sites across the country that require cleanup funds and, as the nuclear complex continues to shrink and additional Cold War-era facilities are decommissioned, the list will only get longer.

Dr. Triay, I would appreciate an update on the progress you have made for your priorities and the challenges ahead. I would also like to hear how the Environmental Management has spent the $5 million it received in stimulus funds last year, and how you ensure oversight and accountability of those funds.

As I have said in previous years, I am deeply concerned about safety and security. There is no margin for error in the nuclear business. I would appreciate an update on NNSA's efforts to implement its new Graded Security Protection policy. I also look forward to hearing Dr. Winokur's assessment of the key safety issues at our Nation's defense nuclear facilities, particularly with respect to new construction projects.

Now, on a final note, I said earlier that budgets send a signal. Policies also send a signal. We all share the President's vision of "a world without nuclear weapons." However, I worry when I hear Administration officials discuss it as a policy because, as we all know, policy drives strategy, programs, and budgets. Though we are seeing a one-year influx of funding, I am concerned that a zero-policy—once implemented—would lead to less program and budget support in the out-years. And that is not in the best interest of our national security.

Mr. D'Agostino, Dr. Triay and Dr. Winokur, thank you again for being with us today. You each possess a tremendous amount of expertise and insight into our Nation's nuclear stockpile and infrastructure, and our Nation is better off as a result of your service. I look forward to hearing your testimony and thank you, Mr. Chairman.

[The prepared statement of Mr. Turner can be found in the Appendix on page 37.]

Mr. LANGEVIN. I want to thank the ranking member. In particular, I want to thank you for those comments. And before we turn to the witnesses, I want to comment on points you raised, in particular, about the JASON Panel report on life extension options, and I appreciate your efforts to elicit the lab directors' views on that report. And I believe it would be very helpful to have an opportunity to explore the differences between the JASON Panel and the lab directors in a classified briefing.

And so yesterday, I asked Secretary D'Agostino if he would help arrange a meeting of subcommittee members with the lab directors and the JASON study leaders, and he has agreed, and we appreciate that. And we have also consulted with the chairman of the JASON and he also welcomes the opportunity so I expect that, in very short order, we will have a chance to explore these issues in full detail.

Mr. TURNER. Mr. Chairman, if I could, just one note on that. I think the lab directors and the JASON report on the classified area are probably in agreement. It is the issue of the declassified version and, perhaps, out of our hearing if we have a classified hearing, something on the unclassified side could come out that might be even more helpful to clarify it.

Mr. LANGEVIN. I am sure we could do both of those.

With that, I know that we have received a prepared statement for each of our witnesses, and these will be entered into the record. So, if you could, please summarize the key points so that we will have plenty of time for questions and answers, and we will begin with Secretary D'Agostino. Welcome.

STATEMENT OF HON. THOMAS P. D'AGOSTINO, UNDER SECRETARY FOR NUCLEAR SECURITY AND ADMINISTRATOR, NATIONAL NUCLEAR SECURITY ADMINISTRATION, U.S. DEPARTMENT OF ENERGY

Secretary D'AGOSTINO. Thank you, Mr. Chairman, and members of the subcommittee. I am pleased to be here today before you to discuss the Department of Energy's Fiscal Year 2011 budget request for the National Nuclear Security Administration.

Last year when I appeared before the subcommittee, the focus of my testimony was the continuing transformation of an old Cold War outdated nuclear weapons complex and shifting it into a 21st-century Nuclear Security Enterprise in our initial efforts in implementing the President's nuclear security agenda. Since that time, we have defined a portfolio of programs to carry out the nuclear security agenda. Our budget request, as you have noted, is $11.2 billion, an increase of more than 13 percent from last year.

In developing this portfolio, Secretary Chu and I worked very closely with Secretary Gates to ensure that we remained focused on meeting Department of Defense requirements. Within our overall funding request, Weapons Activities account increases nearly 10 percent to a level of $7 billion; Defense Nuclear Nonproliferation increases nearly 26 percent to $2.7 billion; and Naval Reactors increases more than 13 percent to a level of $1.1 billion. Our request can be summarized in four components that collectively ensure we

can implement the President's direction outlined in his April 2009 Prague speech and reinforced during his State of the Union address.

First, our request describes NNSA's crucial role in implementing the President's nuclear security agenda, including his call to secure all vulnerable nuclear material around the world in four years. A $2.7 billion request for nonproliferation programs includes key programs directly linked to the President's agenda, including nearly $560 million for the Global Threat Reduction Initiative to secure all vulnerable nuclear material at civilian sites worldwide; over $1 billion for a Fissile Material Disposition program to permanently eliminate 68 metric tons of surplus weapons-grade plutonium and more than 200 metric tons of surplus highly enriched uranium; and over $350 million for Nonproliferation and Verification Research and Development programs, to provide technical support for arms control and for nonproliferation.

The second component is our investment in the tools and capabilities required to effectively manage the stockpile. Based on preliminary analysis of the draft Nuclear Posture Review, we in the Department of Defense concluded that maintaining the safety, security, and effectiveness of the enduring nuclear deterrent requires increased investments to strengthen an aging physical infrastructure and sustain a depleted technical human capital base.

Our request includes more than $7 billion to ensure the capabilities required to complete ongoing weapons Life Extension Programs, to strengthen the science, technology and engineering base, to reinvest in the scientists, technicians and engineers who carry out the NNSA missions.

These activities are consistent with the Stockpile Management Program responsibilities outlined in the Fiscal Year 2010 National Defense Authorization Act that you mentioned earlier.

In previous testimony, I have discussed the challenges facing the Stockpile Stewardship Program and how to make effective use of the program's full suite of science-based tools and capabilities, and I am pleased to report that there has been excellent progress. Each day, we are coming closer to realizing the promise of the National Ignition Facility (NIF) at the Lawrence Livermore Lab for stewardship. The scientists at NIF have already completed an important series of experiments that have provided critical validations of advanced modeling used in weapons assessments in a very relevant regime.

National Ignition Facilities produced over one megajoule of laser energy, more than 30 times the energy available at the OMEGA laser and the community completed key ignition preparatory experiments at NIF and OMEGA. This program is on track for the first experiments on thermonuclear ignition later this year.

The Z facility at Sandia continues to provide the state-of-the-art materials data; for example, the equation state of a material for advanced safety methods was measured at pressures 10 times those previously possible. The Z facility also increases its x-ray output by 50 percent to a level essential for weapons component certification.

The Dual Axis Radiographic Hydrodynamic Testing Facility, or DARHT facility, at Los Alamos successfully conducted its first full hydrodynamic test that included multipulse and multiaxis radiog-

raphy and delivered results of exceptional quality. This is an incredible achievement by the laboratory.

Operations at these key science facilities will provide the critical high energy density physics materials measurement data that we need to enhance and strengthen our science-based certification approaches in order to maintain our deterrent.

While we are very pleased with the contributions of the above noted facilities, as Vice President Biden highlighted in his speech, we need to continue to invest in modern sustainable infrastructure that supports the full range of NNSA's mission—not just Stockpile Stewardship. He stated that "this investment is not only consistent with our nonproliferation agenda; it is essential to it." And, there is an emerging bipartisan consensus that now is the time to make these investments to provide the foundation for future U.S. security, as noted by Senator Sam Nunn and Secretaries George Schultz, Henry Kissinger and William Perry last January.

This leads me to the third component: our investment in recapitalizing our nuclear infrastructure and deterrent capability into a 21st-century Nuclear Security Enterprise.

As the Vice President also stated last month, "some of the facilities we used to handle uranium and plutonium date back to the days when the world's great powers were led by Truman, Churchill and Stalin. The signs of age and decay are becoming more and more apparent every day."

The request includes specific funds to continue the design of the Uranium Processing Facility (UPF) at our Y–12 plant, and the construction of the Chemistry and Metallurgy Research Replacement (CMRR) facility at Los Alamos.

The Naval Reactors request includes funds to address the *Ohio*-class replacement, including new reactor plant and our need to refuel one of our land-based prototypes to provide the platform to demonstrate the manufacturability of the *Ohio* replacement core and realistically test systems and components.

Mr. Chairman, investing now in a modern sustainable Nuclear Security Enterprise is the right thing to do. The investment will support the full range of nuclear security missions, including stockpile stewardship, nonproliferation, arms control and treaty verification, nuclear counterterrorism, nuclear forensics, and naval nuclear propulsion—all of these things together to beef up and support our security.

Finally and lastly, the fourth component, one that ties all our missions together, is our commitment to aggressive management reform across the NNSA. With the increased resources provided by Congress comes increased responsibility on our part to be effective stewards of taxpayers' money and to ensure that the NNSA is an efficient and cost-effective enterprise. We take this responsibility very seriously. We initiated a Zero-Based Security Review to implement greater efficiencies and to drive down these costs while sustaining highly effective security capabilities.

Our supply chain management center has already saved taxpayers more than $130 million, largely through e-sourcing and strategic sourcing.

Finally, I and the entire NNSA leadership team stress performance and financial accountability at all levels of our organization

for our operations. In 2009, our programs met or exceeded 95 percent of their performance objectives and, as we continue to reduce the percentage of carryover, uncosted, uncommitted balances in several of our nonproliferation programs.

And I will be glad to go into the detail during the question and answer.

Investments made to date in the Nuclear Security Enterprise are providing the tools to address a broad array of nuclear security challenges. However, we must continue to cultivate the talents of our people to use those tools effectively, as our highly dedicated workforce is really, in the end, the key to our success. Thank you, Mr. Chairman. I would be pleased to respond to your questions.

[The prepared statement of Secretary D'Agostino can be found in the Appendix on page 42.]

Mr. LANGEVIN. Mr. Secretary, thank you very much for your testimony. And Secretary Triay, the floor is yours.

STATEMENT OF HON. INÉS R. TRIAY, PH.D., ASSISTANT SECRETARY FOR ENVIRONMENTAL MANAGEMENT, U.S. DEPARTMENT OF ENERGY

Secretary TRIAY. Good afternoon, Chairman Langevin, Ranking Member Turner and members of the subcommittee. I am pleased to be here today and to address your questions regarding the Office of Environmental Management's fiscal year 2011 budget request.

The Office of Environmental Management's mission is to complete the legacy environmental cleanup left by the Cold War in a safe, secure, and compliant manner. I am very pleased that we were able to present to Congress a budget that positions the program to be fully compliant with our regulatory commitments and supports reducing the risks associated with one of our highest environmental risk activities, highly radioactive waste in underground tanks, as well as achieve footprint reduction across the legacy cleanup complex. My goal remains to complete quality cleanup work safely, on schedule, and within costs in order to deliver demonstrated value to the American taxpayer.

Environmental Management cleanup objectives will continue to be advanced in fiscal year 2011 by the infusion of the $6 billion from the American Recovery and Reinvestment Act of 2009. Through January 2010, the Office of Environmental Management had obligated $5.7 billion and, as of March 15, we have spent $1.55 billion, leading to thousands of jobs created and/or saved at our sites.

In fiscal year 2011, the Office of Environmental Management will continue to draw on the $6 billion of Recovery Act funds to advance key cleanup goals. Recovery Act funds allow the Office of Environmental Management to meet all of our regulatory compliance requirements in fiscal year 2011. This funding has allowed the Office of Environmental Management to leverage base program dollars enabling the reduction of our operating footprint from 900 square miles to approximately 540 square miles by the end of fiscal year 2011. This is a 40-percent reduction, which will position the program to advance forward the ultimate goal of 90-percent reduction by the end of fiscal year 2015.

We are also able to accelerate the legacy cleanup at Brookhaven National Laboratory and the Separations Process Research Unit in New York, and Stanford Linear Accelerator Center in California into fiscal year 2011 with Recovery Act funding.

This budget request strikes a balance between maintaining support for the Office of Environmental Management's core commitments and programs while strengthening investments in activities needed to ensure the long-term success of our cleanup mission. The budget request significantly increases the Office of Environmental Management investment in science and technology (S&T) areas that are critical to our long-term success.

Specifically, this request targets $60 million in funding to Hanford's Office of River Protection to use in developing and deploying new technologies for treating tank waste. This funding is needed to address near-term technical risks that have been identified, but is also needed to leverage and bring forward new technologies that could help us reduce the life-cycle costs and schedule for cleanup of these wastes.

The Office of Environmental Management will also continue to strengthen and deploy groundwater and decontamination and decommission in cleanup technologies. Specifically, we 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 cleanup and closure activities. This tool will also help us better estimate cleanup time and costs and reduce uncertainties.

The request also provides an additional $50 million to accelerate the Waste Treatment and Immobilization Plant (WTP) in Hanford, boosting the budget for the plan to $740 million in fiscal year 2011. The additional funding will be used to accelerate completion of the design for the Waste Treatment and Immobilization Plant. Prior to design completion, it is critical that technical issues are addressed and incorporated in a timely manner. Our intent is to mitigate these risks early and get the design matured to 90 or 100 percent.

The fiscal year 2011 request makes a significant investment in the decontamination and decommissioning of the Portsmouth Gaseous Diffusion Plant located in Ohio. This investment enables the Office of Environmental Management to accelerate the cleanup of the Portsmouth site to 15 to 20 years, leading to a significant reduction in the duration and cost of the cleanup.

Now that I have given an overview of our fiscal year budget request, I would like to take a few moments to discuss some of the areas I will be focusing on as the program moves forward. The Office of Environmental Management continues to adhere to a "Safety First" culture that integrates environment, safety, and health requirements and controls into all work activities. Our first priority continues to be the health and safety of our employees and the communities surrounding our cleanup sites. It is my duty to ensure that our workers go home as healthy and fit as they came to work.

Under my leadership, my program has embarked upon a journey to excellence. We have developed a new business model which provides a solid management base for the Office of Environmental Management to become an excellent high-performing organization.

This implementation is key to performing our cleanup mission effectively and efficiently.

A key component in this process is the alignment and understanding of headquarters and field operational roles and responsibilities. Toward that end, our management's attention will continue to focus on improving project performance, aligning project and contract management, streamlining the acquisition process, and continuing our very strong performance in awarding cleanup work to small businesses. We will continue to conduct construction project reviews. These reviews examine all aspects of a construction project, including project management, technology, and engineering. These reviews assess the progress of each of our major projects and determine their overall health and ability to meet costs and scheduled goals. These reviews are scheduled approximately every six to nine months and are conducted to provide the Office of Environmental Management leadership the ability to proactively reduce project risk so that the issues and solutions can be identified early, rather than reacted to once problems are realized.

With these improvements, we are confident that the Environmental Management program can succeed in its mission. Chairman Langevin, Ranking Member Turner and members of the subcommittee, I look forward to addressing your questions.

Mr. LANGEVIN. Thank you, Secretary Triay.

[The prepared statement of Secretary Triay can be found in the Appendix on page 88.]

Mr. LANGEVIN. Chairman Winokur, the floor is yours.

STATEMENT OF HON. PETER S. WINOKUR, PH.D., CHAIRMAN, DEFENSE NUCLEAR FACILITIES SAFETY BOARD

Dr. WINOKUR. Thank you, Mr. Chairman, and members of the subcommittee. This is a period of significant transition for the Department of Energy which is accompanied by billions in construction projects and a huge portfolio of Recovery Act work. The Board believes it is prudent to proactively address safety issues at DOE's defense nuclear facilities to ward off threats to public health and safety and to resolve safety concerns early in the design process.

Our agency was established by Congress in 1988 to provide nuclear safety oversight for the defense nuclear facilities operated by DOE and, now, NNSA. We analyze facility consistent designs, operations, practices, and events with an eye toward ensuring that safety-related controls are identified and implemented.

We also carefully evaluate the directives that govern work by DOE and NNSA. We provide our findings to DOE and NNSA so they can take the actions that are needed to ensure that public health and safety, including worker safety, are protected adequately. The Board evaluates DOE and NNSA's activities in the context of Integrated Safety Management. When properly implemented at all levels, Integrated Safety Management results in facility designs that efficiently address hazards, operating procedures that are safe and productive, and feedback that drives continuous improvement in both safety and efficiency.

The Board safety oversight targets several broad safety issues. To begin with, the Board puts a great deal of effort into ensuring that DOE preserves and continually improves its safety directives.

The Board constantly emphasizes that nuclear hazards are different and demand a safety strategy that is based on defense and depth, redundancy, technical competence and research and development (R&D). There are no shortcuts to nuclear safety. The Board strives to ensure that DOE considers safety early in the design of new defense nuclear facilities. DOE and NNSA are designing and building facilities with a total project cost of more than $20 billion.

I cannot overstate how important it is to integrate safety into the design of these facilities at an early stage. Failing to do this will lead to surprises and costly changes late in the process.

The Board is committed to the early resolution of safety issues with DOE. In that regard, the Board provides quarterly reports to Congress on the status of significant unresolved technical differences between the Board and DOE on issues concerning the design and construction of DOE's defense nuclear facilities. The Board is continuing to urge NNSA to replace unsound facilities and invest in infrastructure for the future. The 9212 Complex at Y–12 and the Chemistry and Metallurgy Research building at Los Alamos are both well-overdue for replacement. At NNSA's newer facilities—and by "newer," I mean facilities that are 10 to 30 years old, as opposed to 50 to 60 years old—need upgrades to make sure they will remain safe and reliable.

The Board is working to ensure that DOE and NNSA safely manage their large inventory of nuclear materials. The H–Canyon at the Savannah River Site is DOE's preferred disposition path for many materials that have been declared excess to national security needs and it has operated safely for many years. DOE will need to maintain it well and carefully consider how long it can operate safely.

The Board is paying close attention as both DOE and NNSA reevaluate their roles in overseeing the work of their contractors. In January, NNSA began a six-month moratorium on its reviews that is intended to free up resources to mission work while NNSA develops a new approach to oversight that emphasizes self-assurance by its contractors.

Last week, DOE issued a safety and security reform plan that will redefine the extent to which the DOE's Office of Health, Safety, and Security exercises independent oversight of DOE and NNSA. The Board plans to hold a public meeting on Federal safety oversight for defense nuclear facilities later this spring, at which it expects to thoroughly address these reform initiatives.

Finally, Federal sponsorship of research analysis and testing at nuclear safety technologies is an important component of Federal safety oversight. The Board is continuing to emphasize the need for DOE and NNSA to lead an organized effort in R&D for nuclear safety.

This ends my statement. I will be happy to answer any questions you have.

Mr. LANGEVIN. Thank you, Dr. Winokur, and all of you for your testimony.

[The prepared statement of Dr. Winokur can be found in the Appendix on page 96.]

Mr. LANGEVIN. Let me begin with Secretary D'Agostino on a couple of things. First of all, Secretary, while the President has yet to

finalize the Nuclear Posture Review, the NNSA's budget contains numerous program budget initiatives that are based on a draft of the posture review. So my question is, are you confident that these initiatives will continue to be valid when the final NPR is released? For example, press reports indicate the discussion about the continued requirement of forward-based nuclear weapons in Europe. How would a decision to reduce or eliminate these weapons affect, for example, the B61 Life Extension Program.

Secretary D'AGOSTINO. I thank you, Mr. Chairman. I am very confident, 100-percent confident that the proposal of the President that the Administration and I have before you, sir, is very consistent with the Nuclear Posture Review, based on a couple of pieces of information; one, of course, the Department of Energy and I personally have been involved in the drafting of this document going through the various decision points and looking for that common ground—those pieces, if you will, that will have to be done regardless of maybe a final policy decision on a specific area or not.

Specifically, your question on the B61 in Europe, the one thing that we have come out with is that there will be a triad and an element of that, of course, is an air-delivered warhead. The numbers, of course, will come out as part of the Nuclear Posture Review but while I won't, I can't comment specifically on the Europe question right now, I can't do that publicly, what I can say is we know that the future stockpile will have a bomb in it. We know the B61 is essentially the bomb that we have in the U.S. arsenal that will satisfy the requirements for the triad, and we know for a fact that the B61 bomb is in dire need of life extension.

And so, regardless of the specifics of warheads in Europe that we are still going to need to work on that bomb, it has got old radars, it has got security features and safety features that can and should be upgraded, and it needs a significant amount of work. So, in essence, to summarize I am very comfortable with where we are with the President's budget request; it is totally consistent with the draft NPR that I have been working on and the final stages of the NPR that we have been reviewing. In fact, even today as we get close to release on the review.

Mr. LANGEVIN. Very good, thank you. On another matter that may or may not be included in the NPR is the limit on the options for managing the stockpile. If the President decides to preclude replacement options for managing the stockpile, can NNSA continue to ensure the safety, security, and reliability of the stockpile?

Secretary D'AGOSTINO. The answer is, we will; our primary goal is the safety, security, and reliability of the stockpile. Eliminating options on how to do that, that might put us in a space, in an area, that will make it more difficult to meet the tenets of the Stockpile Management Program. But the key message in our discussions within the Administration is that basic tenets and principles of the Stockpile Management Plan put out by the National Defense Authorization Act are guiding principles for managing the stockpile. The NPR will talk about the specific point that you bring up on replacement, but we still need to work on the security upgrades.

And we can do pieces of it without it, but we can't go all the way. So it is a matter of degree. The specific degree on what else replacement gets you can't be discussed publicly, but we would be

happy to provide a classified response or discuss it in classified session with you, possibly at the JASON meeting that you had referenced earlier, Mr. Chairman.

Mr. LANGEVIN. You are confident that when the NPR comes out the definitions of what management is and such will be fully defined and discussed in the report?

Secretary D'AGOSTINO. I am confident that in the versions that I have been working on that we want to make sure that this question of how far we can go is put out there, is made clear. I think risk management is a term that we use a lot in the program management business, is allowing you to do a next step buys down so much risk in a particular area.

So there is really, it is a program management question in many respects, allowing the program to move this far down track takes away this risk, and the question is, is it worth it? But, given where we are right now, our main focus ultimately is to fully implement the principles of the Stockpile Management Program, that the MDA has laid out, and that is essentially a drumbeat and theme that we want to use and have been using internally, and we will be using this externally as we go out and talk about the NPR as it is ready.

Mr. LANGEVIN. Thank you for that.

Secretary Triay, your testimony reminds us that we have a national debt of between $190 and $250 billion yet to be paid to clean up the legacy of the Cold War-era nuclear activities, including weapons production. Could we harness the increased momentum created by the stimulus funding provided last year to help you pay down this debt more quickly and at a lower cost than would otherwise be the case? And second, are you making efforts to retain employees hired and trained to do the specialized cleanup work after the stimulus projects are completed?

Secretary TRIAY. Thank you, Mr. Chairman. I believe that with respect to the progress that we are making, the fact that we are going to be able to reduce the operational footprint of the Environmental Management program by 40 percent by 2011 is testimony to the fact that the maintenance costs that we have to spend in order to open the doors of the Environmental Management complex every morning can indeed be addressed by getting to economies of scale that have been possible by the Recovery Act.

The Recovery Act consists of footprint reduction and, in particular, transuranic weight disposition, low-level waste disposition, soil and groundwater remediation, and excess facilities, decontamination and decommissioning. In particular, I would like to highlight that we are going to be completing the legacy cleanup at three facilities in the complex, that we are going to dramatically decrease the operational footprint in the Environmental Management complex that our National Defense Authorization Act update for the first time is going to be delineating a reduction of the life-cycle costs as a result of the investment on Recovery Act, that a reduction is going to be on the order of $4 billion on the life-cycle cost and an additional cost avoidance that gets reflected in the environmental liability of the Federal Government.

I am convinced that the productivity that one can attain by the investment of the moneys in the Recovery Act are going to be evi-

dent as we move forward in the cleanup delineated by the activities in the Recovery Act. One point that I would like to also highlight is that we had reported to Congress in the Environmental Management program the level funding was going to then take us to the year 2017 before we could start dealing with some of the excess facilities declared by other program offices such as NNSA and Science and Nuclear Energy Program Office, and the facilities, the amount of facilities that are not even today in the Environmental Management portfolio are on the order of 290 facilities. And, right now, because of the Recovery Act, we are going to be able to address 55 of those facilities and clean out six of the facilities right now by 2011.

Mr. LANGEVIN. Thank you. And just going back also to the workforce retention, are you making efforts to retain employees hired and trained to do this kind of specialized work after these stimulus projects are completed?

Secretary TRIAY. What we are doing is working very closely with the Department of Labor as well as other parts of the Administration to ensure that we have a transition plan for those workers that have been trained in the nuclear field as a result of the Recovery Act funds. We think that, number one, the Environmental Management program, with its aging workforce, definitely could use some of that talent after 2011, after some of our workers retire from the system as a national progression of the work that we have been doing in the Environmental Management complex. But in addition to that, we are going to work across the Department and across the Administration to ensure that we have a path forward for the transition of those workers.

We have some experience in doing that. The Legacy Management program in the Department of Energy has designated a clear path forward for the cleanups that we have completed, such as the cleanup at Rocky Flats, Fernald and Mound, and we think that we have engaged those transitions in a very effective way and we intend to do the same for the Recovery Act.

Mr. LANGEVIN. Very good, Secretary. Thank you.

Chairman Winokur. I turn to you. Tell me, in short, what keeps you up at night? What is the most troubling safety issue facing the Department and its oversight operation and construction of defense nuclear facilities right now?

Dr. WINOKUR. I would put my concerns in two broad categories. On the first category is facilities and clearly the Department is engaged in $20 billion worth of design and construction of new defense nuclear facilities. This includes the Waste Treatment Plant at Hanford, Salt Waste Processing Facility at Savannah River, the Chemistry and Metallurgy Research Replacement facility at Los Alamos, and the Uranium Processing Facility at Y–12. And the Board is very actively engaged in being sure that safety is integrated into these projects at the earliest possible stage. This hopefully reduces costs and maintains schedule.

The second part of the facilities I worry about is we do have unsound facilities in the complex. We have an unsound facility at Y–12, 9212, as well as the CMR facility at Los Alamos.

And finally, if I had to talk on the facilities about the one facility that I have the most concern—and I have a concern about it be-

cause it is so important to the Nation—it is the plutonium facility at Los Alamos. That is the facility that deals with plutonium. It is a dangerous material. It deals with weapons-grade and heat-source plutonium and the Board recently wrote a recommendation on seismic safety at that facility.

That is one category of concerns I have. The other category of concerns I have is about DOE's regulatory reform activities. The Department of Energy in this Administration is very actively involved in the reform of its directives. It is very actively involved in the reform of its oversight approaches and initiatives and, as always, the Board is very focused on making sure that Integrated Safety Management, which is key to the safe operation of these facilities, protection of the workers and the public, that that is constantly being reinvigorated so that we have the foundation in which to ensure safety.

Mr. LANGEVIN. Thank you for that answer. I know they place a great deal of premium on safety at all of our facilities. There can always be room for improvement, a lot of work to do, obviously. I will say, I just went out to Los Alamos and, just to show my degree of confidence in the safety and security there, I went there on Friday the 13th for my visit.

Let me, if I could, on the issue of facilities, could you describe for the committee your advice to the Secretary of Energy ensuring that these facilities could safely achieve their missions without busting the DOE budget?

Dr. WINOKUR. Well, I think that the Board is not in a position, very often, to actually look at the economic impacts of the actions it asks the Department to take. But I do think the Board, in its statute, is very sensitive to the economic feasibility of what it wants the Department to do.

And I think that, for example, in Los Alamos, we recently wrote a recommendation to the Secretary of Energy, and the Board hopes that—by the way, the Secretary accepted that recommendation—and when the Board looks at the implementation plan, we do believe that it is going to require upgrades to that facility that will cost enough money to get your attention. And I am sure that will be a problem or a concern of the Administrator and the Secretary of Energy. But certainly the Board does not move in the direction of suggesting we need a new pit production facility.

The Board also tries to manage costs, as I told you, by making sure that we integrate safety very early into the design process. And that is a key approach that we take to make sure that costs remain under control because if you have to retrofit, that is very costly.

And the final thing I would say is that the Board is very pragmatic in its approaches at times. We had a situation once again, at Los Alamos—I don't mean to pick on them—but we did have drums in a specific area that the Board felt were a threat to the public. The Board agreed with the Department that we should process those drums which were intended to go to the Waste Isolation Pilot Plant (WIPP) facility at a facility that really wasn't qualified to handle Hazard Category 2 facility materials, but the Board still felt that it was the most effective approach to protect public health and safety, and most expedient way to do it, and we were

mindful, once again, of the economic feasibility of suggesting, perhaps, that a whole new facility be built to handle that waste.

So I don't think we could do well at estimating costs of things, but I think the Board is very concerned about economic feasibility.

Mr. LANGEVIN. Thank you. Your insights into that is very helpful in terms of the guidance that you are giving. Thank you all for your testimony. I have further questions that we will probably submit for the record. I am going to turn to the ranking member for questions. They have called a vote and there are five in this series so I will go with the ranking member's questions and then we will recess and we will ask for your indulgence and we will be back in short order to continue the hearing.

The ranking member is recognized.

Mr. TURNER. Thank you, Mr. Chairman. As you have heard in my comments, we are all excited to see the 13-percent increase in this year's budget for NNSA with the additional $624 million for Weapons Activities, a 10-percent increase, and $550 million for Nuclear Nonproliferation, of 26 percent. In my comments, Mr. D'Agostino, I commended you for being an outspoken advocate for funding for the agency. And, of course, while we celebrate this year, the issue that we are all concerned with is the out-years, the needs that are going to be coming forward, including those for key construction projects. And I wondered if you might speak again to us about the issue of what you see in the future and the needs in the future recognizing that this is not just a one-year infusion of capital that is going to address the issues that you have outlined so well for us.

Secretary D'AGOSTINO. Thank you, Mr. Turner. I would be glad to. These are multiyear programs. Everything we do, most of the items we do take more than one year to accomplish. As Chairman Winokur pointed out, nuclear safety is critically important, upgrading these facilities is important. As I mentioned in my opening remarks, the workforce has to understand that the Nation considers this important for its security. That is why the Nuclear Posture Review will help on that.

So these are all multiyear activities. It is not even just a five-year, we submit a five-year look ahead to the committee.

But frankly, we plan out well beyond that. We plan out in the 10-year horizon, 10- to 15-year horizon space whether we are dealing with the warheads themselves or the infrastructure that needs to be upgraded.

So I am keenly focused on making sure that it is not just fiscal year 2011 looks well, or even fiscal year 2012 looks well; that fiscal year 2016 is understood when we develop our next year's budget, that we have the resources in place in fiscal year 2016.

So, in fact, as we start working on the Uranium Processing Facility and the CMRR facility, replacement facility designs over the next couple of years with the Board—because the Board's input is very important early on—we expect the resource requirements in the out-years, fiscal years 2016, 2017 and 2018, to be fairly significant, particularly on the recapitalization space.

One of the commitments we have in the Department to ensure that we get into effective management of these out-year resources, Deputy Secretary Poneman recently issued new project manage-

ment policies to make sure that we get ourselves off the Government Accountability Office (GAO) high-risk list, for one, but more importantly that we become effective stewards of the taxpayer dollars. And some elements of that policy include doing, particularly for complicated facilities, getting 90 percent of the design work under your belt before we go off and commit to what a facility will cost, what its schedule will be and what the scope of the facility will be.

In the past, we haven't done that and we end up finding ourselves not fully understanding what is required. So these are some of the changes that we will be putting in place. But that out-year commitment is vital to these programs whether we are talking about the stockpile, or whether we are talking about the science or whether we are talking about the infrastructure.

Mr. TURNER. Well, in turning to the issue of the stockpile, the Stockpile Management Program and the Life Extension Programs, I wish, if you would, speak for a moment on the issue of lessening the expectation that for life extension it also could have been solved by just one year of infusion, that this life extension Stockpile Management Program is going to be ongoing, that it represents a continuing need and, really, the seriousness of, this is not discretionary, this is something that we need to address absolutely.

Secretary D'AGOSTINO. Certainly. One thing we are very clear on: we do have many years, a decade and a half, under our belt with stockpile stewardship and we have been watching the stockpile for a long period of time, and we do know that weapons age, components change over time. Not surprisingly, they are in a radiation environment, for example, that we should see that. But every five years or so we see something significant happen in the stockpile, and we have to address it. And we have been fortunate to be able to address it by changing margins or working with the Defense Department to changing our military capabilities. What that says is, we have to be prepared to take care of something we don't fully understand, exactly, today. And so that means support for the stockpile itself is not just about seeing that set of numbers and increases in years 2012, 2013, 2014, and 2015, but it is also seeing that the experimental work that happens in the Science Campaigns and Engineering Campaigns continues out as well.

Mr. TURNER. You heard my comments concerning the JASON report and the concerns that the declassified portion versus the classified portion might have downplayed some of the risks and that, you know, in asking the lab directors, they provided us greater clarification of their view of the report. I wondered if you would provide us your thoughts on the unclassified version and the classified version of the JASON report.

Secretary D'AGOSTINO. I think the unclassified version understates the challenges and the risks associated with maintaining the stockpile that is more fully described in the classified section of the report. I don't know why we have that difference, but we do. But I do think it understates the risks.

But the unclassified version talks about today's stockpile. That we can maintain today's stockpile today. And the concern I have is not just what is happening today but what is happening out into the future. And since we have—we have this understanding that

we have problems come up from time to time that, fortunately, we have been able to address. What we do know is that we just can't maintain things today like we used to in the past because we can't make things like we used to in the past. In fact, there are many product lines that we used to make our current stockpile that we don't have fully up and operating, and it would be kind of crazy to go out and try to rebuild that capability.

So, in essence, I would look at this as dealing with the problems of our stockpile, using—essentially, we have used up the margins and capabilities there and in just using, I would say, refurbishment approaches. And now we know we have to look at other ways to maintain the stockpile.

So the challenges are much more significant than I believe the unclassified report appears to state.

Mr. TURNER. Dr. Triay, I want to thank you again for your dedication on the environmental remediation programs. It makes such a difference. Obviously we have to live up to the obligation of what the Government has left behind. Doing that in a way that is sensitive for economic development potential for communities and ensuring that we are leaving behind something that is not a threat in the future.

Your program received a significant amount of stimulus funds. I know that you spoke of the stimulus funds and your need for assuring accountability whenever you have a large amount of dollars that are provided to you all at once. And they have to be appropriately allocated to projects that can move forward now and also that are of the highest need. I appreciate, of course, that Mound was a recipient of those. Can you speak about those? We have about a minute. Then we are going to have to run to vote, but I would appreciate that.

Secretary TRIAY. I think that the Mound cleanup is an example of how we need to press forward with the rest of the EM portfolio. Number one, a joint vision between the community, the regulators, and the Department of what is the end state of the cleanup, and we need to get there as soon as possible in the cleanup.

Number two, the fact that we have a responsibility to work with the community so that these resources that we are turning into assets as a result of the cleanup enter into the vision of the community for their economic future.

I believe that we have done that at Mound and, in particular, I believe that the issues associated with what is the vision of the community with respect to these resources that we are giving back to them as a result of the cleanup, almost serves as a blueprint of the type of requirements as well as criteria that we need to have in order to move forward with a beneficial reuse of the assets that we are giving back to the community.

Mr. TURNER. Thank you so much.

Thank you, Mr. Chairman.

Mr. LANGEVIN. I thank the Ranking Member.

And again, we will go for this series of votes, and we will be back shortly to continue the hearing. I thank you. The committee stands in recess.

[Recess.]

Mr. LANGEVIN. The hearing will now come to order. I thank the witnesses for your patience.

And Mr. Heinrich of New Mexico is now recognized for five minutes.

Mr. HEINRICH. Thank you, Mr. Chairman.

And thank you all for being here today.

I will start out with you, Secretary D'Agostino, and preface my comments with what the Perry-Schlesinger report said about America's strategic posture when it pointed out the need to formally designate our nuclear weapons labs as national security laboratories based on their unparalleled R&D capabilities and expertise in science and technology.

I believe the vast amount of work for others done at the labs, especially at some of the labs, is really a testament to the recognition by other agencies, like the Intelligence Community, the Department of Defense, the Department of Homeland Security, that the labs possess state-of-the-art resources and must continue to be robustly funded to meet new and existing challenges.

Among the many areas in the fiscal year 2011 NNSA budget that I am pleased with is the new account, the Science, Technology, and Engineering Capability, or STEC program, which is funded at $20 million in fiscal year 2011. I want to ask if you can explain specifically what this funding will allow our labs to accomplish, and how do you envision this program operating in the out-years?

Secretary D'AGOSTINO. Thank you, Mr. Heinrich, absolutely.

We started this line, frankly, following—there was a $30 million supplemental in prior years to focus on maintaining a capability, particularly focus on the intelligence area. Because as you know, sir, these scientists and engineers at our laboratories, their expertise that we have fostered over decades in supporting the nuclear deterrent is exactly the exact same expertise that is needed to assess what other countries are doing, what other non-state actors might be doing. And we appreciate the supplemental in, I think it was the 2009 supplemental, of $30 million.

So this request in fiscal year 2011 is essentially an extension of that, as item one. But actually looking for opportunities to expand the types of work for others, I call them, strategic partnership agreements with other Federal agencies.

I can give you some examples. One is we have an agreement with the Defense Department called the Joint Munitions Agreement, which is focused on high explosives. It is work that is done at Sandia, Los Alamos, and Livermore, and working with the Defense Department together, they set some resources aside and we set some resources aside to do that. That is one area.

Another area is, again, with the Intelligence Community, to continue on that partnership with the Intelligence Community. And we met with Director Denny Blair a number of times. Secretary Chu and I have met with Director Blair so that we are working together kind of on that front.

And finally, the third area is in the nuclear counterterrorism space with the Defense Threat Reduction Agency. So it will be some combination of work, nuclear counterterrorism, intelligence and, possibly, work with the Department of Homeland Security in

the aviation security arena to address challenges that we face in aviation security and to make sure that we understand that.

The key for us, ultimately, is to try to align within the Federal Government what we know other departments are going to need from us strategically in S&T space, see where they cross the Department of Energy's needs, and then use those resources to operate where those two circles overlap. And there is some great opportunity there, and we are excited about this line as well.

Mr. HEINRICH. Excellent. I don't need to rehash with you the reasons why NNSA was created by Congress in 1999. But among them was an effort to provide a level of autonomy that would allow for flexibility and operation within the labs. Do you feel that the NNSA is beginning to achieve the level the autonomy that I believe the original NNSA act intended?

Secretary D'AGOSTINO. Well, it is hard—to go back to the original intentions. I would look at it—there has been an evolution, at least from what I have seen from my perch within the Department. We have been able to achieve significant autonomy in the area of human capital management, and it has allowed my Director of Management, Mike Kane, who is now working for the Secretary directly in this area. He did such a great job in the NNSA. The Secretary said, 'I need that capability to help me in the rest of the Department,' so he has moved over to help there. But human capital management, in the procurement area, it has allowed us to be much quicker in responding to procurements. We are a bit of a smaller organization, and it has allowed us to move forward there.

As Administrator, I have certain authorities that the NNSA act provided me, with respect to accepting or not accepting what I would say consensus-based directives that have no applicability, necessarily, to the kind of work that we do. I haven't used that a lot but, most recently, we have been able to look at trying to drive reform and taking a look at those orders. Chairman Winokur described some of this earlier, and we are going to be working closely with the Board on these things.

But I believe it has allowed us to move forward fairly aggressively under the rubric of the Administrator. I am satisfied, quite satisfied, with the way that we are working within the Department, and the flexibility I have.

Mr. HEINRICH. Thank you.

Mr. Chairman.

Mr. LANGEVIN. I thank the gentleman.

The ranking member is recognized for five minutes.

Mr. TURNER. Thank you, Mr. Chairman.

NNSA's budget request contains an almost 40-percent reduction in funding for weapons dismantlement and disposition from the fiscal year 2010 level. In light of the significant backlog of retired systems in storage, could you explain why NNSA is reducing funding for dismantlement activities by such a significant percentage in just one fiscal year?

Secretary D'AGOSTINO. Absolutely. There are a couple of reasons, and I will line them up. But it is a combination of events. One is, we did have a plus-up increase in fiscal year 2010 of about $12 million. That doesn't explain the whole amount, but there was a specific increase.

The second increase why we had more money in fiscal year 2010 than we think we need for fiscal year 2011 is the safety and authorization basis work we needed to do our most complex weapons systems dismantlement. Work on the W–84, the B–53, for example, particularly the 53, is taking a long time. And so we feel, by the time fiscal year 2010 is done, we will have finished the authorization basis work, the tooling, the methods and approaches needed to take apart that warhead. By fiscal year 2011, by the time 2011 starts, we will be in the business of actually taking apart that warhead in and of itself.

And the third piece of the difference is the—we had a fairly big ramp-up in fiscal year 2009 and fiscal year 2010 to make a concerted effort to dismantle what we call canned subassemblies or CSAs or secondaries of warheads. This happens in Y–12, and Y–12 undertook a very big push to work off their backlog of the CSAs. In fiscal year 2011, it goes back to what our normal rate was that we submitted in our classified report.

So it is a combination of those three particular things. So, right now, what we have essentially are the tools and the authorization basis process we feel we are going to get done by the time fiscal year 2011 starts. Now it is a matter of cranking out the dismantlement activities themselves.

One thing I might add if I could, each type of warhead is different from a dismantlement standpoint. Some warheads may take only two or three shift works of work to take apart while another warhead may take a full month to do. There are a lot of questions that say, well, that means you are not taking apart as many warheads. And it is very difficult to say, you know, a W–79 is the same thing as a B–53 is the same thing as a W–76. They all have different rates of dismantlement. But the key is not to take them apart fast, but to take them apart safely, and that is job one.

Mr. TURNER. I will turn to the issue of security, I am always concerned, as I stated in my opening statement, that we don't have a margin of error. And I think everyone is very dedicated to this issue. But perhaps you guys could speak on what steps are NNSA and DOE taking to improve and make more consistent the management of protective forces throughout the nuclear security complex?

Secretary D'AGOSTINO. Certainly. From a security standpoint, we are taking a number of steps. The first thing that we have done—not the first thing, one of the things we have done is implemented a process called a Zero-Based Security Review. And that is to make sure that the work that we do, the way we approach security at one site is consistent from an operational and vulnerability assessment standpoint to the security work that is done at another site.

Previously we let each site do their vulnerability assessments, and each site had a different approach. And so what you ended up with, even though each site had the same design basis threat, their approach to security was a little bit different. It was all fine, but it was a different approach. And so we had some inefficiencies there. So the Zero-Based Security Review is actually going to walk us through consistency from a vulnerability assessment standpoint.

The other things we are doing is we are driving commonality in equipment purchases, specifically armor and armored vehicles and the like, the weapons that the security forces use, driving com-

monality there and commonality in training. We learned this, I would say, the hard way in some respects, where we had a strike at one of our sites, and we brought in security forces from other sites. And we spent a significant amount of time training the security forces from the other sites on the different protocols at this one particular site. So now what we are doing is pushing for commonality in uniforms, training, equipment purchases, weapons, and that drives efficiency into the enterprise.

Mr. TURNER. Thank you, Mr. Chairman.

Mr. LANGEVIN. I thank the ranking member. Mr. Larsen is now recognized for five minutes.

Mr. LARSEN. Thank you, Mr. Chairman.

Normally I would make some comments with regards to Environmental Management, but talking with folks from the state and the delegation in regards to Hanford, generally things seem to be moving along fairly quickly. I would just make a note that the—I should say, fairly well, never quickly at Hanford. Fairly well.

But generally, I will just make a note that the work being done at places like Hanford and the cleanup is a legacy that we do need to move forward on. I think last year I called it the America's ultimate toxic asset in the throes of debate here in the committee when they were looking at cutting the EM budget. We managed to restore that. And that is great, and I hope we learned a lesson about the need for a robust EM budget, not just for Hanford but, obviously, for other sites around the country.

Chairman Winokur, I talked to you a little bit ahead of time about this question. I wanted to have you prepared. I visited Y–12 last year with NNSA folks. And I wanted to chat with you about, as they shrink the footprint, what kinds of steps are being done to continue to try to maintain the safety of the workplace, especially in 9212, given the age of it? So how is that working out, and what do you foresee in terms of cost being part of that process? What are your folks looking at with regards to that?

Dr. WINOKUR. As I mentioned before, we characterize the 9212 facility as an unsound facility, and we are in a situation right now where we have this unsound facility, and eventually we are going to build the Uranium Processing Facility so there is this gap, this transitionary period. And the Board is working closely with NNSA and the site, Y–12, to make sure that we understand the risks that we are taking, which eventually it is DOE's decision to continue operations there, not the Board's. But we want to carefully understand the risks associated with operating that facility, which is extremely important.

And right now, at that facility, improvements are being made to reduce the risks. The most important way to do it is to reduce the material at risk, and they have done a pretty good job at that. They have reduced the amount of uranium in safe bottles. And they have other initiatives to improve the electrical systems, ventilation systems, fire suppression at the site. So we do have an active program in place. And I think eventually there is a line item that is coming in to make those additional improvements at that site.

So we are in this situation where the Board is really reviewing the safety of that facility on a yearly basis to ensure itself that that plant should continue to operate. And I can't guarantee you that

it will make the complete transitionary period between its existence today and when UPF comes on line, except to say that the board strongly supports the Uranium Processing Facility because it will really represent a major improvement at the facility and at the site.

Mr. LARSEN. Thanks, I want to give Secretary D'Agostino an opportunity to respond to that if he could.

As well, I want to ask you to shift a little bit here to the Navy nuclear enterprise and discuss the *Ohio*-class replacement reactor in your testimony. Obviously, in the Navy budget, in about 2019, we are going to see, if in fact things go on time, the *Ohio*-class replacement come on, and we have to start spending real money for the replacement. And that is going to potentially, all things being equal, squeeze out other shipbuilding requirements unless we figure out that problem.

Do you have a similar—are we going to see a similar balloon in the Navy nuclear enterprise budget as far as the development of the reactor for the replacement? If you answer that first, and then we can return to the question about Y–12.

Secretary D'AGOSTINO. Certainly. The plan we have right now for the next five years is, as you may be aware, is to do the core design, development, start testing some of these fuel elements in the prototype refurbishment that is happening around the 2017 timeframe. So what we are going to see is a ramp-up in the work that happens in the Naval Reactors budget. The next five years is pretty well understood. We understand where that is going. The year 2016 as well, we have a pretty good understanding of where that is going.

It will likely involve continuing increases in resources. Whether there is a discontinuity, it would be hard for me to say. I would like to take that one for the record and get back to you on that so that you will have the actual data that we expect in the out-years.

[The information referred to was not available at the time of printing.]

Secretary D'AGOSTINO. But clearly, the money that we have right now over the next five years is what we feel is necessary to do the development of the core and to be able to start testing of those components. And we are already doing the material testing and the radiation testing as well.

On the Y–12 part of your question, I agree with the Chairman. We have a facility that, you know, requires a lot of attention. We have compiled a very long list of things that, given unlimited resources, we would like to fix. But we don't have unlimited resources, so we have prioritized that work to things that have to happen most expeditiously to allow us to operate that facility for the next 10 years or so while we continue to work with the Board, certainly, early on to get that design just right for the UPF and transition out.

So, clearly, there is always the tension of, a dollar I spend on the 9212 is a dollar less I can spend on the Uranium Processing Facility. But the most important thing is to do what we need to do to ensure that things that have the highest risk are taken care of in 9212. Because the Nation is going to rely on that facility for the next 10 years, and so it is fairly critical work.

I believe every year we are going to be back and forth with the Board and reexamining those risks because it is a dynamic situation. Something may come up. Heavy rain, what have you. We will make adjustments to that balancing list so we have this MMR project, material risk reduction project, to do that.

Mr. LARSEN. Thank you.

Thank you, Mr. Chairman.

Mr. LANGEVIN. I thank the gentleman.

And before we go to Mr. Heinrich for one last question—he had one additional question that he wanted to ask—I thought, Chairman Winokur, I understand that some of the members of the Defense Nuclear Facility Safety Board are here with us, and I thought this would be a nice opportunity if you would introduce them and say a word or two if possible about each.

Dr. WINOKUR. Thank you.

Let me first introduce Dr. John Mansfield, our resident genius on the board.

Mr. LANGEVIN. Always good to have a resident genius.

Dr. WINOKUR. And I would like to introduce Mr. Joseph Bader, who has a tremendous amount of experience in industry and quite expert in project management.

Mr. LANGEVIN. Thank you for being here.

Dr. WINOKUR. And we have Mr. Larry Brown, who is a former Naval officer, a captain. He is used to running ships, and he is trying to apply the same to the Board.

And we actually have a new member who was confirmed last week, and that is Ms. Jessie Roberson. And she will probably report to duty in a couple of weeks, and her previous experience was she was actually a member of the Board for approximately one year and served in the same position as Secretary Triay. And she has industrial experience.

Mr. LANGEVIN. Outstanding. Thank you for that.

Gentlemen, thank you for the work that you are doing, and we appreciate your outstanding work for the country. Thank you.

With that, I will turn to Mr. Heinrich for a last question.

Mr. HEINRICH. Would you mind if it is two?

Mr. LANGEVIN. Don't push it, Heinrich.

Mr. HEINRICH. Okay. I'll pick one. Secretary D'Agostino, I am very pleased at the direction in funding this year at Sandia in terms of RTBF, the Readiness In Technical Base & Facilities, the direction that it is heading in fiscal year 2011, although it is significantly lower than the levels we saw just a couple of years ago in fiscal year 2009. And I am particularly concerned about the ramifications of that over time with regard to Microsystems and Engineering Sciences Applications (MESA), the Major Environmental Test Facilities, and the need to not fall behind in terms of the recapitalization of that facility to make sure that as the fabrication facility stays up-to-date with industry standards and is able to fully support the next generation of microelectronics for our stockpile systems. Do you share some of those concerns?

Secretary D'AGOSTINO. I do share—I would say, generally, I share concerns on this balance between, you know, making sure we don't fall behind on our recapitalization efforts and maintaining facilities, particularly as we bring new facilities online.

General Harencak, who is here with me, actually, runs defense programs. He and I have talked about deferred maintenance quite a bit. We have talked about the fact that we have had great success, frankly, in our program in recapitalization resources and in the science resources and in the Directed Stockpile Work (DSW) resources, that sometimes we have to make sure—not sometimes, we always have to make sure that we don't forget just taking care of business on a day-to-day basis with our current facilities.

So he actively looks at that, and he is going to be getting back to me in the not-too-distant future, and we are going to talk about, what do we need to do to make sure, particularly since we are in the throes of developing our fiscal year 2012 program and budget right now, on how do we make sure that we don't find ourselves in a situation 10 years from now where we say, well, if I had just taken care of this facility, we wouldn't be in the position that we are in. So that is a constant concern of mine.

Mr. HEINRICH. Mr. Chairman.

Do I get the full five minutes? Okay. Last question.

Secretary Triay, you have heard this one before. But I wanted to ask, what are you doing to meet DOE's responsibility, not just to clean up these legacy sites, but to assess and restore the natural resources that have been damaged at DOE sites around the country? And just to provide some context for folks. That is a statutory responsibility and one that is, I think, more easily met when you do the two together as opposed to in series.

Secretary TRIAY. Thank you very much for that question. I recently met with Secretary Ron Curry just on this particular question. And we thank you for your leadership throughout this process.

I am happy to report that we have made a decision on doing the assessment for damages and that we are going to be in the process of issuing the request for proposal, the system is going to be issuing the request for proposal.

And we will provide the resources for that assessment. In addition to that, as a matter of policy, you and I have discussed, in these venues plus one-on-one, the wisdom of not waiting until after all of the cleanup is completed to start restoring and addressing the damages.

So we are committed to doing that simultaneously—the cleanup as well as the damages, because at the end of the day, we think that that is more cost-effective, plus much more responsible to the concerns that have been expressed at places like Los Alamos.

We are committed to working with you as well as Secretary Curry on pressing forward. And we believe that the State has actually shown a tremendous amount of leadership, and we want to ensure that we take full advantage of that leadership shown by New Mexico.

Mr. HEINRICH. I thank you for your progress on that front. I really do.

Mr. LANGEVIN. I thank the gentleman.

And I am going to take the prerogative of the chair to ask one last question. But before I do, Mr. Larsen had asked for some time, for a few minutes.

Mr. LARSEN. Thank you, Mr. Chairman.

Just a few minutes. Secretary D'Agostino, I wanted to let you know that I will be following up with you and your office with regards to the framework for a memorandum of agreement for interactions between NNSA and the broader national security community, and some of the suggestions that I have been hearing from some folks. So I will follow up with you and your staff on that.

Secretary D'AGOSTINO. Yes, sir.

Mr. LARSEN. Thank you.

Mr. LANGEVIN. I thank the gentleman.

And lastly, for Mr. D'Agostino, last year the JASON scientific panel's review of NNSA Life Extension Program found that the Stockpile Surveillance Program is becoming inadequate. They concluded that, "continued success of stockpile stewardship requires implementation of a revised surveillance program."

So my question is, has the NNSA revised the surveillance program in ways that will ensure the continued success of the Stockpile Stewardship Program? And if so, can you describe them to the committee?

Secretary D'AGOSTINO. The answer is, yes, we have revised it. And the fiscal year 2011 request will allow us to fully implement those plans. And let me describe the plans if I could.

We have made a concerted shift not to just put more money into what we call the Enhanced Surveillance line, which is developing tools for future types of surveillance that we can do, but actually taking apart warheads and collecting a lot of data out of those particular warheads. So that is the additional resources, about $55 million more than we had previously in the fiscal year 2011 request, will allow us to take apart that full sweep of warheads that we were originally planning on doing.

Another element of the revision of the surveillance program is to fully exploit the data that we do have. In many respects, in the past, what was done, it was just of a rote, take apart X number of units per years, gather this information and focus it that way. What we want to do is actually factor in—start focusing where we are looking based on the information we get out of what our codes tell us, what our predictions tell us we should be looking for. That way it is a bit more of a focused surveillance than just kind of a broad surveillance across the board.

The final element of surveillance is trying to take advantage of dismantling nuclear warheads. Obviously, we have an active program of dismantling nuclear warheads, and there are opportunities to fully exploit all of that information that comes out of that, in addition to what we would regularly call a normal surveillance activity, where we take the warhead apart and then put it back together again.

So this fiscal year 2011, fiscal year 2012, fiscal year 2013 program that we have in front of us will address, in my opinion and in the opinion of our experts in defense programs, the core of what the JASONs were talking about. But the key, again, will be sustaining this over time, sustaining that level of focus. Let's not let the resources drift away from the surveillance area like we have done in the past, as we tried to balance things as they got smaller and smaller. So sustaining it over time will be important.

Mr. LANGEVIN. I agree, and I hope that you will allow us to work with you and make sure that you have the tools and resources that you need to continue your work and also the work, particularly, in the surveillance program.

Secretary D'AGOSTINO. Yes, Mr. Chairman. It would be an honor to do that.

Mr. LANGEVIN. Lastly, I want to thank you publicly for accompanying me to my first trip to the labs at Sandia and Los Alamos. It was an eye-opening event and time well spent.

And I deeply appreciate all the work that you are doing there and all the work of the folks at the labs. It is outstanding work and an important national asset, and thank you.

Secretary D'AGOSTINO. Thank you, sir.

Mr. LANGEVIN. If there is nothing else, with that, I want to thank our witnesses for their testimony today. As always, it has been very helpful and enlightening.

And the members may have additional questions that they will submit for the record, and I would ask that you respond to those expeditiously in writing.

With that, thank you again, and the committee stands adjourned.

[Whereupon, at 4:00 p.m., the subcommittee was adjourned.]

A P P E N D I X

MARCH 25, 2010

PREPARED STATEMENTS SUBMITTED FOR THE RECORD

MARCH 25, 2010

Opening Statement of Chairman James R. Langevin

Strategic Forces Subcommittee

Fiscal Year 2011 National Defense Authorization Budget Request for

Department of Energy Atomic Energy Defense Activities

March 25, 2010

Good afternoon. This hearing of the Subcommittee on Strategic Forces will come to order. Today we will take testimony on the Department of Energy's Fiscal Year 2011 budget for Atomic Energy Defense Activities.

The President's budget request for DOE's defense activities, including nuclear weapons, nonproliferation and waste cleanup, is almost eighteen billion dollars for fiscal year 2011, an increase of over seven percent from last year's appropriated level. This request, which must be authorized by our committee, amounts to almost two-thirds of the entire budget request for the Department of Energy.

Let me begin the hearing today by welcoming our three distinguished witnesses. First, we have Mr. Tom D'Agostino, the Under Secretary of Energy for Nuclear Security and Administrator of the National Nuclear Security Administration. Tom is a graduate of the Naval Academy and the Naval War College. As an officer in the nuclear Navy, he distinguished himself as the program manager for the SEAWOLF submarine propulsion system. He retired from the Navy Reserve as a Captain. And since joining the DOE in 1990, Tom has had a distinguished career, in increasingly responsible roles, assuring the safety, security and reliability of the nation's nuclear stockpile. Welcome back to the subcommittee, Tom.

Second, Dr. Ines Triay, DOE's Assistant Secretary for Environmental Management has agreed to appear before the subcommittee today. Dr. Triay received her bachelor's degree in chemistry and her doctorate degree in physical chemistry from the University of Miami in Florida. Her career has included key positions at the Los Alamos National Laboratory; and, as DOE's Manager of the Carlsbad Field Office in New Mexico, she spearheaded national efforts to accelerate the cleanup of transuranic waste sites and disposal at the Waste Isolation Pilot Plant in Carlsbad.

Since joining DOE's headquarters staff in 2005, she has worked tirelessly to expedite the cleanup of the legacy left behind by DOE's Cold War nuclear programs. Welcome back Ines, we look forward to your testimony here today.

Finally, Dr. Peter Winokur, Chairman of the Defense Nuclear Facilities Safety Board, is with us this afternoon. This is Dr. Winokur's first opportunity to appear before the subcommittee. And it may be his first public appearance as Chairman of the DNFSB, having just been appointed to that post by President Obama last Friday.

He received his bachelor's degree in Physics from Cooper Union in New York and his doctorate from the University of Maryland. He has worked in senior technical positions at Sandia National Laboratories and the Army's Harry Diamond Laboratories, and he has been a member of the Defense Board since 2006.

I want to thank each of you for being with us here today. This committee has a long history of supporting the critical missions performed by the Department, including: ensuring the reliability, safety and security of

our nuclear stockpile; conducting the scientific, engineering and production activities necessary to support the stockpile; keeping our nuclear weapons and the weapons complex safe from physical, cyber, and other threats; leading the government's international nuclear non-proliferation efforts; and cleaning up the environmental legacy of nuclear stockpile work.

But, the committee has also had an equally long record of vigilant oversight. In the late 1990s, in the wake of security and safety problems in the nuclear weapons complex, committee members including Mac Thornberry and, now Under Secretary, Ellen Tauscher spearheaded efforts to enact Title 32 of the National Defense Authorization Act for Fiscal Year 2000. And, as you know create the NNSA as a separately organized agency within the Department of Energy.

In the late 1980s, when the high cost of cleaning up the legacy of Cold War weapons production was just beginning to be uncovered, John Spratt and, now Senator, Jon Kyl led this committee's efforts to create a separate organization within the Department to manage the environmental cleanup program.

During that same era, the committee played a key role in assuring that the Department's operational activities would be subject to oversight by an independent body by leading the legislative effort to establish the Defense Nuclear Facilities Safety Board as part of the National Defense Authorization Act for Fiscal Year 1989. So, you see, each of your organizations can trace its heritage to the rigorous oversight performed by this committee.

Having assumed the Chairmanship of this subcommittee just last summer let me assure the witnesses that I am committed to continuing our tradition of rigorous oversight, and to doing so in a bipartisan manner. That said, we are eager to hear your testimony on the Fiscal Year 2011 budget request.

Under Secretary D'Agostino, I am especially interested in how NNSA intends to implement the Stockpile Management Plan mandated by section 3113 of the National Defense Authorization Act for Fiscal Year 2010. This statute is probably the most recent example of the bipartisan efforts of our committee, and I believe it can form the framework for an enduring consensus to assure the health, safety and security of the stockpile.

Assistant Secretary Triay, last year's economic stimulus package contained more than five billion dollars to accelerate defense environmental cleanup activities. We look forward to hearing from you how these funds have been used, and how efforts undertaken with stimulus funding differ from the core work of the cleanup program.

Finally, Chairman Winokur, I believe this is only the fifth time that the Board has appeared before the committee in its twenty-year history, and the first time since 1996.

In your testimony here today, please provide us with your candid views about the most challenging safety issues that DOE and NNSA face both in on-going operations and in the construction of new facilities. These are some of the concerns we hope you will address in your statements and during our discussions that will follow your testimony.

Opening Statement of Ranking Member Michael Turner

Strategic Forces Subcommittee

Fiscal Year 2011 National Defense Authorization Budget Request for

Department of Energy Atomic Energy Defense Activities

March 25, 2010

Thank you Mr. Chairman. I would also like to extend a warm welcome to Mr. D'Agostino, Dr. Triay and Dr. Winokur. Dr. Winokur, I understand you were confirmed by the Senate just last week. Congratulations. Thank you all for your leadership and your service to our nation.

As I noted last week during our hearing on U.S. strategic posture, we are in the midst of some potentially significant changes in our nuclear policy and posture. The Nuclear Posture Review (NPR) should be released within the coming weeks and, according to press reports, the U.S. and Russia are close to completing a new Strategic Arms Reduction Treaty (START). These events are likely to have considerable implications for our nation's nuclear stockpile and infrastructure.

At this same budget hearing last year, I commented that Fiscal Year 2010 was a year of "treading water." The science and engineering campaigns were stagnant, key decisions on warhead refurbishment were avoided, and key construction projects were halted. The Strategic Posture Commission observed that NNSA had a reasonable plan for transforming

the complex, but lacked the needed funding. All these decisions were on hold pending the completion of the NPR, which we still haven't received.

Mr. D'Agostino, last year you testified that we are in, "a one-year budget scenario... there are a lot of flat-line numbers when you look at our program, particularly into the out-years. I don't like the idea of having flat-line numbers in the out-years, because it sends a signal to your workforce that the country thinks... it's got no future."

You're right. Flat-line numbers do send a signal, which is why it is a welcome change to see a 13-percent increase in this year's budget request for NNSA. What this request tells us is that the Administration does recognize—as Vice President Biden recently said—that "our nuclear complex and experts were neglected and underfunded." However, commitment to the sustainment and modernization of our nation's deterrence capabilities cannot be measured with a single year's budget request, so I hope to see this new level of commitment continued in the out-years.

It appears that the Administration has embraced the Stockpile Management Program established by this committee last year, and will fund more comprehensive life extension programs, surveillance activities, warhead safety and security enhancements, and infrastructure modernization. Mr. D'Agostino, I hope you will address these efforts in your testimony today.

I would also like your thoughts on the recent JASON report on life extension options for U.S. nuclear weapons. I was concerned about how

certain findings in the report were being interpreted—basically, that "everything is fine, stick with the status quo"—because that is not what I was hearing in briefings and visits to the labs. So I asked the three nuclear security lab directors to comment on these findings and earlier today, I released their letters to me.

One lab director wrote that certain findings, "understate... the challenges and risks... [and] also understate the future risks that we must anticipate" in sustaining the U.S. nuclear stockpile. Another wrote that current approaches cannot sustain our weapons for decades because, "the available mitigation actions... are reaching their limits." The Strategic Posture Commission concluded that current warhead life extension programs could not be counted on indefinitely. Can you help us understand why improvements in the safety, security, and reliability of the stockpile would require changes from current life extension approaches?

The committee also must have confidence that the additional funds received by NNSA can be spent wisely—whether in the weapons activities account or nonproliferation account. In previous years, the nonproliferation program had difficulty executing the funding it received and as a result, carried over large unspent balances from year-to-year.

This year, the nonproliferation program request has grown by 26-percent. This growth is a reflection of the President's direction—provided in a speech last April in Prague—to secure all vulnerable nuclear material around the world within four years. This is a noble undertaking, but a year later the committee still has not received the Administration's plans.

Therefore, it is difficult to assess whether this 26-percent plus-up can be spent wisely.

In the area of Environmental Management (EM), I want to take a moment to highlight a success story. Miamisburg Mound in my district in Ohio was once a key Cold War-era nuclear production facility. After an extensive Environmental Management cleanup effort—thanks in large part to the leadership of Dr. Triay and her predecessors—Mound has been redeveloped into a business park for high-tech companies.

There are many other sites across the country that require cleanup funds, and as the nuclear complex continues to shrink and additional Cold War-era facilities are decommissioned, the list will only get longer. Dr. Triay, I would appreciate an update on the progress you have made to-date, your priorities, and the challenges ahead. I would also like to hear how EM has spent the $5 billion dollars it received in stimulus funds last year, and how you ensure oversight and accountability of those funds.

As I've said in previous years, I am deeply concerned about safety and security. There is no margin for error in the nuclear business. I would appreciate an update on NNSA's efforts to implement its new graded security protection policy. I also look forward to hearing Dr. Winokur's assessment of the key safety issues at our nation's defense nuclear facilities, particularly with respect to new construction projects.

On a final note, I said earlier that budgets send a signal. Policies also send a signal. We all share the President's vision of "a world without nuclear weapons." However, I worry when I hear Administration officials

discuss it as policy. Because as we all know, policy drives strategy, programs, and budgets. Though we're seeing a one-year influx of funding, I am concerned that a zero policy—once implemented—would lead to less program and budget support in the out-years. And that is not in the best interest of our national security.

Mr. D'Agostino, Dr. Triay, and Dr. Winokur, thank you again for being with us today. You each possess a tremendous amount of expertise and insight on our nation's nuclear stockpile and infrastructure, and our nation is better off as a result of your service. I look forward to your testimony.

Statement of Thomas P. D'Agostino
Under Secretary for Nuclear Security and Administrator
National Nuclear Security Administration
U.S. Department of Energy
on the
Fiscal Year 2011 President's Budget Request
Before The
House Armed Services Committee
Subcommittee on Strategic Forces

March 25, 2010

Thank you for the opportunity to present the Fiscal Year (FY) 2011 President's Budget Request for the National Nuclear Security Administration (NNSA). This budget request will allow the NNSA to meet its commitments to the American people to provide for nuclear deterrence, to reduce nuclear dangers around the world, and to provide the capabilities to address the broader national security challenges of the 21st century.

At this time last year, the focus of NNSA efforts was the continuing transformation of the Cold War-era weapons complex to a 21st century Nuclear Security Enterprise, and transformation of the composition and size of the U.S. nuclear weapons stockpile. Simultaneously, we were in the very early stages of defining the efforts necessary to address the President's policy statements on securing the most vulnerable nuclear materials worldwide.

During the first 14 months of the Obama Administration, we have been fully engaged with the Department of Defense (DoD) and the Interagency on the Nuclear Posture Review, and with the Department of State on a new START Agreement and a broad menu of nonproliferation agreements with our international partners.

NNSA efforts this past year defined a portfolio of programs to meet the President's nuclear security agenda for the future. The FY 2011 President's Budget Request for this portfolio is $11.2 billion, an increase of more than 13 percent from last year. In the development of this portfolio, Secretary of Energy Chu and NNSA Administrator D'Agostino worked closely with Secretary of Defense Gates and other DoD officials to ensure that we remain focused on meeting the DoD's requirements. As a result, the budget request for **Weapons Activities** increases nearly 10 percent to a level of $7 billion; Defense **Nuclear Nonproliferation** increases nearly 26 percent to a level of $2.7 billion; **Naval Reactors** increases more than 13 percent to a level of $1.1 billion; and, the request for Federal oversight and staff included in the **Office of the Administrator** account increases by 6.5 percent to a level of nearly $450 million. NNSA's budget request also includes associated outyear projections in a Future-Years Nuclear Security Program (FYNSP) that identifies resources needed to meet the continuing requirements for significant long term investments in the Nuclear Security Enterprise deliverables, capabilities and infrastructure.

The FY 2011 President's Budget Request for the NNSA can be summarized in four core components that, collectively, ensure that the NNSA implements the President's overall nuclear security agenda, introduced in his April 2009 Prague speech, re-enforced during the State of the Union Address on January 27, 2010, and will, we believe, be embodied in the soon to be completed Nuclear Posture Review.

Implementing the President's Nuclear Security Vision. The budget request highlights NNSA's crucial role in implementing President Obama's nuclear security vision, including his call for an international effort to secure all vulnerable nuclear material around the world within four years. The request for these efforts is $2.7 billion (an increase of 25.8 percent over the current year). Key nonproliferation programs reflect significant increases from last year, including:

- Nearly $560 million for the Global Threat Reduction Initiative (an increase of 68 percent over the current year) to secure vulnerable nuclear materials around the world within four years, and to provide a comprehensive approach to deny terrorist access to nuclear and radiological materials at civilian sites worldwide;

- Over $1 billion for our Fissile Materials Disposition program (an increase of 47 percent over the current year) for construction of the Mixed Oxide (MOX) Fuel Fabrication Facility and the Waste Solidification Building, design of the Pit Disassembly and Conversion Facility, and meeting our commitment to support Russian plutonium disposition activities;

- More than $590 million for Material Protection, Control, and Accounting and Second Line of Defense activities to accelerate securing nuclear materials in the Former Soviet Union and other Asian states, as well as worldwide efforts to deter, detect, and respond to nuclear smuggling events; and.

- Over $350 million for the Nonproliferation and Verification Research and Development programs (an increase of 10 percent over the current year) to provide the key technical support for the President's arms control and nonproliferation agenda.

Managing the Nuclear Weapons Stockpile. Based on a preliminary analysis of the draft Nuclear Posture Review, the Department concluded that maintaining the safety, security, and effectiveness of the nuclear deterrent without nuclear testing – especially at lower stockpile numbers – requires increased investments to strengthen an aging physical infrastructure and to sustain a depleting technical human capital base across the Nuclear Security Enterprise. As such, we are requesting more than $7 billion (an increase of 9.8 percent over the current year) in the Weapons Activities appropriation to:

- Ensure the capabilities required for stockpile management and for the completion of ongoing Life Extension Programs are available;

- Strengthen the Science, Technology, and Engineering base capabilities that underpin stockpile stewardship, without nuclear testing, as well as all other NNSA nuclear security activities; and.

- Reinvest in the scientists, technicians, and engineers who perform the mission across the Nuclear Security Enterprise.

The President's Budget Request is consistent with the principles of the Stockpile Management Program outlined by Congress in the FY 2010 National Defense Authorization Act.

Recapitalizing our Nuclear Infrastructure and Deterrent Capability. These increases represent an investment in transforming our outdated nuclear weapons complex into a 21st century Nuclear Security Enterprise. This request includes funds to continue the design of the Uranium Processing Facility at the Y-12 facility; the design and construction of the replacement for the Chemistry and Metallurgy Research facility at the Los Alamos National Laboratory; and, conceptual design for the recapitalization of Naval Reactor's Expended Core Facility at the Idaho National Laboratory. Investing in a modern, sustainable nuclear security infrastructure supports the full range of NNSA's nuclear security missions, including:

- Stockpile stewardship;
- Nuclear nonproliferation and disarmament;
- Arms control treaty monitoring;
- Nuclear forensics;
- Counterterrorism and emergency response; and,
- the nuclear Navy.

Additionally, the request supports the recent Department of Defense decision to recapitalize the sea-based strategic deterrent. The OHIO-class ballistic submarines, the most survivable leg of the nation's strategic deterrent, are reaching the end of their operational life. The request will enable Naval Reactors to continue reactor plant design and development efforts begun in 2010 for procurement of long-lead reactor plant components in 2017, in support of Navy procurement of the first OHIO-class submarine replacement in 2019. Providing the OHIO-class replacement a life-of-the-ship reactor core will require substantial advances in manufacturing technology to provide a new cladding and a new fuel system. The request also supports the refueling of a land based prototype reactor, providing a cost effective test platform for these new technologies.

Continuing NNSA Management Reforms. With the increased resources provided by the Congress comes an increased responsibility to be effective stewards of the taxpayer's money. NNSA will continue to promote proactive, sound management reforms that save money, improve the way we do business, and increase efficiency. Following are a few of the efforts already underway:

- A Zero-Based Security Review initiative has led to efficiencies in our site security programs, helping drive down those costs while sustaining core physical security capabilities.

- An Enterprise Re-engineering Team is implementing ideas for improving the way NNSA does business, such as:

  - A Supply Chain Management Center has already saved the taxpayers more than $130 million since its inception in 2007 and is expanding its focus. Two key elements of the Center are:
    - eSourcing -- an electronic sealed-bidding and reverse auction function; and,
    - Strategic Sourcing – where our Management and Operating contractors use their combined purchasing power to negotiate multi-site commodity contracts with vendors.

  - A moratorium on new, NNSA-initiated Reviews and re-direction of those resources to improve Contractor Management Systems and operations and oversight across the Nuclear Security Enterprise.

  - Issuing new NNSA Operating Principles to guide the priorities and decision processes of entities that perform NNSA work consistently across the Nuclear Security Enterprise.

  - Applying a new performance-based model, best business practices, and lessons-learned across the Nuclear Security Enterprise. The model, pioneered at our Kansas City Plant, provides greater contractor flexibility and accountability; better focused, risk-based oversight; eliminates redundant and non-value-added reviews; and, improves efficiencies and availability of Federal and contractor resources to support the full scope of NNSA missions.

  - Reducing contractor expenses through renegotiation of health and dental plans, using common contracts for administration and supplies, and converting plant shifts for five 8-hour days to four 10-hour day shifts.

  - Retaining the critical Federal workforce

    - Piloting for the Department a five-year Office of Personnel Management Demonstration Project on Pay-for-Performance and Pay Banding to test new Human Resource concepts to recruit and retain a high caliber staff by providing faster pay progression for high-performing employees, and to build on the workforce planning system to better identify competency needs and gaps.

    - Conducting a Future Leaders Program and sponsoring Historically Black Colleges and Universities, Hispanic Serving Institutions, Native American Serving Institutions, and other intern and fellowship programs to bring into government the best and brightest talent in science, engineering, business, and other technical positions to ensure that when our aging workforce retires, it is replaced with competent, well-trained, and experienced professionals to carry on the mission work of the NNSA.

Finally, NNSA continues to emphasize performance and financial accountability at all levels of our operations. NNSA needs to assure the Committee and the taxpayers that the we are an excellent steward of the programs and funds the Congress entrusts to us to carry out the President's nuclear security vision. In 2009, NNSA met 95 percent of its stated program performance objectives, and, over the past two years, NNSA successfully executed consecutive, large annual funding increases in several of our nonproliferation programs while reducing uncosted, uncomitted balances. We are ready to meet the challenge of executing the additional program increases supported by the FY 2011 President's Budget Request. Our Federal and contractor staff and our contracting processes are in place to initiate immediately the increased mission work both in the U.S. and abroad. The NNSA will be a leader in successful program and financial execution for the Department of Energy and for the U.S. Government.

The NNSA is not operating on a "business-as-usual" basis. The budget request represents a comprehensive approach to ensuring the nuclear security of our Nation. NNSA will ensure that our strategic posture, our nuclear weapons stockpile, and our infrastructure, along with our nonproliferation, arms control, emergency response, counterterrorism, and naval propulsion programs, are melded into one comprehensive, forward-looking strategy that protects America and its allies.

Maintaining the nuclear weapons stockpile is the core work in the NNSA. However, the science, technology, and engineering capabilities, which enable the core work, must also continue to focus on providing a sound foundation for ongoing nonproliferation and other threat reduction programs. The investment in nuclear security is providing the tools that can tackle a broad array of national security and energy challenges and in other realms. NNSA now has the tools, but must continue to cultivate the talents of the people to use them effectively.

The NNSA is developing the next generation of scientists, engineers, and technicians required to meet our enduring deterrence requirements as well as the critical work in nonproliferation, nuclear counterterrorism, and forensics. People are ultimately our most important resource. We are working closely with our national laboratories to develop and retain the necessary cadre of the best and the brightest to successfully carry out all of our technically challenging programs into the foreseeable future.

Following are more detailed descriptions of each of the four specific NNSA appropriations.

National Nuclear Security Administration
Budget Overview

The President's Budget Request for the NNSA contains budget information for five years as required by Section 3253 of P.L. 106-065, entitled Future-Years Nuclear Security Program (FYNSP). The FYNSP projects $57.9 billion for NNSA programs through FY 2015. While the funding necessary to support the President's commitment to lead an international effort to secure vulnerable nuclear materials throughout the world is focused in the near term, major longer term funding commitments are needed in other NNSA programs. The Secretaries of the Department of Defense (DoD) and the Department of Energy (DOE) agree that it is necessary to modernize the nuclear security infrastructure of the U.S., and this will require the investments over the long-term reflected in the FYNSP. Modernization of the infrastructure, including major capital projects, is needed to ensure safe, secure, sustainable and cost-effective operations in support of scientific and manufacturing activities. It is also necessary to bolster key scientific, technical and manufacturing capabilities needed to ensure that the U.S. nuclear weapons stockpile remains safe, secure and effective while avoiding the requirement for new nuclear tests. Increased outyear resources are also included for major new deliverables in support of the nuclear navy, including reactor plant development for the OHIO-class replacement submarine, core manufacturing for and refueling of the technology demonstration land-based prototype, and initial planning for the recapitalization of spent nuclear fuel infrastructure.

NNSA Program Summaries
The FY 2011 President's Budget Request for the NNSA is $11.2 billion, a 13.4 percent increase over the FY 2010 appropriated level. Outyear projections meet the requirements for significant long-term investments in the nuclear security enterprise deliverables, capabilities and infrastructure.

Weapons Activities Appropriation
The request for this appropriation is $7.0 billion; an increase of 9.8 percent over the FY 2010 appropriated level. This level is sustained and increased in the later outyears.

Although no change to the existing program budget structure within this appropriation is proposed in this budget, we will address the current programs within the Weapons Activities appropriation in four related components:

- Stockpile Support (Directed Stockpile Work, Readiness Campaign);
- Science, Technology and Engineering (Science Campaign, Engineering Campaign, Inertial Confinement Fusion and High Yield Campaign, Advanced Simulation and Computing Campaign, Science, Technology and Engineering Capability);
- Infrastructure (Readiness in Technical Base and Facilities, Secure Transportation Asset, Facilities and Infrastructure Recapitalization Program, Site Stewardship); and,
- Security and Nuclear Counterterrorism (Defense Nuclear Security, Cyber Security, Nuclear Counterterrorism Incident Response).

Increased funding is requested for programs in Stockpile Support, for Scientific, Technology and Engineering activities related to maintenance assessment and certification capabilities for the stockpile, and for critical Infrastructure improvements. The Security and Nuclear Counterterrorism component decreases about 3 percent from the FY 2010 appropriated levels, attributable to continuing efficiencies in the Defense Nuclear Security programs budget.

This multi-year increase reflects the President's commitment to maintain the safety, security and effectiveness of the nuclear deterrent without underground nuclear testing, consistent with the principles of the Stockpile Management Program outlined in Section 3113 (a)(2) of the National Defense Authorization Act of Fiscal Year 2010 (50 U.S.C. 2524). The nuclear security requirements driving this budget request include improvements to the safety and security of the enduring stockpile; a strengthened science, technology, and engineering base; and a recapitalized physical infrastructure. The enterprise must also be responsive to an arguably more complex future national defense environment than the singular Cold-War context within which the legacy deterrent was built.

The President's Budget Request provides funding necessary to protect and advance the scientific capabilities at the U.S. national security laboratories – including the ability to maintain the nuclear deterrent as well as development and engineering expertise and capabilities—through a stockpile stewardship program that fully exercises these capabilities.

This budget request is responsive to FY 2010 Congressional direction to carry out a Stockpile Management Program in support of stockpile stewardship that provides for effective management of the weapons in the nuclear weapons stockpile. This program will strengthen the stockpile activities, including life extension programs and surveillance; strengthen science, technology and engineering, including the workforce; and modernize the aging infrastructure, particularly special nuclear materials capabilities. The key objectives of the Stockpile Management Program include:

- Increase the reliability, safety, and security of the stockpile;
- Further reduce the likelihood of the need to resume underground nuclear testing;
- Achieve further reductions in the future size of the stockpile;
- Reduce the risk of an accidental detonation; and,
- Reduce the risk of an element of the stockpile being used by a person or entity hostile to the United States, its vital interests, or its allies.

The Stockpile Support component of this appropriation includes Directed Stockpile Work and the supporting Readiness Campaign. The President's Budget Request is $2.0 billion, an increase of 25.2 percent over the FY 2010 appropriation. This provides for the Stockpile Management Program, including surveillance, maintenance, assembly, disassembly and dismantlement activities, and will fully support the ongoing Life Extension Programs for the W76 warhead and

the refurbishment of the B61 bomb. The budget request will enhance surveillance efforts, and ensure that capabilities and capacity are available so that future warhead life extension programs will allow for increased margin and enhanced warhead safety, security and control. The request will initiate a study in FY 2011 to evaluate future options and approaches to maintaining the W78, consistent with the principles of the Stockpile Management Program defined in Section 3113 (a)(2) of the National Defense Authorization Act of Fiscal Year 2010 (50 U.S.C. 2524).

The Science, Technology and Engineering (STE) component of this appropriation includes the Science Campaign, Engineering Campaign, Inertial Confinement Fusion and High Yield Campaign, Advanced Simulation and Computing Campaign, and Science, Technology and Engineering Capability. The President's Budget Request of $1.6 billion is an increase of 10.4 percent over the FY 2010 appropriation and will restore sufficient funds for the science and technology base that supports stockpile assessment and certification in the absence of nuclear testing. Within this request, the Inertial Confinement Fusion and High Yield Campaign is requested at $481.5 million. Construction of the National Ignition Facility (NIF) was completed in FY 2009, and the first in a series of ignition experiments beginning in the summer of 2010 will attempt to compress, implode, and ignite a layered deuterium-tritium capsule with a ~1.3 megajoule energy pulse from the NIF. Regardless of the specific status of ignition, FY 2011 will present a very demanding agenda of work in the ignition effort. Results from the first ignition experiments in 2010 will be analyzed in detail, and the intensive process of tuning laser and target parameters for optimum performance will continue toward development of a robust ignition platform by the end of 2012. The NIF is designed to provide critical scientific data to support the stockpile without underground nuclear testing.

Computation and simulation underpin all of our science, technology and engineering, and are pervasive throughout the activities in the nuclear security enterprise. The FY 2011 President's Budget Request of $616 million for the Advanced Simulation and Computing Campaign will enable a stronger simulation program and inject a renewed scientific rigor back into the program. Developing robust peer review among the national security laboratories as we move away from the test base experience is essential to being able to maintain a stockpile without underground testing. Comprehensive uncertainty quantification calculations in 3D will provide the confidence necessary to make reliable progress toward the predictive capability necessary to address stockpile aging issues. In the next decade, predictive capability and specific warhead simulation deliverables will demand ever more powerful and sophisticated simulation environments. This request will position the national security laboratories to take advantage of future platform architectures to more efficiently steward the stockpile.

Also within the STE component, the new subprogram to provide collaborative efforts in intelligence analysis, which was created in response to congressional funding in the Supplemental Appropriations Act, 2009, continues in FY 2011. This subprogram provides a focal point for science, technology and engineering in NNSA, and will facilitate a point of entry for the wider national security community into NNSA's programs and facilities. The FY 2009 supplemental funding provided for laboratory efforts in intelligence analysis. The FY 2011 request will support NNSA's commitment to a 5-year Memorandum of Understanding with the Defense Threat Reduction Agency for national security research and development of mutual interest. At this time, the defined focus areas of mutual interest are: Advanced Science and

Forensics, Experimental Capabilities, Science Based Output, Active Interrogation of Special Nuclear Material, and Nuclear Weapons Effects Modeling and Simulation.

The Infrastructure component of the appropriation includes Readiness in Technical Base and Facilities, Secure Transportation Asset, Facilities and Infrastructure Recapitalization Program, and Site Stewardship. The President's Budget Request is $2.3 billion, a 4.8 percent increase over the FY 2010 level. Transformation and maintenance of supporting physical infrastructure for the nuclear security enterprise is a high priority in the upcoming FYNSP. Along with the funding to support the ongoing operations of the government-owned, contractor operated laboratories and manufacturing facilities, the President's Budget Request includes funding for major long-term construction projects needed to restore critical capabilities in plutonium and uranium essential to the Stockpile Management program.

The President's Budget Request includes funding to complete the design and begin construction of the Chemistry and Metallurgy Research Facility Replacement -- Nuclear Facility at the Los Alamos National Laboratory. This facility conducts plutonium research and development and provides analytical capabilities in support of pit surveillance and production. The facility will also support the broad range of NNSA's nuclear security missions, including: 1) stockpile stewardship; 2) nuclear nonproliferation and disarmament; 3) arms control treaty monitoring; 4) nuclear forensics; and, 5) counterterrorism and emergency response. Current planning schedules full operation in 2022. A related project is requested to improve the safety profile at the adjoining PF-4 facility. The budget request also includes funding for continuing the design and construction planning of the Uranium Processing Facility at the Y-12 National Security Complex to support production and surveillance of highly-enriched uranium components. This facility is also planned to achieve full operations by 2022.

Maintaining and improving the current infrastructure is also an important priority for NNSA. The Facilities and Infrastructure Recapitalization Program is continuing to reduce the deferred maintenance backlog as it proceeds toward its planned conclusion in 2013. Increased funding is provided for the Site Stewardship program that integrates institutional/landlord functions for our sites, including regulatory-driven long-term Stewardship, Nuclear Materials Consolidation, and energy efficiency projects.

The Security and Nuclear Counterterrorism component of the appropriation includes Defense Nuclear Security, Cyber Security, and Nuclear Counterterrorism Incident Response. The President's Budget Request for these programs is $1.1 billion, which, except for a 5 percent increase in Nuclear Counterterrorism and Incident Response, represents an overall 3.2 percent decrease from FY 2010 appropriated levels. The decrease reflects efficiencies expected to be gained from risk-informed decisions identified through the Defense Nuclear Security program's Zero-Based Security Review, consistent with implementation of the Graded Security Protection Policy.

Defense Nuclear Nonproliferation Appropriation

The request for this appropriation is $2.7 billion; an increase of 25.8 percent over the FY 2010 appropriated level. The increase is driven by the imperative for U.S. leadership in nonproliferation initiatives both here and abroad, including the consolidation of fissile materials

disposition activities into this account. In addition to the programs funded solely by the NNSA, our programs support the Department of Energy mission to protect our national security by preventing the spread of nuclear weapons and nuclear materials to terrorist organizations and rogue states. These efforts are implemented in part through the Global Partnership against the Spread of Weapons and Materials of Mass Destruction, formed at the G8 Kananaskis Summit in June 2002, and the Global Initiative to Combat Nuclear Terrorism, launched in Rabat, Morocco, in October 2006.

The FY 2011 President's Budget Request reflects support for the President's direction to secure vulnerable nuclear materials around the world in four years. The International Nuclear Materials Protection and Cooperation (MPC&A) program increases by 3 percent to support selective new security upgrades to buildings and areas that were added to the cooperation after the Bratislava summit, additional Second Line of Defense sites, sustainability of MPC&A upgrades, and continued expansion of nuclear and radiological material removal. The Global Threat Reduction Initiative increases by 68 percent to support an increase in reactor conversions and shutdowns, acceleration of domestic production capability of Molybdenum-99, and an acceleration of the removal and disposition of high-priority, vulnerable nuclear materials in full support of the President's nuclear security agenda. The Fissile Materials Disposition program increases by 47 percent reflecting continuing domestic construction on the MOX Fuel Fabrication Facility, and the design and construction of two major supporting facilities.

The NNSA's nonproliferation programs seek to secure nuclear materials worldwide that could be used for weapons and to convert such materials for peaceful applications, and, through the Second Line of Defense Program, provide the tools for partner countries to detect and interdict smuggling of these materials across international borders.

The Nuclear Nonproliferation Research and Development (R&D) activities seek to improve detection of nuclear material production and movement through advanced R&D. The program draws on the vast technical expertise of the NNSA and DOE national laboratories, as well as academia and industry, the program delivers solutions to the hardest technical nuclear security challenges. Focusing on nuclear detection instrumentation development that is tightly coordinated across federal and international agencies, these advanced detection techniques are a significant contributor to the U.S. ability to detect foreign nuclear materials production as well as the illicit movement of those materials. Further, the R&D program provides the backbone for advances in U.S. and international capabilities to monitor nuclear-related treaty obligations. In keeping with the President's commitment for verifiable treaties, the R&D program's FY 2011 budget request increases by 10% over the current year to include a more robust set of testing and evaluation activities to demonstrate new U.S. treaty monitoring capabilities.

The FY 2011 President's Budget Request has consolidated all of the funding requests for the Fissile Materials Disposition activities within the Defense Nuclear Nonproliferation appropriation. The current funding for both the MOX Fuel Fabrication Facility and Waste Solidification Building projects were moved in the FY 2010 appropriation, and the Pit Disassembly and Conversion Facility project has been moved back to Defense Nuclear Nonproliferation appropriation starting in FY 2011. The DOE has decided to explore a proposed combination of the Office of Environmental Management Plutonium Preparation Project and the

Pit Disassembly and Conversion Project in a single project located in an existing K-Area Facility at the Savannah River Site. This activity will be evaluated using the Department's project management order, DOE O 413, and will move toward a Critical Decision 1 (approval of alternative selection and cost range).

The U.S. continues to work with the Russian Federation on plutonium disposition in Russia pursuant to the Plutonium Management and Disposition Agreement reached in September 2000. Congress had appropriated $200 million in a FY 1999 Supplemental Appropriation to support Russian plutonium disposition activities; however, $207 million of this and other funding for this program was rescinded in FY 2008 due to lack of progress in Russia. The FY 2011 Request includes $100 million of the U.S. commitment to provide $400 million to support plutonium disposition in Russia once a Protocol amending the 2000 Agreement, related liability provisions, and a monitoring and inspection regime is signed. The balance of more than $2 billion in remaining cost associated with Russian plutonium disposition would be borne by Russia and non-U.S. contributions.

Naval Reactors Appropriation

The request for this appropriation is $1.1 billion; an increase of 13.3 percent over the FY 2010 appropriated level. The program directly supports the U.S. Navy's nuclear fleet, which encompasses all Navy submarines and aircraft carriers. The nuclear fleet is comprised of 54 attack submarines, 14 ballistic missile submarines, 4 guided missile submarines, and 11 aircraft carriers. These ships, and their consistent forward presence, are relied on every day, all over the world, to protect our national interests.

Naval Reactors has a long history of providing safe and reliable Naval nuclear propulsion. This requires continual analysis for prompt identification of leading indicators from fleet operations and careful engineering to assure prudent, yet timely modernization, and scrupulous maintenance. Over the last decade, funding for these successful endeavors has been relatively constant. The onset of unavoidable, nondiscretionary requirements for spent reactor fuel processing and replacement, and maintenance and disposal of an aging support infrastructure has required continued rebalancing of funding priorities. Those priorities coupled with new challenges necessitated the additional funding included in the budget request. Increases in the FY 2011 President's Budget Request support three key deliverables– the OHIO-class submarine replacement reactor plant, the refueling of the land-based prototype located in New York, and the Expended Core Facility at the Naval Reactors Facility located on the Idaho National Laboratory.

The most survivable leg of the Nation's strategic deterrent, the OHIO-class ballistic missile submarines are reaching the end of their operational life. Propulsion plant design and development efforts began in 2010 to support Navy procurement of reactor plant components in 2017, for ship construction starting in 2019. This schedule for development is consistent with previous designs. Key technical challenges include an effort to lower total ownership costs while maintaining the traditionally high operational availability of this new ship. The most important challenge to meet this is a life-of-the-ship reactor core.

The DOE land-based prototype reactor, which has served the Program's needs for R&D and training since 1978, requires refueling in 2017. The reactor provides a cost-effective test

platform for new technologies and components before they are introduced for Fleet applications, supports testing and evaluation of materials, and provides a vital training platform for reactor plant operators. The land-based prototype refueling will also provide key technical data for the OHIO-class submarine replacement, since the reactor core work to support the refueling will also support the core manufacturing development for the OHIO-class replacement. This approach is based on Naval Reactors' extensive experience in reactor design—taking advantage of the prototype refueling opportunity to proof-test new manufacturing techniques for reactor fuel cladding material never previously used by the Navy. This will reduce technical risk in manufacturing the OHIO-class replacement life-of-the-ship core.

The Expended Core Facility (ECF) is the central location for naval spent nuclear fuel receipt, inspection, dissection, packaging, and secure dry storage, as well as detailed examination of spent cores and irradiated specimens. The existing facility is more than 50 years old, and its mission has evolved significantly over time. While serviceable, it no longer efficiently supports the nuclear Fleet or the work required to meet the agreements we have with the State of Idaho for naval spent fuel. To minimize risks associated with an aging facility and support the timely refueling and defueling of nuclear-powered warships, construction is targeted to begin by 2015. Uninterrupted ECF receipt of naval spent nuclear fuel is vital to the timely, constant throughput of ship refuelings and return of these capital warships to the Fleet. The mission need statement for this project has been approved, and conceptual design and alternative analysis efforts began in 2010.

Office of the Administrator Appropriation

The request for this appropriation is $448.3 million; an increase of 6.5 percent over the FY 2010 appropriated level. This appropriation provides for the Federal staff and related support for the NNSA Headquarters and field organizations. The Federal personnel level for FY 2011 is projected at 1,970 Full Time Equivalents, essentially level with the expectation for FY 2010. Implicit in the request is a 1.4 percent cost of living adjustment and a 3.3 percent increase for performance-based salary increases, awards, and benefit escalation associated with the Federal workforce. Other increases reflect full funding for NNSA site office space requirements across the Nuclear Security Enterprise, funds for new building maintenance and lease requirements, and expansion of NNSA international offices for the NNSA's nonproliferation programs.

National Nuclear Security Administration

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FY 2011 BUDGET TABLES
National Nuclear Security Administration

Overview
Appropriation Summary

(dollars in thousands)

	FY 2009 Actual Appropriation	FY 2010 Current Appropriation	FY 2011 Request
National Nuclear Security Administration			
Office of the Administrator	439,190	420,754	448,267
Weapons Activities	6,410,000	6,384,431	7,008,835
Defense Nuclear Nonproliferation	1,545,071	2,136,709	2,687,167
[non-add MOX Project funded in other appropriations]	[278,879]	N/A	N/A
Naval Reactors	828,054	945,133	1,070,486
Total, NNSA	9,222,315	9,887,027	11,214,755
Transfer of prior year balances - OMB scoring		-10,000	
Total, NNSA		9,877,027	

Outyear Appropriation Summary
NNSA Future-Years Nuclear Security Program (FYNSP)

(dollars in thousands)

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
NNSA					
Office of the Administrator	448,267	426,424	430,726	435,069	448,498
Weapons Activities	7,008,835	7,032,672	7,082,146	7,400,966	7,648,200
Defense Nuclear Nonproliferation	2,687,167	2,507,191	2,715,191	2,833,243	2,956,328
Naval Reactors	1,070,486	1,099,734	1,171,178	1,226,017	1,310,530
Total, NNSA	**11,214,755**	**11,066,021**	**11,399,241**	**11,895,295**	**12,363,556**

Office of the Administrator
National Nuclear Security Administration

Overview
Appropriation Summary by Program

(dollars in thousands)

	FY 2009 Actual Appropriation	FY 2010 Current Appropriation *	FY 2011 Request
Office of the Administrator			
Office of the Administrator	415,878	418,074	448,267
Congressionally Directed Projects	23,312	13,000	0
Use of Prior Year Balances	0	-10,320	0
Total, Office of the Administrator	**439,190**	**420,754**	**448,267**
Transfer of Prior Year Balances		-10,000	
Total, OMB Scoring	**439,190**	**410,754**	**448,267**

* Note: In accordance with P.L. 111-85, $10,000,000 of Office of the Administrator prior year balances have been transferred to Non-Defense Environmental Cleanup for cleanup efforts at the Argonne National Laboratory.

Public Law Authorization:
Energy and Water Development and Related Agencies Appropriations Act, 2010 (P.L. 111-85)
FY 2009 Omnibus Appropriations Act (P.L. 111-8)
National Nuclear Security Administration Act (P.L. 106-65), as amended

Outyear Appropriation Summary

(dollars in thousands)

	FY 2012	FY 2013	FY 2014	FY 2015
Office of the Administrator	**426,424**	**430,726**	**435,069**	**448,498**

Office of the Administrator

Congressionally Directed Projects

Funding Profile by Subprogram

(dollars in thousands)

	FY 2009	FY 2010	FY 2011
Congressionally Directed Projects	23,312	13,000	0

Weapons Activities

Overview
Funding Profile by Subprogram

(dollars in thousands)

	FY 2009 Actual Appropriation	FY 2010 Current Appropriation	FY 2011 Request
Weapons Activities			
Directed Stockpile Work	1,590,152	1,505,859	1,898,379
Science Campaign	316,690	295,646	365,222
Engineering Campaign	150,000	150,000	141,920
Inertial Confinement Fusion Ignition and High Yield Campaign	436,915	457,915	481,548
Advanced Simulation and Computing Campaign	556,125	567,625	615,748
Readiness Campaign	160,620	100,000	112,092
Readiness in Technical Base and Facilities	1,674,406	1,842,870	1,848,970
Secure Transportation Asset	214,439	234,915	248,045
Nuclear Counterrorism Incident Response	215,278	221,936	233,134
Facilities and Infrastructure Recapitalization Program	147,449	93,922	94,000
Site Stewardship	0	61,288	105,478
Environmental Projects and Operations	38,596	0	0
Defense Nuclear Security	735,208	769,044	719,954
Cyber Security	121,286	122,511	124,345
Science, Technology and Engineering Capability	30,000	0	20,000
Congressionally Directed Projects	22,836	3,000	0
Use/Recission of Prior Year Balances	0	-42,100	0
Total, Weapons Activities	**6,410,000**	**6,384,431**	**7,008,835**

Public Law Authorization:
National Defense Authorization Act for Fiscal Year 2010 (P.L. 111-84)
Energy and Water Development and Related Agencies Appropriations Act, 2010 (P.L. 111-85)
National Nuclear Security Administration Act, (P.L. 106-65), as amended

Outyear Funding Profile by Subprogram

(dollars in thousands)

	FY 2012	FY 2013	FY 2014	FY 2015
Weapons Activities				
Directed Stockpile Work	1,900,736	1,999,470	2,240,139	2,346,254
Science Campaign	397,460	418,823	416,199	394,766
Engineering Campaign	149,737	134,996	144,920	145,739
Inertial Confinement Fusion Ignition and High Yield Campaign	480,451	475,597	470,994	484,812
Advanced Simulation and Computing Campaign	622,940	616,257	615,420	633,134
Readiness Campaign	81,697	70,747	69,854	72,584
Readiness in Technical Base and Facilities	1,872,546	1,841,325	1,926,568	1,997,764
Secure Transportation Asset	251,272	249,456	252,869	261,521
Nuclear Counterrorism Incident Response	222,914	222,508	235,300	237,986
Facilities and Infrastructure Recapitalization Program	94,000	94,000	0	0
Site Stewardship	101,929	103,536	174,071	205,802
Defense Nuclear Security	730,944	729,609	728,925	740,649
Cyber Security	126,046	125,822	125,707	127,189
Total, Weapons Activities	**7,032,672**	**7,082,146**	**7,400,966**	**7,648,200**

Directed Stockpile Work

Funding Profile by Subprogram

(dollars in thousands)

	FY 2009 Actual Appropriation	FY 2010 Current Appropriation	FY 2011 Request
Directed Stockpile Work			
Life Extension Programs			
B61 Life Extension Program	1,854	0	0
W76 Life Extension Program	203,189	223,196	249,463
Subtotal, Life Extension Programs	**205,043**	**223,196**	**249,463**
Stockpile Systems			
B61 Stockpile Systems	90,204	91,956	317,136
W62 Stockpile Systems	1,500	0	0
W76 Stockpile Systems	63,219	56,554	64,521
W78 Stockpile Systems	40,347	48,311	85,898
W80 Stockpile Systems	30,712	27,398	34,193
B83 Stockpile Systems	26,938	33,502	39,349
W87 Stockpile Systems	40,949	48,139	62,603
W88 Stockpile Systems	43,928	51,940	45,666
Subtotal, Stockpile Systems	**337,797**	**357,800**	**649,366**
Weapons Dismantlement and Disposition			
99-D-141-01 Pit Disassembly and Conversion Facility-SRS	24,883	0	0
99-D-141-02 Waste Solidification Building-SRS	40,000	0	0
Weapons Dismantlement and Disposition	52,695	96,100	58,025
Pit Disassembly and Conversion Facility-O&M	69,351	0	0
Subtotal, Weapons Dismantlement and Disposition	**186,929**	**96,100**	**58,025**
Stockpile Services			
Production Support	308,806	300,037	309,761
Research & Development Support	35,049	37,071	38,582
Research & Development Certification and Safety	169,403	166,523	209,053
Management, Technology, and Production	192,072	183,223	193,811
Plutonium Capability	155,053	0	0
Plutonium Sustainment	0	141,909	190,318
Subtotal, Stockpile Services	**860,383**	**828,763**	**941,525**
Total, Directed Stockpile Work	**1,590,152**	**1,505,859**	**1,898,379**

Outyear Funding Profile by Subprogram

(dollars in thousands)

	FY 2012	FY 2013	FY 2014	FY 2015
Directed Stockpile Work				
Life Extension Programs				
W76 Life Extension Program	255,000	255,000	255,000	255,000
Subtotal, Life Extension Programs	**255,000**	**255,000**	**255,000**	**255,000**
Stockpile Systems				
B61 Stockpile Systems	357,851	394,027	437,518	512,296
W76 Stockpile Systems	56,418	58,312	55,396	54,038
W78 Stockpile Systems	164,964	156,340	346,923	345,359
W80 Stockpile Systems	31,627	34,566	35,974	36,621
B83 Stockpile Systems	37,160	38,294	42,621	42,059
W87 Stockpile Systems	67,754	64,924	51,898	50,433
W88 Stockpile Systems	61,229	65,094	69,777	68,648
Subtotal, Stockpile Systems	**697,003**	**811,557**	**1,040,107**	**1,109,454**
Weapons Dismantlement and Disposition	**53,327**	**48,446**	**58,102**	**60,089**
Stockpile Services				
Production Support	288,227	271,067	265,429	274,509
Research & Development Support	35,044	34,667	35,497	36,711
Research & Development Certification and Safety	207,133	213,923	214,632	222,777
Management, Technology, and Production	202,020	196,676	198,660	205,454
Plutonium Sustainment	162,982	168,134	172,712	182,260
Subtotal, Stockpile Services	**895,406**	**884,467**	**886,930**	**921,711**
Total, Directed Stockpile Work	**1,900,736**	**1,999,470**	**2,240,139**	**2,346,254**

Science Campaign

Funding Profile by Subprogram

(dollars in thousands)

	FY 2009 Actual Appropriation	FY 2010 Current Appropriation	FY 2011 Request
Science Campaign			
Advanced Certification	19,400	19,400	76,972
Primary Assessment Technologies	80,181	83,181	85,723
Dynamic Plutonium Experiments	23,022	0	0
Dynamic Materials Properties	83,231	86,617	96,984
Advanced Radiography	28,535	28,535	23,594
Secondary Assessment Technologies	76,913	77,913	81,949
Test Readiness	5,408	0	0
Total, Science Campaign	**316,690**	**295,646**	**365,222**

Outyear Funding Profile by Subprogram

(dollars in thousands)

	FY 2012	FY 2013	FY 2014	FY 2015
Science Campaign				
Advanced Certification	104,704	129,481	129,978	98,908
Primary Assessment Technologies	86,253	85,248	84,327	87,165
Dynamic Materials Properties	97,114	95,980	94,945	98,144
Advanced Radiography	27,132	26,816	26,528	27,421
Secondary Assessment Technologies	82,257	81,298	80,421	83,128
Total, Science Campaign	**397,460**	**418,823**	**416,199**	**394,766**

Engineering Campaign

Funding Profile by Subprogram

(dollars in thousands)

	FY 2009 Actual Appropriation	FY 2010 Current Appropriation	FY 2011 Request
Engineering Campaign			
Enhanced Surety	46,111	42,000	42,429
Weapon Systems Engineering Assessment Technology	16,593	18,000	13,530
Nuclear Survivability	21,100	21,000	19,786
Enhanced Surveillance	66,196	69,000	66,175
Total, Engineering Campaign	**150,000**	**150,000**	**141,920**

Outyear Funding Profile by Subprogram

(dollars in thousands)

	FY 2012	FY 2013	FY 2014	FY 2015
Engineering Campaign				
Enhanced Surety	44,019	43,699	48,851	50,523
Weapon Systems Engineering Assessment Technology	16,533	15,199	19,730	20,404
Nuclear Survivability	20,627	18,550	10,334	10,687
Enhanced Surveillance	68,558	57,548	66,005	64,125
Total, Engineering Campaign	**149,737**	**134,996**	**144,920**	**145,739**

Inertial Confinement Fusion Ignition and High Yield Campaign

Funding Profile by Subprogram

(dollars in thousands)

	FY 2009 Actual Appropriation	FY 2010 Current Appropriation	FY 2011 Request
Inertial Confinement Fusion Ignition and High Yield Campaign			
Ignition	100,535	106,734	109,506
NIF Diagnostics, Cryogenics, and Experimental Support	66,201	72,252	102,649
Pulsed Power Inertial Confinement Fusion	8,652	5,000	5,000
Joint Program in High Energy Density Laboratory Plasmas	3,053	4,000	4,000
Facility Operations and Target Production	203,282	269,929	260,393
NIF Assembly and Installation Program	55,192	0	0
Total, Inertial Confinement Fusion Ignition and High Yield Campaign	**436,915**	**457,915**	**481,548**

Outyear Funding Profile by Subprogram

(dollars in thousands)

	FY 2012	FY 2013	FY 2014	FY 2015
Inertial Confinement Fusion Ignition and High Yield Campaign				
Ignition	110,222	74,410	71,479	73,886
Support of Other Stockpile Programs	17,240	39,637	35,522	49,154
NIF Diagnostics, Cryogenics, and Experimental Support	74,104	83,878	82,921	76,117
Pulsed Power Inertial Confinement Fusion	5,000	5,000	5,000	5,000
Joint Program in High Energy Density Laboratory Plasmas	4,000	4,000	4,000	4,000
Facility Operations and Target Production	269,885	268,672	272,072	276,655
Total, Inertial Confinement Fusion Ignition and High Yield Campaign	**480,451**	**475,597**	**470,994**	**484,812**

Advanced Simulation and Computing Campaign

Funding Profile by Subprogram

(dollars in thousands)

	FY 2009 Actual Appropriation	FY 2010 Current Appropriation	FY 2011 Request
Advanced Simulation and Computing Campaign			
Integrated Codes	138,917	140,882	165,947
Physics and Engineering Models	49,284	61,189	62,798
Verification and Validation	50,184	50,882	54,781
Computational Systems and Software Environment	156,733	159,022	175,833
Facility Operations and User Support	161,007	155,650	156,389
Total, Advanced Simulation and Computing Campaign	**556,125**	**567,625**	**615,748**

Outyear Funding Profile by Subprogram

(dollars in thousands)

	FY 2012	FY 2013	FY 2014	FY 2015
Advanced Simulation and Computing Campaign				
Integrated Codes	167,327	163,752	163,887	168,143
Physics and Engineering Models	66,541	65,019	64,626	66,438
Verification and Validation	54,168	52,879	52,300	53,835
Computational Systems and Software Environment	175,833	175,833	175,833	180,912
Facility Operations and User Support	159,071	158,774	158,774	163,806
Total, Advanced Simulation and Computing Campaign	**622,940**	**616,257**	**615,420**	**633,134**

Readiness Campaign

Funding Profile by Subprogram

(dollars in thousands)

	FY 2009 Actual Appropriation	FY 2010 Current Appropriation	FY 2011 Request
Readiness Campaign			
Stockpile Readiness	27,869	5,746	18,941
High Explosives and Weapon Operations	8,581	4,608	3,000
Nonnuclear Readiness	32,545	12,701	21,864
Tritium Readiness	70,409	68,246	50,187
Advanced Design and Production Technologies	21,216	8,699	18,100
Total, Readiness Campaign	**160,620**	**100,000**	**112,092**

Outyear Funding Profile by Subprogram

(dollars in thousands)

	FY 2012	FY 2013	FY 2014	FY 2015
Readiness Campaign				
Tritium Readiness	81,697	70,747	69,854	72,584
Total, Readiness Campaign	**81,697**	**70,747**	**69,854**	**72,584**

Readiness in Technical Base and Facilities

Funding Profile by Subprogram

(dollars in thousands)

	FY 2009 Actual Appropriation	FY 2010 Current Appropriation	FY 2011 Request
Readiness in Technical Base and Facilities			
Operations of Facilities			
Kansas City Plant	89,871	156,056	186,102
Lawrence Livermore National Laboratory	82,605	86,670	80,106
Los Alamos National Laboratory	289,169	311,776	318,464
Nevada Test Site	92,203	79,583	80,077
Pantex	101,230	131,602	121,254
Sandia National Laboratory	123,992	104,133	117,369
Savannah River Site	92,762	128,580	92,722
Y-12 National Security Complex	235,397	229,774	220,927
Institutional Site Support	56,102	120,129	40,970
Subtotal, Operations of Facilities	1,163,331	1,348,303	1,257,991
Program Readiness	71,626	73,021	69,309
Material Recycle and Recovery	70,334	69,542	70,429
Containers	22,696	23,392	27,992
Storage	31,951	24,708	24,233
Subtotal, Operations and Maintenance	**1,359,938**	**1,538,966**	**1,449,954**
Construction	314,468	303,904	399,016
Total, Readiness in Technical Base and Facilities	**1,674,406**	**1,842,870**	**1,848,970**

Outyear Funding Profile by Subprogram

(dollars in thousands)

	FY 2012	FY 2013	FY 2014	FY 2015
Readiness in Technical Base and Facilities				
Operations of Facilities	1,178,512	1,129,208	1,061,276	1,097,791
Program Readiness	48,492	47,998	63,541	65,713
Material Recycle and Recovery	61,678	63,673	63,386	65,554
Containers	22,043	23,100	22,971	23,757
Storage	19,535	21,425	21,942	22,693
Subtotal, Operations and Maintenance	**1,330,260**	**1,285,404**	**1,233,116**	**1,275,508**
Construction	542,286	555,921	693,452	722,256
Readiness in Technical Base and Facilities	**1,872,546**	**1,841,325**	**1,926,568**	**1,997,764**

Secure Transportation Asset

Overview
Funding Profile by Subprogram

(dollars in thousands)

	FY 2009 Actual Appropriation	FY 2010 Current Appropriation	FY 2011 Request
Secure Transportation Asset (STA)			
Operations and Equipment	127,701	138,772	149,018
Program Direction	86,738	96,143	99,027
Total, Secure Transportation Asset	**214,439**	**234,915**	**248,045**

Outyear Funding Profile by Subprogram

(dollars in thousands)

	FY 2012	FY 2013	FY 2014	FY 2015
Operations and Equipment				
Operations and Equipment	149,274	144,398	144,660	150,066
Program Direction	101,998	105,058	108,209	111,455
Total, Operations and Equipment	**251,272**	**249,456**	**252,869**	**261,521**

Secure Transportation Asset

Operations and Equipment

Funding Profile by Subprogram

(dollars in thousands)

	FY 2009 Actual Appropriation	FY 2010 Current Appropriation	FY 2011 Request
Operations and Equipment			
Mission Capacity	70,107	75,038	84,010
Security/Safety Capability	20,617	26,472	27,001
Infrastructure and C5 Systems	25,978	23,217	23,681
Program Management	10,999	14,045	14,326
Total, Operations and Equipment	**127,701**	**138,772**	**149,018**

Outyear Funding Profile by Subprogram

(dollars in thousands)

	FY 2012	FY 2013	FY 2014	FY 2015
Operations and Equipment				
Mission Capacity	82,966	76,764	75,672	79,699
Security/Safety Capability	27,541	28,092	28,654	29,227
Infrastructure and C5 Systems	24,155	24,638	25,131	25,633
Program Management	14,612	14,904	15,203	15,507
Total, Operations and Equipment	**149,274**	**144,398**	**144,660**	**150,066**

Secure Transportation Asset

Program Direction

Funding Profile by Subprogram

(dollars in thousands)

	FY 2009 Actual Appropriation	FY 2010 Current Appropriation	FY 2011 Request
Program Direction			
Salaries and Benefits	75,226	81,225	83,311
Travel	10,188	11,331	7,746
Other Related Expenses	1,324	3,587	7,970
Total, Program Direction	**86,738**	**96,143**	**99,027**
Total, Full Time Equivalents	**570**	**647**	**637**

Outyear Funding Profile by Subprogram

(dollars in thousands)

	FY 2012	FY 2013	FY 2014	FY 2015
Program Direction				
Salaries and Benefits	85,781	88,323	90,943	93,641
Travel	7,980	8,218	8,465	8,719
Other Related Expenses	8,237	8,517	8,801	9,095
Total, Program Direction	**101,998**	**105,058**	**108,209**	**111,455**
Total, Full Time Equivalents	**637**	**637**	**637**	**637**

Nuclear Counterrorism Incident Response

Funding Profile by Subprogram

(dollars in thousands)

	FY 2009 Actual Appropriation	FY 2010 Current Appropriation	FY 2011 Request
Nuclear Counterterrorism Incident Response (Homeland Security)[a]			
Emergency Response (Homeland Security)[a]	132,918	139,048	134,092
National Technical Nuclear Forensics (Homeland Security)[a]	12,557	10,217	11,698
Emergency Management (Homeland Security)[a]	7,428	7,726	7,494
Operations Support (Homeland Security)[a]	8,207	8,536	8,675
International Emergency Management and Cooperation	4,515	7,181	7,139
Nuclear Counterterrorism (Homeland Security)[a]	49,653	49,228	64,036
Total, Nuclear Counterterrorism Incident Response	**215,278**	**221,936**	**233,134**

Outyear Funding Profile by Subprogram

(dollars in thousands)

	FY 2012	FY 2013	FY 2014	FY 2015
Nuclear Counterterrorism Incident Response				
Emergency Response (Homeland Security)[a]	137,715	138,359	139,504	141,107
National Technical Nuclear Forensics (Homeland Security)[a]	11,589	11,694	11,577	11,828
Emergency Management (Homeland Security)[a]	7,129	6,629	6,505	6,694
Operations Support (Homeland Security)[a]	8,691	8,799	8,749	9,000
International Emergency Management and Cooperation	7,129	7,139	7,032	7,275
Nuclear Counterterrorism (Homeland Security)[a]	50,661	49,888	61,933	62,082
Total, Nuclear Counterterrorism Incident Response	**222,914**	**222,508**	**235,300**	**237,986**

[a] Office of Management and Budget (OMB) Homeland Security designation.

Facilities and Infrastructure Recapitalization Program

Funding Profile by Subprogram

(dollars in thousands)

	FY 2009 Actual Appropriation	FY 2010 Current Appropriation	FY 2011 Request
Facilities and Infrastructure Recapitalization Program			
Operations and Maintenance (O&M)			
Recapitalization	69,226	69,377	79,600
Infrastructure Planning	10,324	8,982	9,400
Facility Disposition	0	5,600	5,000
Subtotal, Operations and Maintenance (O&M)	**79,550**	**83,959**	**94,000**
Construction	67,899	9,963	0
Total, Facilities and Infrastructure Recapitalization Program	**147,449**	**93,922**	**94,000**

Outyear Funding Profile by Subprogram

(dollars in thousands)

	FY 2012	FY 2013	FY 2014	FY 2015
Facilities and Infrastructure Recapitalization Program				
Operations and Maintenance (O&M)				
Recapitalization	79,600	86,600	0	0
Infrastructure Planning	9,400	2,400	0	0
Facility Disposition	5,000	5,000		
Subtotal, Operations and Maintenance (O&M)	**94,000**	**94,000**	**0**	**0**
Construction	0	0	0	0
Total, Facilities and Infrastructure Recapitalization Program	**94,000**	**94,000**	**0**	**0**

Site Stewardship

Funding Profile by Subprogram

(dollars in thousands)

	FY 2009 Actual Appropriation	FY 2010 Current Appropriation	FY 2011 Request
Site Stewardship			
Operations and Maintenance	0	61,288	90,478
Construction			15,000
Total, Site Stewardship	**0**	**61,288**	**105,478**

Outyear Funding Profile by Subprogram

(dollars in thousands)

	FY 2012	FY 2013	FY 2014	FY 2015
Site Stewardship				
Operations and Maintenance	101,929	103,536	174,071	205,802
Construction	0	0	0	0
Total, Site Stewardship	**101,929**	**103,536**	**174,071**	**205,802**

Environmental Projects and Operations

Funding Profile by Subprogram

(dollars in thousands)

	FY 2009 Actual Appropriation	FY 2010 Current Appropriation	FY 2011 Request
Environmental Projects and Operations			
Long-Term Stewardship	38,596	0	0
Total, Environmental Projects and Operations	**38,596**	**0**	**0**

Safeguards and Security

Funding Profile by Subprogram

(dollars in thousands)

	FY 2009 Actual Appropriation	FY 2010 Current Appropriation	FY 2011 Request
Safeguards and Security (S&S)			
Defense Nuclear Security (Homeland Security)			
Operations and Maintenance	689,510	720,044	667,954
Construction	45,698	49,000	52,000
Total, Defense Nuclear Security	**735,208**	**769,044**	**719,954**
Cyber Security (Homeland Security)	**121,286**	**122,511**	**124,345**
Total, Safeguards and Security	**856,494**	**891,555**	**844,299**

Outyear Funding Profile by Subprogram

(dollars in thousands)

	FY 2012	FY 2013	FY 2014	FY 2015
Safeguards and Security (S&S)				
Defense Nuclear Security (Homeland Security)				
Operations and Maintenance	675,229	672,344	671,671	681,259
Construction	55,715	57,265	57,254	59,390
Total, Defense Nuclear Security	**730,944**	**729,609**	**728,925**	**740,649**
Cyber Security (Homeland Security)	**126,046**	**125,822**	**125,707**	**127,189**
Total, Safeguards and Security	**856,990**	**855,431**	**854,632**	**867,838**

Defense Nuclear Security

Funding Profile by Subprogram

(dollars in thousands)

	FY 2009 Actual Appropriation	FY 2010 Current Appropriation	FY 2011 Request
Defense Nuclear Security			
Operations and Maintenance (Homeland Security)			
Protective Forces	418,694	453,000	414,166
Physical Security Systems	77,245	74,000	73,794
Transportation	420	0	0
Information Security	25,880	25,300	25,943
Personnel Security	31,263	30,600	30,913
Materials Control and Accountability	35,929	35,200	35,602
Program Management	71,364	83,944	80,311
Technology Deployment, Physical Security	9,431	8,000	7,225
Graded Security Protection Policy (formerly DBT)	19,284	10,000	0
Total, Operations and Maintenance (Homeland Security)	**689,510**	**720,044**	**667,954**
Construction (Homeland Security)	45,698	49,000	52,000
Total, Defense Nuclear Security	**735,208**	**769,044**	**719,954**

Outyear Funding Profile by Subprogram

(dollars in thousands)

	FY 2012	FY 2013	FY 2014	FY 2015
Defense Nuclear Security				
Operations and Maintenance (Homeland Security)				
Protective Forces	422,221	414,432	414,617	421,346
Physical Security Systems	71,405	73,987	71,165	72,297
Information Security	26,202	26,464	26,729	26,996
Personnel Security	31,222	31,534	31,849	32,167
Materials Control and Accountability	35,958	36,318	36,681	37,048
Program Management	80,924	82,239	83,186	83,887
Technology Deployment, Physical Security	7,297	7,370	7,444	7,518
Total, Operations and Maintenance (Homeland Security)	**675,229**	**672,344**	**671,671**	**681,259**
Construction (Homeland Security)	55,715	57,265	57,254	59,390
Total, Defense Nuclear Security	**730,944**	**729,609**	**728,925**	**740,649**

Cyber Security

Funding Profile by Subprogram

(dollars in thousands)

	FY 2009 Actual Appropriation	FY 2010 Current Appropriation	FY 2011 Request
Cyber Security (Homeland Security)			
Infrastructure Program	93,776	99,011	97,849
Enterprise Secure Computing	25,500	21,500	21,500
Technology Application Development	2,010	2,000	4,996
Total, Cyber Security (Homeland Security)	**121,286**	**122,511**	**124,345**

Outyear Funding Profile by Subprogram

(dollars in thousands)

	FY 2012	FY 2013	FY 2014	FY 2015
Cyber Security (Homeland Security)				
Infrastructure Program	99,550	99,326	98,211	99,693
Enterprise Secure Computing	21,500	21,500	22,500	22,500
Technology Application Development	4,996	4,996	4,996	4,996
Total, Cyber Security (Homeland Security)	**126,046**	**125,822**	**125,707**	**127,189**

Science, Technology and Engineering Capability

Funding Profile by Subprogram

(dollars in thousands)

	FY 2009 Actual Appropriation	FY 2010 Current Appropriation	FY 2011 Request
Operations and Maintenance	30,000	0	20,000
Total, Science, Technology and Engineering Capability	30,000	0	20,000

Outyear Funding Profile by Subprogram

(dollars in thousands)

	FY 2012	FY 2013	FY 2014	FY 2015
Operations and Maintenance	0	0	0	0
Total, Science, Technology and Engineering Capability	0	0	0	0

Weapons Activities

Congressionally Directed Projects

Funding Profile by Subprogram

(dollars in thousands)

	FY 2009 Actual Appropriation	FY 2010 Current Appropriation	FY 2011 Request
Congressionally Directed Projects	**22,836**	**3,000**	**0**

Defense Nuclear Nonproliferation

Overview
Funding Profile by Subprogram

(dollars in thousands)

	FY 2009 Actual Appropriation	FY 2010 Current Appropriation	FY 2011 Request
Defense Nuclear Nonproliferation			
Nonproliferation and Verification Research and Development	356,281	317,300	351,568
Nonproliferation and International Security	150,000	187,202	155,930
International Nuclear Materials Protection and Cooperation	460,592 [a]	572,050	590,118
Elimination of Weapons-Grade Plutonium Production	141,299	24,507	0
Fissile Materials Disposition	41,774	701,900	1,030,713
Global Threat Reduction Initiative	404,640 [b]	333,500	558,838
Congressional Directed Projects	1,903	250	0
Subtotal, Defense Nuclear Nonproliferation	**1,556,489**	**2,136,709**	**2,687,167**
Use of Prior Year Balances	-11,418	0	0
Total, Defense Nuclear Nonproliferation	**1,545,071**	**2,136,709**	**2,687,167**

NOTES: FY 2009 funds appropriated in Other Defense Activities for the Mixed Oxide Fuel Fabrication Facility, and in Weapons Activities for the Waste Solidification Building and Pit Disassembly and Conversion Facility (FY 2009 and FY 2010) are not reflected in the above table.

Public Law Authorization:
Energy and Water and Related Agencies Appropriations Act, 2010 (P.L. 111-85)
National Nuclear Security Administration Act, (P.L. 106-65), as amended
National Defense Authorization Act for Fiscal Year 2010 (P.L. 111-84)

Outyear Funding Profile by Subprogram

(dollars in thousands)

	FY 2012	FY 2013	FY 2014	FY 2015
Defense Nuclear Nonproliferation				
Nonproliferation and Verification Research and Development	315,941	317,558	328,194	351,145
Nonproliferation and International Security	161,083	165,275	169,861	181,741
International Nuclear Materials Protection and Cooperation	570,798	561,790	558,492	623,670
Fissile Materials Disposition	859,375	1,010,642	789,558	743,600
Global Threat Reduction Initiative	599,994	659,926	987,138	1,056,172
Total, Defense Nuclear Nonproliferation	**2,507,191**	**2,715,191**	**2,833,243**	**2,956,328**

[a] FY 2009 amount includes international contributions of $4,067,065 from Government of Canada, $387,335 from New Zealand, $837,600 from Norway, and $300,000 from South Korea.

[b] FY 2009 amount includes international contributions of $3,918,000 from the Government of Canada, and $5,722,212 from the United Kingdom of Great Britain and Northern Ireland.

Nonproliferation and Verification Research and Development

Funding Profile by Subprogram

(dollars in thousands)

	FY 2009 Actual Appropriation	FY 2010 Current Appropriation	FY 2011 Request
Nonproliferation and Verification R&D			
Operations and Maintenance (O&M)			
Proliferation Detection	195,400	181,839	225,004
Homeland Security-Related Proliferation Detection [Non-Add]	[50,000]	[50,000]	[50,000]
Nuclear Detonation Detection	142,421	135,461	126,564
Subtotal, O&M	**337,821**	**317,300**	**351,568**
Construction	18,460	0	0
Total, Nonproliferation and Verification R&D	**356,281**	**317,300**	**351,568**

Outyear Funding Profile by Subprogram

(dollars in thousands)

	FY 2012	FY 2013	FY 2014	FY 2015
Nonproliferation and Verification R&D				
Operations and Maintenance				
Proliferation Detection (PD)	182,614	183,549	189,696	202,962
Homeland Security-Related Proliferation Detection [Non-Add]	[50,000]	[50,000]	[50,000]	[50,000]
Nuclear Detonation Detection	133,327	134,009	138,498	148,183
Total, Nonproliferation and Verification R&D	**315,941**	**317,558**	**328,194**	**351,145**

Nonproliferation and International Security

Funding Profile by Subprogram

(dollars in thousands)

	FY 2009 Actual Appropriation	FY 2010 Current Appropriation	FY 2011 Request
Nonproliferation and International Security			
Dismantlement and Transparency	47,529	72,763	49,207
Global Security Engagement and Cooperation	44,076	50,708	47,289
International Regimes and Agreements	40,793	42,703	39,824
Treaties and Agreements	17,602	21,028	19,610
Total, Nonproliferation and International Security	**150,000**	**187,202**	**155,930**

Outyear Funding Profile by Subprogram

(dollars in thousands)

	FY 2012	FY 2013	FY 2014	FY 2015
Nonproliferation and International Security				
Dismantlement and Transparency	50,832	52,155	53,602	57,351
Global Security Engagement and Cooperation	48,852	50,124	51,514	55,117
International Regimes and Agreements	41,141	42,210	43,383	46,417
Treaties and Agreements	20,258	20,786	21,362	22,856
Total, Nonproliferation and International Security	**161,083**	**165,275**	**169,861**	**181,741**

International Nuclear Materials Protection and Cooperation

Funding Profile by Subprogram

(dollars in thousands)

	FY 2009 Actual Appropriation	FY 2010 Current Appropriation	FY 2011 Request
International Nuclear Materials Protection and Cooperation			
Navy Complex	30,316	33,880	34,322
Strategic Rocket Forces/12th Main Directorate	51,767	48,646	51,359
Rosatom Weapons Complex	76,070	71,517	105,318
Civilian Nuclear Sites	45,542	63,481	59,027
Material Consolidation and Conversion	21,560	13,611	13,867
National Programs and Sustainability	54,901	68,469	60,928
Second Line of Defense	174,844	272,446	265,297
International Contributions	5,592 [a]	0	0
Total, International Nuclear Materials Protection and Cooperation	**460,592**	**572,050**	**590,118**

Outyear Funding Profile by Subprogram

(dollars in thousands)

	FY 2012	FY 2013	FY 2014	FY 2015
International Nuclear Materials Protection and Cooperation				
Navy Complex	31,764	0	0	0
Strategic Rocket Forces/12th Main Directorate	37,830	0	0	0
Rosatom Weapons Complex	52,000	0	0	0
Civilian Nuclear Sites	18,502	0	0	0
Material Consolidation and Conversion	14,306	14,627	14,627	16,433
National Programs and Sustainability	61,967	39,006	39,006	43,623
Second Line of Defense	354,429	508,157	504,859	563,614
International Contributions	0	0	0	0
Total, International Nuclear Materials Protection and Cooperation	**570,798**	**561,790**	**558,492**	**623,670**

[a] FY 2009 amount includes international contributions of $4,067,065 from Government of Canada, $387,335 from New Zealand, $837,600 from Norway, and $300,000 from South Korea.

Elimination of Weapons-Grade Plutonium Production

Funding Profile by Subprogram

(dollars in thousands)

	FY 2009 Actual Appropriation	FY 2010 Current Appropriation	FY 2011 Request
Elimination of Weapons-Grade Plutonium Production (EWGPP)			
Zheleznogorsk Plutonium Production Elimination (ZPPEP)	139,282	22,507	0
Crosscutting and Technical Support Activities	2,017	2,000	0
Total, Elimination of Weapons-Grade Plutonium Production (EWGPP)	**141,299**	**24,507**	**0**

Outyear Funding Profile by Subprogram

(dollars in thousands)

	FY 2012	FY 2013	FY 2014	FY 2015
Elimination of Weapons-Grade Plutonium Production	0	0	0	0

Fissile Materials Disposition

Funding Profile by Subprogram

(dollars in thousands)

	FY 2009 Current Appropriation	FY 2010 Current Appropriation	FY 2011 Request
Fissile Materials Disposition (FMD)			
U.S. Surplus Fissile Materials Disposition			
Operations and Maintenance (O&M)			
U.S. Plutonium Disposition	0	90,896	278,940
U.S. Uranium Disposition	39,274	34,691	25,985
Supporting Activities	1,500	1,075	0
Subtotal, O&M	**40,774**	**126,662**	**304,925**
Construction	0	574,238	612,788
Total, U.S. Surplus FMD	**40,774**	**700,900**	**917,713**
Russian Surplus FMD			
Russian Materials Disposition	1,000	1,000	113,000
Total, Fissile Materials Disposition	**41,774**	**701,900**	**1,030,713**

Outyear Funding Profile by Subprogram

(dollars in thousands)

	FY 2012	FY 2013	FY 2014	FY 2015
Fissile Materials Disposition				
U.S. Surplus Fissile Materials Disposition (O&M)	302,276	482,185	478,897	459,827
Construction	556,099	527,457	309,661	282,773
Russian Surplus Fissile Materials Disposition	1,000	1,000	1,000	1,000
Total, Fissile Materials Disposition	**859,375**	**1,010,642**	**789,558**	**743,600**

Global Threat Reduction Initiative (GTRI)

Funding Profile by Subprogram [a]

(dollars in thousands)

	FY 2009 Actual Appropriation	FY 2010 Current Appropriation	FY 2011 Request
Global Threat Reduction Initiative			
Highly Enriched Uranium (HEU) Reactor Conversion	**76,706**	**102,772**	**119,000**
Nuclear and Radiological Material Removal			
Russian-Origin Nuclear Material Removal	123,083	94,167	145,191
U.S.-Origin Nuclear Material Removal	8,331	9,889	16,500
Gap Nuclear Material Removal	4,982	9,111	108,000
Emerging Threats Nuclear Material Removal	7,600	5,556	16,000
International Radiological Material Removal	21,702	8,333	45,000
Domestic Radiological Material Removal	17,063	17,778	25,000
Subtotal, Nuclear and Radiological Material Removal	**182,761**	**144,834**	**355,691**
Nuclear and Radiological Material Protection			
BN-350 Nuclear Material Protection	50,977	9,109	2,000
International Material Protection	42,909	41,463	57,000
Domestic Material Protection	41,647	35,322	25,147
Subtotal, Nuclear and Radiological Material Protection	**135,533**	**85,894**	**84,147**
Total, Global Threat Reduction Initiative (appropriation)	**395,000**	**333,500**	**558,838**
Funds from International Contributions	**9,640**	**0**	**0**
Total, Global Threat Reduction Initiative Funds Available	**404,640**	**333,500**	**558,838**

[a] FY 2009 amount includes international contributions of $3,918,000 from the Government of Canada, and $5,722,212 from the United Kingdom of Great Britain and Northern Ireland.

Outyear Funding Profile by Subprogram

(dollars in thousands)

	FY 2012	FY 2013	FY 2014	FY 2015
Global Threat Reduction Initiative				
HEU Reactor Conversion	**176,000**	**210,000**	**245,000**	**293,000**
Nuclear and Radiological Material Removal				
Russian-Origin Nuclear Material Removal	96,000	70,000	82,000	83,000
U.S.-Origin Nuclear Material Removal	1,000	3,000	1,000	1,000
Gap Nuclear Material Removal	22,000	16,000	27,000	1,000
Emerging Threats Nuclear Material Removal	16,000	16,000	194,000	188,000
International Radiological Material Removal	44,000	39,000	10,000	10,000
Domestic Radiological Material Removal	31,000	31,000	33,000	34,000
Subtotal, Nuclear and Radiological Material Removal	**210,000**	**175,000**	**347,000**	**317,000**
Nuclear and Radiological Material Protection				
BN-350 Nuclear Material Protection	2,000	0	0	0
International Material Protection	100,000	125,000	130,000	143,000
Domestic Material Protection	111,994	149,926	265,138	303,172
Subtotal, Nuclear and Radiological Material Protection	**213,994**	**274,926**	**395,138**	**446,172**
Total, Global Threat Reduction Initiative	**599,994**	**659,926**	**987,138**	**1,056,172**

Congressionally Directed Projects

Funding Profile by Subprogram

(dollars in thousands)

	FY 2009 Actual Appropriation	FY 2010 Current Appropriation	FY 2011 Request
Congressionally Directed Projects	**1,903**	**250**	**0**

Naval Reactors

Overview
Appropriation Summary by Program

(dollars in thousands)

	FY 2009 Actual Appropriation	FY 2010 Current Appropriation	FY 2011 Request
Naval Reactors Development			
Operations and Maintenance (O&M)	771,600	877,533	997,886
Program Direction	34,454	36,800	40,000
Construction	22,000	30,800	32,600
Total, Naval Reactors Development	**828,054**	**945,133**	**1,070,486**

Public Law Authorizations:
P.L. 83-703, "Atomic Energy Act of 1954"
"Executive Order 12344 (42 U.S.C. 7158), "Naval Nuclear Propulsion Program"
P.L. 107-107, "National Defense Authorizations Act of 2002", Title 32, "National Nuclear Security Administration"
John Warner National Defense Authorization Act for FY 2007, (P.L. 109-364)
FY 2008 Consolidated Appropriations Act (P.L. 110-161)
National Nuclear Security Administration Act, (P.L. 106-65), as amended
FY 2009 Consolidated Appropriations Act (P.L. 111-8)
FY 2010 Energy and Water and Related Agencies Appropriations Act (P.L. 111-85)

Outyear Appropriation Summary by Program

(dollars in thousands)

	FY 2012	FY 2013	FY 2014	FY 2015
Naval Reactors Development				
Operations and Maintenance	1,018,634	1,102,978	1,177,817	1,240,430
Program Direction	41,200	42,400	43,700	45,000
Construction	39,900	25,800	4,500	25,100
Total, Naval Reactors Development	**1,099,734**	**1,171,178**	**1,226,017**	**1,310,530**

Statement of
Inès Triay
Assistant Secretary
Office of Environmental Management
U.S. Department of Energy
Before the
Subcommittee on Strategic Forces
Committee on Armed Services
U.S. House of Representatives

March 25, 2010

Good morning, Mr. Chairman, Ranking Member Turner, 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 January, 2010, EM has obligated $5.8 billion and spent $1.1 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)

FY 2009 Appropriation	FY 2009 Recovery Act	FY 2010 Request	FY 2010 Appropriation	FY 2011 Request
$489,239	$467,875	$411,168	$469,168	$412,000

- *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)

FY 2009 Appropriation	FY 2009 Recovery Act	FY 2010 Request	FY 2010 Appropriation	FY 2011 Request
$226,082	**$211,775**	**$191,938**	**$199,438**	**$200,000**

- *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)

FY 2009 Appropriation	FY 2009 Recovery Act	FY 2010 Request	FY 2010 Appropriation	FY 2011 Request
$498,688	**$755,110**	**$411,168**	**$436,168**	**$450,000**

- *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)

FY 2009 Appropriation	FY 2009 Recovery Act	FY 2010 Request	FY 2010 Appropriation	FY 2011 Request
$1,057,496	**$1,634,500**	**$993,503**	**$1,080,503**	**$1,041,822**

- *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)

FY 2009 Appropriation	FY 2009 Recovery Act	FY 2010 Request	FY 2010 Appropriation	FY 2011 Request
$1,009,043	**$326,035**	**$1,098,000**	**$1,098,000**	**$1,158,178**

- *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)

FY 2009 Appropriation	FY 2009 Recovery Act	FY 2010 Request	FY 2010 Appropriation	FY 2011 Request
$236,785	**$172,375**	**$224,981**	**$234,981**	**$225,000**

- *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

Mr. Chairman, Ranking Member Turner, 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.

TESTIMONY OF

DR. PETER S. WINOKUR, CHAIRMAN

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

SAFETY OVERSIGHT OF DEFENSE NUCLEAR FACILITIES

SUBCOMMITTEE ON STRATEGIC FORCES
HOUSE ARMED SERVICES COMMITTEE

UNITED STATES HOUSE OF REPRESENTATIVES

MARCH 25, 2010

MR. CHAIRMAN AND MEMBERS OF THE SUBCOMMITTEE:

Thank you for the opportunity to testify on nuclear safety issues at defense nuclear facilities operated by the Department of Energy (DOE) and the National Nuclear Security Administration (NNSA). Clearly, this is a period of significant transition for DOE, which is accompanied by billions in construction projects and a huge portfolio of Recovery Act work. The Board believes it is prudent to proactively address safety issues at DOE's defense nuclear facilities to ward off threats to public health and safety and to resolve safety concerns early in the design process. My testimony is arranged in two parts: first, I will provide some background on the Defense Nuclear Facilities Safety Board (Board) and how we operate, and second, I will describe broad nuclear safety issues that affect activities throughout the DOE and NNSA defense nuclear complex.

Legislative History and Statutory Mission of the Board

The Board was created by Congress in 1988. Congress tasked the Board to conduct safety oversight of defense nuclear facilities under the control or jurisdiction of DOE. The Atomic Energy Act of 1954, as amended, currently establishes two categories of facilities subject to Board jurisdiction: (1) those facilities under Secretary of Energy's control or jurisdiction, operated for national security purposes that produce or utilize special nuclear materials, and (2) nuclear waste storage facilities under the control or jurisdiction of the Secretary of Energy. The Board's jurisdiction does not extend to facilities or activities associated with the Naval Nuclear Propulsion Program, transportation of nuclear explosives or materials, the U.S. Enrichment Corporation, facilities developed pursuant to the Nuclear Waste Policy Act of 1982 and licensed by the Nuclear Regulatory Commission, or any facility not conducting atomic energy defense activities.

Under its enabling statute, 42 U.S.C. § 2286 *et seq.*, the Board is responsible for independent oversight of all programs and activities impacting public health and safety within DOE's defense nuclear facility complex, which has served to design, manufacture, test, maintain,

and decommission nuclear weapons. The Board is authorized to review and analyze facility and system designs, operations, practices, and events, and to make recommendations to the Secretary of Energy that the Board believes are necessary to ensure adequate protection of public health and safety, including worker safety. In this regard, the Board's actions are distinguishable from a regulator in that the Secretary may accept or reject the recommendations in whole or in part. The Board must consider the technical and economic feasibility of implementing the recommended measures, and the Secretary must report to the President and Congress if implementation of a recommendation is impracticable because of budgetary considerations. If the Board determines that an imminent or severe threat to public health or safety exists, the Board is required to transmit its recommendations to the President, as well as to the Secretaries of Energy and Defense. After receipt by the President, the Board is required to make such recommendations public and transmit them to the Committees on Armed Services and Appropriations of the Senate and to the Speaker of the House.

The Board's enabling statute also requires the Board to review and evaluate the content and implementation of health and safety standards, including DOE's orders, rules, and other safety requirements, relating to the full life cycle of defense nuclear facilities, including design, construction, operation, and decommissioning. The Board must then recommend to the Secretary of Energy any specific measures, such as changes in the content and implementation of those standards that the Board believes should be adopted to ensure that public health and safety are adequately protected. The Board is also required to review the design of new defense nuclear facilities before construction begins, as well as modifications to older facilities, and to recommend changes necessary to protect health and safety. The Board periodically reviews and monitors construction at these defense nuclear facilities to evaluate whether construction practices and quality assurance ensure design requirements related to nuclear safety are met.

In support of its mission, the Board may conduct investigations, issue subpoenas, hold public hearings, gather information, conduct studies, establish reporting requirements for DOE, and take other actions in furtherance of its review of health and safety issues at defense nuclear facilities. These powers facilitate accomplishment of the Board's primary function, which is to

assist DOE in identifying and correcting health and safety problems at defense nuclear facilities. The Secretary of Energy is required to cooperate fully with the Board and provide the Board with ready access to such facilities, personnel, and information the Board considers necessary to carry out these responsibilities.

Nuclear Safety Issues at DOE and NNSA Defense Nuclear Facilities

The Board evaluates all of DOE's and NNSA's activities in the context of Integrated Safety Management. At the Board's public meeting on safety oversight in November 2009, DOE and NNSA reaffirmed the central role of Integrated Safety Management in protecting the public, the environment, and workers in conducting their missions at defense nuclear facilities. The core functions of Integrated Safety Management are straightforward and have been institutionalized in policy by DOE and NNSA in response to the Board's recommendations. They are:

- Define the scope of work
- Analyze the hazards
- Develop and implement hazard controls
- Perform work within controls, and
- Provide feedback and continuous improvement

Integrated Safety Management also institutionalizes guiding principles that form the basis for a safety-conscious and efficient organization, including:

- Balance mission and safety
- Line management responsibility for safety
- Competence commensurate with responsibility, and
- Identification of safety standards and requirements appropriate to the task at hand

When properly implemented at all levels, Integrated Safety Management results in facility designs that efficiently address hazards, operating procedures that are safe and productive, and feedback that drives continuous improvement in both safety and efficiency. Shortcomings in safety and efficiency in the operation of DOE and NNSA defense nuclear facilities can almost always be related to a failure to apply Integrated Safety Management.

I would like to highlight several broad safety issues that cut across the defense nuclear complex:

- The need to preserve and continuously improve safety directives
- The need to consider safety early in the design of new defense nuclear facilities
- The need to replace unsound facilities and invest in infrastructure for the future
- The need to safely store and disposition DOE's and NNSA's large inventories of nuclear materials
- The need to develop and maintain a technically qualified federal workforce dedicated to the effective oversight of safety, including an integrated nuclear safety research and development program

Preserving an Effective Nuclear Safety Directives System:
Preserve the Departmental requirements and guidance essential to ensuring safety within the DOE defense nuclear complex.

DOE and NNSA are self-regulated, and to facilitate self-regulation have developed a system of nuclear safety directives enumerating a comprehensive set of nuclear safety requirements, garnered from 60 years of operating experience in both the commercial and defense-related arenas. The Board evaluates these safety directives, provides comments on gaps or weaknesses, and uses the directives as fundamental yardsticks for evaluating safety of facilities and activities.

Until recently, DOE and NNSA were pursuing an effort to review a significant subset of the directives to ensure that objectives are "accomplished without being unclear, overly prescriptive, duplicative, or contradictory" per the direction of the Secretary of Energy in a memorandum dated September 10, 2007. Thus far, this process has reaffirmed several of the key safety principles necessary for DOE to be a self-regulating agency. Additionally, in January 2009, DOE issued a sweeping revision to the directive that governs the structure of the directives system and the processes used to develop and revise directives. This revision resulted in a fundamental paradigm shift that will result in DOE and NNSA revising many existing directives.

Early this year, the Board learned of a new DOE initiative to further reform directives. This new initiative is aimed at identifying and eliminating burdensome directives to improve efficiency across DOE. The Board is fully in favor of continuously improving safety directives; however, DOE's commencement of another wholesale revision of the directives system before the efforts already underway are properly concluded may severely challenge DOE's ability to maintain and promulgate safety requirements.

DOE's previous reviews of the directives system concluded in most cases that its safety requirements are correct and appropriate, and that inefficiencies result from how the requirements are implemented. The Board has observed that inefficiencies in implementation typically result from DOE having provided insufficient technical guidance, as opposed to excessively prescriptive guidance.

In all, more than 50 nuclear safety-related directives were redrafted during 2009. The number to be changed in 2010 is indeterminate at this time but is likely to be significantly larger. This is a large and costly effort, and care must be taken to avoid weakening the directives that underpin safety throughout the defense nuclear complex. The Board is maintaining an intense level of oversight over the revision to the directives system and the vitality of the directives being revised to ensure that the margin of safety embodied in DOE's directives is maintained or increased. It is essential that the senior leadership of DOE and NNSA do the same, or many years of progress in development and refinement of the directives system could be undone.

Integrating Nuclear Safety Early in the Design of Defense Nuclear Facilities:
Continue implementation of the safety-in-design initiative as a high priority.

DOE and NNSA defense nuclear facilities currently under design and construction have a total project cost of more than $20 billion. The Board is required by law to make such recommendations to the Secretary during design and construction that would ensure that new defense nuclear facilities provide adequate protection of the health and safety of the workers and the public. For the past several years, the Board has driven an initiative to ensure that DOE and NNSA design project teams focus on early recognition and rapid resolution of safety issues. The Board and DOE prepared a joint report to Congress, dated July 19, 2007, that describes in detail many of the actions being taken to accelerate identification and resolution of safety issues. Performing thorough reviews of safety issues earlier in the design process allows issues to be resolved efficiently and in a timely manner, and minimizes adverse impacts to project cost and schedule. This approach is essential to the success of major design and construction projects, which includes facilities such as:

- Waste Treatment and Immobilization Plant, Hanford Site
- Chemistry and Metallurgy Research Replacement Project, Los Alamos National Laboratory (LANL)
- Uranium Processing Facility, Y-12 National Security Complex
- Pit Disassembly and Conversion Project, Savannah River Site
- Salt Waste Processing Facility, Savannah River Site
- Integrated Waste Treatment Unit, Idaho National Laboratory
- Radioactive Liquid Waste Treatment Facility Upgrade Project, LANL

The importance of early integration of safety into the design cannot be overstated. This approach is the best way to avoid costly late resolution of major design issues or surprises late in the development of a new facility.

The Duncan Hunter National Defense Authorization Act for Fiscal Year 2009, Public Law 110-417, enacted a limitation on funding for the Chemistry and Metallurgy Research Replacement Project at LANL until the Board and NNSA each certified that certain design issues reported by the Board had been resolved. The Board submitted its certification report to Congress on September 4, 2009. The Board applied significant resources toward accomplishing this certification, consuming about 6,500 hours of Board and staff effort. Working with NNSA, the Board identified specific concerns and the actions necessary to resolve them prior to certification. As discussed in detail in the Board's certification report, NNSA revised or agreed to revise the preliminary design, design requirements, and design processes to address the Board's concerns. NNSA also committed to implement detailed designs during final design consistent with the design requirements agreed to as part of the certification review. The Board will continue to review the facility design as it develops to ensure that it remains consistent with the commitments made by NNSA. Both the Board and NNSA believe this effort will result in savings and enhanced safety as the project proceeds into construction by avoiding the need for major redesigns.

The House Conference Report 109-702 on the National Defense Authorization Act for Fiscal Year 2007 (H.R. 5122) directed the Board to provide quarterly reports on the status of significant unresolved technical differences between the Board and DOE on issues concerning the design and construction of DOE's defense nuclear facilities. While the direction no longer requires the Board to continue providing quarterly reports, we believe these reports serve as an appropriate mechanism to keep all parties informed of the Board's concerns with design of new DOE defense nuclear facilities. The Board has also been encouraged by the feedback received from the Congressional committees and intends to continue providing these reports to Congress and DOE. The nine reports issued thus far are available to the public on the Board's web site.

Ending Reliance on Unsound Facilities and Investing in Infrastructure for the Future:
Parallel investments are needed to safely operate existing facilities and develop replacements.

NNSA's production infrastructure includes aging and hazardous facilities overdue for replacement as well as newer facilities that require upgrades to provide safe and reliable support for the nation's enduring nuclear deterrent. Examples of aging facilities include the 9212 Complex at Y-12 (portions of which are more than 60 years old), to be replaced by the planned Uranium Processing Facility; and the Chemistry and Metallurgy Research (CMR) building at LANL (more than 50 years old), to be replaced by the Chemistry and Metallurgy Research Replacement Project. The 9212 Complex cannot meet existing nuclear safety requirements for Hazard Category 2 nuclear facilities, and the CMR building's seismic fragility poses a continuing risk to the public and workers. Other facilities in similar situations include the Radioactive Liquid Waste Treatment Facility at LANL and the scattered facilities that constitute LANL's capability to repackage, characterize, and ship transuranic wastes offsite for disposal.

NNSA is taking interim actions to improve the safety posture in the existing facilities. NNSA has reduced the inventory of uranium solutions in plastic bottles at the 9212 Complex, and plans to relocate some activities from CMR to a more robust facility at LANL. NNSA also is executing a line-item project to upgrade certain facility systems in the 9212 Complex based on a facility risk review and is consolidating operations in CMR into wings of the structure that do not lie directly above a seismic fault. However, these are stop-gap measures. These facilities are structurally unsound, are unsuitable for use any longer than absolutely necessary, and will have to be shut down, perhaps before the replacement facilities are ready.

The planned replacement facilities have been delayed beyond original projections, but the need to proceed with them now appears to be broadly recognized and supported. This is a positive development, but the new facilities are at least a decade away. NNSA must continue to drive safety improvements at the existing facilities while the replacement facilities are developed. Unsafe conditions would rapidly develop if NNSA were to turn away from

maintaining and upgrading facilities such as the 9212 Complex and CMR in anticipation of their eventual replacement.

NNSA's infrastructure problems extend beyond the obviously obsolete facilities; however, NNSA also needs to invest in safety upgrades at newer facilities with enduring missions. The Plutonium Facility at LANL is a compelling example. NNSA plans to rely on that facility as its sole manufacturing capability for nuclear weapon pits for decades to come, but had not made commensurate investments in the building's safety systems. The Board spent several years pressing NNSA to establish a reliable confinement system for the facility, but NNSA resisted making any such investment. As a result, the Board issued an urgent formal recommendation last year on the need to implement reliable safety systems in the facility to reduce the consequences of severe accident scenarios.

A similar situation exists at the Device Assembly Facility at the Nevada Test Site. That facility is the permanent home to the Critical Experiments Facility relocated from LANL. It also performs assembly work for subcritical experiments and is a potential location for nuclear explosive assembly and disassembly operations. Despite these important, enduring missions, and despite the Board's urging, NNSA has not committed to the investment needed to correct numerous, long-standing deficiencies in its fire suppression system.

Investments such as these are a continuing need in the defense nuclear complex. Failing to devote sufficient resources to these improvements has long-term negative effects on NNSA's ability to safely accomplish its objectives.

Safe Storage and Disposition of Nuclear Materials

Safely package, store, and disposition excess nuclear materials to eliminate the risk they may pose to facility workers and the public.

DOE and NNSA manage a large inventory of nuclear materials that have been declared surplus to national security needs and are no longer required in active programs. These materials

include plutonium metal, plutonium oxides, spent nuclear fuel, enriched uranium, and other special nuclear materials. DOE's and NNSA's contractors continue to add to this surplus inventory by ending cold-war era programs, decommissioning old nuclear facilities, and uncovering or producing additional wastes during Recovery Act work.

One example of newly excess material comes from the Idaho National Laboratory, where DOE recently dismantled the Zero Power Physics Reactor. In its wake remain more than 250,000 unirradiated or slightly irradiated fuel plates totaling several hundred metric tons of material. The bulk of the plates are made of depleted uranium metals and oxides, and DOE may dispose of these plates as low-level waste. However, DOE must also find a disposition path for more than 20,000 fuel plates and pins made of plutonium metals, oxides, and alloys totaling more than one metric ton of plutonium.

As DOE personnel declare or identify excess materials, they must also safely characterize, package (or repackage), and store the materials pending disposition. The Board continues to urge DOE to complete the implementation of safe packaging practices per the Board's Recommendation 2005-1, *Nuclear Material Packaging*.

DOE has defined the disposition paths for many of its excess nuclear materials, but some materials have no defined disposition path. Other previously planned disposition paths may change. For many materials, DOE's preferred method of disposition is chemical processing through the H-Canyon facility at the Savannah River Site. This facility, and its now-deactivated sister facility, the F-Canyon, have successfully provided a safe disposition path for large quantities of spent nuclear fuel and other special nuclear materials. However, it is not clear to the Board that operating H-Canyon through the end of its planned lifespan in 2019 will be sufficient to process DOE's entire inventory of surplus nuclear materials that have no other disposition path. DOE will need to provide maintenance resources until H-Canyon is ultimately deactivated and carefully consider how long H-Canyon can operate safely.

Effectively Performing Federal Safety Oversight:
Ensure federal personnel have appropriate backgrounds, training, and qualifications, and are dedicated to the oversight of safety of defense nuclear facilities.

Safe and efficient execution of DOE's and NNSA's missions requires an adequate complement of qualified technical staff at its headquarters and site offices. DOE and NNSA have committed to developing and maintaining a technically competent federal workforce. Both DOE and NNSA have made good progress in assigning qualified federal staff to the Technical Qualification Program, Facility Representative Program, and Safety System Oversight Program, each of which is critical for providing technically competent personnel for the oversight of defense nuclear facilities.

Safe and efficient execution of DOE's and NNSA's missions also requires commitment by senior federal management to dedicate sufficient resources to safety oversight of the contractors who design, build, operate, maintain, and decommission DOE's and NNSA's facilities. However, both DOE and NNSA are reevaluating their roles in overseeing the work of their contractors.

Last year, DOE undertook a major review to evaluate whether it should shed its oversight responsibilities in a number of areas, including worker safety and radiological safety. DOE did not implement major changes but is continuing to study its options.

In January 2010, NNSA began a 6-month moratorium on NNSA-initiated functional assessments, reviews, evaluations, and inspections of its contractors. NNSA stated the purpose of the moratorium is to "1) free up resources to be redirected to higher mission direct work; and, 2) to allow NNSA to use available resources to develop an integrated, comprehensive, interdisciplinary oversight approach with an implementing plan consistent with the Secretarial objective to rely more on contractor assurance systems, reduce or eliminate requirements for transactional oversight where not required by law or regulations and rely on rigorous peer reviews." NNSA stated that it expected to cancel about 95 assessments of various types,

including assessments of contractor assurance systems, that it had planned to perform during the period covered by the moratorium.

In parallel with this effort, DOE's Office of Health, Safety and Security (HSS) changed its operational model from the traditional role of performing independent oversight to one that emphasizes assisting line organizations in addressing problem areas in safety and security. The Deputy Secretary of Energy issued a safety and security reform plan on March 16 stating that HSS had suspended independent oversight of low-hazard operations except where site performance warranted increased attention, but that rigorous and informed oversight will continue for high-hazard operations. The reform plan states that DOE's directive on independent oversight—DOE Order 470.2B, *Independent Oversight and Performance Assurance Program*—will be revised to redefine the independent oversight and regulatory enforcement functions of HSS.

The Board believes that there are noteworthy elements in DOE's and NNSA's oversight reform efforts. For example, the Board agrees that DOE should cultivate and maintain the technical expertise within its headquarters organizations to advise line organizations and field elements on safety issues. The Board also agrees that DOE and NNSA should require their contractors to implement and continuously improve assurance systems that drive the safe execution of work. However, contractor assurance systems at defense nuclear facilities have not achieved a degree of effectiveness that would warrant a reduction in federal safety oversight, nor are they expected to in the foreseeable future. It would not be prudent to begin reducing federal safety oversight of defense nuclear facilities in expectation of future improved assurance by the contractors.

The Board is planning to hold a second public meeting on the topic of federal safety oversight for defense nuclear facilities later this spring. The Board expects to thoroughly address DOE's and NNSA's oversight reform initiatives in this public meeting.

Nuclear Safety Research and Development

Ensure the integration and support of research, analysis, and testing in nuclear safety technologies.

The Board's recommendation on safety oversight by DOE and NNSA—Recommendation 2004-1, *Oversight of Complex, High-Hazard Nuclear Operations*—specifically addressed the need for DOE and NNSA to ensure the continued integration and support of research, analysis, and testing in nuclear safety technologies. Such research is particularly needed to improve safety assurance for high consequence, low probability events, and to identify improvements in DOE's safety directives. In addition, nuclear safety directives compensate for the gaps in the knowledge of nuclear science by conservatively addressing the hazards. This conservatism is only a best estimate. It is based upon incomplete knowledge of the hazard and can in the extreme be very costly.

DOE's October 2006 implementation plan for the recommendation acknowledged that DOE's nuclear safety research program was fragmented and not consistently prioritized relative to the need. DOE committed to pursue an integrated nuclear safety research and development program that would identify key gaps between research needs and program plans and to highlight those needs to DOE/NNSA senior leaders at an appropriate point in the planning and budgeting cycle. Properly defined and executed, this program would ensure better integration of research and development throughout DOE and provide critical information to enhance decision-making.

DOE needs to address immediate safety research needs, as well as provide state-of-the-art research and testing capabilities to ensure the continuous improvement of complex activities such as facility design, safety analysis, and development of safety directives, and to support the needs of the DOE and NNSA Central Technical Authorities. To have the greatest effect, this effort needs to solicit input at the site and facility level to harness first-hand knowledge of safety research needs and to disseminate the results of research widely.

DOE and NNSA have made very little progress in meeting their commitments to establish and institute a nuclear safety research program as one of the central elements to strengthen federal safety assurance. The Board is planning to hold a public meeting on this topic later this year to discuss how to reinvigorate this initiative.

Conclusion

I anticipate that the issues I have described are familiar to NNSA and our Congressional oversight committees. They have been previously identified by the Board in public documents, such as letters to DOE and NNSA, and Quarterly Reports to Congress that summarize unresolved safety issues concerning design and construction of defense nuclear facilities. These reports and documents are available for review on the Board's public web site.

Thank you for the opportunity to report to you on safety issues at defense nuclear facilities operated by the Department of Energy and the National Nuclear Security Administration. I will be happy to answer any questions you may have.

QUESTIONS SUBMITTED BY MEMBERS POST HEARING

MARCH 25, 2010

QUESTIONS SUBMITTED BY MR. LANGEVIN

Mr. LANGEVIN. The unclassified report of the JASON panel also contained the following conclusion: "JASON finds no evidence that accumulation of changes incurred from aging and LEPs have increased risk to certification of today's deployed nuclear warheads."

Do you agree with this assessment? Could you provide the committee with your perspectives on the issue?

Secretary D'AGOSTINO. Mr. Chairman, I agree with this finding. Our annual assessment process provides me with a rigorous assessment of the status of our stockpile. The accumulations of small changes that are inherent in component aging and refurbishment of aging components, take our warheads further from the designs whose safety and reliability were certified in the era when nuclear tests were conducted. What the JASON captured in this finding, and reinforced in their report and recommendations, is that the success of Stockpile Stewardship has allowed us to mitigate the risk due to these changes. As we make changes, we investigate birth defects and aging issues through surveillance. We then drive our science and engineering teams at the laboratories to understand the impacts so we can understand the consequences, and then suggest and implement solutions. Throughout this process, which is the essence of stewardship, it is my goal to choose the options that decrease our future risks. This includes maintaining a full suite of options for warhead life extensions that help enable U.S. nuclear policy.

Mr. LANGEVIN. Finally, the JASON panel found that: "All options for extending the life of the nuclear weapons stockpile rely on the continuing maintenance and renewal of expertise and capabilities in science, technology, engineering, and production unique to the nuclear weapons program." The panel went on to express its concern that "this expertise is threatened by lack of program stability, perceived lack of mission importance, and degradation of the work environment."

Do you agree with the conclusions of the JASON panel, and if you do, will you describe to the committee how you plan to address the concerns about program stability, perceived lack of mission importance and the work environment?

Secretary D'AGOSTINO. Mr. Chairman, I agree with JASON's recognition of our critical skills needs. We are in the middle of a fairly long transition from a time early in Stockpile Stewardship when our ranks were replete with seasoned experts firmly grounded in testing the as-designed stockpile to one likely in the next decade where we no longer have any such expertise, including our Laboratory Directors. Today's annual assessment of the stockpile is a mix of expert judgment guided by a much better informed scientific understanding than we ever had in the past. Our efforts require us to push strongly into the science, technology, engineering, and manufacturing unique to the nuclear weapons program. I believe it is possible to preserve this base of human capital, by exercising it routinely on important problems of nuclear design, development and production. Additionally, I have been working to transition from a nuclear weapons complex to a national security enterprise because I believe that for my laboratories to remain vital in the skills of the nuclear mission, we need to think more broadly of the mission and what it will take to attract scientists and engineers into the complex in a time when the lure of working on the U.S. nuclear arsenal is diminishing.

Mr. LANGEVIN. Would ratification of the Comprehensive Test Ban Treaty change any current plans for the Stockpile Stewardship Program? If so, please describe how.

Secretary D'AGOSTINO. Mr. Chairman, the Stockpile Stewardship Program is designed and executed to maintain certification of the nuclear weapons stockpile without underground testing. Under the program, experiments are conducted to assess the current state of the stockpile and the results are validated against data collected from the underground nuclear tests conducted prior to the end of testing in 1992. We have successfully mitigated the risk to the stockpile of accumulating changes, and we currently do not see obstacles that would divert us from this path in the future. In order to execute the program, we will need to recapitalize many of our facilities and sites, as we have proposed. If we can maintain program stability into the future, then we can ensure that the scientists and engineers continue to work

to mitigate the risks to the U.S. stockpile without having to resort to our previous model of nuclear testing as the ultimate arbiter of these decisions.

Mr. LANGEVIN. One of the most significant initiatives contained in the FY 2011 budget is funding for the design of both the Chemistry and Metallurgy Research Replacement (CMRR) facility at Los Alamos and the Uranium Processing Facility (UPF) at Oak Ridge Y–12.

To what extent are the design specifications for these major infrastructure projects dependent on the size of the nuclear weapons stockpile?

Secretary D'AGOSTINO. Both facilities are sized at the minimum capacity and capability needed to support the current stockpile and planned stockpile reductions announced by the Administration. CMRR and UPF design specifications are based on the production work necessary to support the stockpile objectives in the Nuclear Posture Review, and the core capabilities to support a variety of National Security Enterprise missions that require plutonium and highly enriched uranium. The design of both CMRR and UPF are largely insensitive to reductions in stockpile levels, with capacity-related features such as the quantity and type of equipment and floor space sized to the minimum necessary to provide core capabilities. Future reductions in stockpile size would not allow for substantial reduction in the size or capability of either facility.

Mr. LANGEVIN. How confident are you that the NNSA's budget can accommodate construction of these two major projects concurrently in the out-years without affecting other major elements of the stockpile stewardship program?

Secretary D'AGOSTINO. Assuming the President's FY 2011 request is enacted into law, NNSA is fully committed to completing construction in 2020 and transitioning to full operations for CMRR and UPF by 2022. Construction resource requirements for CMRR and UPF will extend throughout this decade. The FY 2011 President's Budget establishes an adequate level of funding to continue design and prepare for the start of construction activities for both projects, while providing sufficient resources for the other major elements of the stockpile stewardship program. Budget requirements in the out-years for these two facilities will be identified after we have established the design and cost baselines by the end of FY2013.

Mr. LANGEVIN. The Facilities and Infrastructure Recapitalization Program (FIRP) is scheduled to sunset in 2013. However, the backlog of deferred maintenance in the nuclear weapons complex has not been eliminated. FIRP was originally designed to reduce deferred maintenance in the NNSA to industry standards by 2011, but annual funding levels have fallen short of requirements.

Does the FY 2010 budget for NNSA reduce the overall backlog of deferred maintenance in the weapons complex? If not, should the FIRP program be extended?

Secretary D'AGOSTINO. The Fiscal Year (FY) 2010 budget for the NNSA helps to stabilize, rather than reduce the overall backlog of deferred maintenance, which has continued to grow in recent years. The FY 2010 Facilities and Infrastructure Recapitalization Program (FIRP) deferred maintenance reduction projects are funded at $94 million, which is approximately 38% of the projected $250 million needed annually to reduce the backlog. In order to maintain Mission Critical facilities as a priority, other facilities have been operating under worsening conditions and increasing amounts of deferred maintenance.

With regard to the program's duration, the FIRP end date is FY 2013 as legislated in the National Defense Authorization Act for FY 2007. The NNSA understands that at the conclusion of FIRP, the logical program to receive dedicated outyear funding in support of continued deferred maintenance reduction is the Institutional Site Support program within Defense Programs Readiness in Technical Base and Facilities.

Mr. LANGEVIN. How much funding would be required on an annual basis over the five years of the Future Years Nuclear Security Plan (FYNSP) to reduce the backlog of deferred maintenance to private industry standards?

Secretary D'AGOSTINO. Our experience demonstrates that the Stockpile Stewardship Program mission was most efficiently supported when FIRP budgets were provided on the order of $200 to $250 million annually. This includes funding of both recapitalization projects and disposition projects targeted at deferred maintenance reduction. However, we need to continually evaluate the proper funding for deferred maintenance as the enterprise undergoes changes.

Mr. LANGEVIN. NNSA's budget request contains an almost 40-percent reduction in funding for weapons dismantlement and disposition from the FY 2010 level.

In light of the significant backlog of retired systems in storage, please explain why NNSA is reducing funding for dismantlement activities by such a significant percentage in one fiscal year?

Secretary D'AGOSTINO. The FY 2011 request of $58M brings us back in line with our dismantlement funding profile and is sufficient to meet FY 2011 requirements.

In recent years, NNSA has met or exceeded its planned dismantlement rates due to investments in efficiencies and additional funding from Congress. FY 2010 saw a large increase of $43.4M in the dismantlement budget (from $52.7M in FY 2009 to $96.1M in FY 2010—an increase of more than 82%) which is being used for enabling technologies such as material disposition, efficiency improvements, and completing the nuclear explosive safety bases for the W84 and B53 dismantlements. These activities will allow NNSA to maintain our established dismantlement rate while adding two additional weapons to the dismantlement stream.

The investments in efficiencies and the additional funding have provided NNSA with flexibility in adjusting resource commitments in balance with Life Extension Programs and surveillance activities in the near term, and we remain committed to dismantle all currently retired weapons by 2022.

Mr. LANGEVIN. What are NNSA's nonproliferation priorities? What are the primary areas of progress, and the main challenges facing NNSA nonproliferation efforts?

Secretary D'AGOSTINO. While the various nonproliferation programs at NNSA have developed a variety of methodologies over the years for prioritizing the threat reduction efforts within their programs' purview, DNN also makes use of a risk assessment methodology to prioritize and evaluate trade-offs across the full range of nonproliferation programs that would otherwise defy easy comparisons. These risk trade-offs are used to inform decisionmaking, and the full scope of national security demands is evaluated within available resources throughout the Planning, Programming, Budgeting, and Evaluation (PPBE) process.

Some fundamental principles underlie the DNN risk assessment methodology. First, even with the hypothetical situation of unlimited resources, it is not possible to completely eliminate all proliferation risk. Second, not all threats are equally probable or consequential. Therefore, the DNN program management methodology reflects the view that it is possible to manage and minimize the many variable risks by addressing the most credible and most serious threats before attempting to mitigate lesser threats.

To implement this approach, NNSA prioritizes activities considered part of the first line of defense against nuclear terrorism and proliferation: funding for efforts to secure special nuclear materials at their site of origin, as it becomes progressively more difficult to detect and secure such material once it has been moved; and material disposition to reduce the total amount of material that requires security. NNSA then focuses down the risk continuum on second line of defense activities to detect materials in transit, especially across international borders and other transit sites, to reduce the availability of the technologies and technical expertise to create these materials, and securing radiological source materials. The DNN activities to implement these objectives directly contribute to the President's nuclear security and nonproliferation agenda as outlined in his April 2009 speech in Prague, Czech Republic, and constitute DNN's highest priorities.

In terms of progress, working with our Russian partners, DNN has made remarkable achievements. These include: the verifiable downblending of over 380 MT of Russian weapons-origin highly enriched uranium (HEU) into LEU fuel for use in U.S. power plants; the return of over 1,239 kg of Russian-origin HEU; the completion of security upgrades at 93% of Russian nuclear sites of concern; and the shutdown of Russia's last three weapons-grade plutonium-producing reactors, the last of which was shut down in April 2010. Additionally, we are taking concrete steps to dispose of at least 68 MT total (34 MT each) of U.S. and Russian weapons-grade plutonium.

However, in order to implement the President's Prague speech objectives—especially his call to secure all vulnerable nuclear material across the globe within four years—DNN will require expanding our security cooperation with Russia and other key countries, pursuing new partnerships to secure nuclear materials, and strengthening nuclear security standards, practices, and international safeguards. Remaining DNN priorities and challenges include securing these new bilateral and multilateral partnerships and international consensus needed to achieve this four-year goal.

Mr. LANGEVIN. Are there any areas where NNSA could do more to accelerate and strengthen its nonproliferation programs if it had more funding, or does the FY2011 budget request reflect all current needs and capabilities?

Secretary D'AGOSTINO. Last year in Prague, the President announced a new American effort, working with our international partners, to secure vulnerable nuclear materials around the world within four years. The Department will play a key role in these efforts. Implementing this plan will require expanding security cooperation with Russia and other key countries, pursuing new partnerships to secure

nuclear materials, and strengthening nuclear security standards, practices, and international safeguards.

Our FY 2011 budget request fully funds early efforts to support the President's historic nuclear security agenda, as a first step in meeting this multiyear initiative. Among other priorities in this area, the FY2011 budget provides for the acceleration and expansion of threat reduction efforts, including beginning efforts to remove over 1,650 kilograms; converting an additional 7 research reactors to the use of low enriched uranium fuel; pursuing additional nuclear security upgrades at 19 Russian sites; and expanding nuclear security cooperation to new countries outside of Russia and states of the former Soviet Union. Funding and personnel resources to fully implement these Administration commitments are requested in the FY2011 President's Budget and are reflected in the out-year funding for these programs.

Mr. LANGEVIN. NNSA plans for fissile materials disposition have slowed in recent years, first as a liability dispute between the U.S. and Russia delayed work, and later as Congress expressed reservations about proceeding with construction of the U.S. MOX Fuel Fabrication Facility at the Savannah River Site. Moreover, the FY 2008 Consolidated Appropriations Act reduced funding for the MOX facility and transferred funding for the facility from NNSA's Defense Nuclear Nonproliferation program to the Office of Nuclear Energy. However, the FY 2011 budget request restores funding for the MOX facility and reflects a transfer of all funding for the facility back to Defense Nuclear Nonproliferation.

What is the current status of construction of the MOX facility and what are the plans going forward, including the timeline for completion?

Secretary D'AGOSTINO. As of May 2010, the MOX Fuel Fabrication Facility project is on schedule and within budget, with 43% complete overall (design, procurement, construction, testing). Construction activities are 22% complete. To date, over 72,000 cubic yards of concrete and 13,000 tons of reinforcing steel have been installed in the main 500,000 square foot MOX Process Building structure. Installation of coatings, process tanks and process piping are also ongoing in the main MOX Process Building. Additionally, 10 of the 16 auxiliary buildings have been completed and are in use to support the MOX construction effort. Besides facility construction, large amounts of engineered process equipment are being procured and are being fabricated by suppliers.

The MOX Process Building structure is scheduled to be completed in 2011 with installation of process equipment continuing until 2014. Cold system testing is scheduled to begin in 2012 and continue into 2016. Construction of the MOX project is scheduled to be completed in October 2016, at which point nuclear materials, hot system testing and manufacture of MOX fuel are scheduled to begin.

Mr. LANGEVIN. What is the status of the Russian Surplus Fissile Materials Disposition program, and is the program moving forward in a manner that is consistent with the program's nonproliferation objectives?

Secretary D'AGOSTINO. On April 13, 2010, the United States and Russia signed a Protocol to amend the Plutonium Management and Disposition Agreement (PMDA) to reflect Russia's revised plutonium disposition program. The amended PMDA commits Russia to dispose of 34 metric tons of weapon-grade plutonium under conditions that make the Russian disposition program consistent with U.S. nonproliferation objectives. Russia's revised program is based on irradiating surplus weapon-grade plutonium in Russia's fast reactors operating under certain nonproliferation conditions including removal of the weapon-grade plutonium producing "blanket" in the BN–600 reactor, redesign of the BN–800 reactor from a plutonium breeder to a plutonium burner, and implementation of monitoring and inspections to verify that Russia is fulfilling the terms of the amended Agreement. Under the amended PMDA, both countries expect to start plutonium disposition in 2018 and finish disposition in the mid 2030s.

Mr. LANGEVIN. In recent years, the committee has emphasized its strong concern with the use of fast reactors under the Russian Surplus Fissile Materials Disposition program and has conveyed its expectation that NNSA pursue a disposition path for Russia's surplus weapons-grade plutonium which ensures that any reactors used under the program do not produce plutonium and include necessary monitoring and inspection controls. What is the status of NNSA's efforts in this regard?

Secretary D'AGOSTINO. Russia's revised disposition program codified in the amended PMDA is based on irradiating surplus weapon-grade plutonium in Russia's fast reactors operating under certain nonproliferation conditions, including removal of the weapon-grade plutonium producing "blanket" in the BN–600 reactor, redesign of the BN–800 reactor from a plutonium breeder to a plutonium burner, and implementation of a monitoring and inspections regime to verify that Russia is fulfilling the terms of the amended Agreement. In addition, the revised PMDA contains strict limits on reprocessing and prohibits the plutonium disposed of from ever being used

for weapons purposes. We expect the above activities to be among those funded by the U.S. $400 million contribution referenced in the amended PMDA. Meanwhile, Russia is spending over $2 billion to implement its revised disposition program. A document laying out the key elements of a monitoring and inspection (M&I) regime was approved by the two sides in March and contact was initiated with the IAEA regarding its role in conducting PMDA related M&I activities.

Mr. LANGEVIN. What is NNSA doing to address issues of limited staff capacity, capabilities and resources, which have created challenges for implementation of critical nonproliferation programs in past years?

Secretary D'AGOSTINO. The FY 2011 NNSA Budget Request provides for 259 FTEs for the Defense Nuclear Nonproliferation program. This represents a 22% increase over FY 2009 staffing levels. The increased staffing ceiling is commensurate with the increased funding provided for nonproliferation programs to ensure that the required Federal personnel to plan, manage, and oversee the operations of the Defense Nuclear Nonproliferation program are provided.

In the past several years, NNSA has implemented workforce planning and a phased hiring strategy to ensure that appropriate staff resources are available by FY 2011 to execute the requested programmatic increases. We are working to assure that as attrition occurs, we make internal reallocations to target increased personnel support to growing mission areas Defense Nuclear Nonproliferation.

Mr. LANGEVIN. Do you expect any NNSA nonproliferation programs to have significant uncosted unobligated balances in FY 2010? If so, please describe the factors contributing to such balances. Please also describe any progress by NNSA to limit uncosted unobligated balances for nonproliferation programs and the rationale, if any, for maintaining a certain level of such balances for these programs.

Secretary D'AGOSTINO. No. The year-end projection of less than 10-percent uncommitted uncosted balances for the DNN programs is well within thresholds for uncosted balances recognized by the Department, and the Government Accountability Office, and is a reasonable level to ensure continued operations into FY 2011, especially in recognition of the expected long-term continuing resolution.

Because of the nature of the nonproliferation program activity, much of it takes place outside of the United States and encompasses smaller operating and capital-type projects executed in partnerships with foreign governments that are not completed for a number of years after initiation. In recognition of this different program execution pattern, the Congress and the NNSA agreed a number of years ago on semi-annual reporting of uncosted and uncommitted balances for programs funded under the DNN appropriation, which is a better metric of the progress and funding availability in these programs.

Uncosted balances generally represent goods and services on order. Uncommitted balances are funds not yet placed on contract. For the fiscal year ending September 30, 2010, NNSA is projecting uncommitted balances of less than 10 percent for the Defense Nuclear Nonproliferation (DNN) appropriation. The projected year-end uncommitted percentage varies by program, from less than 6 percent for the International Nuclear Materials Protection and Cooperation program, to approximately 18 percent for the Nonproliferation and International Security Program (NIS). Delays in planning activities and technology development to support eventual resumption of denuclearization activities in the Democratic People's Republic of Korea are contributing to slightly higher projected uncommitted balances for this program.

DNN uncommitted balances have been reduced from approximately 15 percent five years ago to about 11 percent at the end of FY 2009. A number of process improvements have been made to help achieve this change, including adjustments in contracting methods, oversight procedures, and additional analysis during the budget formulation process to insure the most efficient and effective use of each dollar.

Mr. LANGEVIN. Recognizing that the Department is ultimately responsible for the solvency of the pension programs maintained for the employees of DOE's major contractors, could you provide the committee with a description of the fiscal health of these plans?

Secretary D'AGOSTINO. The rounded funded status for each is listed below with our lowest funded status being 84%.

Kansas City Aero	93%
Kansas City Hourly	97%
Los Alamos	104%
Livermore	146%
Nevada Test Site	87%
Pantex Guards	91%
Pantex MTC	91%

Pantex Non-Barg	86%
Sandia PSP	205%
Sandia RIP	98%
Y–12 Security	97%
Nevada Security	95%
Nevada Security LV	97%
Y–12	94%
Naval Reactors KAPL Salary	85%
Naval Reactors KAPL Hourly	85%
Naval Reactors Bettis	84%

Mr. LANGEVIN. What actions are NNSA and DOE taking to address any shortfalls in its contractor-managed pension programs?

Secretary D'AGOSTINO. We engage our contractors on a routine basis to ensure our budgets accurately reflect expected plan contributions and to understand the investment strategies utilized by our contractors. Because, under the terms of our contracts, we are required to reimburse contractor pension costs within contractual limits, we urge our contractors to focus on decreasing the volatility of required annual contributions and cost containment.

However, reducing pension costs is extremely difficult as the costs reflect incurred costs that are impacted by a number of market conditions, including the market bond rates used to value liabilities to the present. While most NNSA contractors have closed their defined benefit pension programs to new entrants and have shifted to defined contribution programs for new contractor employees, the cost for funding the closed defined benefit pension programs will not decline significantly until market conditions improve over an extended period of time.

Pension liabilities are a series of cashflows payable in the future that consist of the present value of all future benefit payments discounted to the present using required IRS discount rates. Pension cost increases result from (1) normal benefit accruals, (2) drops in the discount rate, (3) investment losses, and (4) new pension plan entrants. Defined benefit programs that continue to allow new entrants experience liability growth beyond growth associated with benefit accruals and market conditions. Once a plan is closed to new entrants, pension costs are largely affected from year to year by market conditions.

The U.S. suffered what amounts to a "pension perfect storm" in 2008 as declines in the stock market reduced asset valuations significantly, while reductions in interest rates increased liability valuations. Even with the general equity market upswing over the past year, the growth in liability valuations has continued to greatly surpass the growth in assets, making it difficult to significantly improve the funded status of individual plans. Our contractors utilize a variety of investment techniques such as liability driven investments to minimize the contribution volatility; however, they also choose to mitigate their financial burden by balancing this technique with more aggressive investment approaches that present the opportunity for higher returns. In either case, until market forces provide for relief in the valuation of liabilities NNSA contractors will continue to see large annual defined-benefit pension contributions. NNSA has a centralized Contractor Human Resources group responsible for working directly with our contractors to maintain a vigilant review of all pension and other benefit costs.

Mr. LANGEVIN. The Department of Energy received $5.1 billion for Defense Environmental Cleanup through the American Recovery and Reinvestment Act of 2009. Are you on track implementing the Recovery Act projects and funding?

Secretary TRIAY. The Recovery Act requires all funding to be obligated by the end of FY 2010, and spent within five years of obligation. The Office of Environmental Management (EM) established a very aggressive goal of spending the majority of the money by the end of FY 2011 in order to maximize the creation of jobs. The EM Recovery Act program has obligated more than $5.4 of the $6 billion of Recovery Act funding, and more than $2.3 billion has been paid out. Approximately 10% of the 91 EM Recovery Act projects are now scheduled to extend into FY 2012. In regard to project performance, a recent GAO report identifies that a number of the Recovery Act projects are not currently meeting their original cost and schedule goals. Examples of these project variances include: greater than initially planned volumes of contaminated soils, resulting in higher costs for excavation and disposal; delays due to changes in initial waste type characterization assumptions; and contract issues causing delays in work start date.

EM Senior Management continues to be fully engaged with all the Recovery Act projects on a regular basis, including monthly project reviews with each of the sites. EM Management also requires each project with less than satisfactory performance

to develop a recovery plan that fully defines the issues and contains the corrective actions necessary to bring the projects back on track and within cost and schedule. At this time it appears that all of the projects are recoverable and will meet Recovery Act performance objectives.

Mr. LANGEVIN. Will you meet your stated goal of reducing the active cleanup footprint by 40 percent by fiscal year 2011? When will these cleaned up lands be transferred back to the communities?

Secretary TRIAY. The Office of Environmental Management (EM) is on track to complete 40-percent footprint reduction by the end of Fiscal Year 2011. Footprint reduction is defined as the physical completion of EM activities with petition for regulatory approval to follow. The bulk of the footprint reduction is at Richland and Savannah River. Although EM will be complete with the active cleanup of these areas, there will still be long-term ground water monitoring activities in some areas that will necessitate institutional control.

There is no schedule or plan to transfer the land due to the ongoing groundwater remediation activities and the fact that some of the sites belong to another Program's mission and EM's responsibility is only to clean the site up.

Mr. LANGEVIN. Are you on track to execute all of the additional funding before it expires?

Secretary TRIAY. Since all Recovery Act work is scheduled to be completed by FY 2012, we will spend all the funds before they expire in FY 2015.

Mr. LANGEVIN. Will all defense cleanup sites be able to meet their respective regulatory milestones in FY10 and FY11?

Secretary TRIAY. EM defense cleanup sites are currently positioned to meet all regulatory milestones in FY 2010 and FY 2011.

Mr. LANGEVIN. President Obama has indicated that he does not intend to pursue Yucca Mountain as a long-term repository for high-level waste. Yucca Mountain remains designated, by law, as a repository for high-level radioactive waste.

What are the implications of the cancellation of the Yucca Mountain repository on EM's ability to manage and consolidate defense waste?

Secretary TRIAY. The Department remains committed to meeting its obligations for managing and ultimately disposing of spent nuclear fuel and high-level radioactive waste. The Administration's decision not to proceed with the Yucca Mountain repository does not affect the Office of Environmental Management's (EM) plans to retrieve and treat for long-term interim storage high-level waste currently stored in tanks or to treat and stabilize and store spent nuclear fuel. EM is focused on addressing environmental and health risks by placing high-level waste and spent nuclear fuel in safe and stable configurations for long-term interim storage.

EM's near term plans to treat the high-level waste for interim storage and to safely store spent nuclear fuel are not impacted by the decisions to evaluate alternatives for spent nuclear fuel and high-level waste.

Mr. LANGEVIN. In November 2009, you implemented an organizational restructuring of EM's senior leadership. This included the creation of new positions for the Chief Technical Officer and Chief Business Officer, and changed reporting lines for many EM offices.

The Office of Environmental Management has undergone several organizational changes in its short history. How does this latest reorganization improve upon the reorganization implemented by your immediate predecessor? Why was another reorganization needed?

Secretary TRIAY. By having the Office of Environmental Management (EM) Field Organizations report directly to my office—the Office of the Assistant Secretary—I have clearly established direct authority and accountability for the execution of the EM program. This also recognizes and sharpens the focus of EM Headquarters. Program definition, priorities, policy, planning, budgeting and oversight are the province and responsibility of the headquarters organization. Program implementation is a Field responsibility.

The reorganization is intended to make clear the roles and responsibilities of headquarters and field entities. Specifically, Office of Environmental Management (EM) Field Managers are directly responsible and accountable to my office for program implementation. If the Field Managers perform well and deliver their projects at cost and on schedule, they will be given more responsibility. However, if they have difficulty with project success, there will be greater involvement from Headquarters. For Field Managers, this provides a new mindset on the headquarters interface, but it also raises expectations on performance. This management approach will not be "one-size-fits-all." It will be based on how successful the Field Managers are in delivering projects on time and within cost.

In addition, the creation of a Chief Business Officer and Chief Technical Officer provides me with a fully integrated team of senior leaders to ensure that EM speaks

and acts with one voice. Together, we will assure that the entire organization is led in a more cohesive and consistent manner.

Mr. LANGEVIN. The Safety Board has been evaluating the safety basis for the Waste Treatment and Immobilization Plant (WTP) at the Hanford Site, and technical issues remain open. The established annual funding baseline, intended to provide programmatic stability for the WTP, is $690 million annually. The budget request for FY 2011 contains $740 million for the WTP.

Secretary Triay, considering the outstanding technical concerns regarding the safety criteria for the Waste Treatment Plant, why did EM choose to request an additional $50 million for FY 2011 above the established $690 million per year level to accelerate engineering, design, and procurements?

Secretary TRIAY. The Office of Environmental Management (EM) is committed to resolving the remaining major technical issues and completing the Waste Treatment Plant project within the currently approved cost and schedule baselines. To achieve these commitments, EM plans to resolve the major outstanding technical issues over the next few months, and to pursue completion of the engineering design as soon as possible. To facilitate this, some vendor design information for engineered equipment will be required. So in addition to increased design efforts, there will be some additional procurement costs in FY 2011 associated with securing the necessary vendor design information as well. The completion of the vendor and contractor engineering design will allow for better planning and reducing risks associated with the delivery of material, completion of construction, and preparation for commissioning.

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Chairman Winokur, please discuss your ongoing technical evaluation relating to the Pretreatment facility. Do you have confidence that the WTP is on a strong footing to accelerate spending in FY 2011?

Dr. WINOKUR.

1. Ongoing technical evaluation of the Pretreatment Facility.

The Board is continuing to review the resolution of current safety-related design issues, emerging safety-related elements of the Pretreatment Facility (PTF) design, and the continued development of the PTF safety documentation. The primary areas of Board concern remain (1) the development of the hydrogen mitigation strategies associated with hydrogen in pipes and ancillary vessels (HPAV), and (2) adequate pulse jet mixing to ensure that process vessels maintain hydrogen concentrations below flammable limits and to prevent the build-up of a critical mass of fissile material. These concerns are well documented in the Board's Quarterly Reports to Congress and remain a significant technical risk for the project.

The Board is also reviewing other safety-related aspects of the Pretreatment Facility (PTF) design, including the classification and design of safety-related structures, systems, and components required to protect the public and collocated workers. Major safety-related systems still under review include the process vessel ventilation system, the safety class aspects of the electrical distribution system including the emergency diesel generator design, and the pulse jet mixing systems in Newtonian vessels.

The Board is continuing to review safety-related documentation, as it is prepared by the Department of Energy–Office of River Protection (DOE–ORP) and its contractor Bechtel National Incorporated (BNI) in support of the safety and design bases for the PTF. For example, in the month preceding this response, the project issued revised calculations supporting the classification of safety-related systems (severity level assessments), and a revised Preliminary Documented Safety Analysis (PDSA) addendum. The project is continuing to develop the waste acceptance criteria (WAC), i.e., the technical basis supporting which wastes will be allowed to be sent from the High Level Waste Tanks to the PTF, as well as tank farm strategies to characterize and control the waste input to the PTF. As an aside, the Board will also have to evaluate the impacts of the WAC on existing as well as planned Tank Farm facilities and functions. The Board anticipates that DOE–ORP will continue to develop the required safety-related documentation for the PTF well into the future, e.g., until the final documented safety analysis is completed in support of facility operation.

2. Confidence to accelerate spending.

The Board believes that DOE's ability to effectively accelerate spending in FY 2011 depends on their capability to manage the existing technical risk and properly identify and manage future technical risks. DOE–ORP has assessed the uncertain-

ties associated with these unresolved issues and concluded that design and procurements could proceed based on a presumption that these risks will be resolved in the near future. The Board remains concerned that the resolution of these technical issues will impact the facility's design. Therefore, any additional resources DOE can apply to address these technical issues will be beneficial. Beyond this, the Board is not in a position to comment on DOE's ability to accelerate spending in Fiscal Year 2011.

QUESTIONS SUBMITTED BY MR. SPRATT

Mr. SPRATT. As you know, the Administration is proposing to reprogram $115 million from the Office of Civilian Waste Management, intended to defend the combined operating license application for Yucca Mountain. While I believe this is a clear contradiction to Congressional intent, there are also real effects this will have on operations at various NNSA sites, including SRS. Many projects including MOX, the Salt Waste Processing Facility and the Defense Waste Processing facility have Yucca Mountain in the Record of Decision as the ultimate site waste disposal. In addition, there are penalties to be paid to South Carolina should the material not be removed.

How much extra cost would Yucca not opening add to your long-term budget costs? Also, would you have to amend every EIS mentioning Yucca? How long would that take? How much would it cost?

Secretary D'AGOSTINO. At this time we have not identified any additional cost incurred due to the closure of the Yucca Mountain repository project and the Office of the Civilian Radioactive Waste Management. We are evaluating the impacts on Departmental environmental documents mentioning Yucca Mountain as the destination for the spent nuclear fuel and high-level radioactive waste, but do not believe it is necessary to amend the environmental impact statements. The Department is still committed to meeting its obligations to remove and dispose of the spent nuclear fuel and high-level waste. The Blue Ribbon Commission will be evaluating options, and depending on the actions the government will take in the future, all appropriate environmental requirements will be met.

Mr. SPRATT. How much has DOE contributed to the Nuclear Waste Fund? How much has DOE contributed to the fund? How much is budgeted in FY11? Will you suspend payments to the fund should Yucca be taken off the table?

Secretary D'AGOSTINO. The Department does not contribute to the commercial Nuclear Waste Fund, but, instead, receives monies from the Fund to the extent that Congress appropriates them. No funds from the Nuclear Waste Fund have been requested for DOE in the President's FY 2011 budget request. The Administration does not believe that payments by industry into the Nuclear Waste Fund should be suspended.

Mr. SPRATT. As you know, the Administration is proposing to reprogram $115 million from the Office of Civilian Waste Management, intended to defend the combined operating license application for Yucca Mountain. While I believe this is a clear contradiction to Congressional intent, there are also real effects this will have on operations at various NNSA sites, including SRS. Many projects including MOX, the Salt Waste Processing Facility and the Defense Waste Processing facility have Yucca Mountain in the Record of Decision as the ultimate site waste disposal. In addition, there are penalties to be paid to South Carolina should the material not be removed.

How much extra cost would Yucca not opening add to your long-term budget costs? Also, would you have to amend every EIS mentioning Yucca? How long would that take? How much would it cost?

Secretary TRIAY. The Secretary has determined that Yucca Mountain is not a workable option and has established the Blue Ribbon Commission to conduct a comprehensive review of policies for managing the back end of the fuel cycle including all alternatives for the storage, processing, and disposal of high-level waste and used nuclear fuel. The Department remains committed to meeting its responsibilities for the disposal of high-level radioactive waste and used nuclear fuel. Until a new option is selected, any analysis of the long-term budgetary implications for NNSA sites would be speculative.

In the case of the Hanford Tank Closure and Waste Management EIS, which was in preparation when DOE moved to withdraw the Yucca Mountain license application, an analysis was performed of the impacts of continuing to store vitrified waste on site.

Mr. SPRATT. How much has DOE contributed to the Nuclear Waste Fund? How much has DOE contributed to the fund? How much is budgeted in FY11? Will you suspend payments to the fund should Yucca be taken off the table?

Secretary TRIAY. The Department's contribution for disposal of its used fuel and high-level waste in a combined repository has been direct funded through appropriations since 1993. Funds are under a separate account entitled the Defense Nuclear Waste Appropriation and are not deposited into the Nuclear Waste Fund. Funds are expended annually and do not accrue interest. To date, the government has funded approximately $3.75 billion to the Office of Civilian Radioactive Waste Management (OCRWM) for the government share of the costs of OCRWM.

The Department has stated its intent to meet its obligations to dispose of spent nuclear fuel and high-level waste and therefore has no basis to suspend collection of fees from nuclear utilities to the Nuclear Waste Fund. The Department will continue to evaluate the adequacy of the fee annually as it is required to do by the Nuclear Waste Policy Act.

QUESTION SUBMITTED BY MR. LARSEN

Mr. LARSEN. Administrator D'Agostino, I understand the NNSA is engaging other national security agencies such as the Department of Defense, the Department of Homeland Security, and the Intelligence Community to develop a framework or Memorandum of Agreement (MOA) for interactions between NNSA and the broader national security community. As you well know, several national laboratories—including a number of Science laboratories, like PNNL in my home state of Washington—are major contributors to the Department's national security mission and that of other national security agencies and departments. Will this MOA exclusively apply to NNSA weapons labs, or will it apply more broadly to other DOE laboratories that help the NNSA fulfill its mission, and therefore bring more DOE assets to bear on the national security challenges we face as a nation?

Secretary D'AGOSTINO. The NNSA has taken a leadership role for the Department of Energy in forging strategic partnerships with other agencies with national security responsibilities, in the area of national security science, technology and engineering (ST&E). NNSA has been working with the Department of Homeland Security, the Director of National Intelligence and the Department of Defense in the development of a multiagency governance charter to provide a forum for the national security agencies to align the DOE's significant laboratory ST&E infrastructure with complex national security problems that are important to the nation. The governance charter will establish an interagency council of federal officials where both long-term and urgent mission needs can be discussed and balanced against the Department's current and future capabilities at its national laboratories. Any laboratory among the full suite of DOE national laboratories could potentially be engaged in this effort, including Pacific Northwest National Laboratory. Following the Secretary's vision, all of the Department's national laboratories will be involved in this dialogue.

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