

ENERGY AND WATER DEVELOPMENT APPROPRIATIONS FOR 2015

HEARINGS BEFORE A SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS HOUSE OF REPRESENTATIVES ONE HUNDRED THIRTEENTH CONGRESS SECOND SESSION

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PART 8

NATIONAL NUCLEAR SECURITY ADMINISTRATION

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ENERGY AND WATER DEVELOPMENT, AND RELATED AGENCIES APPROPRIATIONS FOR 2015

THURSDAY, APRIL 3, 2014.

DEPARTMENT OF ENERGY—NATIONAL NUCLEAR SECURITY ADMINISTRATION, WEAPONS ACTIVITIES FY 2015 BUDGET

WITNESSES

BRUCE HELD, ACTING ADMINISTRATOR, NATIONAL NUCLEAR SECURITY ADMINISTRATION

DR. DON COOK, DEPUTY ADMINISTRATOR FOR DEFENSE PROGRAMS, NATIONAL NUCLEAR SECURITY ADMINISTRATION

BRIGADIER GENERAL JAMES C. DAWKINS, JR., PRINCIPAL ASSISTANT DEPUTY ADMINISTRATOR FOR MILITARY APPLICATIONS, NATIONAL NUCLEAR SECURITY ADMINISTRATION

Mr. SIMPSON. I would like to call this hearing to order. Good morning everyone. Thanks for being here today.

Mr. Held, I would like to both welcome you to your first appearance before the subcommittee and express our support for your work to steer the NNSA organization while we await Senate confirmation of an Administrator and Deputy Administrator. By all accounts, you have provided leadership at a time when the Department was required to make some tough decisions, and your service is greatly appreciated.

Dr. Cook, welcome back. This is the fourth budget request for Defense Programs that you have submitted and the fourth time you have testified before this subcommittee.

And, General Dawkins, welcome back. We appreciate your attendance here today.

The activities funded under the Weapons Activities are needed to sustain our nuclear deterrent and ensure strategic stability at a time when other nations are modernizing their nuclear stockpiles and enhancing their own capabilities. With the recent events in Ukraine and a resurgent Russia, the stability that our nuclear weapons stockpile provides our Nation and its allies should be valued more highly than ever. The President's Budget Request for Weapons Activities is \$8.3 billion, an increase of \$534 million or 7 percent over the fiscal year 2014 level.

These increases are being requested in a budget year where funding for overall defense discretionary spending will be essentially flat. In the past, this subcommittee has supported major increases to the Weapons Activities budget in order to make the investments that are needed to ensure our nuclear weapons stockpile

is being effectively maintained. Under these tight budget caps, it is only going to get harder. Increases to the NNSA budget are available only because we cut national security funding elsewhere. This is a zero-sum game, and there are serious concerns about our ability to meet all our defense needs under these constraints.

Only the highest priorities that provide the best value for our Nation's defense will be successful in competing for these scarce funding dollars. The programs funded within the Weapons Activities appropriation are extremely important, and the subcommittee has been very clear that the NNSA is expected to follow through and deliver on its promises in order to rebuild its credibility here in Congress.

I am interested in hearing what progress you have made and how you plan to carry out the reforms that are necessary to improve Federal oversight of the NNSA's programs, projects, and activities. The budget request for Weapons Activities is being submitted on the heels of a number of recent decisions that are driving changes to your plans for modernization, such as the decision to defer work on the integrated warhead and to investigate additional alternatives for construction of the Uranium Processing Facility. I look forward to hearing from you on how these modernization plans are evolving and what work you have done to clearly articulate and justify those plans so that our nuclear weapons stockpile remains safe, secure, and effective.

Please ensure that the hearing record, responses to the questions for the record, and any supporting information requested by the subcommittee are delivered in final form to us no later than 4 weeks from the time you receive them.

Mr. SIMPSON. I also ask that if members have additional questions that they would like to submit to the subcommittee for the record, that they please do so by 5 p.m. Tomorrow.

With those opening comments, I would like to yield to our ranking member, Ms. Kaptur, for any opening comments that she might have.

Ms. KAPTUR. Thank you, Mr. Chairman.

And we welcome you, gentlemen. Literally you have life and death in your hands. And we thank you for your vigilant service to our country in the cause of liberty, and we welcome you before our subcommittee today.

The national security missions of the NNSA are vital to the interests of the United States, particularly we are reminded in light of recent events around the world. While the issues that we are discussing are substantively profound, they also involve considerable amounts of money. And according to the administration's budget request, funding for the weapons program is projected to continue to grow over the next 5 years, reaching nearly \$10 billion by 2019, which is a 56 percent increase from 2011.

Our responsibility is to ensure that the dollars provided by the American taxpayer for the weapons complex are spent pursuant to a coherent strategy and as wisely as possible. I want to make clear to you there is nothing I take more seriously, and I know my colleagues agree, in our role as Members of Congress than any issues surrounding decisions regarding war in general and nuclear weapons in particular.

In order to reach and sustain this level of funding, it will be critically important for the NNSA to lay out the need for this spending relative to national security requirements. The scale of the investment in scientific capabilities and capital investments is breathtaking and at least recently fluid.

In addition to explaining these investments relative to the military and strategic needs, the NNSA must make strides in management and cost estimating. In particular, alternative analysis must be performed prior to becoming evident that the proposed plan is unaffordable. If the currently proposed investment is breathtaking, the recent cost overruns at NNSA simply suck all of the oxygen from the room.

Before I yield back to the chairman, I would like to point out the major disappointment I have with this budget request, and that is the drastic cut to the dismantlement program seems to be completely incongruous with this administration's stated commitment to nonproliferation objectives. To my mind it sends exactly the wrong signal to the rest of the world.

I look forward to hearing your testimony and to the question period.

Mr. Chairman, I thank you for the time.

Mr. SIMPSON. Thank you.

Mr. Held.

Mr. HELD. Chairman Simpson, Ranking Member Kaptur, members of the committee, I am honored to be here with you today.

The fiscal year 2015 budget request for the National Nuclear Security Administration is a clear expression of President Obama's commitment to America's nuclear security. Within the fiscal constraints of the Bipartisan Budget Act, the President requested a 4 percent increase for NNSA to \$11.7 billion. This includes a 26 percent increase for naval nuclear reactors and a 7 percent increase for nuclear weapons activities.

The President's request also sustains other NNSA programs at robust levels to include responsive infrastructure at \$2.1 billion, research, development, test, and evaluation at \$1.8 billion, nuclear nonproliferation at \$1.6 billion, physical and cybersecurity at \$800 million, and emergency response and counterterrorism at \$250 million.

Mr. Chairman, \$11.7 billion is an awful lot of taxpayer money, and the willingness of this committee to appropriate that money should and will depend on your trust and confidence in NNSA's ability to steward it in a mission-effective and cost-efficient manner. I listened very carefully to your remarks yesterday to Secretary Moniz and recognize that NNSA needs to give you a clear picture of what we are trying to do and concrete evidence of progress in actually doing it.

In that context, I come away from my 9 months as acting administrator with the belief that NNSA has 5 enduring responsibilities that are sometimes seen as conflicting, but in fact are tightly interlocked. First and foremost, we must assure the nuclear safety of NNSA operations vis-a-vis our workforce, our community, and our environment. Second, we must protect nuclear security by keeping weapons-useable material and classified information out of the hands of malicious actors, including those intent on acts of nu-

clear terrorism. Third, we must maintain a safe, secure, and reliable nuclear deterrent for America in a world with nuclear weapons. Fourth, we must promote a world with fewer nuclear weapons and plan for a world with zero nuclear weapons. And five, we must steward the taxpayer's dollar effectively and efficiently.

In each of these areas NNSA has performance challenges ahead of us, and Secretary Moniz will always be straightforward with you about those challenges. At the same time, NNSA has significant successes to build on, and the Secretary insists that we get out of our defensive crouch and we honestly tell our success stories in a way that is meaningful to the American people.

For example, regarding nuclear security, our counterintelligence program was dysfunctional less than 10 years ago. Today, DOE counterintelligence is highly effective, respected, and trusted. Less than 10 months ago, NNSA communications with our colleagues on the Nuclear Weapons Council were quite honestly strained. Today, those communications are much healthier, more transparent, and this improved atmosphere is helping us focus on the big strategic issues for which the NWC exists.

On nonproliferation, in just the last 4 years, 11 countries, plus Taiwan, have eliminated their caches of sensitive nuclear materials, and security at scores of nuclear storage facilities have been hardened to prevent theft by terrorists. The world is a safer place as a result.

On project management, NNSA has been on the GAO High Risk List literally since the first day of our organization in March of 2000. Indeed, the problem stretches back a decade, at least a decade before that. But since February 2011, when we created the Acquisition Project Management Office and brought Bob Raines in to run it, we have consistently been on schedule and on budget for large projects up to \$750 million. As a result, GAO has taken NNSA off its High Risk List for a project of this size for the first time in the history of our organization.

As you know very well, we still have very big problems, very big issues with the multibillion-dollar mega projects, but thanks to the greater discipline and more agile strategy that Secretary Moniz has brought with him, we are making progress in those areas as well.

Finally, I will return to our first and foremost responsibility: nuclear safety. We simply must modernize the aged infrastructure for enriched uranium processing in Oak Ridge. We must modernize the aged infrastructure for plutonium processing in Los Alamos. And wherever we can reliably do so, we should replace conventional high explosives in the deployed stockpile with much safer insensitive high explosives.

If we take a commonsense, better sooner rather than perfect later approach, we can do all of these within reasonable cost. But if, heaven forbid, we have a nuclear safety accident because we have not done so, then, Mr. Chairman, NNSA will truly have failed, and we will forever forfeit the trust and confidence of the American people in all things nuclear.

Thank you, sir

Mr. SIMPSON. Thank you.

[The information follows:]

**Statement of Bruce Held
Acting Administrator
National Nuclear Security Administration
U.S. Department of Energy
on the
Fiscal Year 2015 President's Budget Request
Before the
Subcommittee on Energy & Water Development
House Committee on Appropriations**

April 3, 2014

Chairman Simpson, Ranking Member Kaptur, and Members of the Subcommittee, I come before you today to present the President's FY 2015 Budget Request for the Department of Energy's (DOE) National Nuclear Security Administration (NNSA).

The FY 2015 budget request for the DOE is up 2.6% to \$27.9 billion. The NNSA, which comprises over 40% of the DOE's budget, is up \$451 million or 4%, to \$11.7 billion. In today's fiscal climate, this increase is an indication of the President's unwavering commitment to nuclear security, as outlined nearly four years ago in Prague, and reaffirmed last June in Berlin. Support in this year's budget request is also due to an unprecedented level of transparency and discussion within the interagency on how the NNSA can best support implementation of the two key goals of the Nuclear Posture Review (NPR): to prevent nuclear proliferation and terrorism and to maintain a safe, secure and effective deterrent while we reduce the number of nuclear weapons in the stockpile. This budget request also supports the major initiatives of Naval Reactors, makes investments in physical and cyber security, and funds critical infrastructure recapitalization to support effective operations across the nuclear security enterprise.

Within that context, the Secretary and NNSA Leadership understand that we have an enduring responsibility to steward the taxpayers' dollar effectively and efficiently, and we simply must do better. Therefore, NNSA is looking at ways to improve our governance through a public interest model that will incentivize mission effective and cost efficient solutions to the highest risk nuclear security challenges facing our country. We look forward to seeing the interim recommendations of the Congressional Advisory Panel on the Governance of the NNSA, as well as to reviewing recommendations from other panels focused on governance, including the Secretary of Energy's Advisory Board and the independent commission to study the DOE Laboratories as directed in the FY 2014 Consolidated Appropriations Act.

Another primary area of focus to support effective and efficient implementation of our mission will continue to be project management and improving our cost assessment and estimation capabilities. The Secretary has reorganized the Department to elevate Management and Performance to one of three Under Secretary positions. Within this framework, the NNSA is committed to effectively managing its major projects and has been driving continued

enhancements to contract and project management practices through a reorganized Office of Acquisition and Project Management (APM). In 2013 GAO recognized progress at DOE in execution of nonmajor projects under \$750 million, and narrowed the focus of its High Risk List for DOE to mega-scale, unique nuclear construction projects costing more than \$750 million. APM is leading the NNSA's effort to deliver results by strengthening rigorous and well-justified alternative assessments and evaluations, providing clear lines of authority and accountability for federal and contractor personnel, and improving cost and schedule performance. NNSA is also applying lessons learned from the Office of Science project management methods and is collaborating across the DOE. At its core, DOE/NNSA's ultimate project management goal is to deliver every project on schedule, within budget, and fully capable of meeting mission performance, safeguards and security, quality assurance, sustainability, and environmental, safety, and health requirements.

The Department has just released its new Strategic Plan for 2014-2018, with the goal to "Secure our Nation" and the strategic objective to "enhance national security by maintaining and modernizing the nuclear stockpile and nuclear security infrastructure, reducing global nuclear threats, providing for nuclear propulsion, improving physical and cyber security, and strengthening key science, technology, and engineering capabilities." The Bipartisan Budget Agreement (BBA) sets firm caps on national security spending in FY 2015, and the President's Budget request adheres to them so tough choices had to be made across the NNSA. While Weapons Activities is up 6.9% from FY 2014 enacted levels, and the DNN account is down 20.4%, the Administration and DOE/NNSA remain firmly committed to our nonproliferation efforts and to implementing a robust program following the end of the four-year effort to secure nuclear material. In addition, modernization of the nuclear security enterprise and sustaining the science and technological base directly supports our nonproliferation and counterterrorism missions, so there is great synergy between the Weapons and Nonproliferation programs that we will continue to leverage. Details of the FY 2015 President's Budget Request for the NNSA follow.

Weapons Activities

The Weapons Activities account request for FY 2015 is \$8.3 billion, an increase of \$534 million or 6.9% over FY 2014 enacted levels. It is comprised not only of the Defense Programs portfolio, which is responsible for all aspects of stockpile management, but also our physical and cyber security activities, our emergency response and counterterrorism and counterproliferation capabilities, and enterprise-wide infrastructure sustainment. Each element is addressed in detail below.

Defense Programs

The Defense Programs portion of the Weapons Activities account is up \$499.5 million, or 7.8% from FY14, to \$6.9 billion. It funds the Nuclear Weapons Council (NWC) approved "3+2" strategy with some schedule adjustments, which aims to implement NPR guidance to reduce the number and types of weapons in the stockpile while maintaining a safe, secure and

effective deterrent. The request also continues to invest in the scientific and engineering foundation and in critical infrastructure. Building on last year's jointly conducted planning process for nuclear weapons modernization activities, DOE/NNSA and DoD agreed on a prioritized plan to meet requirements within current fiscal constraints of the Bipartisan Budget Act. Specifically, the FY 2015-19 Budget proposal requests funding for the following modernization activities:

- Complete production of the W76-1 warhead by FY 2019;
- Achieve the B61-12 life extension program (LEP) First Production Unit (FPU) by second quarter FY 2020;
- Achieve the W88 ALT 370 FPU by first quarter FY 2020;
- Defer the interoperable warhead (W78/88-1) LEP FPU by five years to FY 2030;
- Delay the Long-Range Standoff warhead FPU by one to three years to FY 2025-2027;
- Continue funding engineering design and to study alternative approaches to deliver the Uranium Processing Facility by 2025.

The Directed Stockpile Work request at \$2.7 billion supports transitioning to a smaller, modernized nuclear stockpile while continuing sustainment efforts. The requested increase reflects the ramp up of Phase 6.3 activities for the B61 LEP and an increase for Stockpile Systems, including maintenance, surveillance, plutonium sustainment, and tritium program requirements.

In support of the Research, Development, Test, and Evaluation (RDT&E) program, the Campaigns request is \$1.8 billion to provide increased technical resources needed for the certification of the existing stockpile and qualification of LEP options and components. For example, within the Inertial Confinement Fusion and High Yield Campaign, the National Ignition Facility (NIF) has achieved recent success with a stockpile stewardship experiment that exhibited significant "self heating," which is an important step essential to achieving ignition on the NIF. This platform will be used for years to come in studying a multitude of physical processes of relevance to nuclear weapons. Today, these physics environments are only accessible on laboratory-based high energy density facilities, such as the NIF, since the U.S. has been under a unilateral testing moratorium since 1992. The FY 2015 request for the NIF is \$328.5 million.

Another area of significant investment by the DOE is in exascale computing. NNSA's Advanced Simulation and Computing Campaign (ASC) provide leading edge, high-end modeling, and simulation capabilities that capture and allow us to apply all that we know about weapons physics and engineering. The FY 2015 ASC budget request includes \$50 million for the Advanced Technology Development and Mitigation sub-program, established in FY 2014, which funds projects that pursue long-term simulation and computing goals relevant to both exascale computing and the broad national security missions of the NNSA. Both the NNSA and DOE's Office of Science continue to collaborate in this area of advanced computing systems, with the Office of Science request providing \$91 million towards the development of capable exascale systems.

Two decades after its beginning, the Stockpile Stewardship Program continues to deliver tangible results from the combined use of our leading edge computation and experimental tools. Specifically our level of understanding of how nuclear weapons work is far greater today than when we were testing. A core mission of the DOE remains to certify the safety, security and effectiveness of the nuclear deterrent; this is done each year by the Lab Directors and STRATCOM Commander, which continues to support our unilateral testing moratorium consistent with the Comprehensive Test Ban Treaty.

Infrastructure

The Readiness in Technical Base and Facilities (RTBF) request at \$2.1 billion supports the underlying physical infrastructure and operational readiness for the nuclear security enterprise. The request includes funds to upgrade nuclear safety systems, improve the workplace environment for plant and laboratory employees, and reduce safety and mission risks across the enterprise in support of operational readiness. The Site Stewardship request of \$82.4 million also ensures the overall health and viability of the enterprise.

Specifically, RTBF construction supports continued design activities for the Uranium Processing Facility Project (UPF) at \$335.0 million, an increase of \$26 million from FY 2014, while assessing whether there are alternative designs to accomplish the mission incrementally and at an affordable pace. NNSA remains concerned about the cost growth and sequestration impacts facing the UPF Project. In January 2014, NNSA chartered Oak Ridge National Laboratory Director Thom Mason to lead a team to develop and recommend an alternative approach to the UPF Project. NNSA is committed to our build to budget strategy to deliver the UPF Project by 2025, with Building 9212 capabilities, for not more than \$4.2-6.5 billion.

The NNSA continues to pursue steps to maintain continuity of plutonium capabilities at Los Alamos National Laboratory (LANL)--to include analytical chemistry (AC) and materials characterization (MC) capabilities--with a commitment to cease programmatic operations in the 62-year old Chemistry and Metallurgy Research (CMR) facility by 2019. NNSA has developed a three-step Plutonium Infrastructure Strategy, to include: 1) Maximizing the use of the Radiological Laboratory Utility Office Building (RLUOB); 2) Reusing laboratory space in Plutonium Facility (PF)-4; and 3) Evaluating options for modular additions to PF-4. The first two steps allow the NNSA to move programmatic operations from the CMR facility; the third addresses the PF-4 lifetime while enabling production capability and analytical support enhancements to meet requirements. NNSA also continues to pursue investments in upgrading safety system in PF-4 as part of the overall approach to maintaining plutonium capability.

NNSA's request reflects the partnership between NNSA and DOD to modernize the nuclear deterrent, and as in last year's Budget, DoD is carrying a separate account for the outyears that contains funds for NNSA's Weapons Activities and Naval Reactors. These funds are transferred to NNSA during budget development and underscore the close link between these activities and DoD nuclear requirements and missions. We urge your subcommittee's support for

alignment of the appropriations process and allocations, including the 302(b) allocation, with the President's Budget. The requested allocation, within the spending caps set by the Bipartisan Budget Act, support these NNSA and DoD priorities. If not achieved, it could place modernization funding and implementation of our long-term stockpile sustainment strategy at risk.

Physical and Cyber Security

Improving the effectiveness and efficiency of Departmental operations is a top priority. Shortly after beginning his tenure, the Secretary of Energy directed the Department to undertake a thorough review of our security management. It became clear that DOE's approach to securing the Department's assets, including the special nuclear materials, could be strengthened by establishing greater accountability and clearer lines of authority.

Therefore, in February, the Secretary announced his new vision for enhancing the Department's health, safety, security and independent assessments. First, we have put in place a Chief Security Officer (CSO) under each of the three Under Secretaries, each empowered and held accountable for managing all security operations within their organizations. The CSOs will form the nucleus of a new DOE Security Committee, chaired by the Associate Deputy Secretary, which will develop unified security strategies across the DOE complex and raise the focus on protecting our people and DOE physical and information assets. Second, we are moving the Department's key support functions for security, health and safety under the leadership of the Under Secretary for Management and Performance in order to improve the effectiveness and efficiency of Departmental operations. Third, we are establishing a new Office of Independent Enterprise Assessments (IEA), reporting directly to the Office of the Secretary. This reorganization will set us on a stronger course to achieving our goals and mission more effectively, efficiently and safely.

In light of these reforms, the primary mission of NNSA's Office of Defense Nuclear Security and the Chief Security Office is to develop and implement sound security programs to protect Special Nuclear Material, people, information, and facilities throughout the nuclear security enterprise. The NNSA's Defense Nuclear Security request is \$618 million to provide protection from a full spectrum of threats for NNSA personnel, facilities, nuclear weapons, and information.

The Information Technology and Cybersecurity (renamed from "NNSA CIO Activities") request is substantially increased to \$179.6 million to provide protection against increasing cyber security threats. Information Technology and Cybersecurity supports the national nuclear security enterprise by providing information technology and cybersecurity solutions such as enterprise wireless capabilities and continuous monitoring technologies to help meet security and proliferation resistance objectives. The increase reflects expenses for items such as improvement to the cyber infrastructure at the NNSA sites, requirements for classified computing, and Identity Credential and Access Management.

Emergency Response and Counterterrorism

The Nuclear Counterterrorism Incident Response (NCTIR) request of \$173.4 million applies technical assets from the nuclear security enterprise to resolve and manage nuclear and radiological incidents, especially those involving terrorism. It addresses this threat by maintaining and using response teams to manage the consequences domestically or internationally should an attack or incident result in radiation exposure to the public. NCTIR conducts training programs to train and equip response organizations and uses strategies that integrate NNSA expertise with law enforcement or military capabilities to locate, identify, and disable a terrorist nuclear device.

The Counterterrorism and Counterproliferation (CTCP) program request is \$76.9 million to provide the foundation for the U.S. Government's capability to understand and counter nuclear terrorism and nuclear threat devices. The program also provides a technical understanding of foreign nuclear weapons outside of state control. Based on this expertise, the program informs national policies and international guidelines, as well as enabling domestic and international nuclear counterterrorism engagements.

Defense Nuclear Nonproliferation

The Defense Nuclear Nonproliferation (DNN) request is \$1.6 billion, a decrease of \$398.8 million, or about 20.4%, from the FY 2014 level. The programs under DNN have been accurately described as "defense by other means." The majority of the decrease is due to the decision to place the Mixed Oxide (MOX) Fuel Fabrication Facility construction project at the Savannah River Site in cold stand-by to allow further study of more efficient options for plutonium disposition. Other decreases reflect the conclusion of the President's four year effort to secure nuclear materials worldwide and bring the FY 2015 request in line with funding levels before the acceleration needed to implement the four-year effort.

We have met — and in some cases exceeded — the goals set in April 2009 following the President's Prague speech by:

- removing or confirming disposition of 5,113 kilograms of highly enriched uranium (HEU) and separated plutonium from 41 countries and Taiwan (enough material for more than 200 nuclear weapons and in excess of the target of 4,353 kilograms);
- completing material protection, control and accounting (MPC&A) upgrades at 32 buildings containing metric tons of weapons-usable material in Russia (for a cumulative total of 218 buildings secured in the former Soviet Union since 1994); and
- working with Russia and former FSU countries to establish effective and sustainable MPC&A capabilities at the national level.

Going forward in FY 2015, the Administration remains firmly committed to disposing of surplus weapon-grade plutonium. Over the past year, we have been working closely with the MOX project contractor and others to determine if there are opportunities to make the current MOX fuel approach for plutonium disposition more efficient. During the same time that we were

analyzing the current MOX fuel approach, we have been analyzing alternatives to accomplish the plutonium disposition mission, including reactor and non-reactor based approaches. DOE expects to complete the options analysis and an external independent review in the next 12-18 months. It is now clear that the MOX approach will be significantly more expensive than anticipated—at a \$30 billion lifecycle cost estimate—even with potential contract restructuring and other improvements that have been made to the MOX project. As a result, the MOX project will be placed in cold stand-by, meaning we will cease all construction activities in order to minimize costs. The Fissile Materials Disposition request is \$311 million, including \$221 million to put the MOX project in cold stand-by, while assessing more cost effective options. NNSA must immediately take prudent actions to commence lay-up to preserve our investment while minimizing costs. The remaining funding will continue to support activities for disposition of plutonium and highly enriched uranium.

While much was accomplished under the four-year effort, serious threats still remain. Significant stockpiles of HEU still exist in too many places, and global inventories of plutonium are steadily rising. DNN programs, working closely with a wide range of international partners, key U.S. federal agencies, U.S. national laboratories, and the private sector will continue to remove and/or dispose of the dangerous nuclear materials that are still very much a part of our world today. The FY 2015 budget request for other DNN programs provides funding to continue remaining high-priority nuclear and radiological threat reduction efforts, following completion of the accelerated four-year effort activities. This includes \$333 million for the Global Threat Reduction Initiative (GTRI) and \$305 million for the International Material Protection and Control (IMPC) program. FY 2015 priority efforts include the removal of an additional 125 kilograms of HEU and plutonium from high priority countries; the protection of an additional 105 buildings with high-activity radioactive sources; the consolidation of all category I/II material into a new high security zone at a nuclear material site in Russia; preventing illicit trafficking by closing key gaps in the radiation detection architecture through the provision of fixed and mobile detection equipment; and the initiation of new nuclear security activities in the Middle East.

Another core program is DNN Research & Development (R&D) program, at \$361 million in the FY 2015 budget request. DNN R&D develops new technologies and methods that advance national and international capabilities to detect and characterize foreign nuclear weapons production activities and detonation events and the movement of special nuclear material (SNM). DNN R&D is a national-level program providing applied research and development in nuclear security and treaty verification technology leveraged by interagency partners at the Departments of Homeland Security, Defense and State, and the throughout broader U.S. Government.

Finally, the Nonproliferation and International Security (NIS) program request is \$141 million, which supports activities that prevent and counter WMD proliferation, including continued support of U.S. efforts to address proliferation by Iran, North Korea, and proliferation networks; implementation of statutory export control requirements; support for treaty verification and transparency; implementation of the Next Generation Safeguards Initiative to strengthen

International Atomic Energy Agency safeguards; and efforts to reduce proliferation risks associated with the expansion of nuclear power.

These activities are carried out in support of an interagency strategy for nuclear threat reduction and in close coordination with related programs in the Department of Defense, Department of State, and other agencies. Though difficult choices are inevitable in the current budget environment, NNSA continues to strongly support the nuclear nonproliferation mission. We are proud that the Office of Defense Nuclear Nonproliferation is responsible for delivering the majority of the pledges made by the United States under the Nuclear Security Summit process. The President and Energy Secretary recently represented the United States at the third such Summit in The Hague, where they highlighted additional commitments the United States intends to meet by the 2016 Summit, which will be hosted in the United States, and continued to encourage international commitment to and investment in meeting these critical nonproliferation challenges.

Naval Reactors

The budget request for Naval Reactors is \$1.4 billion, an increase of \$282.1 million, about 25.8% from the FY14 level. The request includes the base funding required to safely maintain, operate and oversee the Navy's 83 nuclear-powered warships. The Naval Reactors budget request includes three high priority programs: OHIO-class Replacement submarine; refueling of the Land-Based Prototype reactor plant; and the Spent Fuel Handling Recapitalization Project. These new projects are essential to maintaining a credible sea-based strategic deterrent, to maintain the research and training capabilities of the Land-based Prototype, and to maintain the capability to safely inspect, store and package naval spent nuclear fuel.

NNSA Program Direction—Federal Salaries and Expenses

NNSA Federal Salaries and Expenses (FSE), formerly "Office of the Administrator," request is \$411 million, an increase of \$34 million or 9% from the FY 2014 level. The increase reflects two requirements: a \$20 million one-time cost to fund the move of the NNSA Albuquerque Complex to a different leased facility, and a \$12 million increase associated with the transfer of Corporate Project Management from the Weapons Activities account, consistent with Congressional direction in the FY 2014 Consolidated Appropriations Act. The FY 2015 Budget Request provides support for 1,710 Federal FTEs – a 9.3 percent reduction relative to FY 2012 enacted levels – in response to today's constrained budget environment. FSE remains critical to supporting the NNSA mission and workforce.

Separately in the FY 2015 budget request, the Administration has proposed an additional \$56 billion in funding across the Government through the Opportunity, Growth and Security Initiative (OGSI). The OGSI supports the President's broad vision for investing in growth, opportunity, and national security and advancing important Presidential goals while respecting the budgetary consensus developed under the Bipartisan Budget Agreement of December

2013. The OGSF allocates around \$600 million to further support NNSA's critical mission and infrastructure investments.

Conclusion

The NNSA implements a vital mission, responsible for nuclear security at home and abroad, and delivering the technology, capabilities and infrastructure essential to a 21st century organization. An emphasis on mission effective and cost efficient nuclear security solutions will be critical for the NNSA to succeed in today's fiscal climate where difficult choices must be made but where our workforce continues to rise to the challenge and deliver.

Mr. SIMPSON. Do either of you, Mr. Cook or General Dawkins, have any comments you would like to make opening?

Mr. COOK. Yes.

Mr. SIMPSON. Go ahead.

Mr. COOK. Chairman Simpson, Ranking Member Kaptur, other members of the committee, I am also honored to be here with Acting Administrator Bruce Held and Brigadier General Jim Dawkins.

On the 2015 President's request, before I start, I want to express heartfelt thanks for this committee's support of the nuclear deterrent of weapons activities of defense programs. That support has supported NNSA, its mission, and its people.

It is critically important for the U.S. to have an unambiguous strategy, national strategy for the nuclear deterrent to achieve the goals that have been articulated by the President. They were articulated first in his Prague speech in 2009; secondly, in the Nuclear Posture Review in 2010; and then again in Berlin just last June. So it is worth noting in the President's budget request for 2015 that \$6.9 billion is targeted for defense programs portion of the Weapons Activities budget, and that is a \$500 million increase, just shy of that, or about 7.8 percent over the 2014 enacted level, despite the fiscal constraints of the Bipartisan Budget Act.

Looking back and looking forward, in the two decades since the last underground nuclear explosive test, 20 years have passed, the Stockpile Stewardship Program that was put into place has been successful. It has given us capabilities for quantitative understanding of weapon aging and its effects. It has provided critically important computational experimental tools for the stockpile, and those are what we today call the power tools of stewardship. We are applying them now to changing the deterrent. Those are funded in the President's budget request at \$1.8 billion. You will find it under the campaigns line.

Over the past year, NNSA, as Administrator Held has said, has worked very closely with the DOD and the Nuclear Weapons Council. We developed a number of options for reconciling DOD priorities with Weapons Activity program requirements and with available resources. These options were then discussed at the DOD Deputy Secretary's Management Advisory Group, called DMAG, and an option in deliberation with NNSA resulted in a selection for the life extension programs. Because of limited resources, that was called a bend but not break 3+2 strategy for the Nation. You will hear more about that strategy from General Dawkins in just a minute.

The Directed Stockpile Work, or DSW portion of the program, requests \$2.7 billion, of which 1 billion is geared toward life extension programs. The remainder, of course, takes care of the stockpile that we have today. Regarding the life extension programs that underpin, there are three that have the highest priority, and I will make a brief comment about them.

The first is the life extended W76 for the Navy. The President's budget request is \$259 million for that program. This supports completion of that effort by the end of fiscal year 2019. So now we have a budget request for 2015 to 2019 that covers the entirety of the first completion of life extension.

B61-12 is on its heels. It remains on track, the enduring development achievements are meeting milestones. The President's re-

quest is \$643 million for that one and will support the initial ramp-up at our NNSA production plants and the preproduction engineering activities in 2016, after the 2015 budget year, leading to a first production unit by March of 2020.

In parallel with that, the third, the W88 ALT 370 is an alteration of the arming, fuzing, and firing system for the ballistic missile that sits on Trident, the W88. The President's request is \$165 million, and that supports a first production unit of December 2019.

As you have already noted, the first interoperable had to be delayed. That was a part of DMAG 1, and we deferred it for 5 years. So the FPU, which was to be 2025, is now set at 2030. That interoperable is scheduled to be the first interoperable for both an Air Force and a Navy weapons system. We needed to defer it based on budget availability, but through the stewardship tools we felt that we could defer it for that period of time because these two systems are aging as predicted. We believe we understand where they are. And as a consequence of that, we have requested no funds for fiscal 2015.

The long-range standoff or LRSO warhead is the intended replacement for the air-launched cruise missile warhead, currently served by the W80-1. In DMAG Option 1, we deferred that up to 3 years from an FPU of 2024 to an FPU of 2027. The 2015 President's budget requests \$9.4 million for support of Phase 6.1 activities in 2015 and an FPU of 2027.

Turning to some of the underlying capability, the President's budget requests \$335 million for the Uranium Processing Facility at Y12. That amount is going to allow the transition of uranium processing capabilities out of 9212, the oldest building we have there, by 2025.

In the area of plutonium infrastructure, the President's request includes \$38.7 million provided for activities needed to procure and install equipment in the Rad Lab or RLUOB, early planning activities to reuse PF-4 laboratory space, and preconceptual analysis of potential modular additions to PF-4. The strategy execution depends also on receipt of the reprogram funds that we sought in support of the CMR transition request that shows up in program readiness in the budget.

In the area of tritium production, the President's request is \$140 million for 2015. The challenges that face us here are ensuring that we have a source of unobligated or no peaceful use restrictions, low enriched uranium to fuel the Tennessee Valley Authority reactor, the TVA reactor. It has been determined so far that we have enough material to run to 2036 for our tritium production needs if we fuel only one reactor. But if we need to go to two, then our LEU stockpile is only going to be sufficient to get us to 2025.

Particularly in the wake of the USEC Chapter 11 filing, we have initiated a study within the Department to look at alternatives to identify the continuing source of low enrichment uranium.

Finally, the President's budget request applies fundings toward upgrades to nuclear safety systems, as Administrator Held said, improvements to the workplace environment for both plant and lab employees, and actions to reduce safety and mission risk across the enterprise. You also have my personal commitment and that of

those at the table here to work closely with you on maintaining continuity for our uranium or plutonium capabilities.

With your support of the President's 2015 budget request for maintaining America's nuclear deterrent, the NNSA will continue to preserve the quality of the warheads that are necessary to meet U.S. national security needs.

I thank you for your time again and look forward to answering your questions.

Mr. SIMPSON. Thank you, Dr. Cook.

General Dawkins.

General DAWKINS. Chairman Simpson, Ranking Member Kaptur, distinguished members of the subcommittee, good morning. It is an honor to be here today. My remarks will be brief.

In my role as the principal assistant deputy administrator for military application, or PADAMA, my primary responsibility is to assist Dr. Cook with maintaining global nuclear deterrence through effective planning, maintenance, and enforcement of a safe, secure, and effective nuclear weapons stockpile. PADAMA is an important position for NNSA to have because it allows a senior military officer to serve as a conduit between NNSA and DOD. I consult with Dr. Cook daily on joint nuclear matters dealing with operational infrastructure issues, and we engage with frequent dialogue with the various military services concerning weapons issues specific to each service. I am also heavily engaged in supporting related programming and budget matters that are pertinent to NNSA and DOD.

Of particular interest to me is the 3+2 strategy. This, of course, is the strategy that both the Department of Energy and the Department of Defense, working through the Nuclear Weapons Council, have put in place to maintain a nuclear triad while reducing the number and types of weapons. This strategy allows the nation to go from 12 to 5 systems, resulting in 3 ballistic missile systems and 2 air-delivered systems. The President's budget, as submitted, will allow us to meet the basic objectives of the 3+2 strategy and continue to meet the tenets of the New START treaty. However, budget constraints are forcing us to balance cost and schedule to reduce risks.

It is from my unique position in the NNSA Office of Defense Programs that I come before you today to answer any questions that you may have on NNSA's 2015 budget request, which has already been endorsed by the Nuclear Weapons Council. Thank you for your time, and I look forward to taking your questions.

Mr. SIMPSON. Thank you, General.

Mr. Held, you mentioned your five priorities that you have. Any idea whether the new Administrator awaiting confirmation and the Deputy Administrator, agree with those five priorities?

Mr. HELD. Yes, sir. Frank Klotz and I meet with each other regularly, and I think he is on board and consistent with those, and perhaps most importantly, Secretary Moniz is on board and very supportive of those.

Mr. SIMPSON. Are there any decisions that were deferred awaiting the new Administrator's confirmation?

Mr. COOK. The Secretary's guidance to me when he asked me to be acting was to proceed as if I was going to be there for a while. We didn't expect me to be there this long. The only decisions that

we have really deferred have been some senior personnel decisions. I didn't want to tie General Klotz's hands on senior personnel things, so we have had a lot of people in acting positions for that.

But besides that, in particular on things like security reorganization, in an appropriate fashion we coordinated with Frank to make sure that this was not something that he would be opposed to.

Mr. SIMPSON. Well, we certainly appreciate the job you have been doing as the Acting Administrator of that.

Each of the major modernization projects recommended by the Nuclear Posture Review report has experienced some serious problems. The CMRR nuclear facility was essentially canceled and now we hear that there are more affordable alternatives that were never considered. The design of the Uranium Processing Facility was bungled, necessitating a huge expansion of the building's footprint. The common warhead options for the W78 and W88 have been pushed back to 2030 with no plans ever submitted for how to fund its \$13 billion cost or construct the supporting production infrastructure. Only the B61 LEP is moving forward, despite the fact that the cost of the program doubled over the course of 1 year from \$5 billion to \$10 billion. This cost growth occurred despite the fact that NNSA downsized the scope of the refurbishment to a less risky alternative.

What are you doing to better ensure that the NNSA is spending its funds developing only the most feasible and affordable alternatives to sustain the nuclear weapons stockpile, and what needs to change to make sure that these mistakes don't continue to be made and that we do not waste time and money on losing alternatives?

Mr. HELD. Sir, if I may, I will address the plutonium and uranium aspects, the infrastructure aspect, and then maybe turn to Dr. Cook specifically on the weapons.

I think we have had to improve our performance in these major infrastructure projects, as we have already done in the ones under \$750 million. I think we need two things. We need to bring the same discipline approach that Bob Raines has been bringing to the smaller projects, but more importantly, maybe we need to bring a different strategy to these great big projects, and that goes to the better sooner rather than perfect later.

We have designed both on the plutonium side and the uranium side. We designed out the perfect scope and then we let perfect scope drive cost and schedule, and quite frankly, what we found is those end up being too costly, they take too long, they undermine our credibility with Congress, and they leave us in an untenable nuclear safety position.

So in the plutonium case it was really necessity was the mother of invention, given budgets. The plan that we had was proving untenable. We did have some ability to stretch out that plan because good scientific and technical work that Don is more expert at describing than I am gave us more time because plutonium was not aging as quickly as we thought it would. So the pits were lasting longer, right, so it wasn't so urgent. But it was really the budget driver.

And so once the project was postponed, the smart scientists at Sandia and across the complex said, is there a different way to skin this cat? And in fact we came out with one wherein nuclear safety was a driver in that. We are currently in the old CMR building, which is 62 years old and sits on a major fault, and we have this brand new radiological laboratory, brand new, beautiful facility brought in on time, under budget. And currently, in this old facility, we are allowed to use a large amount of plutonium, and in the smaller facility we are only allowed to use basically two nickles worth, right.

And so Don is working through to change that paradigm so we can actually make much use of the radiological lab, so we can get out of CMR on a period of time. Then if we repurpose existing space in the existing plutonium facility number 4, we can get up to meet the first NWC objective of 30 pits per year and then bring on modular additions as the mission drives us, right. So we are letting mission drive the pace and doing a much more agile modular fashion that will probably prove much more mission effective and cost efficient.

So then on the uranium side, because, again, our perfect strategy was pushing us to a situation where the cost was going to be on the order of over 10 billion and not get finished until the year 2038. 2038 is nearly 100 years after the Building 9212 down at Oak Ridge was created. I was down there giving an all-hands, and there were about 400 or 500 people in the room, and I said, I don't know about you, but I frankly expect to be dead in the year 2038. How many of you in this room expect to be working at Oak Ridge in 2038?

One person raised their hand, one person. And so we said we have got to do better than this. Let's not have perfection in 2038. Let's have something much better and much more cost effective in 2025. And even 2025 is kind of a long way away. And so that is why we brought in Thom Mason to this alternative analysis. We should have done this sooner. So we brought Thom in. And this was a wonderful example of really good agile governance. I asked Tom, after a morning meeting, because he was in town, I said, could you lead a red team and maybe take some lessons from the plutonium thing in Los Alamos and give us is there a better way to skin the uranium cat in Oak Ridge? He said, I will need a charter to do this. And I said, okay, can you write the charter for me and I will sign it today? I signed it out today.

He called the best minds across the complex, the very best minds across in the science labs, in the nuclear weapons labs, and they met the next week. Somebody asked me, what is our work authorization statement? I said, I don't know. But they got all of those people together and they will get us a report by April 15th that then we can share with you, then we can start thinking whether. Secretary Moniz, he is a very charming fellow when he is with you, but he shakes your hand with that velvet glove, man, but there is a fist of steel inside there. And so he is driving this really kind of much more let's practical problem solving and get things done.

Mr. SIMPSON. Thank you.

Mr. HELD. So with that, I will turn it to Don.

Mr. SIMPSON. Dr. Cook.

Mr. COOK. For the life extensions, given that we have quite a few, we are taking a similar process for each of them. So we have got one in the full build Phase 66 and two at Phase 63, both will be B61-12, and the W88 ALT 370. And I will run through a set of things very quickly that are at the top of my mind because we deploy them regularly.

So first is we manage now through integrated master schedules, every one of these teams, that is a project officer group between DOE and DOD. On the NNSA side, we have integrated master schedules. We also have completed risk registers. Each risk is identified, each risk is statused quarterly, every single risk is associated with an individual to manage it. For example, on the B61, we started out with something like 190 risks, maybe a few more. We are reducing that as work is actually getting done. You have seen successful engineering development tests for the B61. There was an all-up-round mechanical test. There was a helicopter drop that proves the radar. Very recently there was a wind tunnel test. Those are three keys right on the critical path to deployment. Every single one was met. And when you meet the work, you can retire the risk. Formally, that is what we do.

We have got resource loaded schedules. The worldwide industry tool is Primavera Project Planner, known as P6 now. That is being used in all of the life extension programs as they move to Phase 63 as the requirement.

That gives us earned value measurement status. In an earned value management system, there is an ANSI standard, American National Standards Institute, so we are not making up DOE orders to this. We are following the best practices in engineering throughout the Nation and in fact throughout the world.

Quarterly project reviews involve not only my team but the DOD team. We regularly have people from the Joint Staff and U.S. Strategic Command come, as well as the Air Force and the Navy.

The final one is the selected acquisition requests. Each one of the life extension programs is expensive, and we treat them formally. Now, under the requirements then, we provide a SAR. I have signed out three for each now, the W76, the B61, and the W88 ALT 370, and the cost has not changed, the scope has not changed, and the schedule has not changed in each of those.

The first one I signed out for the B61 was in March a year ago, and at that point sequestration, which occurred at the beginning of March, we took into account. We delayed the B61-12 by 6 months because we had a factual delay now, but it remains on schedule.

So I tried to answer that part directly.

Mr. SIMPSON. Appreciate it. Thank you.

Ms. Kaptur.

Ms. KAPTUR. Thank you, Mr. Chairman.

Gentlemen, thank you for your testimony and the vigor with which you are approaching this.

Dr. Cook, I just wanted to ask, of the weapon systems that you identified in your testimony and attached dollar figures to, what percent of all weapons we hold does that represent? If you were to total all of those, whether it is through 2030, 2025, 2020, what percent of total weapons does that represent?

Mr. COOK. In the current stockpile that we have and the way that we are approaching with a very large strategy, which we actually publish now in the Stockpile Stewardship and Management Plan, it covers the entirety of the American deterrent.

Ms. KAPTUR. Okay.

Mr. COOK. Now, so 100 percent. But the first three, that is for the 76 and for the B61 and the W88, that set covers something of the order, I would say, of 60 percent, maybe even 65 percent of the weapons that will be deployed at the time that the New START treaty comes formally into effect with a new force structure on February 5 of 2018.

Ms. KAPTUR. Let me ask, Mr. Administrator, you are very aware of the congressionally appointed panel that has produced a report, and they have recently testified that the NNSA experiment had failed and that the NNSA was on a trajectory toward crisis unless strong leadership arrests the current course. That panel has yet to come up with any recommendations on what kind of governance structure might be better, but I am curious whether you agree with the panel's assessment that the current organizational structure is fundamentally flawed.

And I will just quote a couple, and I am sure you know all this, but for the record, they talk about chains of command not well defined; shortfalls in project management and cost estimating well documented; trusted partnerships historically between the labs and NNSA eroded; and a sentence, "There is no affordable, executable, joint DOD/DOE vision, plan, or program for the future of our nuclear weapons capabilities."

I must ask you how you react to that, and do you believe that better integration of NNSA programs into the Department of Energy improves things or do you think that the mission of the NNSA program should be severed entirely?

Mr. HELD. Thank you. This is the issue that I agreed, when Secretary Moniz asked me to return from retirement, this is the issue that I agreed to come back on. I am a retired CIA officer. I was working out at Sandia National Laboratories as the head of counterintelligence out there, and it was the issue that I agreed with Secretary Chu to come back to work on. And I have been working very closely with Norm and Rick.

Do I think the people of NNSA have failed? And that, when I say people, I mean both the government employees and the employees of government-owned laboratories and facilities. I do not think the people of NNSA have failed.

Do I think that the governance model that we have been trying to overlay across the complex has failed? Yes, I do. I believe we have had a governance model, that we have been trying to use private sector incentives to motivate a culture that is deeply, a culture both in the government and at the laboratories, that is deeply, deeply committed to scientific excellence and exceptional service in the national interest. And the large fees do not motivate scientific excellence at the laboratories. If you want to motivate a scientist, put out a dollar of lab-directed research and development fund, research money, that motivates science, right? Profits don't, fees don't motivate science.

So the Secretary and I are in strong agreement with the panel that that model has not succeeded, that model has driven a wedge between the government and the government-owned facilities. We need to move that into a much tighter partnership. That is in fact what we are doing. If you look at the use of Thom Mason, you know, that is because we know each other, we trust each other, and we want to solve problems together.

On the chain of command issue, very, very important on the chain of command issue. After the Y12 incident, Secretary Chu, with whom I am very close, said, Bruce, if I have a counterintelligence problem, if we have a counterintelligence problem in the complex, who do I fire? I said, sir, you fire me, and I will make sure the local counterintelligence chief on site is out the door before I leave Forrestal. And he said, who do I fire in a security situation? I said, sir, the chain of command is so confused that you don't have a clue, you actually don't have a clue. And General Finan, General Dawkins' predecessor, wrote an analysis of the Y12 incident, and the core sound bite from that analysis was there are many people who assert authority and no one accepts accountability, right. And the reform of security, the first tasking that Secretary Moniz gave me on my second day—actually it was my first day reporting back into duty—he asked for a 30-day review of security and what to do, and we have centralized that chain of command.

At NNSA, the chief of defense nuclear security is, as the statute requires, now the person who is responsible and accountable for all security at NNSA. We have similar people who are clearly identified as owner of both responsibility and accountability for security in both the science and energy area and in the performance and management area, and that paradigm is the paradigm we are going to drive for governance across the enterprise.

Ms. KAPTUR. Mr. Held, when was that adopted?

Mr. HELD. The security reorganization?

Ms. KAPTUR. Yes.

Mr. HELD. I announced it for NNSA in February of this year, and it was formally announced for the entire Department about 2 weeks ago, I believe. We can find the exact date for you.

Mr. SIMPSON. Marcy, if I could interrupt for just a second. We have a couple of members that have a markup that they have to get to, and I would like to have them be able to ask a question. Then we will come back to that, if that is okay with you.

Mr. Graves.

Mr. GRAVES. Thank you, Mr. Chairman.

Mr. Held, seems like yesterday we had a large conversation with the Secretary in this subcommittee as it related to the MOX facility.

Mr. HELD. You bet.

Mr. GRAVES. And I don't really want to rehash everything that we discussed yesterday, but I would like to reemphasize the frustration that not only this panel but others have with items that have been authorized and funded, for instance authorized in the NDAA and then funded in the omnibus and signed by the President, and then somewhere, somehow a change is made without the approval of Congress.

Just in the spirit of consistency, is your Agency doing the same analysis of every project or did you just choose this one and put it in cold standby? And I think I even heard from the Ranking Member the dissatisfaction in stopping things without the analysis of how you move forward, which is going to cost hundreds of millions of dollars. But are you doing this with every project or is it just isolated to one or two or three?

Mr. HELD. I thought you made some wonderful comments yesterday in terms of the change orders and such. And there is a great GAO report out and really very accurate and very well done. The GAO people find it unusual that the subjects of their reports actually agree and like the reports.

But a serious mistake was made in 2007 when we rushed to begin construction before we had a design, and that is what leads to all the change orders. And just like building a house, if you have change orders, you are going to run up the cost of that project something incredible. So we all are trying to look at all projects in a very consistent fashion.

Obviously the MOX project, because it is so large and so important, has a lot of priority. Secretary Moniz brought in John MacWilliams, who is a former investment banker and made millions of dollars doing project management, to really take a look at that project. He is also the one who is taking a look at USEC and really very rigorously. And he has a report that is near completion that lays out all of these alternatives that this committee needs to see as soon as it is available because that will provide you the transparency that you need to kind of say, okay, how are we reaching these decisions, you know, what is the good government path forward on this, because it is a very difficult, difficult thing.

But, yes, we are trying to be rigorous and consistent in all of these things. The first example of this would be on the MOX thing, and we really need to get that report to you, and I think you will be quite impressed. And then I think it will frame the issues in a factual, clear-eyed way that we can all make a good government decision.

Mr. GRAVES. All right. Thank you. And I know there are other questions, but let me just reemphasize the importance of this panel and all Members of Congress having input, because when we pass laws that are signed by the President, and then agencies are making changes, that is, as you can imagine, very frustrating. So consistency is going to be very, very important moving forward.

Mr. HELD. Yes, sir.

Mr. GRAVES. And I can tell you this panel is certainly going to question what you do with the facility if you keep it in cold standby without a plan moving forward, and I hope you will be prepared to answer that at some point.

Mr. HELD. Sir, I am a retired CIA operations officer, so I am really comfortable in dark allies with unseemly people. But in that kind of nebulous world trust and confidence is the realm, is the coin of the realm. And there has been a long history of congressional oversight vis-a-vis the CIA Clandestine Service, and you will find most street case officers of the CIA Clandestine Service are deeply devoted to that because it protects them and it helps you. So you can count on that.

Mr. SIMPSON. Thank you.

Mr. Fortenberry.

Mr. FORTENBERRY. Good morning, gentlemen. Thank you for appearing today.

I would like you to walk through the interface of the various nonproliferation efforts that we have. We have a number of very specific programs that are designed to do various things, but I would like you to talk through—and we will have more time this afternoon on this—but to walk through the spectrum of those programs, the outcomes that you are seeing, the reasons that we are seeing some budgetary reductions here. I raised this with the Secretary. One of the most important things that we have to do, perhaps the most, is keep people safe.

Mr. HELD. Yeah.

Mr. FORTENBERRY. And to lower the probability of the use of a nuclear weapon to as close to zero as possible, as I told the Secretary yesterday. And while we have got two components of this, a nuclear force in order to deter the use of nuclear weapons but also a robust nonproliferation set of initiatives, they are a bit complicated, focused in various areas, I would like you to walk through the spectrum of those activities, how they overlap what you are thinking in terms of these reductions.

Mr. HELD. Thank you, sir. The one, your suggestion yesterday about a nuclear security caucus was immediately taken up by the Secretary, and we will be reaching out to you very quickly.

Mr. FORTENBERRY. Thank you.

Mr. HELD. President Obama, President Bush before him, has identified the single greatest threat to world stability is the potential for an act of nuclear terrorism. That issue is of profound personal importance to me and to our organization. The NSC director for countering nuclear terrorism at the White House, the previous fellow was my personal protege and the current fellow is my personal protege, so we take that issue with deep seriousness.

I will maybe reserve a subprogram by subprogram review until Anne Harrington is here this afternoon because she is more, but let me discuss in broad terms. So three observations. One, we have done an awful lot over the past 4 years. Two, we have an awful lot more to do ahead of us. And three, \$1.6 billion of taxpayer money is a lot of money to do it with.

So I think as we are doing in all areas in this budget context, it is not just nonpro, it is in weapons, it is in security, in all areas, we are trying to step back and think about is it a moment to retweak our approach, not to change the priority, but maybe to retweak our approach a little bit, are there ways we can get more bang for our buck and things. And we are currently in the process of doing that on nonproliferation.

I believe GAO, with this committee's support, is starting to look into that. The Secretary has asked the secretary of Energy Advisory Board to look into that as well. Should we tweak the approach a little bit, are there other things we should do. And in particular what I am interested in is are there ways to create greater synergies between nonproliferation in weapons, nonproliferation in nuclear energy, civilian nuclear energy, because in this budget environment we need much more synergies. And I go back to my en-

ergy original point. Nonpro and weapons in many ways have been kind of seen anyways as different worlds. Both Don and Anne have not been acting that way. But we really need to drive those synergies.

And in one sense you see that in the 3+2 strategy. The 3+2 strategy addresses two profound commitments to the American people. One, that we will have a safe, secure, and reliable deterrent; but two, we will have a smaller, we can have that safe, secure, and reliable deterrent on a smaller stockpile because the 3+2 strategy allows us to reduce the hedge stockpile.

So there is absolutely no less priority or no less concern or non-proliferation thing. We are taking a pause to say if we, as we are taking a pause in other areas as well, in construction and things, is there a better way we can get more bang for the taxpayer dollar.

Mr. FORTENBERRY. Well, you mentioned the GAO report. I have met with them as well, and I have a bit more homework to do. But I think this is important that you raise it.

Mr. HELD. Very important.

Mr. FORTENBERRY. And really trying to embrace the outcomes there.

One thing that I think should be challenging us all is not to think about 2015, it is to think about 2030 and how this technology is spreading very, very rapidly and the means to acquire it is spreading rapidly. And then of course there are transnational actors that are particularly worrisome, but even the linkages between what we would consider peaceful uses—

Mr. HELD. Right.

Mr. FORTENBERRY [continuing]. And the short sprint to militarization or weaponization that can exist in places with resource capacity are growing. That is the reality we are facing, not in the 21st century, next year.

Mr. HELD. We are facing, inevitably, a problem if we don't.

Mr. FORTENBERRY. That is right.

Mr. HELD. And I think it really comes down to special nuclear material, plutonium and uranium. And that is why I am particularly interested in creating greater synergies and exploring greater synergies between civilian nuclear energy and nonproliferation. I think that goes to the SMR, the small modular reactor. I think the small modular reactor is good for the American economy, it is good for national security, it is good for the environment. I see no downsides to small modular reactors.

Mr. FORTENBERRY. Let's pick that theme up this afternoon because I want to talk in more depth about that as well.

Mr. HELD. Please. And we would really, both this afternoon and in that group, the really rich conversation to have.

Mr. FORTENBERRY. Thank you.

Mr. SIMPSON. Thank you.

Mr. Nunnelee.

Mr. NUNNELEE. Thank you, Mr. Chairman.

I am sure you are aware that over the last 2 years, the President's budget has recommended getting the Federal Government out of involvement with TVA.

Mr. HELD. Yes, sir.

Mr. NUNNELEE. They said that the Office of Management and Budget was going to perform a study and make recommendations. And I know that NNSA is very closely tied with TVA as it relates to tritium production. So have you had any conversations with the Office of Management and Budget on this subject?

Mr. HELD. I have not had any direct conversations with Office of Management and Budget on this, and I have not directly spoken to TVA. I have certainly spoken to people in Oak Ridge and Y12 about this issue. And the defense program certainly has the lead on the tritium. And I will defer to Don for more detailed conversation.

As the Secretary said yesterday, we have a national security requirement for tritium that is very clear. How we fill is facing some decision making in terms of the USEC situation.

So, Don, do you want to?

Mr. COOK. I will just follow up. Defense programs and NNSA work very closely with TVA and suppliers to TVA. Tritium work has done that. At our Savannah River site, we have a number of suppliers for the tritium-producing burnable absorber rods. We work with PNNL in the design of those, Pacific Northwest National Labs in those.

There was one discussion and only one discussion, it was more than a year ago when OMB asked what would be the impact if, you know, if we didn't have access to the TVA reactors. And the answer was quite simply that we use those reactors for tritium production today. There is a special arrangement in the, for lack of a better word, the law that covers TVA, and there is a national security clause.

So if we did not have access to the TVA reactors, there would have to be adoption of that national security clause to some other reactor or some other suite of reactors somewhere else in the Nation. That was the only discussion we have had. No discussion about cost, cost savings, cost growth, any of that.

Mr. NUNNELEE. All right. And I will be submitting language to the Committee to ask you to analyze that over this next year. I am specifically interested in what is the cost and what are the implications should we do that?

Mr. COOK. Okay.

Mr. NUNNELEE. All right. Thank you.

Thank you, Mr. Chairman.

Mr. SIMPSON. Thank you.

Mr. Fleischmann.

Mr. FLEISCHMANN. Thank you, Mr. Chairman.

And gentlemen, welcome. I appreciate you all being here today.

Before I begin my comments, Mr. Held, I want to personally thank you. You are actually doing two jobs right now, and you have taken the time and effort to go to Oak Ridge, to meet with the workforce at Y12. The feedback I have gotten personally from the community leaders has been very positive and very thankful. So I appreciate your outreach at a critical time.

Mr. COOK. Thank you, sir.

Mr. FLEISCHMANN. I want to talk first about UPF. I am committed, for the record, to making sure that UPF goes forward. I think it is critical to our Nation's needs. The Secretary yesterday

actually echoed and supported those comments, and I was very glad and proud to hear that.

But the Department has faced significant challenges with UPF, with that facility today, and the red team is wrapping up its work on an alternative strategy for UPF. I just wanted to know what were your thoughts about that and what are the next steps after you get the red team's report, which should be out, I think, sometime in April, sir.

Mr. HELD. Better sooner. We need to move sooner. We cannot kick this can down the road. I have been down there several times, as you know, and I like the Y12 workforce a lot, and I think they are coming to trust me. I have toured that facility, 9212, a couple times. I would invite anybody who wants to have an experience to do that. That, touring that facility, one, it is safe to operate that facility; two, the decrepit nature of the facility does not communicate to the workforce that I care about their work environment or their safety, right. We need to do better than that, and we need to do better than that sooner than 2038. And that is what Thom and his team are tasked to help us out. You know, what is a smart way, a faster way, and more efficient way to skin this cat and get better sooner.

Mr. FLEISCHMANN. Thank you, sir. I would like to talk a little bit about security. Since the security incident in 2012, Y12 has been under a microscope, but that has not translated into robust funding for the safeguards and security. Defense nuclear security funding for Oak Ridge is down \$13 million in the fiscal year 2015 budget request from the fiscal year 2014 appropriation.

Can you shed any light on this decision, especially with the well-documented need to improve physical security and maintain adequate protective force levels?

Mr. HELD. My last visit down there was specifically to meet with the security forces, and there was an incident involving two small vials of highly enriched uranium. And I met with the two, and the security force performed spectacularly. So I met with the two heroes of that, and I asked them, I said—they had a briefing prepared for me, and I said, I am not interested in your briefing. I kind of want to hear about your life since July of 2012.

And the one guard said, my life has been daily humiliation since 2012. I don't even like to go get a haircut because every time I go get a haircut, I walk in, and somebody will joke, has there been another nun going right in?

And this guy, these two guys did a great job. And I said, how are you feeling now? And he said, I am feeling pretty good about myself right now. And so the morale of that workforce and the morale of the broad workforce is very, very important to me. In terms of broad security funding, there are two things that I think are very important, clear chains of command, which we have addressed earlier; and two, greater integration of physical security with personnel security, counterintelligence, and cybersecurity. If you get greater integration of those products and especially personnel security with physical and cybersecurity, we will get much better security mission effectiveness, at much lower cost.

And so I am trying to use budgetary tightness to drive that greater integration, because those security worlds are pretty

stovepiped and we need much greater—if we want to really do well, we need much greater integration. I will look at the Y-12 specific budget, too, to make sure that we are not kind of overstressing that system down there, because that culture is a fragile one that I am very concerned about.

Mr. FLEISCHMANN. Well, thank you. I think we agree on the strategy and the urgency and the like.

Mr. HELD. Yes.

Mr. FLEISCHMANN. But will you work with me to secure the proper funding there?

Mr. HELD. Most certainly.

Mr. FLEISCHMANN. Okay, thank you. I have got one more question, Mr. Chairman. Thank you.

I talked a little bit about infrastructure, Mr. Administrator, and I think you referred to the conditions at 9212.

Mr. HELD. Yes.

Mr. FLEISCHMANN. I have been there. It is deplorable. It is antiquated, and it is sad. The protection of our workers is so critically important to me, and to you, and should be to all Americans.

Mr. HELD. Yep.

Mr. FLEISCHMANN. You stated firsthand that the serious problems at Y-12, where the equipment breaks down on a daily basis, and the facilities are really well past their expected life cycles. Just recently, a large chunk of concrete, as part of a ceiling, collapsed at this facility. Fortunately, no one was injured. Production support funding is down in the fiscal year 2015 budget request, infrastructure funding and the readiness and technical-based facility account is down \$15 million, sir. It just, to me, doesn't make sense to cut funding when we know that the infrastructure problems are only getting worse. Could you kindly address that, sir?

Mr. HELD. One, I will review those, and get back to you and work with you on those. Two, we are under some budgetary stress, and this is one of the reasons, if you have noticed in my articulation, I am putting nuclear safety first and foremost, because I want to use nuclear safety as a way of making sure that infrastructure gets the prioritization it requires during budgetary discussions. And we have had a—there have been long-term issues with that. I think our infrastructure has generally been underfunded. And when we reach budgetary tightness, a lot of times the instinct is to take risks in infrastructure.

The way I have been rephrasing that in some of the committees, we are not taking risk in infrastructure. We are taking risk in nuclear safety. And that has a different reaction in the rooms when I say that. So—

Mr. FLEISCHMANN. Thank you, Mr. Administrator. And I, too, look forward to working with you to reach these laudatory goals for Y-12 and the folks in Oak Ridge. And Mr. Chairman, I will yield back and I will have a round two.

Mr. SIMPSON. Thank you. And Ms. Kaptur, thank you for letting us interrupt your questions so that these Members could get to their markups. I appreciate that.

Ms. KAPTUR. I understand that, Mr. Chairman.

Mr. SIMPSON. Go ahead.

Ms. KAPTUR. Thank you. Administrator Held, yesterday the head of the Strategic Command, U.S. Strategic Command, Admiral Cecil Haney appeared before the Defense Authorization Committee, and commented on the impact sequestration might have on nuclear weapons budgets should sequestration return in 2016.

Could you comment as you look, or Dr. Cook, as you look down the road, if sequestration were to be applied again, what impact that would have on the proposal you have just placed before us?

Mr. HELD. I will echo Admiral Haney's comments and shortly, I will defer to Don, but the 3+2 strategy is the—has solid support by DOD, DOE, and the National Security Council. We, between fiscal year 2014 and fiscal year 2015, we have had to stretch out the strategy implementation of that strategy to meet budgetary caps. But the strategy remains intact, but it is really at the bottom. That is as far as we can go at this point, and if we get a sequestration that cuts into that further, that will break that strategy to—with severe consequences for the national security of the United States. So—

Ms. KAPTUR. All right, thank you very much. We view it, I believe, that way as well.

Mr. HELD. Yes.

Ms. KAPTUR. And I wanted to flip to the other side of the issue here. Dr. Cook, the NNSA made a commitment to Congress to dismantle all nuclear weapons retired prior to 2009 by the end of 2022. Now funding for the dismantlement program has been cut almost in half in this budget request, and which states that it will develop a new schedule for dismantlement of weapons retired prior to 2009.

Does NNSA intend to go back on your dismantlement commitments to this subcommittee? And it seems that this reduction brings into question our Nation's commitment to nonproliferation. So could you reply to this? Are you rescheduling the dismantlement program?

Mr. COOK. So the short answer to your question is no, with regard to not meeting the commitment. Let me give you some background. And I think it is a very important question. Early in this administration we committed to having all of those weapons that were retired prior to 2009 dismantled by 2022. We have been doing quite well. So some of the most difficult systems, for example, the B83, which was a multi-megaton class weapon, we completely dismantled. Part of the nuclear posture review declared that TLM-N or the W80-0, was no longer needed, and we completely dismantled that system. We also completely dismantled the W62 system that had been on Minuteman Missiles, the missile that today carries the W78 and the W87.

We are at about 35 percent of the work done to meet the goal in about 31 percent of the time. So we are still ahead. And as we project the dismantlement workload for 2015, we expect to be ahead coming out of 2015 as we are going in 2015. We do have, we have proposed a cut of 40 percent in 1 year. And looking at the outyear budgets, you will see that there is proposed a restoration of the budget.

So what is happening behind the scenes on this is we want to maintain a very stable workforce at the Pantex Plant. We have a

great deal of work on the W76, that meeting all of the Navy requirements for our production schedule has really been a terrific challenge. The Navy has met their deployment schedule, but we have had a very large challenge there.

So for this year, we put the priority on the W76 in making sure that we could deliver what we needed to, and preparing for B61 because we are ahead of dismantlement, and because we have done some of the most difficult systems, those are behind us.

There was a GAO report I could refer you to that said we ought to take a look at—I think they made a suggestion, take a look at whether we still wanted to meet that commitment. I have answered your question. Yes, we still intend to meet that commitment. GAO, though, said really, you know, a lot has gone on since 2009. So they suggested we take a look at a more comprehensive dismantlement program and I absolutely agree with that.

So you know, in 2009, we didn't have the New START Treaty. We didn't have much more than a very broad view of what the new posture would get. I can turn for a minute to General Dawkins as well. On your issue of sequestration, I want to come back to that because the General has been involved with DOD, the Air Force, the Navy, Strategic Command, but I am content that we will meet our dismantlement schedule. However, it will take support a year from now when the President requests restoring the budget back to the level that we had in 2014.

Ms. KAPTUR. Could I ask you just in terms for whatever you are able to state for the record, of the weapons that are being dismantled of our total stockpile, what percent of those have to be—they have already been retired, so they are not in the prior number that we talked about, but what are the number of weapons? What can you say about that? How many have to be dismantled over what period of time?

Mr. COOK. Yeah, unfortunately, the number is classified so we would be happy to come back and give you a classified brief. We have the chart and in fact, you will see the details in the classified annex of the stockpile stewardship and management plan.

Ms. KAPTUR. And if the sequestration were to bite again, we would not be able to meet that schedule?

Mr. COOK. I think, my own view—and I will turn to General Dawkins—my own view is if sequestration hits again, all bets are off for any one of the weapons life extension programs. And I would say now, even if there is flexibility to move funds around, our concern about the infrastructure and its state is so severe that we would not take money from that. And therefore, we would just blow just about every schedule we have. General, do you want to comment?

General DAWKINS. You know, over the course of the last 4 or 5 years, you know, we have cut some fat across government, you know, in DOD, DOE, and we started getting into some muscle, and with sequestration we are getting into the bone. And again, I use that as an example to show that, you know, you can't support the deterrent. It will be very difficult if we go into sequester again. And all of the strategies that are well thought out that people have asked us to develop as we go forward, again, will fall apart. And as Mr. Held talked about, they will break.

So it deeply concerns me if we are going to face sequester. Also, with that, is just continuity of funding and that is very important. Stability and being able to plan your program. Imagine if you are a program manager tasked B61, and you are not sure if you are going to be faced with a CR or lapse of appropriations or sequester. It is very difficult to manage a program like that, and so that does strike some inefficiency just in itself. So I am concerned.

Mr. HELD. If I could follow up on that in terms of the lapse of funding.

Ms. KAPTUR. Yes.

Mr. HELD. In October, I issued an order to initiate an orderly shutdown of America's nuclear weapons complex because we can't just shut it down overnight. It takes a couple of weeks to do it. So for a couple of weeks, the entire nuclear weapons complex was preparing to shut down. It was not doing its job. It was preparing for a safe and secure shutdown. So all of that effort was drawn from otherwise programmatic work and huge, huge damage to the program.

Ms. KAPTUR. I thank you, Administrator Held. There are many of us that did not support that type of stop/start governance for our country. I wanted to switch to a different question if I could just for a second then, Mr. Chairman.

I will have more in a second round, but I wanted to ask on pit production, the NNSA CAPE Study on the business case analysis for the modular approach for plutonium pit production considered several alternatives, but assumed that work at any other site besides Los Alamos National Lab would require new facilities. A CRS report recently examined several options for reaching a capacity across the nuclear enterprise to produce 80 pits without building new facilities. Have you done detailed, analysis using existing facilities and capabilities across the complex that could contribute to plutonium analysis and/or production, including Lawrence Livermore National Lab, Savannah River, Idaho National Lab, Pacific Northwest National Lab as opposed to building new modules at Los Alamos?

Mr. COOK. Our short answer is yes. Let me describe three parts. The first one, business case analysis that CAPE really did the work with, NNSA supported it. It was actually wide open, and they were tasked with looking at the cost to develop the capability for plutonium pit production, and the key part of the cost that is not so easily seen, is either very large amounts of travel of the people who are the designers at Los Alamos, because design and manufacturing for plutonium pits work hand-in-hand all the time.

And to, you know, there were parts for Idaho, for example, that could do some of the heat source plutonium, that would require a new set of agreements with the Idaho National Engineering Lab. We looked at Savannah River, also looked at the possibility of some areas of Pacific Northwest National Lab.

And so a comprehensive look was done. CAPE reported to the Nuclear Weapon Council twice on this, and at the end, Nuke Weapon Council made the decision that having done a comprehensive analysis, the best option was to do pit manufacturing at Los Alamos. I think it would have been different if the requirement were, say, 200 pits per year, rather than a number, interim like 30, and

in the long-term, might be 50 to 80. That remains a DOD requirement.

But years ago, the large pit manufacturing facility went away. That was a project that was canceled early on when the Cold War ended, really, and not that many years after.

With regard to the CRS study, I will just say, Jonathan Medalia was the author of that report, and it is my opinion that Jonathan has done this Nation a big service because he laid out all of the options. He did it straight up. He pointed to the issues that we have with getting approval on the regulatory side to move to larger amounts of plutonium, for example, within RLUOB in order to help us get out of the old CMR faster.

So we are working activities with Los Alamos because that is where those facilities are, and these are, you know, I wouldn't say these are being worked 24/7, but they are absolutely being worked 5 days a week, and long days.

Ms. KAPTUR. Dr. Cook, could you—thank you very much. Could I just ask for the sake of unclassified information, if you were to look at the two major nuclear powers in the world today and talk about how much weapons-grade plutonium each has, and then put that in the context of how much, what kind of power does—what kind of—what type of power does that represent globally in terms of damage that can be done, how could you explain it to the average citizen?

Mr. COOK. I am, you know, I could maybe just since you directed the question at me, I will answer part of it, and then I will go to the administrator.

You know, in the wrong hands even a single nuclear weapon does enormous damage, and could cause loss of life by 100,000 to 1 million today in a major city. So I mean, if you look at in the wrong hands, enormous destruction could be done. In the right hands security is adequate. With the 3+2 strategy we can maintain a vital deterrent with a smaller number of weapons, and a smaller number of weapon systems, but they have to be modernized. You know, it is that simple. So I tend to say that in the right hands, which is where this President, this administration is going, we are trying to make sure that plutonium doesn't get in the wrong hands.

Mr. HELD. So I am not a brilliant scientist, but I am a storyteller, and I like things that feel real to human beings. And the largest nuclear test ever, correct me if I'm wrong, was the Soviet test that was 53, or 56 megatons.

Mr. COOK. It was.

Mr. HELD. 53, or 56 megatons. And what does that mean? That means more explosive power than all of the artillery bombs, dynamite, hand grenades used in World War I, and World War II by all sides combined in one bomb.

Ms. KAPTUR. And that was just 53?

Mr. HELD. That was 53 megatons, right. And—

Ms. KAPTUR. The current stockpiles are in excess of that?

Mr. HELD. Because we are going to smaller yields, which is very important.

Mr. COOK. Yeah, they have come down dramatically. You know, if I were to use one example, it would be B61-12, you may have heard this before, but when we consolidate the multiple families

into the one variant of the bomb, we are going to reduce the number of weapons that are air delivered by a full factor of 2. We will be able to retire the B83 gravity bomb, which it is the last megaton bomb in our deterrent, and we will reduce the amount of special nuclear material in air-delivered bombs by 80 percent, more than 80 percent. That means the destructive power in air-delivered bombs will be reduced more than 80 percent.

And today, our stockpile is smaller than at any time since the Eisenhower administration. If you look at the buildup, it cuts right across at 1957.

We can go down further, so very judicious choices have been made by all Presidents since the peak of the Cold War, and they have been made bilaterally in one form or another. So these basic features that worked in the past are the ones that we would take in the future.

Ms. KAPTUR. Well, there could be no more important global imperative than to try to reduce. We know we live in a world where you don't do that unilaterally, we understand that, but on the non-proliferation side, on the security side, on trying to prevent terrorism with the use of this material wherever it might be held, there could be no higher imperative for our world. So we thank you for being engaged in that. And when the day comes that you will retire, you will know that you were standing with America and the world when it needed you most. So thank you so very much, and I will defer to the other panelists.

Mr. SIMPSON. Thank you. Administrator, there have been a number of contracts that are out to be recompeted in the next 5 years. You have been vocal about the need to negotiate changes to those contracts when they are up to being recompeted or extended. How does NNSA's M&O contracting structure need to change and what improvements do you think can be achieved through the renegotiation of these contracts? And are the current contracts providing the tools needed for effective Federal oversight? And is this a matter of fixing Federal oversight, or do you believe the contracts need to be fundamentally changed?

Mr. HELD. I think the contractual structure needs to change. I think we need to—we need to honestly and fairly compensate the M&Os that run these government-owned facilities on our behalf. But I think it is a strategic mistake to make that compensation really financially interesting to the M&O contractors. I think it needs to be worthy. It is the same as a Federal salary, right. People in the Federal Government don't work—their families, they need salary to support their kids and you can incentivize them at the margins by giving them a raise or a bonus, but that is not what they work there for. They work there for a commitment to the country.

And I think that is kind of what we need to do on the contractors. I am an old man, so if I could get us back to a \$1 a day contract for, a \$1 a year contract to run these things, that is where I would go, but I don't think that is reality in this day. But I think we do need to think about the incentives that we are providing. And I think if we do that, we will get better performance out of—we will get much—the oversight requirements will be easier. The performance will be better. If you look at the Kansas City plant,

which is a great example of this, the Kansas City plant does not earn a percent of the—of their business turnover. They have a fee. They have a fee. And that place is humming. It does wonderful work for the national security of this country. I was talking to the site office manager 2 days ago, and the M&O lead doing our annual performance, or our semiannual update. And the site office manager told me because of that simpler contract model, the number of Federal officials in the oversight has gone from 70 to 30 in, I think, 3 years and oversight has improved. Right. And people are happier. We are getting better product, I think. I think we need to be more agile and incentivize—you know, understand what motivates the people, and then provide incentives for that. And I don't think our contract structure does that now. And I have broached these conversations with the various large M&Os and, you know what, they, by and large, agree.

Mr. SIMPSON. It is a challenge. There are various models out there we have tried at different times with the national labs—

Mr. HELD. You bet. You bet.

Mr. SIMPSON. Fixed-price contracting and cost-plus contracting, and a whole bunch of different models. But you are right, we need to figure out what motivates them—

Mr. HELD. I think reputation—

Mr. SIMPSON [continuing]. To do the best job, and also to get the best oversight possible.

Mr. HELD. I think reputation motivates them much more than fee. And I think we need to reward them by supporting their good reputation, and when things go wrong, I think we need to hold them accountable. And I think you will find, by and large, that when you talk to people about reputation, you don't have to tell them what the right thing to do is. They will do it themselves.

Mr. SIMPSON. I am going to ask a series of questions on a subject that we have already touched on, but I want the questions on the record. The subcommittee has already made it clear its interpretation of what the requirements are for pursuing capital improvements at Los Alamos for the purpose of moving out of the legacy CMR building and counting out additional infrastructure projects in pursuit of your alternative plutonium strategy. Yet, the budget request includes an unspecified amount of funding within program readiness for CMR transition activities. The request states that these activities are to execute the plutonium strategy to transition out of CMR and install additional requirements, or excuse me, install additional equipment at RLUOB.

NNSA has done a poor job of estimating the cost of its activities and major projects in the past. We simply will not provide unrestricted funding for major improvements without having any commitments for cost and schedule performance. Now, the questions.

The budget request provides no details about how much of the funding requested in the program readiness account supports the CMR transition.

How will you change your request to ensure that this project complies with this subcommittee's direction which also happens to support your own project management requirements?

What is the total cost of transition out of the CMR facility and reconfigure the space at PF-4 to meet your pit production goals?

Has there been an estimate to verify those estimates?

And are you willing to commit to those cost estimates at this point in time?

Mr. HELD. Let me take the first one on the guidance. We have been working that issue with Mr. Blair over the past couple of weeks, and I have issued—there were some internal approaches that we thought might be—might meet the committee's needs, but make it actually easier to implement inside the Department.

We have had this coordination and still the committee is not comfortable with that, and I have issued guidance to proceed to meet the committee's requirements. And so we will do that. On the detailed cost issues, do you want to take that?

Mr. COOK. We are doing the pre-conceptual work right now with that part of the funding that was released from the reprogramming request of fiscal year 2012 funds. About a third of the request was released. So we are using that funding as agreed to look into what the cost for the equipment in RLUOB would be, what the cost would be for new equipment in PF-4 for doing the decontamination. We will follow the direction of the administrator on the actual mechanism by which we do the work.

Mr. HELD. So I think we hear you and we will comply.

Mr. SIMPSON. Thank you. Mr. Fleischmann.

Mr. FLEISCHMANN. Thank you, Mr. Chairman. Gentlemen, I would like to talk a little about the contract transition. The Oak Ridge community has recently experienced considerable uncertainty due to several factors. The prolonged Y-12 contract procurement process, the security event, and the prospects of combining management of Y-12 in Pantex. As NNSA moves forward with the consolidation of Y-12 in Pantex, what are your plans to minimize the impact of major changes on our communities, and specifically the workforce?

Mr. HELD. So, thank you, sir. As you noted earlier, I have been, I have had three all-hands at Y-12, and I have had another one at Pantex, and it is the specific issue of this uncertainty that has been driving those. I want to know those communities and I want the communities to know me. And the—my first meeting at all-hands at Y-12 was a bit haunting, actually. That community was really under stress, and Pantex was a little—was not so haunting, but the Y-12 was really quite haunting.

And the last couple of them has been, the all-hands at Y-12 have been very good. Okay. I will be down there again soon because I want to keep a personal pulse on how the community is doing as we get through this transition.

I was very, very appreciative of the B&W people that they did not challenge it again, and extend the uncertainty even further. I think that was a great service. And we have a long-term relationship with the people in B&W so I am appreciative of that. We need to get on with the transition, and I will be keeping a very close pulse on that to make sure that we don't put that community under more stress than it already is. It is a deep personal concern.

Mr. FLEISCHMANN. As a follow-up to that, and I thank you for your comments, is anyone specifically responsible for considering the impacts of the transition on the local communities and on the

workforces, and if not, is that something that you would consider implementing?

Mr. HELD. As a specifically identified person on the Federal side, no. It would be—I would hold Steve Erhart the site office manager as the accountable person and the site office managers report directly to me. That is a change in the chain of command that we thought was very important. Steve would be the local guy responsible for it and on this particular issue, I hold myself personally accountable.

Mr. FLEISCHMANN. Okay, thank you. What is the possibility of a voluntary reduction in force like the one that ORNL implemented last year?

Mr. HELD. I would need to explore that with CMS, the new M&O, and I think we are, the intent is to mitigate the changes on the workforce as much as possible.

Mr. FLEISCHMANN. Okay, and one final question. The West End Protected Area Reduction Project, which would reduce the high security area at Y-12, has been postponed again. Could you kindly explain to the committee why and what is the purpose of this?

Mr. HELD. I will defer to Don for a little bit more detail. We think the—that is in a pause. We need to see if the original basis of that, of the plan for that is still necessary, and we need some analysis of that. The fundamental thing we are trying to do is reduce the size of the security footprint of—the high security footprint, and that was the original justification of the West End Protected Area. Whether that remains valid or not seems to be up to some question. Don.

Mr. COOK. I suggest we take the question for the record so we can given a written response that is clear, easy to understand.

Mr. FLEISCHMANN. Thank you, Dr. Cook, and Administrator, gentlemen. Thank you very much, Mr. Chairman, I yield back.

Mr. SIMPSON. Thank you. Ms. Kaptur.

Ms. KAPTUR. Thank you, Mr. Chairman. I just have two remaining questions for the record.

Dr. Cook, the NNSA committed to a baseline cost for the B61 life extension program of \$8.1 billion, but independent costs by the Department of Defense have estimated the effort will cost as much as \$10 billion. Do you still believe you can deliver the B61 at the \$8 billion budgeted amount? And is there still an opportunity to down select technology options or reduce scope as you finalize the baseline design for 2016?

Mr. COOK. I thank you for the question. Also a really good question. I have signed out three selected acquisition requests at the cost of \$8.15 billion for the B61. But I am going to need your help. Sequestration will change that. It will change the schedule. And if the schedule is changed it is going to drive up the cost. We kept the B61 work going because it was engineering work even though we had a 3-week lapse of appropriations. Administrator Held commented we were putting both Y-12 and Pantex into safe and secure storage, but we didn't have to do that with the B61 project.

I predict, given that we are meeting all of the engineering development milestones on target and we have got good controls now firmly in place, that if we get the funding, we will perform. We will complete the work.

In the risk register which we carry, the highest several risks are all funding-related. They are not performance. They are not control. They are not knowledge of what we need to build. They are all listed as unpredictable funding.

Mr. HELD. If I may, both for weapons cost projections and facilities projections, I have asked that we start breaking out the, as costs rise, we break out what is driving those costs increases, and if we are—if we make programmatic errors and mistakes, it most certainly happened at the UPF facility last year, then we certainly are accountable for that, but we really do kind of want to lay out when its funding profile is getting stretched out for a variety of reasons that drives up the long-term cost, we want to kind of be able to articulate to that, and make it clear for the committee.

Ms. KAPTUR. My final question is a bit of a difficult one because of the responsibilities that you have. But as a result of the arrest of Sister Rice at Y-12 and her imprisonment, and the kind of point of view that I believe she was trying to express, a deep concern about world peace, about life on Earth, could you provide a balanced statement about America's—I always think about our national symbol. I always tell the kids in school, you know, in one claw the eagle holds arrows because we have to be a Nation that is ready to defend our values, but in the other claw he holds olive branches. And we try to be balanced in what we do. We live in a very dangerous world, a world you have talked to us about. The possibilities of proliferation of nuclear materials is very, very serious. At the same time, over a number of years we have been involved in efforts with some of our former enemies in reducing the number of weapons. We do have a program for taking apart weapons that we used to have. Could you provide some kind of context to someone like Sister Rice and many of her colleagues that I know are well motivated and want to keep a focus on the olive branches, and but yet, we know we live in a very dangerous world.

How would you speak to people who hold a very deep and abiding hope that the world can be a better place in which to live, and a more safe place in which to live?

Mr. HELD. Thank you. In fact, I liked that question a lot, actually. And it goes to the—of the five enduring responsibilities that I laid out, and the idea that those are not separate and different. Those are all tightly interlocked. And our legitimacy as an organization, is making sure that those all form a consistent whole, from the nonproliferation side to the weapons security side. And as a specific example, I think the 3+2 strategy actually executes that.

Recently, there was a study put out by the Union of Concerned Scientists on smart choices for the stockpile, a very articulate study. I would highly recommend it. I challenge Don frequently saying, you know what? The UCS study is more articulate than our own study. And so we need to make sure. And I met with the two principal authors of the UCS study. We had lunch in my office looking out over the beautiful Smithsonian castle. And I think they came away, one, I think they were stunned that they got invited to lunch with the administrator.

Two, I think they came away thinking, wow, that was actually a very interesting conversation. Do we—did we agree on specifically what the threat profile is? I think their assessment of what

international threat profiles, I could not agree, and I think that drives kind of differences in where we are in the, you know, what we think about the stockpile, but it was a very interesting conversation.

On the B61-12, I told them, I said, look, I know I am not going to convince you to like nuclear weapons. I understand that. But if there is a nuclear weapon that you are going to acquiesce in, for heavens sake, it is going to be the B61-12. It is going to enable us to downsize the number of weapons in the stockpile, downsize the number and the types, and it is going to allow to us get rid of the last megaton weapon in the stockpile.

You know, it may not be the perfect world that you want to be, zero, but it most certainly will be a better world. And so it was a really rich conversation. So I agree with you, I think the legitimacy of the organization is dependent upon our ability to articulate a coherent whole of all five of those things.

Ms. KAPTUR. I think it was a sad day when Russia illegally invaded the territorial integrity of a sovereign nation.

Mr. HELD. As do I.

Ms. KAPTUR. And when the United States did what it could to stand with the world community and condemn those actions, one of the first statements Russia made was, well, if you don't like what we did, maybe we won't talk with you about reducing nuclear weapons and we won't enter talks. And I thought, oh, putting that on the table, not cricket in the world in which I live. But the world could see and hear what other nations, how other nations behave, and why our country isn't sometimes in a position that it is. We don't act unilaterally here. We have real forces that work out there that threaten our way of life, and we have managed to make it through this far.

And what you do is very, very important to us. But I wanted to hold hope for those who may be listening to this and who may be spending part of their lives in prison because they believe so very much in a peaceful world that really we are trying to get there. But it is very hard. And that they shouldn't lose hope and those who support them shouldn't lose hope. We are all in this together, and so I thank you very much for being here today, and Mr. Chairman, I thank you very much.

Mr. SIMPSON. You bet. Thank you, Marcy. I appreciate those comments. Thank you all for being here today. I guess we will see you again this afternoon. General, it seems like we have kind of let you off the hook on this.

General DAWKINS. Fine with me.

Mr. SIMPSON. As you know, this committee is very interested in how we fund and administer this program. I suspect if you were before the Armed Services Committee, you would be answering all of the questions. But thank you for what you do for this Nation, and we appreciate you being here today. I applaud you all for getting off the high-risk designation for projects under \$750 million. Now get off the high-risk designation for the big projects, too.

Mr. HELD. I think I have that hint from my secretary.

Mr. SIMPSON. I appreciate it. Thank you all. The hearing is adjourned.

Mr. HELD. Thank you so much.

QUESTIONS FOR THE RECORD
SUBCOMMITTEE ON ENERGY AND WATER DEVELOPMENT
HOUSE COMMITTEE ON APPROPRIATIONS

NATIONAL NUCLEAR SECURITY ADMINISTRATION:
WEAPONS ACTIVITIES FISCAL YEAR 2015 BUDGET HEARING
APRIL 3, 2014

NUCLEAR WEAPONS STOCKPILE

COSTS OF THE B61 LIFE EXTENSION PROGRAM

Subcommittee. Dr. Cook, the NNSA committed to a baseline cost for the B61 life extension program of \$8.1 billion, but independent cost estimates from the Department of Defense have estimated the effort will cost as much as \$10 billion.

Do you still believe you can deliver the B61 LEP at the \$8 billion budgeted amount?

Can you explain your strategy for controlling costs?

Is there still an opportunity to downselect technology options or reduce scope as you finalize the baseline design in 2016?

Dr. Cook. Yes, the current cost estimate for the B61-12 life extension program (LEP) reported in the September 2013 Selected Acquisition Report (SAR) to Congress is \$8.1B, which includes \$7.3B in direct B61-12 funding and another \$0.8B in other NNSA funds. This estimate is based on the Weapons Design and Cost Report (WDCR) published in July 2012 and has not changed with the exception of the impacts due to FY 2013 sequestration cuts. NNSA continues to stand by that estimate.

The LEPs as reported in the SARs are estimated with both management reserve and contingency. This risk-based management reserve and contingency is designed to allow the Laboratories, Plants and Federal Program Managers to manage cost changes, execute scope trades, and manage schedule issues within the envelope of the total program cost.

The program is starting its third year in Phase 6.3 development engineering and is making excellent technical progress. At this point in Phase 6.3, there are no major changes expected in technologies or components. Focus is on refining component baseline design approach and integration to meet system performance. Trades at a sub-component level (such as selection of capacitors) are on-going. However, even these trades are coming to a close as the components complete baseline design and enter their final design

phase. All components will be through baseline design by 3rd quarter of FY 2015.

Costs are not expected to change significantly as a result of these changes at the subcomponent level. NNSA will update the WDCR cost estimate after the system baseline design and the design definition is over 90% complete in early 2016, and publish the baseline cost report. The baseline cost report sets the formal cost baseline similar to DoD's approved program baseline.

ESTABLISHING. MILITARY REQUIREMENTS OF THE B61 LEP

Subcommittee. Mr. Administrator, the NNSA and Department of Defense work together to produce a document that details the military requirements for a life extension program.

Did the military requirements change at any point during the study of the B61 Life Extension Program?

Mr. Held. Yes, the DoD worked with NNSA during the Phase 6.2/2A Study to refine threshold military requirements and to align those requirements with the most cost effective approach to the B61 life extension. The Project Officer Group, a joint DoD and NNSA committee, worked these changes that the Nuclear Weapons Council later approved per the procedural guidelines for the Phase 6.x process.

Subcommittee. In setting military requirements, do you believe cost should be a consideration?

Mr. Held. Yes, it is important to balance cost, including life cycle costs, during the development of military requirements.

Subcommittee. If so, do you have thoughts on what role NNSA should play in the analysis of cost vs. military requirements?

Mr. Held. NNSA provides DoD with an analysis of whether the military requirements can be met and what the associated cost is of meeting those requirements. NNSA can also develop alternative solutions for meeting military requirements.

CRUISE MISSILE WARHEAD LEP

Subcommittee. Dr. Cook, the FY 2015 budget request includes \$9.4 million, and another \$473 million over the next five years, for a Cruise Missile Warhead Life Extension Program (LEP).

Do you intend to pick up where you left off and study the feasibility of extending the life of the W80 as part of this Cruise Missile warhead study?

Dr. Cook. The Cruise Missile Warhead (CMWH) Life Extension Program (LEP) included in the FY 2015 budget request at \$9.4 million supports the Air Force (AF) Long-Range Standoff (LRSO) effort and is not a direct continuation of the W80-3 LEP undertaken in the early 2000's. LRSO plans for the development of a new missile, with new warhead requirements, and is not exclusively a warhead update. However, because the W80 is a candidate warhead for LRSO we will, and have, used W80-3 information to help evaluate early design options and cost information associated with LRSO. Similarly, we will leverage any other appropriate information source, such as recent or ongoing LEPs, to best understand our options for LRSO.

Subcommittee. How will you select the alternatives that will be considered?

Dr. Cook. An AF-led LRSO Analysis of Alternatives (AoA) was conducted in 2012 and 2013, which identified the B61-12, W80, and W84 as initial candidates for the LRSO warhead. These candidates were selected because of their potential ability to meet critical LRSO warhead requirements such as physical dimensions, weight, nuclear yield, safety, and surety. After a thorough technical analysis by the AoA, the Nuclear Weapons Council (NWC) removed the B61-12 from the candidate list because it could not meet critical requirements. NNSA and the AF have recently agreed to engage in a formal LRSO Phase 6.1 (Concept Study) starting in July 2014 with a target duration of 12 months. The W80 and W84 warheads are currently retained as LRSO candidates and will continue to be analyzed during the Phase 6.1 effort. A down-select is anticipated at the conclusion of the 6.1 Concept Study when sufficient clarity has been gained in requirements, such as the Military Characteristics and Stockpile-to-Target Sequence, to enable identification of the best warhead solution for this application.

Subcommittee. Do you have a cost target for how much you would budget to spend on a cruise missile warhead LEP?

Dr. Cook. Current cost estimates for LRSO are based on other ongoing LEP (B61-12, W76-1, W88 Alt 370) costs, both planned and actual. At this early stage, with very little of the scope for LRSO having been identified, the cost range is very large. Additionally, the date of manufacture of the First Production Unit (FPU) has not been specified and may have some small effect on program cost. In accordance with the Deputy's Management Advisory Group option 1, the NWC has targeted the range of 2025 to 2027 for the FPU, in order to level NNSA and DoD costs within the next 5 budget years. With these planning factors, total program cost estimates range from a low of \$5.7 billion to a high of \$7.7 billion through completion of production. Not all of these costs show up as direct costs to the LEP. Portions of this total will be applied in areas such as Research and Development Certification and Safety, Advanced Surveillance, and other funding lines which develop the general technology needed to enable LRSO.

ADDRESSING STOCKPILE PRODUCTION PROBLEMS

Subcommittee. Dr. Cook, despite increasing funding for Stockpile Systems in FY 2013, the NNSA only met a fraction of the production targets for neutron generators, a limited life component that must be replaced to keep the warhead functional. This year, there was a three-week work stoppage at Pantex which affected the W76 LEP and resulted in NNSA not meeting its war reserve production requirements to the Navy.

What are you doing to improve NNSA's ability to meet its stockpile production requirements?

Dr. Cook. NNSA met all FY 2013 War Reserve (WR) Neutron Generator production requirements and deliveries to the military. All other FY 2013 non-WR Neutron Generator production requirements were met with the exception of 13 qualification evaluation builds for the W87 program. These 13 builds were completed in October 2013 (FY 2014).

NNSA did not meet the delivery quantity requirement to the Navy in FY2013. This was a direct result of the downtime incorporating safety improvement for the W76-1 LEP. In addition, there were production facility failures due to equipment functionality and aging infrastructure which impacted Pantex Plant's ability to complete FY2013 W76-1 WR builds. These units will be recovered by the end of FY 2014.

NNSA is working with Sandia National Laboratories' neutron generator group to improve program management by jointly instituting leading-indicator metrics. These metrics provide confidence that NNSA is prepositioned to meet our future Neutron Generator requirements to the Military.

NNSA is revising our Nuclear Safety Policies, Directives, and Process Requirements. The revisions preposition the Nuclear Security Enterprise to more effectively handle new information (e.g., hazard scenarios, tooling and process changes, and Weapon Response) and utilize a concurrent engineered approach(s) to improve the safety margin of Nuclear Explosive Operations, while minimizing work stoppages where possible.

Subcommittee. What challenges do you continue to experience?

Dr. Cook. NNSA places safety first and assures weapons and components meet reliability requirements. With respect to neutron generators, NNSA continues to focus development and qualification and material procurements to deliver and maintain an effective deterrent. With respect to the W76-1 LEP, NNSA continues to address aging infrastructure and equipment issues as we focus on deliveries to the Navy.

Subcommittee. Are you placing enough emphasis or putting enough resources towards addressing those challenges?

Dr. Cook. Yes. With respect to neutron generators, NNSA is funding problem-solving builds to better understand and improve upon the NG performance margins. In addition, we developed the FYNSP to include a transition in FY 2016 to a new cost model enabling transparency and better planning and funding of neutron generator development, production and infrastructure. With respect to W76-1 LEP, NNSA has aligned the program scope, cost and schedule requirements in the selected acquisition report with the FYNSP. This enables the W76-1 LEP to meet its production and delivery requirements to the U.S. Navy.

Subcommittee. How does this budget request reflect those efforts?

Dr. Cook. The Neutron Generator development, production and infrastructure requirements are aligned in the FYNSP using the new cost model. The W76-1 LEP scope, cost, schedule requirements in the selected acquisition report are aligned to the FYNSP.

FEDERAL OVERSIGHT OF OPERATIONS AT LOS ALAMOS

Subcommittee. Mr. Administrator, the Defense Nuclear Facilities Safety Board has identified widespread weaknesses in with the Criticality Safety Program at Los Alamos. After the laboratory performed its own assessment, the laboratory director shut down all programmatic activities in PF-4 last June. The Board reported that the problems had been well known since 2005.

Was the federal site office or headquarters aware of the problems with the Criticality Safety Program?

Why did these problems persist for so long without any action by NNSA?

What are you doing to address these systemic problems?

Mr. Held. The Federal Field Office and Headquarters were and are aware of the problems with the Criticality Safety Program. The NNSA has monitored the Los Alamos National Security, LLC (LANS) initiation of an improvement program that began in 2006 and continues to be tracked and updated. A number of other assessments by the Board, LANS, LANS parent organizations, and DOE/NNSA have been conducted over the years to determine the status, the issues, and the trends impacting the program.

Laboratory operations include thirteen major nuclear facilities and several hundred other facilities conducting work involving wide-ranging hazards. Considering nuclear hazards, safety is assured by focusing on about 90 safety systems and several dozen safety management programs. The criticality safety program and conduct of operations are two of the more important programs. Since contract transition (2006), NNSA and LANS have worked together on steadily improving implementation of these programs but did not achieve the pace of improvement that either NNSA or LANS desired due to competing priorities, such as the PF-4 seismic issues discussed under Question 10. As the need for the operational pause became apparent, NNSA became more engaged in its oversight of the laboratory's criticality safety program.

NNSA and LANS have committed to themselves and to the Board to improve the LANL nuclear criticality safety program to be a world-class, standards-based program. This will be a multi-year effort. The initial

actions will improve the foundations of the program and the interface between operations and the criticality safety organizations. PF-4 paused operations will resume using a collaborative, open, transparent and cooperative approach with visible and sustained senior management attention, designed to improve safety culture.

SECURITY REFORM AND THE Y-12 SECURITY INCURSION

Subcommittee. Mr. Administrator, we heard a great deal about the systemic flaws that were exposed by incident at Y-12 where three protestors, including an 82 year-old nun, were able to reach the inside of the high security area and remain there unchallenged for over 15 minutes. Your predecessor proposed a number of reforms which now appear dead in the water.

Can you please explain how these reforms that you've proposed will result in tangible improvements in federal oversight of security?

Mr. Held. One of Secretary Moniz's first priorities upon assuming leadership of the Department was to assess and address the structure, alignment, performance, and integration of the security components within the Department. He established a task force in June 2013 and provided personal oversight and guidance to the assessment and recommendations process. The result is a significantly different construct than that which previously existed within the Department.

We have taken action to establish clear lines of responsibility and accountability for the implementation of security within line management. The mission of NA-70 has evolved to include management and responsibility for the overall direction of security programs at NNSA facilities to assure effective security at all NNSA facilities, including the physical, personnel, materials control and accounting, classified and sensitive information protection, and technical security programs as directed by the Secretary and the former NNSA Administrator. Under the revised construct, my predecessor made it clear that NA-70 is the cognizant security authority for NNSA and that the Chief, Defense Nuclear Security, the NNSA's Chief Security Officer, is accountable and responsible for the security program at each NNSA site. Collectively with the restructuring initiatives highlighted below the tangible improvements to the federal oversight process comes into focus.

A Security Committee is being formed with representation by the Chief Security Officer for each Department Under Secretary and other key stakeholders from select Departmental organizations. The Committee will be charged with identifying effective corporate strategies and providing guidance in the development of security policy. The Health, Safety and

Security (HSS) offices that support security operations are being transferred to the Office of the Under Secretary for Management and Performance. In this capacity, they will provide expertise, guidance, and security support services across the Department. The Office of Independent Enterprise Assessments will be fully independent and report directly to the Office of the Secretary on the Department's performance in the critical area of security.

Subcommittee. What should the responsibilities be for the NNSA's Defense Nuclear Security organization, and how do those responsibilities under your reforms compare with their responsibilities before the Y-12 incursion?

Mr. Held. NNSA's Chief Security Officer (CSO), and by extension his or her staff within Defense Nuclear Security, is responsible and accountable for implementation of the safeguards and security program within the NNSA. The CSO will participate in the development of Departmental security policy as a member of the Security Committee and be responsible for coordinating and managing safeguards and security support services to his or her respective line management (program offices). The CSO will also interface with the Office of Independent Enterprise Assessments regarding assessments of the safeguards and security programs within NNSA. The integration of DNS security responsibilities with other Departmental security organizations through this forum is a viable enhancement that was not present prior to the Y-12 incursion. The collaborative efforts of this forum will help to strengthen the strategic execution of the DNS mission-set.

Subcommittee. What is going to be done differently within the DNS organization that will make an impact on how effectively that organization will oversee security?

Mr. Held. While there is organizational similarity between Defense Nuclear Security before the Y-12 incursion and that following this realignment, there are also significant differences. The key differences are: leadership expectations, accountability, and integration across the Department. The Secretary's expectations regarding security have been made clear. He holds the Administrator and the NNSA CSO accountable. He has realigned the Departmental security organizations to provide enhanced integration and support to the CSO and ensured the CSO has a

voice in the development of Departmental security policy and strategy. The NNSA safeguards and security program has improved as a result of the incursion. The Secretary's initiative will further strengthen the NNSA program as well as the Department-wide program. These clear cut responsibilities and expectations were not always evident prior to the Y-12 incursion, however, as organizational pillars in the DNS organization going forward they will positively impact our oversight and execution of the NNSA security mission.

LABORATORY SPENDING ON THE INERTIAL FUSION ENERGY PROJECT LIFE

Subcommittee. Dr. Cook, even at an early point in the ignition campaign, Lawrence Livermore continued to promote and develop a concept for a commercial fusion energy facility based on the National Ignition Facility concept it called "LIFE." Some reports say that the lab may have spent as much as \$50 million of federal funds on LIFE, but we aren't sure how accurate those figures are. This year, the laboratory announced it would no longer pursue the LIFE concept.

Do you know how much was ultimately spent to develop LIFE and what funding mechanisms were used by the lab?

Dr. Cook. LLNL spending on LIFE is under review by the Department of Energy (DOE) Inspector General's Office. However, LLNL has reported total expenditures of ~\$58M as of March 2014 covering the period from 2010-2014. Of this ~\$58M, approximately \$26M was from Laboratory Directed Research and Development (LDRD) funds. The remainder (~\$32M) was from LLNL Institutional Funding and was drawn from the Program Management, Strategic Mission Support, and the General & Administrative accounts.

Subcommittee. Did NNSA conduct any oversight of the use of these funds? Isn't the NNSA responsible for signing off on all Laboratory Research and Development projects?

Dr. Cook. The DOE/NNSA LDRD requirements are specified in DOE Order 413.2B (DOE O 413.2B), and these requirements were followed for the LIFE LDRD funding. This Order requires federal approval of the Annual Laboratory Program Plan for the broad portfolio of LDRD work to ensure that it meets the intent of the LDRD Program. Additionally, it requires a federal annual project concurrence for each project before each project commences. The LIFE LDRD funding of \$26M did receive NNSA review and concurrence. The remaining \$32M was not subject to review by federal LDRD oversight staff, because that funding was not from LDRD funds. However, the NNSA Field Chief Financial Officer (located at the Albuquerque Complex) both reviews the LDRD Program funds twice per year and also approves the LLNL Annual Financial Disclosure Statement that includes all LLNL accounting of funds.

SCALED EXPERIMENTS

Subcommittee. Dr. Cook, your budget request includes an increase of \$87 million for the Science Campaign. This includes the first year of funding for a new major radiographic capability at U1a in Nevada to support a new capability to conduct scaled experiments

How much funding will this new radiographic capability cost?

Dr. Cook. Of the \$87M increase in the request, \$50M is for diagnostic (neutron and x-ray radiographic) capabilities. The new capability is expected to cost approximately \$220M over 4 years.

Subcommittee. What have you done to verify those costs and are you prepared to commit to those cost estimates now?

Dr. Cook. We presently are engaged in analyzing several alternative diagnostic technology solutions including a cost analysis of each that is being conducted by the Institute of Defense Analysis. The down selection is expected to be in the late summer of 2014.

Subcommittee. Why do you believe the NNSA needs to conduct scaled experiments to certify the stockpile?

Dr. Cook. These integrated experiments, conducted at reduced scales, are needed to support (1) developing the next generation of nuclear weapon design expertise, (2) research and development that underpins the reuse and repurposing of pits with insensitive high explosives and other safety features, and (3) the study of plutonium aging impacts to the stockpile.

CONVERTING WARHEADS TO INSENSITIVE HIGH EXPLOSIVES

Subcommittee. Dr. Cook, you've expressed a desire to convert warheads that contain conventional high explosives (CHE) to insensitive high explosives (IHE).

Why do you believe we should be converting the legacy designs?

Dr. Cook. The use of Insensitive High Explosives (IHE) provides four major benefits to the stockpile: it improves safety, improves security, allows robust use control, and facilitates production efficiencies. Replacing Conventional High Explosives (CHE) with IHE is the single most significant change that we can make to improve the safety and security of the stockpile.

The safety benefit of IHE is well documented. Regardless of the accident scenario considered, in any phase of a weapon's lifecycle – manufacturing, transportation, storage, mated to a missile, or disassembly for retirement – the use of IHE in weapon designs significantly lowers the likelihood of a high-consequence event. In almost every accident scenario considered, the use of IHE reduces the probability of an explosion or energetic reaction of the weapon's primary charge. Such an event could affect the Nation's deterrent for years.

The security benefit of IHE is difficult to describe in an unclassified response; the threats that relate to the security of nuclear weapons operations can only be described in a classified setting. It can be said, however, that the use of IHE in a weapon system allows for a greater range of security options, including flexibility in security response and procedures.

Similarly, the benefit of IHE in controlling the use of nuclear weapons is difficult to describe in any detail in an unclassified response. U.S. nuclear weapons have the top-level requirement that they always work when directed by the President and they never produce yield when unauthorized use is attempted. Using IHE enables a significantly broader range of design and engineering solutions to meet the requirement of prohibiting unauthorized use.

Finally, weapon assembly/disassembly is made more efficient by the use of IHE. This is coupled to the safety benefit of IHE. At the Pantex facility, the process of machining CHE to its final shape for use must be performed

remotely, while IHE work is considered “man-safe,” eliminating set-up and operation of remote machining. Similarly, IHE makes possible the use of lower-cost, lower-footprint “bays” for assembly operations, and has the potential for allowing multi-unit processing in a single bay. These benefits both improve throughput, and neither are possible with CHE systems. The advantage of increased throughput increases production efficiency and reduces schedule risk.

I must add that a key feature of IHE is whether it is a military characteristic required by the DOD in warheads where it is not already part of the design. Again, this is a matter for a classified discussion.

Subcommittee. Do you have any idea of the comparative cost of converting pits to use insensitive vice continuing to use conventional high explosives? Should cost be a consideration?

Dr. Cook. We are still working to understand the specific cost differences between conversion of CHE weapons to IHE in a Life Extension Program (LEP) scenario, and non-conversion. In LEPs, the high explosive, whether CHE or IHE, is typically replaced. The isolated manufacturing cost for the IHE conversion, to first order, is thus comparable to that for an IHE-based LEP. The ability to design and certify the conversion of a CHE weapon to IHE was demonstrated in the testing era, more than 20 years ago; and the science-based ability to do the same advanced markedly in the stewardship era. The ongoing NNSA science and engineering campaigns support much of the cost of the early work outside of the LEP cost structure.

Subcommittee. How much of your budget request supports this effort?

Dr. Cook. Cost is always a consideration, and is weighed against what we believe to be the immense benefits of converting to insensitive high explosive (IHE). The Nuclear Posture Review requires the United States to sustain a safe, secure, and effective nuclear arsenal. This requirement is codified with the requirement for improving safety and security which comes from NSPD28. In the present budget request and within the FYNSP period there is no planned funding for life extension programs involving converting weapons to IHE. The only requirement at present for IHE is in the W78/W88-1 Military Characteristics for the LEP effort. This requirement was driven by a tasking letter from USSTRATCOM dated May

16, 2012 requiring IHE in the LEP. The W78/W88-1 (i.e., the IW-1) LEP was not funded in the FY 2014 budget; and the W-78/88-1 LEP was deferred 5 years and is therefore not funded in the FY 2015-2019 budget request.

There are ongoing research, development, test and evaluation activities involving the production, qualification, and certification of IHE and its use in weapon systems. Such science and technology work is needed to inform future policy and planning decisions. This work includes a major Predictive Capability Framework "pegpost" that is in progress and due at end of FY 2015 on assessing predictive capabilities for the possible certification of pit reuse. This effort, while important, costs on the order of one percent of the budget request.

SAFETY OF PLUTONIUM OPERATIONS AT LOS ALAMOS

Subcommittee. Dr. Cook, the Defense Nuclear Facilities Safety Board reports that the risk posed by a collapse at PF-4 at Los Alamos remains among the Board's greatest safety concerns.

Right now, the Department is trying to figure out just what happened at the Waste Isolation Pilot Plant. One possible scenario is that the mine walls may have collapsed on top of nuclear waste in one of the active disposal cells. We've heard that the proper operation of the ventilation system is the only thing keeping that radioactive material from being released to the environment and exposing the public and our workers at the site. If PF-4 were to ever collapse, there would be no similar ability to contain materials.

Do you agree with the Board's conclusions for the risks at PF-4?

Are you concerned about the ability to contain materials at PF-4?

What is the NNSA doing to improve the safety of plutonium operations at Los Alamos?

Dr. Cook. The Department and Board's correspondence in 2013 reflects that there are differences in perspective on the seismic risk posed by PF-4; however, there is strong agreement that structural upgrades and additional analyses are prudent to ensure the long-term viability of the primary NNSA plutonium facility. In May 2011, NNSA and Los Alamos National Security, LLC (LANS) determined that an earthquake with likelihood of one in hundreds of years could release plutonium from the building. By February 2012, significant upgrades were made that reduced risk, and an additional analysis was begun to investigate marginal structural members. In September 2012, that analysis identified that an earthquake with a likelihood of about one in eight thousand years could cause failure of some of those structural members. By March 2013, Department of Energy/NNSA, and LANS identified and began pursuing further upgrades to increase the facility's seismic margin. Some modifications are already complete; the remainder will be completed in the next two years; a third confirmatory analysis is underway.

We are confident in the safety of plutonium operations at PF-4. However, as we learn from ongoing analysis or an improved understanding of the seismic

hazard of the area, we continue to undertake extensive structural upgrades to address any identified vulnerability. With the completion of ongoing upgrades and analysis, we are confident that PF-4 seismic margin will be appropriate to ensure adequate protection for the public, workers, and the environment.

Since the PF-4 seismic issues were first identified, DOE/NNSA and LANS have taken numerous actions to improve PF-4 seismic safety. These actions include removing or more robustly repackaging more than a metric ton of plutonium; removing tens of tons of combustibles to minimize the risk of a post-seismic fire; improving fire protection and emergency management programs; and reinforcing the structure and equipment to improve its seismic response.

SHIPPING PLUTONIUM FROM PANTEX TO LOS ALAMOS

Subcommittee. In FY 2014, the NNSA requested to begin shipping plutonium from Pantex and stockpiling it in PF-4 at Los Alamos. This effort was ultimately not funded by Congress in FY 2014 because of the concerns about the safety of the Los Alamos facility.

Does the NNSA still plan to begin stockpiling plutonium at PF-4 in the near term?

Mr. Held. The initiative in the FY 2014 request to pre-process plutonium from retired plutonium pits at Pantex in support of the pit manufacturing mission was not funded and there are no plans to start this initiative in the near term. The start of the initiative was not then, and is not now related to safety of the PF-4 facility.

Plutonium is, and will continue to be, shipped from Pantex to Los Alamos in support of plutonium pit and RTG (radio-isotopic thermoelectric generator) surveillance. Shipments of plutonium pits for surveillance have been paused until the plutonium facility in Los Alamos has resumed operations and is ready to receive them.

Subcommittee. How much funding have you requested to support moving plutonium from Pantex to Los Alamos in FY 2015?

Mr. Held. No funding has been requested in FY2015 to pre-process plutonium from retired plutonium pits at Pantex in support of the pit manufacturing mission.

Subcommittee. Why do you need to stockpile additional materials before you've completed the needed safety upgrades at PF-4?

Mr. Held. The initiative in the FY 2014 request to pre-process plutonium from retired plutonium pits at Pantex in support of the pit manufacturing mission was requested to support a pit manufacturing milestone in FY 2019. This milestone has been delayed for approximately five years consistent with new Life Extension Program schedules. The safety of the PF-4 facility is not a driver for when such an initiative would be started. There is no near-term need to stockpile additional materials.

URANIUM PROCESSING FACILITY

Subcommittee. Mr. Administrator, this year we've heard of serious problems in the management of the Uranium Processing Facility project. After several cost reviews, it became clear that decision to expand the footprint and phase construction resulted in the costs exploding to anywhere from \$10 billion to \$19 billion. The Department of Defense recommended cancelling the project in favor of a project that would just replace Building 9212.

Do you agree that the current concept for the facility is no longer viable?

Mr. Held. NNSA agrees that the current UPF concept of a single large nuclear facility is not viable based on budgetary constraints and current cost estimates. NNSA performed a cost assessment projecting costs up to \$10 billion and the DoD/CAPE business case analysis predicted even higher costs. As a consequence of these estimates, and consistent with the Department's build-to-budget strategy, the Acting NNSA Administrator chartered an Independent Review Team analysis of the UPF project to stay within the CD-1 cost range and deliver Building 9212 capabilities by 2025. The Acting Administrator directed the project to no longer complete engineering design work in support of the large nuclear facility and instead focus on high-equity design elements that can be used in a smaller structure. UPF, among other projects underway at DOE, is a multi-billion dollar, first-of-a-kind, unique nuclear construction project. Such major nuclear facilities have additional complexity and safety and security challenges. NNSA's commitment to not starting construction until the design is 90% complete allows us to reevaluate and recover before beginning the capital intensive construction portion of the project.

Subcommittee. What alternatives are you now considering?

Mr. Held. Dr. Thomas Mason, Director of Oak Ridge National Laboratory, led an Independent Review Team analysis of the UPF project to develop and recommend options that deliver Building 9212 capabilities for not more than \$6.5 billion and no later than 2025, while preserving the existing design elements to the extent practical.

Dr. Mason's team proposed accelerating risk reduction work and transitioning Building 9212 capabilities in to existing facilities as well as the

new construction of two facilities. The first facility is a high security casting facility with similar security requirements to the original UPF. The second facility is for special oxides. The second facility places strategic administrative limits on the quantity of material in the facility and therefore requires a smaller security footprint.

Subcommittee. Can you explain what specifically was the tasking of Dr. Mason's Red Team and how do you intend to use his team's analysis?

Mr. Held. The Independent Review Team was given broad objectives to ensure the team had the freedom to pursue all feasible options to meet the mission requirements.

The criteria from the charge letter were the following:

- 1) Deliver Building 9212 capabilities for not more than \$6.5 billion
- 2) Replace Building 9212 capabilities no later than 2025
- 3) Maintain proximity to HEUMF for eventual consolidation in a campus-like concept.
- 4) Preferential reliance on engineered controls, and contemporary codes and standards
- 5) Consider new purification technologies
- 6) Preserve existing design elements to the extent practicable
- 7) Accommodates existing and planned site infrastructure
- 8) Presents minimal disruption to site readiness/preparatory activities

The Independent Review Team submitted their report on April 15th. The report is being reviewed and their recommendations are being studied to develop a more cost effective path forward for UPF.

Subcommittee. Once you have their input, how long will it take you to make a decision?

Mr. Held. The UPF project has focus at the highest levels of DOE and NNSA. UPF is a multi-billion dollar, first-of-a-kind, unique nuclear construction project, as such it has additional complexity and safety and security challenges. I intend to take the proper time to review the Independent Review Teams' analysis and study their recommendations to ensure the correct path forward. Given the complex nature and sweeping changes recommended by the team, not all recommendations may be decided upon simultaneously. We will begin to make decisions on the team's recommendations immediately after our review and study process, whereas several may take weeks or months to decide. This new path forward will maintain our commitments to cease programmatic operations in Building 9212 by 2025 and ensure the long-term viability, safety, and security of the nation's enriched uranium capability.

FOOTPRINT REDUCTION AT Y-12

Subcommittee. Mr. Administrator, one of the stated goals and objectives of the UPF project was to reduce Y-12's security footprint. However, the neither the former phased approach nor the new direction of focusing on 9212 replacement will reduce Y-12 security's security footprint. In fact, they will enlarge it.

Given this, is it still appropriate to include security footprint reduction in arguments for UPF?

Mr. Held. NNSA remains committed to reduce the security footprint at Y-12. Completion of the final UPF scope will enable NNSA to reduce the security footprint by approximately 90%. The scope for movement of the Protected Area perimeter to reach this reduction was not part of the UPF project.

- During early stages of the UPF execution strategy, it appeared economical to reduce the security footprint to facilitate the construction, and the West End Projected Area Reduction (WEPAR) sub-project was identified to accelerate the decertification of 70 acres of Protected Area footprint in order to realize cost savings, site efficiencies, and to support site modernization.
- WEPAR was added to the UPF project and approved by way of a Critical Decision-1 reaffirmation in June 2012. The original scope, intent, and technical basis for WEPAR were dramatically altered following the July 2012 security incursion at Y12.
- These changes, along with a more comprehensive evaluation of necessary site-wide security improvements has led to the identification of additional scope and cost which exceeded planned funding levels for UPF.
- Based on this, NNSA has decided to not execute WEPAR as part of UPF but rather pursue comprehensive security upgrades and security footprint reduction via stand-alone projects currently in the planning phase of development.

Subcommittee. Have you given up on footprint reduction at Y-12?

Mr. Held. NNSA remains committed to reduce the security footprint at Y-12.

Subcommittee. Will the construction of UPF, in close proximity to HEUMF and other Y-12 material access, areas pose security challenges to a site that is struggling to get back on its feet after the July 2012 security breach?

Mr. Held. The Y-12 contractor has made improvements in security since the July 2012 breach, including adding additional physical barriers around HEUMF in addition to other significant improvements to the alarm management system, sensors and cameras. We do not anticipate any security challenges during UPF construction. The construction area, although in close proximity to HEUMF, is separated by a Perimeter Intrusion Detection and Assessment System (PIDAS) and multiple layers of physical barriers. The Protective Force has direct observation of the construction area. We believe it is important to note that construction in and around the Y-12 site is a daily occurrence and over the last few months there has been significant construction along the north side of the plant just outside the PIDAS as the initial ground work and road work for the UPF site is currently taking place. To date, there have been no security concerns as a result of this ongoing construction work.

STARTING CONSTRUCTION ON UPF

Subcommittee. Mr. Administrator, as part of the actions to get off the GAO High Risk List, the Department stated it had learned from its past mistakes and would no longer start construction while major parts of design were incomplete. As a result, the previous Administrator committed to only starting Site Preparation after the design is 90% complete. Yet, we understand that work packages to start new construction activities, including site preparation, have been moving forward.

Why should any more shovels be put in the ground before you have selected an affordable design for the facility?

Mr. Held. These low risk non-nuclear construction activities are independent of the final configuration of the facility and have completed designs. It is important to complete this work prior to the start of nuclear construction so that project can meet its schedule commitment to transfer enriched uranium capabilities currently housed in building 9212 into UPF by 2025.

Subcommittee. Will NNSA try to go back on its previous commitment to hold off on site preparation until 90% design complete?

Mr. Held. NNSA remains committed to reach 90 percent design complete for complex nuclear construction, such as UPF, prior to setting the performance baseline for project cost and schedule. Site preparation work that is dependent on the final UPF configuration, such as the mass excavation and concrete fill, will not be started until design reaches 90 percent completion.

REDUCED SCOPE OF UPF

Subcommittee. Mr. Administrator, after the footprint problem became clear, the NNSA decided to attempt to control the costs of constructing a much larger facility by reducing scope of the project to the building exterior and installing only a portion of the equipment. It was only after Congress directed the project be reviewed by the Department of Defense's CAPE that it became clear to everyone this was a plan to essentially construct an oversized, half-empty building and that it was not going to work. NNSA would not have had enough funding to put in all the equipment for perhaps another 20 years.

Mr. Held. I would like to clarify the evolution of events that have led us to this point on the UPF project. The Critical Decision, Approve Alternative Selection and Cost Range (CD-1), was originally approved and documented on July 25, 2007 with a top-end estimate of \$3.5B. As part of the DOE Order 413.3B process for post CD-1 cost increases, the CD-1 decision was reaffirmed on June 8, 2012 with a top-end estimate of \$6.5B based on what we anticipated to be an affordable funding profile. At the time of reaffirmation it was believed the lowest cost alternative was to construct a facility that was sized to fit all Y-12 Enriched Uranium (EU) operations, to transition the critical capabilities from Building 9212 into this facility, and to significantly decrease the size of the Y-12 Protected Area. Shortly after the CD-1 reaffirmation we identified a design issue with fitting the processes into the building, and the annual funding profile was reduced to meet budget constraints. The space fit item and budget constraints caused a re-examination of the project scope. NNSA had already determined that the \$6.5B top end was unachievable before the CAPE's analysis. While disagreeing with top end of the CAPE's cost range, we agreed that a facility sized to fit all Y-12 Enriched Uranium (EU) operations was unaffordable and therefore started looking at options.

Subcommittee. Did you understand the full cost implications of your decision to expand the footprint when you made that decision?

Mr. Held. In late 2011 NNSA elected to focus on replacing the processes contained in Building 9212 as they represent the greatest risk to delivering the enriched uranium mission. The UPF would be designed and constructed to include full mission capabilities using a build-to-budget strategy and delivering the Building 9212 scope as the priority. In early

2012, the project's cost estimates indicated that the project could be completed within the cost range and schedule approved at CD-1 Reaffirmation. The Deputy Secretary was briefed on the cost and schedule estimates which were validated for CD-1 Reaffirmation prior to approval in June 2012. Following that approval we identified the space and fit challenge which created the need to enlarge the building's physical dimensions.

Subcommittee. Why didn't the NNSA perform its own such analysis on the project when it saw the project was in serious trouble?

Mr. Held. The Department of Energy completed an extensive validation of the project's cost and schedule estimates as part of the CD-1 Reaffirmation process. This validation effort relied on the extensive expertise of the US Army Corps of Engineers which did validate the project's cost and schedule range. NNSA did a similar analysis which also supported the contractor's cost and schedule estimates. When the space fit issue was first identified, we engaged the contractor to develop alternative solutions with estimates for each approach. At that time, the estimated cost for correcting this problem was approximately \$500M. As the project had \$2B in contingency assigned, we proceeded with the recommended solution to increase the building height and footprint.

QUESTIONS FROM CHAIRMAN SIMPSON

PRIORITIES OF THE ACTING ADMINISTRATOR

Chairman Simpson. Mr. Administrator, we must ensure that our national security needs are being properly prioritized in a limited funding environment. Until an NNSA Administrator and Deputy Administrator are confirmed by the Senate, you've stepped in to fill the gap and provide leadership during formulation of the fiscal year 2015 budget request.

What are your top five priorities for Weapons Activities while you remain the Acting Administrator?

How does this budget request reflect your priorities for the NNSA?

Are there any major decisions that were deferred, knowing a new Administrator and Deputy are awaiting confirmation?

Do you anticipate that the new NNSA leadership will be supportive and continue your management and contract reforms?

Mr. Held. First and foremost, we must assure the nuclear safety of NNSA operations, comprised of our workforce, our community and our environment. Second, we must protect nuclear security by keeping weapons usable material and classified information out of the hands of malicious actors, including those intent on acts of nuclear terrorism. Third, we must maintain a safe, secure, and reliable nuclear deterrent for America in a world with nuclear weapons. Fourth, we must promote a world with fewer nuclear weapons and plan for a world with zero nuclear weapons as called for in the 2010 Nuclear Posture Review. And five, we must steward the taxpayers' dollar effectively and efficiently. In each of these areas, NNSA has performance challenges ahead of us but we have also had successes. In 2013, GAO recognized progress at DOE in execution of nonmajor projects under \$750 million, and narrowed the focus of its High Risk List for DOE to mega-scale, unique nuclear construction projects costing more than \$750 million.

The budget supports these activities. The FY 2015 budget request for the NNSA is up \$451 million or 4%, to \$11.7 billion. In today's fiscal climate, this increase is an indication of the President's unwavering commitment to

nuclear security, as outlined nearly four years ago in Prague, and reaffirmed last June in Berlin. Support in this year's budget request is also due to an unprecedented level of transparency and discussion within the interagency on how the NNSA can best support implementation of the two key goals of the Nuclear Posture Review (NPR): to prevent nuclear proliferation and terrorism and to maintain a safe, secure and effective deterrent while we reduce the number of nuclear weapons in the stockpile. This budget request also supports the major initiatives of Naval Reactors, makes investments in physical and cyber security, and funds critical infrastructure recapitalization to support effective operations across the nuclear security enterprise.

With regard to your question on whether any major decisions have been deferred, the only major decisions that were deferred were some senior personnel decisions.

As reforms were conducted in a coordinated fashion with the Secretary and incoming Administrator, we are confident management and contract reform efforts will continue to drive a mission effective and cost efficient enterprise.

FAILED ALTERNATIVES FOR MODERNIZATION

Chairman Simpson. Mr. Administrator, each of the major modernization projects recommended by the Nuclear Posture Review Report has experienced serious problems.

The CMRR-Nuclear Facility was essentially cancelled and now we hear there are more affordable alternatives that were never considered. The design of the Uranium Processing Facility was bungled, necessitating a huge expansion of the building's footprint. The common warhead option for the W78 and W88 has been pushed back to 2030, with no plan ever submitted for how to fund its \$13 billion cost or construct the supporting pit production infrastructure. Only the B61 LEP is moving forward, despite the fact that the cost of the program doubled over the course of one year from \$5 to \$10 billion. This cost growth occurred despite the fact that NNSA downsized the scope for the refurbishment to a less risky alternative.

What are you doing to better ensure that NNSA is spending its funds developing only the most feasible and affordable alternatives to sustain the nuclear weapons stockpile?

Mr. Held. Since deferral of the CMRR-NF project, the NNSA developed a plutonium infrastructure strategy to use existing facilities to provide continuity in analytical chemistry and materials characterization capabilities. This approach was bolstered by a Business Case Analysis and presents alternatives that take advantage of several changes since the CMRR project was originally proposed including increased material limits for radiological facilities.

The NNSA Office of Defense Programs recognizes the need for improving upfront planning estimates and strengthening the alternatives analysis milestone and the estimates that support those decisions. To that end, the NNSA Office of Defense Programs has a cost estimating organization, the Office of Cost Policy and Analysis that is focused on implementing the Cost Improvement Initiative which will require programs and projects to communicate the full basis of estimate for planning, budget, and milestone estimates that support the PPBE process.

NNSA is working corporately to reform our process for analyses of alternatives to make sure it's more robust and credible and looks for best

value for the taxpayer at an earlier time in the process. The Fiscal Year 2014 National Defense Authorization Act requires us to establish an Office of Cost Estimating and Program Evaluation (CEPE), which will advise on policies and procedures for analyses of alternatives for major atomic energy defense acquisition programs. Implementing these measures will be critical in helping us avoid the causes of past failures.

Chairman Simpson. What needs to change to make sure these mistakes don't continue to be made and that we do not waste time and money on losing alternatives?

Mr. Held. In order to strengthen the alternatives analysis process, programs and projects need adequate upfront funding to develop multiple concepts, early definition and critical review of requirements, and better planning estimates. The Defense Programs Cost Improvement Initiative (CII) being implemented in FY 2014 requires programs to provide planning estimates based on major assumptions and requirements, a 5 year budget profile and total costs, and identify key risks and potential mitigations.

CONTRACT REFORM

Chairman Simpson. Mr. Administrator, there are a number of contracts that are up to be competed in the next few years. You've been vocal about the need to negotiate changes to those contracts when they are up to be re-competed or extended.

How does NNSA's M&O contracting structure need to change and what improvements do you think can be achieved?

Mr. Held. I am in the process of evaluating the current M&O fee structure and senior NNSA staff will provide me with an in-depth briefing on this subject in the near future. Once I've had the opportunity to develop an informed opinion, I would be happy to discuss this topic in further detail with you. Overall I remain committed to the general philosophy of rewarding our contractors for excellence, holding them accountable for performance while also providing them the flexibility to perform their vital mission to the country.

Chairman Simpson. Are the current contracts providing the tools needed for effective federal oversight? Is this a matter of fixing federal oversight or do you believe the contracts need to be fundamentally changed?

Mr. Held. Based on the briefings that I've received thus far, fundamental changes to the contracts are not necessary. The current contracts have many tools that allow for transparency and oversight of the contractors' performance. We can strengthen our federal oversight by training government personnel and articulating expectations to the contractor. My goal is to ensure that people responsible for oversight also have both the accountability and the authority to administer the contract efficiently and effectively.

Chairman Simpson. The primary rationale that NNSA provided for its decision to combine the Pantex/Y-12 contract seemed to be to generate cost savings.

What do you think the main goals should be for renegotiating NNSA contracts?

Mr. Held. The primary reason for combining the Pantex and Y-12 contracts was to drive better integration of the NSE mission work among our Nuclear Security Enterprise partners. This integration eliminates redundancies and provides for economies of scale, economies of scope, and best practice adoption and synergies. The outcome of these efficiencies result in cost savings.

We are committed to continuing the practice of finding innovative ways to accomplish the mission safely and securely by improving the efficiency of NNSA operations.

ALTERNATIVE PLUTONIUM STRATEGY

Chairman Simpson. Mr. Administrator, the Subcommittee has already made clear its interpretation of what the requirements are for pursuing capital improvements at Los Alamos for the purpose of moving out of the legacy CMR building and carrying out additional infrastructure projects in pursuit of your alternative plutonium strategy.

Yet the budget request includes an unspecified amount of funding within "Program Readiness" for "CMR Transition activities." The request states that these are activities to "execute the plutonium strategy to transition out of CMR" and "install additional equipment in RLUOB."

NNSA has done a poor job of estimating the costs of its activities and major projects in the past. We simply will not provide unrestricted funding for major improvements without having any commitments for cost and schedule performance.

The budget request provides no details. How much of the funding requested in Program Readiness supports the "CMR Transition"?

How will you change your request to ensure that this project complies with this Subcommittee's direction, which also happens to support your own project management requirements?

What is the total cost to transition out of the CMR facility and reconfigure the space in PF-4 to meet your pit production goals?

Has there been any effort to verify those estimates?

Are you willing to commit to those cost estimates at this point in time?

Mr. Held. The FY 2015 Congressional Budget Request for CMR transition within Program Readiness is \$38.7M. We have submitted a Project Data Sheet to the sub-committee staff to provide technical assistance and additional details; it describes our plan for new subprojects within the Chemistry and Metallurgy Research Replacement (CMRR) line item project for providing the necessary analytical chemistry (AC) and materials characterization (MC) capabilities. This is part of the plutonium infrastructure strategy that NNSA has developed: it includes modifications

to both the PF-4 facility and the Radiological Laboratory Utility Office Building (RLUOB) that will assume CMR functions. The preliminary cost range for modifying PF-4 is \$443-\$930M and for the RLUOB, \$220-\$315M. These estimates are rough order of magnitude. When these projects reach the CD-2, *Approve Performance Baseline* phase of the Department's project management process, we will be in a position to commit to cost baselines for this work, but we cannot do so at this time.

Pit production efforts are supported by the Plutonium Sustainment program as described in the FY 2015 Congressional Budget Request; the work in RLUOB and PF-4 to provide AC and MC capabilities and transition programmatic operations out of CMR is independent of production capacity levels.

STATUS OF SECURITY AT NNSA SITES

Chairman Simpson. Mr. Administrator, one of the findings of the investigations into the security incursion was that some of the cameras were broken and the contractor had not taken action to repair them in months. Also, the security systems had been generating excessive false alarms that made it difficult for the protective forces to recognize an actual incursion was taking place. NNSA stated that the federal overseers at the site office and headquarters were unaware of these problems and had not been keeping tabs.

Has NNSA fully resolved its problems with maintenance and excessive false alarms?

Mr. Held. The maintenance and excessive false alarm issues that existed at Y12 prior to the July 28, 2012, incursion have been corrected. NNSA is also addressing the issues associated with false alarms and corrective maintenance from an enterprise-wide perspective. By policy, all corrective maintenance on essential system elements is initiated within 24 hours and tracked until completion. We have also recently initiated a project which tracks, at the Headquarters level, the false alarms and corrective maintenance activities of all of our sites. By collecting this data, the staff of the Chief Defense Nuclear Security (CDNS) can analyze and trend these activities to ensure our security systems are functioning at acceptable levels as we identify issues and correct concerns before they turn into major problems. Also, NNSA has completed several line item projects to replace and upgrade security systems. The Nuclear Material Safeguards and Security Upgrade Project at Los Alamos and the Security Improvement Project at Y-12 were recently completed, upgrading aging systems at both sites. We also have sent forward the Device Assembly Facility Argus Project to replace the security system at our Nevada National Security Site. All of these projects are lifecycle replacement and with newer systems will reduce corrective maintenance and false alarm rates.

Chairman Simpson. Do you, as the Administrator, know the current detailed status of your protective forces and site security systems? If not you, who in NNSA is responsible for keeping track of this information on a day-to-day basis?

Mr. Held. There are several management structures in place to keep me fully informed as to the status of protective forces and security systems at our sites. First, there is a Federal Field Office Manager and an Assistant Manager for Safeguards and Security assigned to each site who are responsible for day to day operations and oversight of the protective force and security systems. Additionally, the CDNS is in continual communication with the sites to understand the status of security. These individuals keep me informed of significant security related issues at their sites. There are also other mechanisms in place to keep me abreast of site security status. CDNS staff receive comprehensive quarterly updates on the status of protective force operations – including staffing, attrition, overtime, equipment, etc., -- and on the health and maintenance of physical security systems. Security incidents are categorized and reported using guidelines established in Departmental Orders and Memorandums. Critical or significant incidents are required to be reported to Defense Nuclear Security (DNS) following categorization. Security incidents are tracked and monitored through the Safeguards and Security Information Management System (SSIMS). We also receive “night note” initial summaries from the field offices within hours of incident occurrences and a weekly Dashboard Report from the Office of Infrastructure and Operations.

Chairman Simpson. If we were to ask for the immediate status of NNSA security systems, how quickly would you be able to respond?

Mr. Held. To ascertain the immediate status of security systems I would reach out to the CDNS and applicable Senior Federal Managers at the sites. I would expect to be able to provide an accurate, if not detailed, response within 24 hours of such a request.

THURSDAY, APRIL 3, 2014.

DEPARTMENT OF ENERGY—NATIONAL NUCLEAR SECURITY ADMINISTRATION NUCLEAR NONPROLIFERATION AND NAVAL REACTORS FY 2015 BUDGET

WITNESSES

BRUCE HELD, ACTING ADMINISTRATOR, NATIONAL NUCLEAR SECURITY ADMINISTRATION

ANNE HARRINGTON, DEPUTY ADMINISTRATOR FOR DEFENSE NUCLEAR NONPROLIFERATION, NATIONAL NUCLEAR SECURITY ADMINISTRATION

ADMIRAL JOHN M. RICHARDSON, DEPUTY ADMINISTRATOR, NAVAL REACTORS, NATIONAL NUCLEAR SECURITY ADMINISTRATION

Mr. SIMPSON. I'd like to call this hearing to order.

This morning, we examined the portion of budget for the National Nuclear Security Administration that carries out the critical programs to sustain our nuclear weapons stockpile. This afternoon we will focus on the Department's two other important national security programs, Nuclear Nonproliferation and Naval Reactors.

I would like to welcome back the Honorable Bruce Held, Acting Administrator for the NNSA.

Mr. Administrator, your breadth of programs that the NNSA oversees is truly impressive, and I would like to thank you for dedicating your entire day to testifying before this subcommittee.

I would also like to welcome both Admiral Richardson and Ms. Anne Harrington. It is good to see you both again, and I look forward to hearing from you both on these programs.

Admiral Richardson, this is your second appearance before this subcommittee. I think I can speak for my colleagues when I say that you have this subcommittee's full support for your critical work, and we greatly appreciate your service. In the past, we have depended on you to make some tough decisions so that we can meet our defense needs under tight fiscal constraints. Even though the Ryan-Murray budget deal provided us with a plan for discretionary spending for fiscal year 2015, and most importantly removed the damaging across-the-board sequestration cuts from the upcoming year, overall defense spending will be essentially flat. That means it is more important than ever to hear from you on your priorities and how you can ensure that the Navy receives the support it needs to continue to operate its nuclear fleet.

The fiscal year 2015 budget request for naval reactors is \$1.377 billion, an increase of \$282 million, or 26 percent over last year's enacted level. This afternoon, we will consider some of the details of that request and how those activities are needed even during this period of budget austerity.

The budget request for the NNSA's Defense Nuclear Nonproliferation is \$1.555 billion, a decrease of \$398 million, or 20 per-

cent from last year's enacted level. Ms. Harrington, you run programs around the world to keep fissile material out of the hands of those who would do us harm. The NNSA's cooperative nuclear security activities in Russia and the former Soviet states have been some of the big successes of the post-Cold War era. Now many of those programs are ending or ramping down, and the nature of our cooperation with Russia has started to change. These changes began even before the recent events in the Ukraine and are likely to continue given Russia's belligerent actions.

We look forward to hearing from you on how these programs are evolving and how the NNSA's strategies will actively and effectively advance U.S. and global security goals.

Ms. Harrington, we must also hear from you today on the elephant in the room. It is the project to construct or not construct the MOX facility at Savannah River. In the past, the subcommittee has been highly critical of NNSA's management of the project. The fiscal year 2015 budget request says that the Department is placing the project in cold standby. I hope we are able to hear more details from you on your plans and rationale for scuttling this project after 15 years of design and construction and nearly \$6 billion in taxpayer dollars already spent.

Please ensure that the hearing record responses to the questions for the record and any supporting information requested by the subcommittee are delivered in final form to us no later than 4 weeks from the time you receive them.

Mr. SIMPSON. I also ask that members, if they have additional questions they would like to submit for the subcommittee for the record, then please do so by 5 p.m. tomorrow.

Mr. SIMPSON. With those opening comments, I would like to yield to our ranking member, Ms. Kaptur, for any open comments that she would like to make.

Ms. KAPTUR. Thank you, Mr. Chairman.

And welcome back, Administrator Held and Harrington and Admiral Richardson. Thank you for your service to our country. It is very good to see you all again, and we are looking forward to your testimony.

In particular, I am interested to learn more about the impact of budget cuts on programs under your purview. The threat of nuclear terrorism is one of the greatest national security threats that we have, and our Nation must make real progress towards securing stockpiles of fissionable material.

This budget request seems to send the wrong signal to the rest of the world. Given the instability of the world, not just between Ukraine and Russia, but increasing the budget for things like the Global Threat Reduction Initiative would be a wise investment. Instead, this request proposes to reduce this program by 25 percent. And I would note that this is a program which has removed 234 kilograms of weapons-grade uranium, enough for nine nuclear weapons, from Ukrainian soil, eliminating the risk of this material falling into the wrong hands.

Admiral, the Naval Reactors program is critical to the performance and continuation of what is the safest and most secure leg of our Nation's nuclear triad. Nuclear Reactors has often been looked

to for expert opinion and for management support to other government programs, and we thank you for that.

I am, however, concerned about the recent cheating scandal, particularly in light of other cheating and ethical questions that have arisen in the military's nuclear ranks. And I am concerned that the culture in this vital area is not what it must be to ensure our Nation's security over the long term. We are confident you will continue this great service to our country, and I look forward to your insights regarding recent changes in program schedules and costs, as well as more details on how this program has changed since last year.

Thank you, Mr. Chairman, for the time.

Mr. SIMPSON. Admiral Richardson.

Admiral RICHARDSON. Thank you, Mr. Chairman and Ranking Member Kaptur. It is indeed a privilege to testify before you once again. I am very grateful for the support of this subcommittee, and I look forward to the discussion on Naval Reactors' fiscal year 2015 budget request. My budget request, as you said, sir, is \$1.37 billion. It enables me to meet my primary responsibility, to ensure the safe and reliable operations of the Nation's nuclear-powered fleet.

My fiscal year 2015 request is 26 percent higher than my 2014 appropriation. This increase directly supports our increased workload and sustaining the program's technical support base, including three discrete national priority projects: designing a new reactor plant for the Ohio-class SSBN replacement, refueling a research and training reactor in New York, and replacing the spent fuel handling facility in Idaho.

The funding for the program's technical support base, about \$950 million, is absolutely essential, providing for the resolution of emergent fleet issues, spent nuclear fuel management, technology development, and operation of prototype research and training reactors. It also provides my foundational capabilities, such as security, environmental stewardship, and laboratory facilities. In short, the technical base at my laboratories is the intellectual engine that drives safe, reliable, and responsible operation of the nuclear-powered fleet, past, present, and future.

\$156 million of my fiscal year 2015 request funds the new reactor plant for the Ohio-class replacement submarine. This new propulsion plant includes a reactor core designed to last the entire lifetime of the submarine, that is 42 years, without needing to be refueled, and is expected to save the Navy over \$40 billion in life-cycle costs.

The request for refueling and overhaul of our land-based prototype reactor is \$126 million and is necessary to proving the technologies for that life-of-the-ship core and the Ohio replacement submarine, as well as training about 1,000 nuclear operators per year over the next 20 years.

Fiscal year 2015 request for the Spent Fuel Handling Recapitalization Project, \$145 million, is required to refuel aircraft carriers and submarines, providing a safe and effective means of processing and putting their spent fuel into dry storage. The existing Expended Core Facility is close to 60 years old and is the oldest spent fuel pool of its type in the country. This facility is showing its age, including leaking water pool walls and cracked floors. While oper-

ated safely and responsibly, it is harder every year. The new project has already been delayed by nearly 4 years, requiring that I purchase \$350 million of temporary storage containers that I did not otherwise need.

Without funding and new start authority, I fear this project will be delayed indefinitely, incurring further unnecessary costs of at least \$100 million to \$150 million for each additional year it is delayed for additional temporary storage.

My fiscal year 2015 request is especially critical in light of fiscal year 2014 funding levels. As just one example, a shortfall to my Operations and Infrastructure requirements resulted in insufficient funds to plan and conduct required maintenance on one of the land-based prototype training reactors in New York. Without relief, I will have no choice but to shut down that reactor. This will result in the loss of 450 nuclear-trained operators to the fleet in fiscal year 2015 alone, enough people to fully support nine submarines, putting a greater burden on sailors and families that are already sustaining 9- to 10-month deployments.

Mr. Chairman, at the fiscal year 2015 funding level, Naval Reactors can safely maintain and oversee the nuclear-powered fleet. We can be good stewards of the health of our people and the environment, we can make critical progress on the Nation's future strategic deterrent, we can continue to deliver trained operators to the fleet, and we can renew progress on the Spent Fuel Handling Facility and keep our submarines and carriers at sea. Most importantly, we will be able to attract and retain the incredible people that design, operate, and maintain the Nation's nuclear-powered fleet. Without them, we can do nothing meaningful, and with them, the possibilities are boundless.

With the sustained support of this subcommittee to our work, I will continue to lead my team to execute our work on time and on budget, and will search tirelessly for the safest and most cost-effective way to support the Nation's nuclear-powered fleet.

Thank you again.

[The information follows:]

**Statement of Admiral John Richardson
Deputy Administrator for Naval Reactors
National Nuclear Security Administration
U.S. Department of Energy
on the
Fiscal Year 2015 President's Budget Request
Before the
Subcommittee on Energy and Water Development
House Committee on Appropriations**

April 3, 2014

Naval Reactors' request for FY15 is \$1.377 billion, an increase of \$282 million (26 percent) over the FY14 enacted funding level. The requested funding permits Naval Reactors to support the design, construction, operation, maintenance and disposal of the U.S. Navy's nuclear-powered fleet. This Fleet includes 55 attack submarines, 14 ballistic missile submarines, 4 guided missile submarines, and 10 aircraft carriers, or over 40 percent of the U.S. Navy's major combatants. The program also operates two nuclear powered land-based prototypes to conduct research and development, and when coupled with two Moored Training Ships, train over 3000 Sailors per year for entry into the nuclear fleet. Over 15,000 nuclear-trained Navy sailors safely maintain and operate the propulsion plants in nuclear powered warships, which operate in support of U.S. national interests.

The FY15 budget request supports three national priority projects and the technical support base. The projects are:

- Designing a new reactor plant for the OHIO-class SSBN Replacement
- Refueling the Research and Training Reactor in New York
- Recapitalizing the spent fuel handling infrastructure in Idaho

Naval Reactors has requested an increase in funding in FY15 to support these projects, and to fund necessary maintenance, equipment, construction, and reactor technology development in the technical support base that have been delayed or deferred due to appropriation shortfalls over the last five years.

Supporting the nuclear-powered fleet to safely and reliably protect our national interests while forward deployed requires that Naval Reactors maintain a substantial technical base - laboratories, training reactors and spent fuel handling capability - to anticipate and immediately respond to fleet problems before they become operationally limiting. This technical base thoroughly and quickly evaluates all fleet technical issues that arise while also supporting design, manufacture, operation, maintenance, and development of improved technologies. Ultimately, this technical base and laboratory infrastructure ensures the safety of the crew and the public without impacting the mission of our nuclear-powered fleet. Uncompromising and timely support for safe nuclear fleet operation continues to be the highest priority for Naval Reactors.

Over the last 5 years, Naval Reactors' appropriation has been below requirements by over \$450M. For example, in FY14, Naval Reactors was funded \$151M below the request. As a result, Naval Reactors will be required to shut down one of the two prototype reactor plants in upstate New York during the second quarter of FY15 due to insufficient maintenance funding. This shutdown results in 450 sailors that will not be trained and will not be sent to the Fleet next year. This directly translates to more work at sea and in port for our nuclear-trained sailors further stressing them and their families. This reactor will remain shut down until this maintenance can be performed. The funding shortage has also made impossible the purchase of vital capital equipment and postponed infrastructure improvements, most notably defunding High Performance Computing capacity that is needed to deliver the OHIO-class Replacement reactor design on time and to support the existing fleet. Cancelling this computer purchase in FY14 has resulted in at least a 6-month delay to reactor core manufacturing, impacting the OHIO-class replacement lead-ship construction schedule.

Another portion of the requested increase in funding is required to support an increased level of effort for designing a new reactor plant for the OHIO-class SSBN Replacement. Activity this year includes reactor plant design and component development to support procurement of long lead components starting in FY19. Progress in these areas in FY15 will ensure the cost of those components is controlled as the program moves forward to construction beginning in FY21.

Related to OHIO-class Replacement, the FY15 request continues to progress the Land-based Prototype Refueling Overhaul in upstate New York. In FY14 and FY15, Naval Reactors continues the core manufacturing development work needed for the Refueling Overhaul which also enables timely construction of the life-of-ship core for OHIO-class Replacement and reduces cost and schedule risk. Further plant service life engineering design will be completed in FY15 to ensure that the Land-based Prototype plant overhaul, performed concurrently with refueling (that starts in FY18), supports 20 additional years of research, development and training in upstate New York.

In addition to underfunding operations and infrastructure activities described above, the FY14 appropriation again provided no funds to initiate preliminary design for the Spent Fuel Handling Recapitalization Project (SFHP). This project, already delayed by two years, is needed to replace the aging facility in Idaho that processes our spent naval nuclear fuel from aircraft carriers and submarines. This processing includes receipt, preparation, temporary storage, and packaging of naval spent nuclear fuel for dry storage and disposal. The new SFHP is urgently required for three primary reasons:

1. The existing Expended Core Facility (ECF) is more than 55 years old and the water pool that stores naval spent nuclear fuel is the oldest pool of its type in the nation. This old facility is showing accelerating signs of deterioration, including leaking water pool walls and cracked floors. While the ECF continues to be maintained and operated in a safe and environmentally responsible manner, repair and refurbishment actions required to sustain operations in the ECF are costly and becoming more expensive each year. The risk associated with the degrading condition of the ECF is exacerbated, not only by the delay in bringing on the new SFHP facility, but also because the FY14 shortfall in operations and infrastructure reduced funding for maintenance on the existing ECF. Any disruption

to operations in processing naval spent nuclear fuel at the ECF would require costly and time-consuming emergent measures, and would directly impact Naval Reactors' ability to support the Navy's nuclear-powered fleet refueling and defueling schedules.

2. The new SFHP facility is required to receive, prepare, temporarily store, and package full-length aircraft carrier spent nuclear fuel. The current ECF facility cannot handle this fuel. In order to prevent impact to the operating fleet due to the delay in bringing SFHP on line, the Navy must procure extra, otherwise unnecessary, M-290 shipping containers that will be used to temporarily store naval spent nuclear fuel, to return aircraft carriers to sea until the new SFHP can be built. In addition to inherent cost increases associated with delaying the SFHP by two years these extra containers will cost \$200M.
3. The SFHP is required to ensure Naval Reactors meets its commitments to the State of Idaho for processing spent naval nuclear fuel. Without this new facility, Naval Reactors' ability to process fuel in the timeframe directed by agreements with the State will be jeopardized.

The FY15 request for the SFHP – \$145M – is essential to the operational availability of aircraft carriers and submarines. Without new start authority and funding in FY15, the project will be further delayed, requiring extended operation of an aging facility and incurring additional unnecessary shipping container costs of approximately \$100M – \$150M for each year of delay.

At the requested funding level, Naval Reactors can safely maintain and oversee the nuclear-powered fleet. Naval Reactors can also continue to progress the OHIO-class Replacement and Land-based Prototype Refueling Overhaul, renew progress on the Spent Fuel Handling Recapitalization Project, and maintain its environmental responsibilities.

Naval Reactors has a history of fiscal responsibility in its day-to-day operations, and continues to look for cost saving initiatives to further drive financial efficiencies at its laboratories. For example, Naval Reactors consolidated its laboratory and procurement prime contractors into single contracts, resulting in savings of \$24M per year. Naval Reactors developed a more efficient assembly process for the USS GERALD R FORD reactor core, saving \$50M in ship construction. Careful maintenance of refueling equipment has enabled Naval Reactors to save \$19M in repurchases that would have been required for the upcoming prototype refueling. Aggressive management has enabled Naval Reactors to save \$6M over the life of a Major Construction Project in Idaho, and we look forward to similar successes in other construction projects. Finally, the new life-of-ship core that will fuel the OHIO-class Replacement will enable the Navy to save an estimated \$40B over the life of that class of ships. The continued cost performance and cost reduction is greatly enhanced by stability and sustained commitment to these long-term, multi-year efforts. The uncertainty and instability of the past years has resulted in significant disruption, distraction, and increased costs. Full funding in FY15 would send a strong signal about the commitment to the critical work Naval Reactors is planning to perform.

With the help of Congress, Naval Reactors is committed to executing our projects on time and on budget, and to continue to search for the safest and most cost effective way to support the nuclear fleet.

Mr. SIMPSON. Ms. Harrington.

Ms. HARRINGTON. Thank you, Mr. Chairman.

Mr. Chairman, Ranking Member Kaptur, and distinguished members of the subcommittee. I am here to discuss the President's fiscal year 2015 budget request for the Department of Energy's Defense Nuclear Nonproliferation Program.

Last week, I attended the third Nuclear Security Summit in the Hague, where the President gathered with world leaders to reaffirm the high priority they place on nuclear security. The Office of Defense Nuclear Nonproliferation plays the central role in implementing U.S. summit commitments and to advancing global nuclear and radiological security.

It has been an interesting journey through this series of summits, and is encouraging to think back 20 or more years ago when I started in this business when the U.S. was really the only player supporting some of these critical global security initiatives, and that we now can gather every 2 years with 50 or more world leaders committed not just to verbal action, but to physical action, to safeguarding materials, to initiating new activities, and that we are not bearing that burden alone any longer.

This is an important development that I think we don't acknowledge enough. Are we still the world leader? Of course we are. But we at least have a larger group moving with us. And that is incredibly important, especially when you look at some of the countries involved in this activity, countries like India and Pakistan, which certainly are on the list of countries that cause us concern. But they are partners in this endeavor, and that is an important thing.

At the summit we highlighted a number of major accomplishments. Probably the most noteworthy was our recent joint agreement with Japan to remove a very substantial amount, hundreds of kilograms, of highly enriched uranium and plutonium from the Japan Atomic Energy Agency's Fast Critical Assembly.

We also announced the successful removal of significant quantities of highly enriched uranium from Italy and Belgium. And I would point out for those activities we do, in partnership with high-income countries, the majority of the burden of those removals falls on the partner country, not on the U.S. taxpayer.

We also completed the President's 4-year effort to secure the most vulnerable material across the globe. But I would note, much work remains to be done. There is additional material and that is included in our 2015 request.

So the President's fiscal year 2015 request of \$1.55 billion provides the necessary funding to build on these successes and for meeting future challenges.

To meet this dynamic range of security threats that is evolving, the Defense Nuclear Nonproliferation Office draws on its core competencies to remove, eliminate, and minimize the use of proliferation-sensitive materials; to safeguard and secure materials technologies and facilities; to detect and prevent the illicit trafficking of materials, technology, and expertise; to provide research and development technology solutions for nuclear security and nonproliferation efforts; and to participate in developing policy solutions and reduce nuclear and radiological dangers.

In the area of material elimination, the administration remains firmly committed to disposing of 34 metric tons of surplus weapon-grade plutonium and to the Plutonium Management and Disposition Agreement. While we further study more efficient options for plutonium disposition, and in an effort to decrease the mounting cost of that project, the Mixed Oxide Fuel Fabrication Facility will be placed in cold standby. But that does not mean that we are scuttling the project.

With your support, the Office of Defense Nuclear Nonproliferation will continue to pursue a multilayered approach to protect and account for material at its source; to remove, down-blend, or eliminate material when possible; to detect, deter, and reduce the risk of additional states acquiring nuclear weapons; and support the development of new technologies needed to detect nuclear trafficking and proliferation, as well as verify compliance with arms control treaties.

I thank you for your attention, and I will be happy to respond to your questions.

Mr. SIMPSON. Thank you. And thanks for all that you do, before I start asking these questions. It is important work that you do.

Admiral Richardson, the chief of naval operations recently testified that the Navy's highest priority program, the Ohio-class replacement, could face a 6-month delay due to a funding shortfall for fiscal year 2014 for the manufacture of the submarine's reactor core. You also mentioned delays in your opening statement.

You made a comment to the press that the funding shortfall he was referring to was coming from the Department of Energy. The budget request for R&D and supporting the Ohio replacement program was fully funded in fiscal year 2014. Where is the shortfall that you are referring to which would delay the program for 6 months?

Admiral RICHARDSON. Sir, the shortfall occurred in the Operation and Infrastructure budget, my Operations and Infrastructure budget, particularly in the purchase of capital equipment. And so what resulted in a shortfall was, as we managed the mark against Operations and Infrastructure, about a 23 percent mark against that part of the budget, we found we had insufficient funds to purchase a high-performing computer, which is part of my technical base, that technical support base.

And some of the computational power of that computer was allocated against the design and validation of the Ohio replacement core and components. In fact, we had already, I guess, banked \$40 million in savings by virtue of the fact that we did not have to build prototypes and do direct testing, but we could do that modeling in the high-performing computer. And so that is where that shortfall arose.

Mr. SIMPSON. Why weren't those costs accounted for within the costs of the Ohio replacement program?

Admiral RICHARDSON. Sir, it is a multifunctioning computer. It is not a dedicated asset to the Ohio replacement program. So it is part of my technological support base. Much of that base performs critical functions across the program. Those sorts of capital equipment purchases have traditionally been captured in that technical support base.

Mr. SIMPSON. Is there funding in this budget request for those high-performance computers?

Admiral RICHARDSON. The answer is no. It was budgeted in 2014, and we did not include it in the 2015 budget. However, if we get full funding in 2015, we will do everything we can to reprioritize work such that we can recover that 6 months in the program. If we are not funded in 2015, not able to purchase the computer then, then we will just run out of time. We won't be able to recover that time.

Mr. SIMPSON. When is the latest you can purchase these computers to ensure that you do not impact the schedule for the Ohio replacement?

Admiral RICHARDSON. We would hope to get those computers funded in the 2015 budget and purchased as early as possible in fiscal year 2015.

Mr. SIMPSON. The NNSA is required to submit a 5-year budget as part of the President's budget request. The 5-year plan provided in this budget request doesn't appear to include full funding for all of your activities in the outyears. The most obvious omission is in your budget for construction projects. You have requested to start five new construction projects with a collective total of \$1.6 billion, but your outyear budget includes less than \$50 million per year for construction. How much do you really need to fully support all of you new and ongoing activities over the next 5 years?

Admiral RICHARDSON. Sir, I will be happy to answer that question in detail for the record.

Admiral RICHARDSON. In general, those sorts of construction projects have been the place where we go to accommodate for shortfalls between our request and our allocation in the past few years. And so those projects have been the things that have not been funded historically. We have taken money out of those projects to fund higher priority work.

Mr. SIMPSON. Okay.

Ms. Harrington, some press reports indicate that Russia is not supportive of the U.S.-led efforts during the Nuclear Security Summit. In the past, our nuclear cooperative efforts have been a way to show that cooperation was possible, even in tense times. Do you think that Russia will continue to cooperate in securing nuclear and radiological materials?

Ms. HARRINGTON. Mr. Chairman—

Mr. SIMPSON. Let me state why I ask this question. You are probably going to see amendments on the floor to take out all funding for all of those things that have the word "Russian" anywhere in them. How much of the funding in your budget is a request for projects that are in Russia that probably will face amendments? I have been and I think this committee has been supportive of the work that is going on there. We want to be able to answer the questions that are going to come up.

Ms. HARRINGTON. Thank you, sir. We view the work that we do in Russia, which focuses on the security of both the material and facilities and in some cases the actual weapons that were once a threat to this country, as vital to U.S. national interest. So we hope that both we and the Russians would be able to continue with that kind of work. As you know, in past geopolitical times of conflict

there have either been carve-outs or accommodations made to allow nonproliferation and threat-reduction programs to move forward.

That said, as you might imagine, internally within the government right now there is intense scrutiny of everything that is being done with Russia and real concern about the path that it has chosen to take. So we are in that process of reevaluating.

In terms of the 2015 budget, there is, out of the \$1.55 billion, something around \$100 million for programs that work in Russia. Of that, about 25 percent goes to our own laboratories to support the technical expertise to bring into the projects. So out of the total budget amount, it is not a particularly large percentage. But we still view it as being a very important element of our ability to engage both with sensitive materials and at sensitive facilities.

Mr. SIMPSON. So the short answer I would give to people is this is actually in our own interest, not just—

Ms. HARRINGTON. Correct.

Mr. SIMPSON [continuing]. Russian interest and the world's interest.

Ms. HARRINGTON. That is why we are there.

Mr. SIMPSON. Thank you.

Ms. Kaptur.

Ms. KAPTUR. Thank you. Following on that, Mr. Chairman, Ms. Harrington, in the past, Russia has been unwilling to share law enforcement information on nuclear smuggling with our country and our allies in Europe. Considering the events in Ukraine, Russia stands to become even further cut off. How do we counter nuclear smuggling in Eastern Europe with an uncooperative Russia?

And related to that, you have done a significant amount of work in Ukraine, and they have become a regional partner in countering the trafficking of nuclear materials. What work has the NNSA done in Ukraine, and are any of those projects in Crimea?

Ms. HARRINGTON. Thank you, Ms. Kaptur.

The strategy that we have developed and implemented on nuclear smuggling and control of nuclear material focuses on two main elements. First, to try to secure or eliminate the material in place, which is what we just discussed, that is work that we do internally. And then second, to try to set up as much of a ring around Russia and in the former Soviet Union and the eastern central European states as we can, so that if material does get out, then the work that we have done in Kazakhstan, in Poland, in Ukraine, in Belarus, in Moldova, all those countries that would be the routes for that material, that those are also closed off. So we can send you details about what equipment we have deployed where.

[The information follows:]

SECOND LINE OF DEFENSE EQUIPMENT IN THE FORMER SOVIET UNION

The National Nuclear Security Administration's (NNSA) Second Line of Defense (SLD) program has ongoing work with all of Russia's neighbors. On the eastern border of the European Union (EU), SLD is working with, from north to south: Estonia, Latvia, Lithuania, Poland, Slovakia, Hungary, and Romania. In all of these countries, with the exception of Hungary, SLD has deployed fixed radiation detection systems at international border crossings. All of these countries have received mobile radiation detection systems from SLD, and all have received training, maintenance, and sustainability support to successfully transfer responsibility for the systems to the partner country.

In the states of the Former Soviet Union, outside of EU members, SLD has deployed radiation detection capabilities with the following countries, from west to east: Moldova, Ukraine, Georgia, Armenia, Azerbaijan, Kazakhstan, Kyrgyzstan, and Tajikistan. All of these countries except Tajikistan have received fixed radiation detection systems at international crossing points, and SLD has deployed mobile systems to Azerbaijan, Ukraine, and Tajikistan. SLD has also supported sustainability of systems deployed by other USG agencies in Uzbekistan and Turkmenistan. All of these countries have received training, maintenance, and sustainability support to successfully transfer responsibility for the systems to the partner country. SLD continues its important mission in combating illicit trafficking in these regions and so maintains ongoing communication and consultation with all of the above partners.

Ms. HARRINGTON. But that has been a major part of our strategy for both containing material inside, but catching it if it should get outside. And, as you know, we have been successful in a number of instances in interdicting some of those materials.

In Ukraine, in specific, we have done quite a bit of work in Ukraine. There is work yet to be completed in Ukraine. But some of the work that we had completed is in Crimea, and the status of that work is yet to be determined.

Ms. KAPTUR. The U.S. Energy Department, there was a press release from Moscow that our Department had suspended peaceful atom projects with Russia. And the state-run nuclear corporation, Rosatom, has informed the U.S. Department of Energy of their—I just want to read this correctly—oh, they have been in receipt of your shutting down of that particular relationship.

What does that actually mean? What does that mean in terms of technologies, in shutting down that particular—does it mean people will be unemployed? What does it mean?

Ms. HARRINGTON. On our side, that set of communications relates to the work that originates in the Office of Nuclear Energy, which is led by my colleague, Pete Lyons, and it covers the work on his side of the house.

Ms. KAPTUR. Okay.

Ms. HARRINGTON. Not on ours.

Ms. KAPTUR. Not on yours. All right.

Let me ask you, this year's budget request is \$585 million below last year's, continuing the trend of declining requests since peak funding in fiscal year 2013. Placing the MOX plant in cold standby accounts for only about \$190 million of the \$585 million reduction. Why is the budget request for this program declining so rapidly? And are we shortchanging our efforts to enhance global nuclear security?

Ms. HARRINGTON. As you can imagine, the budget process was not an easy one for 2015. I think this subcommittee probably appreciates that more acutely than any other in Congress because you have tried over the years to support us, and have supported us. And we appreciate that.

But within the budget cap that was available, and I think you heard this morning fairly extensively the discussion of the nuclear weapons account, we all sat around a table, under Bruce Held's leadership, and looked at the challenges and the tradeoffs. And I was as aware of the impact on Don Cook's budget as he was aware of the impact on my budget. And some very difficult decisions had to be made within the scope of what we had to work with.

And, fortunately, we had, with the support of this and other committees, the ability to do some reprogramming at the end of 2013. That money has now finally hit the books. It takes a while to get things moved around, as of the end of February, that is now in our 2014 budget.

And so we are using some of that money to buy forward activities and to get a little bit ahead, where we can, so that we can absorb a slightly lower set of numbers in 2015. But the 2015 budget also reflects, as you noted, some very positive trends, programs that are successfully drawing to a close, some transitions. In fact, when we were looking at the analysis I asked if we could back out the fissile material disposition, the plutonium disposition project, and look at where we are over 8 years. And if you look at where we are in that span, at the beginning of that 8 years you see a wedge disappearing from our successful completion of the plutonium production reactor shutdown program with Russia. It declined down to zero. In the middle of that period, you see a nice expansion for GTRI, for Second Line of Defense, as we went through the 4-year program.

Now, as we are heading into 2015, we are seeing a little bit of the contraction that one would normally expect as you complete some very, very major and accelerated activities. Obviously, MOX is a separate issue. But within what we have on the table, we believe we can both conduct a robust set of activities and meet our national and international security obligations.

Ms. KAPTUR. Well, many military leaders have stated that the threat of nuclear terrorism is one of the biggest to our security. What are we not doing with this budget request that you have put before us that might jeopardize that security? You said you rolled some money into 2014 from past accounts. But, I mean, we look upon this as quite a severe cut. So is there something on the terrorism side that is at risk here?

Ms. HARRINGTON. Well, somehow our calculations are slightly different than yours. We view about half of the cut being accountable to the fissile material disposition account, and then the remainder being divided among other programs.

We believe that we are hitting the major points. When you do programs like ours the globe is a pretty big place and there is almost an infinite amount of work that can be done. And our job is to work corporately within the interagency, with the Intelligence Community, to come up with the best prioritization for those programs that we can.

So when you ask, is there work that could be done, of course there is. If you ask, do we think we are hitting the priorities that need to be hit, yes, I do think we are.

Ms. KAPTUR. Thank you.

Thank you, Mr. Chairman.

Mr. SIMPSON. Mr. Graves.

Mr. GRAVES. Thank you, Mr. Chairman.

Ms. Harrington, thank you for joining us today. I know over the last couple of days it seems like there has been a robust conversation about MOX, and I appreciate your patience in trying to help us understand what is going on there.

Just thinking about the agreement that was made with Russia, moving forward, have you had any conversations with Russia prior to this cold standby decision as to whether or not this would continue to meet the terms of the agreement that was previously made?

Ms. HARRINGTON. Well, first, on the Plutonium Management and Disposition Agreement, we do work very closely with the Department of State as the foreign policy lead in the government on this issue. In that context, we have had informal discussions with the Russians about the challenges that we have in this program.

In fact, we had an unexpectedly sympathetic reaction when they said, we came to you a few years ago and outlined what our challenges and our problems were, and you were willing to sit down with us and negotiate a somewhat different path forward for us, and if you find yourself in the same situation, we would be willing to do the same for you.

We believe that—

Mr. FORTENBERRY. These are the Russians.

Ms. HARRINGTON. Yes, sir. Well, in our part of the Russian relationship we have had very positive interactions I think for many, many years.

Mr. GRAVES. And so were these conversations or assurances, it sounds like you were given, pre- or post-Crimea?

Ms. HARRINGTON. They were pre.

Mr. GRAVES. And do you feel the same assurances post-Crimea or do you think that the environment is different?

Ms. HARRINGTON. That we would have to find out through engaging more formally with the Russians on this, once we get to a decision point, and I would hasten to say that we are not at that point yet.

Mr. HELD. If I may, I think, just to stress the point, that there has been a precedent with Russians in adjusting the agreement when needs arose. The original agreement was for both sides to focus on MOX. And in 2010 the Russians, because I believe it was cost drivers on their side, preferred to go with the fast reactor approach, and so we accommodated that at the time. So there is a precedent for working cooperatively to meet the objectives of the agreement.

Again, how the Ukraine situation is going to affect that, we are going to find out over the next few months, I imagine.

Mr. GRAVES. Right.

Well, Mr. Chairman, if I could just try to get clarification on the figure. We have heard the \$30 billion figure used yesterday and I think GAO and maybe Mr. Held used a figure of \$24 billion today. And if you take the \$24 billion, and let's just assume that is the number, and I know you have done your analysis, but there seems to be a lack of clarity on the number. But assume it is \$24 billion, and you take current costs to date, you take other projects that were included in that number, Los Alamos, maybe a couple others, and you back all of those out, doesn't that get you to a different number, maybe closer to \$12 billion, \$13 billion, \$14 billion, including security and including operation over a 20-year life-cycle?

Mr. HELD. So I think the full life-cycle cost, our estimate is—and GAO actually is pretty close to that, they listed the \$24 billion in

their report, but the report says that they considered that number unrealistic—and so I think the number is \$30 billion for full life-cycle cost. The Corps of Engineers came in and looked at just the construction cost. Construction costs originally were 4.8, the contractor estimated 4.8, and their current estimate is 7.7. John MacWilliams' group was estimating this is a minimum of 10, just for the construction cost. And Corps of Engineers came in—

Mr. GRAVES. But earlier today you testified that was in large part due to the change orders that were requested.

Mr. HELD. Yeah, I agree with that. Yeah, yeah.

Mr. GRAVES. I just want to make sure that is clear.

Mr. HELD. I am not—yeah, yeah—blaming the contractor. I totally agree. And that goes back to that original decision to rush construction before we actually had a design. You are building a house or building, a multibillion-dollar thing, that is not good.

So the question, if we—whatever—take 30 number as a—30 as a—

Mr. GRAVES. Which is 25 percent—

Mr. HELD. Or say 25.

Mr. GRAVES. That is 25 percent. I mean, you just say 30 as if, oh, it is closer to 30. That is 25 percent.

Mr. HELD. Okay. So say 25. Say 25. There is 5 billion in sunk cost. I am economist by training. So the fundamental comes out, is there an alternative that meets the mission requirement that full life-cycle costs cost less than \$20 billion, right? Because that is the marginal cost to actually get the MOX program, as currently sketched out, done. Right?

One of the, and the point Anne is making, where we put in a lot of time, lots and lots of time over the past 9 months, is working with the contractor to drive that cost down and work an agreement so we can actually move on with that and get it into.

But so, of the alternatives the question is, is there, including a new MOX thing, something less than \$20 billion, if you take the 25 or whichever number you take, say \$20 billion, and the indications would be that there is. That there is.

Mr. SIMPSON. Will the gentleman yield?

Mr. GRAVES. Yes, sir.

Mr. SIMPSON. Thank you.

This issue concerns me.

Mr. HELD. Yeah, yeah.

Mr. SIMPSON. We are talking about a \$6 billion difference between your cost estimate and what the GAO said. GAO also said that they found that the NNSA had no in-house capabilities to conduct its own high-quality cost estimates.

Mr. HELD. Right.

Mr. SIMPSON. Because of these differences in these cost estimates, we have asked the GAO for some technical assistance so that we can better understand how those estimates came about, what they are, and how they are changing. What we need is your commitment to work openly with GAO and provide them with details of your life-cycle cost estimates—

Mr. HELD. You bet.

Mr. SIMPSON [continuing]. So we can come up with common numbers so that we know what we are dealing with.

Mr. HELD. You got it.

Ms. HARRINGTON. Absolutely.

Mr. HELD. Within a couple weeks we will have the MacWilliams report out. And so then we can have all the facts out on the table so everybody can then make the good government—

Mr. GRAVES. And might I add, would that include operation or maintenance or retention of this project that is 60 percent complete now? And does that include life-cycle cost?

Mr. HELD. Well, if you are looking at the—

Mr. GRAVES. Because that is a whole other question. Let's assume you go with an alternative, what do you do with the \$6 billion project that is partially complete sitting there?

Ms. HARRINGTON. Well, that actually will be part of the options analysis. We will include that. We tend to focus on the fuel fabrication facility, but we have fulfilled commitments to complete other parts of the project. The Waste Solidification Building, for which I am the Acquisition Executive, will be construction complete later this year. And, as you mentioned, we have continued our work with Los Alamos on the pit disassembly.

So it is not that we are, to go back, we are not scuttling that, the program. It is still under consideration. But as Mr. Held mentioned, it is not just construction. It is the life-cycle operating cost for the fuel fabrication, the waste solidification, the pit disassembly, the entire package of activities. And when you look at a billion dollars a year, that is a lot of money to expect every year for the next 20 years to be appropriated through this subcommittee.

Mr. GRAVES. Thank you.

Mr. HELD. But you have our commitment on openness. This is a big, hard decision, and we recognize it.

Mr. GRAVES. Thank you.

Thank you, Mr. Chairman.

Mr. SIMPSON. Mr. Fleischmann.

Mr. FLEISCHMANN. Thank you, Mr. Chairman.

And, Mr. Held, thank you. You were here this morning, busy day for you all.

And, Admiral, it is good to see you.

And, Ms. Harrington, good to see you as well.

Yesterday, Secretary Moniz indicated that NNSA's Weapons Activities and its Defense Nuclear Nonproliferation Activities help achieve the same national security objective. However, with the amount of nuclear materials that remain poorly secured in countries around the world, budget cuts to materials repatriation and reactor conversions are a serious concern. The NNSA has made clear that more than half of the proposed 20 percent cut to the Defense Nuclear Nonproliferation programs is the result of putting the MOX facility in cold standby.

My first question, whoever would like to address this, what about the rest of the proposed reduction? And can you tell the subcommittee in specific terms how the rest of the proposed reduction is going to impact programs like Materials Protection and Cooperation, the Global Threat Reduction Initiative, and Nonproliferation Research and Development?

Ms. HARRINGTON. Yes, sir, we can. And we can also take that for the record, if you like, to provide more detail.

[The information follows:]

PROPOSED REDUCTION TO DEFENSE NUCLEAR NONPROLIFERATION

The reductions in International Materials Protection and Cooperation (IMPC) and the Global Threat Reduction Initiative (GTRI) programs reflect the return to baseline funding after the acceleration of these programs during the President's four year effort to secure vulnerable nuclear materials worldwide, accomplishing its goals of material removals and building security upgrades by December 2013. Therefore, it was expected that there would be a reduction in FY 2015 funding for Defense Nuclear Nonproliferation activities related to nuclear material removals. In addition, the GTRI decrease reflects the anticipated completion of a major milestone for the development of a new, domestic, non-highly enriched uranium based supply of the critical medical isotope molybdenum-99. With regard to the Nonproliferation Research and Development program (DNN R&D), the decrease reflects concluding field experimentation activities in FY 2014 and delaying other activities into FY 2016 to fund higher, emerging DNN R&D priorities in FY 2015.

In part due to the success of the Nuclear Security Summit Process and the strengthening of other international collaborations through the International Atomic Energy and the Global Partnership, we are seeing greater global attention to and investment in nuclear security efforts. With the budget proposed and by working together with our international partners, NNSA expects to be able to continue its strong support for priority programs. We believe that at this funding level we will still be able to implement a robust set of activities in support of the President's non-proliferation priorities, as well as have the flexibility to take advantages of new priorities and opportunities.

Ms. HARRINGTON. On the Global Threat Reduction Initiative, part of the reduction of that again is the consequence of success. And one of our very major initiatives for a number of years has been to minimize the use of highly enriched uranium in civilian applications. The principal way that we do that is through reactor conversions. Many of those reactors are used for medical isotope production. In particular, the medical isotope Molybdenum-99, or Moly-99.

We now, among other things, are nearing the end of what has been a very successful engagement with U.S. industry to develop new technologies for developing that vital medical isotope that do not involve highly enriched uranium. In fact, we have revolutionized the global approach to producing this isotope, so that if a country decides that it chooses to use highly enriched uranium, it will stand out very clearly that it is making the wrong decision.

So that program we expect to conclude by the end of this year. We know that some of the technologies are already under review by the Food and Drug Administration. So we are very encouraged that this initiative will not only demonstrate U.S. technical leadership, but also set a benchmark for the rest of the world to meet. So that is on GTRI.

For the IMPC, the International Material Protection and Cooperation program, again, we did a strategic review of the Second Line of Defense program in 2012. That review led us to reevaluate both the technologies and approaches to controlling illicit traffic of nuclear and radiological materials. We came out with a much more streamlined approach, based more heavily on mobile units than the fixed units that we had been using previously. We believe that this approach, in cooperation with intelligence and law enforcement, is far more effective in identifying and stopping trafficking. And so

that has changed our funding profile somewhat for that program, but we believe that overall it is increasing the effectiveness.

Mr. SIMPSON. We have got about 10 minutes before we have to go vote and a couple other people we would like to get through the first round.

Mr. FLEISCHMANN. Sure. Okay. I tell you what. Please.

Mr. FORTENBERRY. Thank you.

Mr. SIMPSON. Mr. Fortenberry. Mr. Nunnelee is first.

Mr. FLEISCHMANN. I will yield back.

Mr. SIMPSON. Mr. Nunnelee.

Mr. NUNNELEE. Thank you, Mr. Chairman.

Admiral Richardson, I want to start by talking about the incident out of Charleston, South Carolina, over the last couple of months. Obviously, in order to work in and manage our Nation's nuclear stockpile we need highly competent individuals. And we have systems in place to measure and make sure that we don't admit people to this program unless they have displayed a certain level of competency. Once they get in, in order to advance in management, they show an elevated level of competency. But in order to have the trust of the Nation, we have to have a level of integrity as well.

So given the cheating scandal in Charleston, tell me, what do we do to look at people that come into this program? How do we measure whether we are getting men and women of integrity? Once they are in and they are up for advancement, how do we make sure that we are advancing men and women of integrity?

Admiral RICHARDSON. Sir, thank you for that question. And there is nobody in the country more disappointed with this episode, this incident in Charleston than I am. And regarding the safe operation of the reactors down there, that was my first concern. Our first effort down there was to go down and assure ourselves that we did not have a safety concern. And through our approach of layered defenses, including several second checks on level of knowledge and competency, we did assure ourselves of that. Anybody who was of questionable integrity was removed from any kind of operating position in that reactor until we could fully investigate and either clear them or keep them removed from duties.

With respect to integrity, we have a robust program from the day that they join the Naval Nuclear Propulsion Program, and, in fact, when they join the Navy. It is stressed as one of our core values: honor, courage, and commitment. And so in terms of measuring the integrity, we don't make any assumptions. We start in by reinforcing how important this value is, fundamental to everything that we do.

And so this starts at the Recruit Training Command in Great Lakes and continues in my program for those sailors who come down and join the Naval Nuclear Propulsion Program. It is a strong component of our training down there in Charleston for initial qualifications, and it is a strong component of the continued training as they continue to advance, as you said.

And so we talk about it often. We are engaged in those discussions. We monitor for these things very aggressively. And when we find them, as we did in Charleston, we respond with energy vigorously. And so there is a strong current of this that is constantly

influencing our sailors' behavior, which is why something like this is so disappointing.

We are taking a three-pronged attack in response to this incident. There are some technical solutions here, sir. The cheating involved a written examination. And really I think with a modern system, fully up to date, it should be almost impossible to cheat on a written examination these days. Computers and encryption and password protections. And so there is that technical part of the solution. In fact, we have taken measures already to secure that.

There will be an accountability portion. I am not at liberty to speak at that right now. The investigation has just completed. I am in the middle of adjudicating, in that portion of the investigation where I don't want to jeopardize due process.

The third and most important element of this corrective plan is to do exactly what you mentioned, and Ranking Member Kaptur as well, is to take a strong look at the culture across the program. We do overtly emphasize the importance of integrity, honesty, truthfulness. Our program is founded on that. And so we will continue to reinforce those principles, and we will look to make sure that we are doing that in the most compelling way so that it sticks in our sailors' heads.

We will also take a look around the program to identify and eliminate sort of any obstacles that may be in their way. Certainly they are unintended, but I am not naive enough to think that some bureaucratic obstacles or some unintended consequences of programs may make it more difficult than it should be for our sailors to act with integrity, act in the way that we expect. And so we will do a program-wide look to make sure that we have eliminated those obstacles to the greatest degree possible.

And, finally, we are going to undertake a program both in our schoolhouses and in the fleet, which is an important component of this, to just strengthen our sailors' moral courage so that we get to a position where inside of our program this sort of behavior would just be unquestionable. We can make certainly small performance or material mistakes. We find those and we fix those. That is how we stay safe. But there can be no bigger mistake than to compromise your integrity, to say something that is untrue or be dishonest. And so that is our approach to this problem, sir.

Mr. NUNNELEE. Thank you. If you take that approach, I think the American people will have confidence in what you are doing. Like something as simple as me taking my car in for repairs, to have confidence, because I don't know how cars work, I have to have confidence that when the mechanic tells me I need it done, that it does need to be done and he is going to do it correctly. Well, if that is true for something as simple as car repairs, it is so much more true for nuclear material. And thank you for that attitude, and we will look forward to working with you.

Admiral RICHARDSON. Yes, sir.

Mr. NUNNELEE. Thank you, Mr. Chairman.

Mr. SIMPSON. Mr. Fortenberry.

Mr. FORTENBERRY. Thank you, Mr. Chairman.

Admiral, as a quick follow-up, at your Naval Academy there is a tribute to a commander of a submarine who in World War II they surfaced, they were out on the deck, it was strafed by enemy fire.

And the crew scrambled to get back into the vessel and take it down under. And they realized they had left the captain, who was wounded, on the deck. And the airplane was turning around to strafe them again. And the captain looked at him, he said, take it down, I said take it down. I have forgotten the sailor's name.

But that is the spirit of the Navy and the Naval Academy. You have spoken very eloquently in trying to, as a part of first principles, revive an understanding that is the necessary commitment of all under your command.

Admiral RICHARDSON. Yes, sir. Part of this program, particularly the cultural element, will be to take every opportunity to instill in each of our folks, to reinforce that they are part of something bigger than themselves, serving a greater good.

And, you know, our sailors, they know that. We have a very talented group of people, top-notch people, the best that the country can offer. They have a lot of choices as to where they can go to find careers and they chose to come to us. They have a sense of service when they arrive.

Mr. FORTENBERRY. Undoubtedly. And hopefully this is a very, very narrow exception, and I am sure it is. It just is good that you are stating it so clearly, and I hope you see the story that I just told in the same way.

Admiral RICHARDSON. Yes, sir. That CO, Commander Gilmore—

Mr. FORTENBERRY. Gilmore.

Admiral RICHARDSON [continuing]. Got the Medal of Honor for that act.

Mr. FORTENBERRY. Thank you. Thank you.

I did want to return back to the nonproliferation issue. I committed to Administrator Held, and we had gone over this a bit yesterday with the Secretary. There are two things going on here that are in a bit of a tension, as you stated, Ms. Harrington. One is you have to make hard choices about allocating the resources you have. On the other hand, you are assuring us that we have robust application in the range of nonproliferation initiatives. But you are having to make hard decisions about reducing budgets.

So I am not suggesting that is a dualistic message. I understand the dilemma. The most important thing that we have to do in public service, all of us, is keep this country safe. We are on the verge of a breakout of proliferation of nuclear weapons. Could go either way. We could stop it, we could get smart as an international community, develop whole new platforms and architecture in which countries agree that no one is served with the potential for all of us ending civilization as we know it. This is one of the most essential things, if not the most essential thing that we have to do.

This is why I have come back this year, the third time I have come back to this, because by my calculations, roughly, based upon what Ms. Kaptur said, it is a \$200 million or so reduction removing the MOX Facility from the equation, across your—I think there are six platforms of nonproliferation initiatives.

My earlier question, and I am sorry we don't have much time, to Administrator Held was, regarding the interface between these programs, so I can have a better understanding, what are the emerging threats? How can we creatively think with you again

about new platforms to ensure that we do have robust resources applied to these emerging threats? Not next year, right now, because we don't have time not to do this.

Ms. HARRINGTON. No, I can do nothing but agree with you on that. And I think the Secretary may have mentioned in his testimony yesterday that we, in fact, are taking a look at this function within the Department to make sure that we are factoring in emerging threats, that we are looking internally at how we are structured, how we are organized, what our capabilities are, and what adjustments might need to be made in order for us to meet those emerging threats.

I think we have a reasonably good handle on what they are. But part of that emerging threat landscape is what we call the unpredictable event. The Arab spring. Russia invading Crimea. These are things that are not in the planning scope.

We are beginning the 2016 budget exercise as we sit here in this hearing. And if we had been here 2 years ago we wouldn't have been able to say, well, when Russia invades Crimea we are going to do this. Those events require that we be structured in a responsive and flexible way, and we are looking at how best to be able to do that and look forward to working—

Mr. FORTENBERRY. Well, I want to work on that with you, not in oversight of you, but with you, in partnership with. This is too critical for us to sit up here above you and look down and get answers. That ought not be, as the chairman has rightly said, the relationship we have.

And it does concern me that—again in the tight budget time you are setting priorities and you have got people pulling you in every direction—we have got a \$200 million reduction here and yet significant needs. Maybe we should come back to this.

Mr. HELD. May I say, I think, as the Secretary said yesterday, there is real pain in these budgets, and we are working within caps. NNSA overall got a 4 percent increase, and you see kind of a wide variety, from 26 percent for Naval to minus 20 for Nuclear Nonproliferation. I think it was a very rigorous process. And I think the reason we end up getting the net 4 percent increase, within the executive branch anyway, I think there was really kind of a respect. This was a really rigorous process, and they made some tough decisions.

Mr. SIMPSON. We have 53 seconds to go to vote, so we are going to adjourn now for just a few minutes. We only have two votes, so we will be over to vote, cast the second vote, and we will be right back, so appreciate it. Thank you.

[Recess.]

Mr. SIMPSON. Call the hearing back to order. I thank you for waiting for us while we went through that—they make us vote, and you know, it always interrupts our schedule.

Let me ask you a couple of questions. First of all, Admiral, previously the subcommittee has asked you about your discussions with the State of Idaho in modifying the settlement agreement to support your plans. Everyone has been operating under the assumption that Idaho does not want Naval Reactors to halt operations in 2035, but the legal requirements in the settlement agreement will place restrictions on the Navy spent fuel shipments. You

have provided testimony in the past that there is agreement between Naval Reactors and the State of Idaho on expectations for program operations at NRF beyond 2035. Can you please explain how the current settlement agreement applies to the Naval Reactors programs beyond 2035?

Admiral RICHARDSON. Sir, first, we are in—we have a very good relationship with the State of Idaho, as you know, sir, and one of my first things that I did when I got to the job is to go visit Governor Otter. We are working right now to get a chance to meet him, or at least I have a phone call with him in light of current events, and we think that—well, there is a lot of uncertainty beyond 2035, certainly, as we think about, you know, the—a repository and those sorts of things.

What I have sensed, and I think it is valid, is that we—the State of Idaho understands, you know, where we stand with finer repositories and things that are within our span of control and things that may not be within our span of control. What we have got is, you know, certainly, we will continue to do business in a safe and reliable manner. We will continue to be a solid employer and a contributor to the region there in eastern Idaho and will continue to keep open lines of communication with the State of Idaho. And I will look, you know, forward to addressing that in this upcoming meeting with the Governor and keeping those lines of communication open as we navigate through this very dynamic situation.

Mr. SIMPSON. Appreciate it. We have always had great relationships with the Navy and the work that you all do there. You proposed the new pool at the INL.

Admiral RICHARDSON. Yes, sir.

Mr. SIMPSON. You proposed it in past years.

Admiral RICHARDSON. Right.

Mr. SIMPSON. And so far, we have not taken it up to final. We just, like everything else, haven't had the money to do it. What happens if we don't start the design and construction in this budget? What if this committee says we don't have the money, let's not do it again this year, we will push it off till next year?

Admiral RICHARDSON. Right.

Mr. SIMPSON. What does that do to refueling for the Navy?

Admiral RICHARDSON. Well, eventually, I would say that the—I will just address your question, sir, by going to the motivation for this project. You know, as I said in my opening statement, the current pool—and I look forward to our visit there together so we can walk you around and show you the facility, is the oldest pool of its type. It is approaching 60 years old. It has 100 cores of spent naval nuclear fuel inside this pool, and it is starting to show its age. It has been showing its age, and it is becoming more and more expensive to operate reliably. So, from a stewardship standpoint, we think that, you know, it is time, it is past time, actually, to get going on an upgrade, a new pool.

When we approached this problem, we did a full business case analysis of upgrading our current facility, using another facility say at INTEC or one of those places or building a new pool, and both from a business standpoint and a cost benefit standpoint, the decision was that it would be best to construct a new facility. So there

is this stewardship standpoint to make sure that we can continue safe and reliable operations.

There is, as you mentioned, an impetus from continuous fleet operation. So, you know, as submarines and aircraft carriers, in particular aircraft carriers, come in for refueling or defueling, that is the final end point of that cycle, and so those cores get shipped in up to Idaho and put in that facility. The most stressing case is the aircraft carrier refuelings, which are heel to toe as the Nimitz class continues on their cycle of refueling, and then, in that sequence, we also need to defuel the USS Enterprise after her 51 years of service. And so there is this steady stream of fuel that will be coming off of the carriers and up to that facility.

The current facility is unable to process that fuel. You know, the aircraft carrier fuel is just dimensionally too long to be processed in the current facility, and so, you know, the choice is, we either have to find some kind of a relief valve for that fuel cycle, and that is what we have done. We have built these temporary containers, 350 million spent on those, for the sole purpose of storing this fuel, which you know, if we had sort of executed on schedule, would have been processed and those containers would not have been necessary. So, for each year we delay, we continue to incur that unneeded cost, and so we are talking about—you know, in our budget this year, for instance, sir, is \$145 million to progress the project and between \$100 million and \$150 million to not progress the project, and that is some cost.

The third thing is the relationship with Idaho, and I think that in terms of meeting the element of the Idaho agreement to get fuel into wet storage and then out again into dry storage, this facility is needed to meet our commitments there as well. So, from an environmental and personal stewardship, from a fleet responsibility and also from our responsibility to the State of Idaho, you know, we are 4 years late from our plan to get this done.

Another year's delay, you know, a project of this magnitude, and we have talked about other projects like that, they become much more difficult without commitment and certainty, and I think that another year delay would be, you know, a signal, so all of our—the people that we have lined up, which is near zero now, you know, that last thread of commitment, I fear that it would be broken and people would just go on to other projects, and we would eventually have to start from ground zero to get this project going again at some time in the future, so—

Mr. SIMPSON. Okay.

Ms. Harrington, you mentioned they have already shipped about 5 metric tons of spent fuel to DOE sites as part of the Global Threat Reduction Initiative. Now you have, as you mention, the new deal—with Japan, Italy, Belgium to ship this material to the United States for us to take possession of it. What are we going to do with it? Where do we put it? Is it going to South Carolina? Going to Idaho? Where is it going? And where we can't seem to find a place to permanently—a geological repository that, I mean, as Congress fights back and forth with the administration and vice versa between Republicans and Democrats, all of that that is going on, and we can't come to an agreement on where to store the spent nuclear fuel we have currently in a geological repository, is it wise

for us to be taking this material in without some path to disposal that we have no idea what it is yet?

Ms. HARRINGTON. Again, I wish my friend Pete Lyons were here with me because this is a topic very much on his mind, and I am sure you know, very much on Secretary Moniz' mind, this challenge that we have globally in the United States of how to resolve the back end of the fuel cycle.

On the material that we bring back, it is two different kinds. We bring back highly enriched uranium, and we bring back smaller amounts of plutonium. Highly enriched uranium goes to Y12 and is blended down into low enriched uranium or otherwise stored normally at Savannah River in L Basin.

Mr. SIMPSON. So this will go to Savannah River?

Ms. HARRINGTON. Some of it may. The new material from Japan, well, this is a multiyear process between now and 2019, which is the projected amount of time it will take to bring it back.

Mr. SIMPSON. I am just curious what Savannah River is going to say about bringing more material into Savannah River when at the same time we are proposing to shut down MOX. They probably have a little bit of a different opinion about MOX than has been proposed in the budget.

Ms. HARRINGTON. Well, in terms of the strictly legal requirements and legal agreements, the situation with the State of South Carolina is—you know, concerns defense related plutonium. The material that we bring back is civil plutonium, and you know, so there is a slight difference in color.

But I would go back to what Admiral Richardson said. Our relationship with the States on all these issues is incredibly important and definitely is not something we take for granted. I saw earlier in the week where Governor Perry of Texas made an announcement that Texas, through its process, he was encouraging Texas to take a look at whether Texas should look into a high level waste—

Mr. SIMPSON. It is a big state.

Ms. HARRINGTON [continuing]. Facility of some kind. And you know, it is refreshing for once for people on our side of the table to hear somebody say that they would be willing to consider it, because that is often not the case. We think it is the case sometimes because people don't fully understand the high degree of safety that we apply to our facilities, and in some cases, the economic opportunity. But each one of these cases is dealt with separately, and you know, we do consult with the States involved. Obviously, we keep the final details of movements very confidential because of operational security. We are moving it because we want to keep it away from terrorists, not give them a new opportunity.

Mr. SIMPSON. Well, I appreciate that—Congress has to step up to the plate and resolve this debate about what we are going to do about the end of the fuel cycle with this material. And no matter what we do, there is going to have to be a place where we put some stuff that we don't know what else to do with. That means geological repository. Does that mean Yucca mountain, does that mean pilot programs for storage and whatever the Blue Ribbon Commission was recommending? Somehow we got to get by this calling

each other names and find a solution because it is going to hamper everything else we do.

One other question on the MOX facility. Is there a commercial market for MOX fuel?

Ms. HARRINGTON. Well, as you may know, MOX is used commercially in many reactors. The French have marketed the fuel for a number of years, a number of decades at this point. Russia certainly seems to be headed in that direction in how it is approaching mixed oxide fuel, so there certainly is a global demand. Within the United States, as you know, we have worked very closely with TVA. We believe that were we to go forward, we could probably reach an agreement with TVA on use of some of the material, and we have worked very closely with the contractors and AREVA, in particular, in terms of looking at utilities across the United States that are interested.

So, once a commitment is made, once there is material available, I believe that, yes, we would have a market. Would we have to subsidize some of that? Our assessment is that we would, at least to something less than the current price of uranium.

Mr. SIMPSON. Well, there has been, as I understand, on your desk since 2011 a request to begin the fuel qualifications, asking to go out and seek contracts for the use of the MOX fuel.

Ms. HARRINGTON. Well, we have done fuel qualification previously using fuel fabricated in France and then brought over here, but that was some time ago. I could go back and answer this in more detail on the record for you if—

Mr. SIMPSON. Okay. I would do that. It is—because as I understand it, they can't go out and contract with entities that own nuclear power plants for MOX fuel until you signed off on this—I don't know exactly what to call it, but it has been on your desk since 2011.

Ms. HARRINGTON. Well, there is a marketing agreement that—

Mr. SIMPSON. Maybe that is it.

Ms. HARRINGTON. Yes, that we have looked at with them, but under the current circumstances, you know, there are still some issues to be resolved in that, but we can get you more precise information.

Mr. SIMPSON. It has been 3 years since—I mean, if it has been on your desk since 2011.

Ms. HARRINGTON. It has been—it has been under negotiation since 2011, but there have been changes along the way.

Mr. SIMPSON. Okay. Appreciate it.

Ms. HARRINGTON. Uh-huh.

Mr. SIMPSON. Ms. Kaptur.

Ms. KAPTUR. Thank you, Mr. Chairman.

I just wanted to ask any one of the witnesses, on having a U.S. capacity for enriched uranium, it seems to me that there has been some disagreement over the years as to what is the appropriate position for the government to take. There are some that would argue that in fact there is so much on the commercial market now, that you really don't need to have any capacity that remains domestically here; that if the need happens, the commercial market will produce it.

Do you feel that with uranium—with enriched uranium, we need—that there is something special about defense that we have to maintain some sort of capacity even at a time when the market has plenty of supply? Is there some inherent set of technologies or national interest that would supersede just waiting for the commercial market to provide it at such times as it would be needed? Can anyone comment?

Mr. HELD. I believe the Secretary addressed that yesterday, made it pretty clear. He believed so. He believes there is a defense, national security argument for having that domestic capability.

Admiral RICHARDSON. Ma'am, I would just second that from our perspective. We have, you know, a period of time where we can sort of use current reserves, but after that, there is—there is nothing out there, so we will need some kind of a production facility, you know, beyond that—after we use that stockpile.

Ms. KAPTUR. And from what you know, Admiral, is there anything unique about enriched uranium that would be used in your operations versus what would be used in commercial operations.

Admiral RICHARDSON. Well, we have, you know, the military concern and what we call the footprint, you know, the size of the reactor, the energy that its required. We currently use highly enriched uranium to meet—and the safety dimensions as well, and so that is—that is our current model. It has been our model since the start, and so I would say that we have a unique requirement there, yes, ma'am.

Ms. HARRINGTON. If I could add, when moneys are appropriated, we sometimes say that they have a certain color. They have attributes of the appropriations bill that they were in. They could be 1-year money, no-year money, et cetera. Uranium is the same. When you enrich uranium, it can be either obligated or unobligated. Unobligated means that, it basically has no restrictions on it. It was produced in an American facility using American technology, and because of that pedigree, we then are able to use it for defense purposes.

Material that is obligated and intended for use in the civil sector doesn't cross over into the defense sector. For example, when we bring material back from a country that is highly enriched uranium but was used in a civil program, even if it is fresh fuel, when that comes back to the United States, it can still only be used for civil purposes. We can't just hand it off to Admiral Richardson for defense purposes, and this has to do with the whole set of peaceful uses agreements under which these materials are first provided and then recovered.

So, there is—there are a lot of legal aspects to how these so-called flags are put onto pieces of uranium that do limit what can go into the defense sector.

Ms. KAPTUR. I thank you for that clarification very much. I want to ask a question about countering nuclear material smuggling in Eastern Europe.

Ms. Harrington, in the past, Russia has been unwilling to share law enforcement information on nuclear smuggling with the United States and our allies in Europe. Considering the events in Ukraine, Russia stands to become even further cut off. How do we counter nuclear smuggling in Eastern Europe with an uncooperative Rus-

sia, and is there additional work we can do in Ukraine to bolster our line of defense?

Ms. HARRINGTON. Russia—you know, it is up to each one of our partners to determine what sensitive information they do or do not share with us. We do have some countries we work with who are much more willing to share that information. Unfortunately, Russia is not one of them. What we can do, though, is work with our other partner countries through a number of mechanisms, either bilaterally or, in recent years, it has become very successful to work through what we call the global partnership. And there we have been able to leverage our programs and taxpayer dollars with inputs from other countries like the U.K., Canada, European Union, and so forth, and so we were able to reenforce the capabilities in countries like Ukraine.

Ms. KAPTUR. Thank you.

During the rollout of your budget, you stated that there were projects that had been conducted in previous years that would simply not be able to move forward under the new Multilateral Nuclear Environmental Program in the Russian Federation. That is different from what we were originally led to believe, that the NNSA projects would not be impacted and that Russia had agreed to a legal framework to continue those projects. Can you please clarify what projects NNSA is able to accomplish in Russia under the new agreement, and how does the new agreement differ from the Cooperative Threat Reduction?

Ms. HARRINGTON. So the new framework for our work with Russia is slightly different from the Cooperative Threat Reduction Program, but for us, it consolidates nearly all of the work that we were able to do under the Cooperative Threat Reduction Program and also opens doors for some additional work. The biggest impact of the new arrangement is that the Russian Ministry of Defense chose not to participate under it. We are still hopeful that we can engage with the Ministry of Defense through other channels, but that means that a small amount of the work that we had been doing in Russia that involved the Ministry of Defense facilities will not continue under this new agreement. Some work, however, will continue because the Ministry of Defense has transferred the authority for that work to the Rosatom Organization, so that work will continue but under different supervision on the Russian side.

Ms. KAPTUR. Do you have any concerns about any of our employees in Russia?

Ms. HARRINGTON. As of now, we have not had—we have not had any problems or difficulties, and all recent meetings have been carried out very cordially and cooperatively.

Ms. KAPTUR. Not knowing what the future is going to bring, do you feel that NNSA has already been able to secure the most high-risk materials in Russia or are there notable risks that remain?

Ms. HARRINGTON. There are notable risks that remain. There are still a great many sites that contain nuclear weapon capable materials. A next step in our work with Russia is to try to consolidate those materials into fewer facilities that are better guarded and better secured and, most importantly, to get to the point where we feel confident that Russia is committed, both in terms of the budget

as well as its own security culture, to maintaining the standard of security that we have helped implement in that country.

Ms. KAPTUR. There has been a suggestion that Russia would have demands in return for being cooperative in changing the terms of the MOX agreement. One is that Russia would have the right to repudiate the provision prohibiting spent fuel and blanket reprocessing until the full disposition of the 34 metric tons of excess plutonium is over. Do you have any comments on this suggestion?

Ms. HARRINGTON. That suggestion is something I have never heard from the Russians, so unless they were to raise it, I am not sure where that came from. If they were to ask to do that, I think that that would require a very serious conversation on our part because that is one of the main objectives, of course, of plutonium disposition is to prevent the further breeding of plutonium during the period of disposition.

Ms. KAPTUR. If you were to describe to a world that knows nothing about spent fuel, how would you describe—you mentioned for 20 years, you spent two decades of your life working in this arena. Looking globally on material that is out there and needs to be put in safe hands, how well have we done at bringing it to places of safekeeping? How could you describe the quantity in various categories, and how well is the world doing?

Ms. HARRINGTON. To really answer that question in full probably would require a classified briefing on that, which we would be happy to arrange with you. I would say that internally, the Department, as we look at the future and what we will have to face, one of our big concerns is the countries that, despite the Fukushima disaster, are still determined to go forward with building nuclear power plants but that have had no prior experience with nuclear technology and managing nuclear facilities. And so we are looking forward at what we can do in those areas, working collaboratively, again, with our colleagues in the Nuclear Energy Office to ensure that those facilities are brought online and are properly safe, that the safety, the security, the safeguards, emergency response, all the components that you need to have in place to properly manage a nuclear facility are there before they start. That, to us, is one of those looming challenges on the horizon that we have yet to meet.

Ms. KAPTUR. Thank you.

Thank you, Mr. Chairman.

Mr. SIMPSON. Mr. Fleischmann.

Mr. FLEISCHMANN. Thank you, Mr. Chairman.

Ms. Harrington, I believe in your opening remarks earlier, you referred to the summit in the Hague last week. The President attended the 2014 Nuclear Security Summit. I have a four-part question. What were the accomplishments of the Summit? That is my first question. My second question is, what role will the NNSA have in moving forward with the agreements made? Third part of that question is, what pledges were made that would require funding, and the fourth part of that question, are any of those pledges in jeopardy with the reductions in the budget request?

Ms. HARRINGTON. That requires a long and very detailed answer that I will be happy to take for the record. I can give you a quick overview, though, if you would like.

Mr. FLEISCHMANN. That is fine.

Ms. HARRINGTON. As I mentioned earlier, one of the major successes of the Nuclear Security Summit process has been the activation, the energizing of this group of nations to not just improve their own practices but to work with other countries to improve theirs. So, in addition to the communique, and we can provide all of these materials for you, there were a number of what we call gift baskets, and let me try to explain what a gift basket is.

A number of countries, one or several countries will sponsor a concept, an idea. For example, at the Nuclear Security Summit, we had gift baskets on countering nuclear smuggling, on improving maritime security, on radiological source security. Countries will offer this up basically for other countries to sign up to.

So, we had a number of those, new ones. We had ones from the previous summit that more countries decided that they would sign up to, and even though these are voluntary actions, what we have seen as a result of the voluntary actions is real difference in the way regulations are being written and passed and enforced in countries, in the way security is being designed for nuclear facilities, in levels of cooperation, cross border, on things like illicit trafficking. And so that is, I think, the lasting impact that the summits will have, but we certainly have a more detailed breakdown of what was accomplished at the summit, what were some of the announcements, and what part we will be playing in the future.

For example, one of the major new—well, two of the major new ones, radiological sources and maritime security, those are areas of activity that directly fall under the Nuclear Nonproliferation Office.

Mr. FLEISCHMANN. Okay. Another question. I think most of us, if not all of us, especially me, views Iran as a major danger in the world. It is a danger in the region. It is a danger to the world, their rhetoric, their actions, as they attempt to move forward with their program.

In fiscal year 2014, there was language permitting you to use up to \$5.5 million to support work on Iranian safeguards should an agreement be reached. Three-part question. How might NNSA play a role in creating and enforcing nuclear safeguards in Iran? Do you have any plans for the use of those \$5.5 million in funds? And do you know how much funding NNSA might need to fully support an Iranian safeguards agreement?

Ms. HARRINGTON. An excellent question, and we can only hope that we will be in a position to be able to contribute to such an effort. Our hope, and as you might expect, our Secretary, our Deputy, Acting Administrator Held and I have all been very involved in the White House led discussions on how to move forward with the 5+1 or E3+3, whatever mathematical formulation you prefer, with that effort having at least gotten the Iranians to the table for a first 6-month round of talks. If those are successful and we then look forward to a 20-year long-term plan, then we definitely will need the resources to be able to support that through the IAEA. The IAEA will take the principal role; safeguards is their responsibility. We do a great deal of work under our programs on the R&D to develop new approaches to safeguards, and much of that goes directly into the IAEA technical toolkit, so we would definitely be happy to contribute to that effort.

Mr. FLEISCHMANN. Thank you, Mr. Chairman.
I yield back.

Mr. SIMPSON. Mr. Fortenberry.

Mr. FORTENBERRY. I want to return to the earlier conversation about the various platforms that we have for nonproliferation. Of the key five programs, nonproliferation, verification, R&D, you were just talking about this in terms of that technology being a part of our contribution, the IAEA—I will come back to that because I want to know how the relationship with the IAEA is integrated into Department processes and procedures.

Nonproliferation, International Security, International Materials Protection and Control, Fissile Materials Disposition, the MOX program falls there, and then the Global Threat Reduction Initiative. Walk through this in more detail so that I can have a comprehensive understanding as to how you manage these programs and their overlaps, but then return to the broader goal that we are trying to get to of decreasing the possibility of a nuclear explosion that is a threat to all of us. Not just in terms of the safe handling of material but preventing the proliferation of the material and preventing the actors who now have resources and maybe even a disposition from using it. This is back to that earlier conversation we were having. This has to be the strategy. This has to be the goal we constantly think about.

There is a tendency we all have to focus on that which is already established and has precedent, and how much are we going to give, and how much are we not going to give. And I will raise the concern again that obviously we are—seems to me, were constraining these programs, given the budgetary situation, and is that prudent in light of what we must do to secure nuclear materials and prevent proliferation?

Ms. HARRINGTON. I am looking through this because I want to go back to something that was in my opening statement, and I think this goes directly to the point that you raised. You know, the way our organization evolves—

Mr. FORTENBERRY. Which is a nice way of you saying I should have been here for it, right. I am sorry I didn't have the benefit of your earlier perspective.

Ms. HARRINGTON. I was going through it very quickly. You wouldn't have noticed anyway.

Mr. FORTENBERRY. I see.

Ms. HARRINGTON. But this goes back to the earlier point about, how are we organized, and how are we going to meet all of these challenges. And we have done a lot of—we have been very introspective in terms of looking at where did we originate, and it was really around the collapse of the Soviet Union. And you see, beginning in about 1992, you know, a task force here and then an office set up there and then something else, and then you split it into two pieces because it has got slightly different missions. And it grows over time, and then it does a good job and a 9/11 happens, and a huge shift in the threat environment evolves. And so what we are looking at is, did we evolve sufficiently along with that threat environment and not only the one we are in now but the one that we expect is coming? And so we have made a conscious effort internally to think less of ourselves as program stovepipes and more of

ourselves in terms of what are our capabilities. What are the capabilities we currently have, and what are the ones we need for the future? And you are very right.

And in that analysis, we have looked across our programs and have seen where, you do physical security here, and you also do physical security over here, and this third office actually goes and does assessments of physical security adequacy. So that raises to me, as a manager, is this well organized? And so we are going through this process with Mr. Held, with Secretary Moniz, with Deputy Secretary Poneman to really dig into, how should we be best organized to meet these issues? It may be that at some future point, we will come back to this committee with a budget request that doesn't look exactly like this one anymore, maybe has different titles, different names, but this is something I am delighted that you are interested because this is a critical element to how we will cast our future, and we would like to work with you on this.

Mr. FORTENBERRY. I am new to this subcommittee, but I did tell the chairman that I am interested in this area, and he said, "Please apply fresh eyes to it." So I, again, want to do this in the spirit of cooperation and trying to think with you, not to project on you some answer because none of us has a clear answer, but to do the scenario analyses based upon what we can project coming, particularly the worse-case scenario, proliferation of fissile material, the technology that—for nuclear power that can create again a short sprint to weapons capability, transnational actors that can obtain this stuff. You know, we can have a certain leadership role, the Nuclear Security Summit, was a good example of that, but you know, if Russia and China—France has a different disposition—sells the stuff without adequate safeguards, we can do all that we can, but it is, international stability at its core, is threatened if there is not some new international paradigm coming quickly to meet these challenges.

In that regard, I wanted to, yes, return to what you were talking about earlier in terms of technology, evolution that could continue down a pathway of nuclear power but make it safer to manage and prevent the proliferation materials, small-scale reactors.

Mr. HELD. Yeah, I think—

Mr. FORTENBERRY. I assume that is what you want to talk about.

Mr. HELD. You read my mind. If America is not in this civil nuclear energy industry, then we will be chasing the problem, we will not be solving the problem, and so—

Ms. HARRINGTON. Yes.

Mr. HELD. And Anne and Pete Lyons have been working really creatively to think, okay, how can we get these synergies? How can we start molding the problem, not responding to the problem? And in fact, the budgetary environment right now is a creative force. It is forcing us to think about different ways to look at things.

Mr. FORTENBERRY. Very generous way of you to put it.

Mr. HELD. Well, it is also a necessity, right, because necessity is the mother of invention. The absolutely amazing thing about our internal budget discussions, which are, again, very painful, we have wide disagreement. As an organizational building thing, it was a very positive experience. It was a very positive experience, and because we started actually talking more and starting to think,

okay, how can we cause or solve different problems, and we are not totally there yet, and so we would more than welcome your interest in this because this is going to be real interesting and a big deal.

Mr. FORTENBERRY. Mr. Chairman, if you would indulge me for one more moment, please.

Mr. SIMPSON. Okay.

Mr. FORTENBERRY. In this regard, again, not only the thinking about how we have appropriate nuclear safeguards, safeguarding material, entering into agreements with other countries, but really elevate this to the essential questions when we are dealing with all types of other international interactions, should these be a core component of any kind of trade consideration agreements, for instance? Tying it to aid, making it a necessary component of mutual security agreements moving forward? In other words, let's don't set this off on the sidelines to clean up in the wake. Let's put it out front because if we are going to achieve this goal of international stability and somehow manage the technology without it going awry, something has got to shift quickly. And I recognize the President's initiative in the Nuclear Security Summit and his clear rhetorical framework is trying to provide that leadership, but we can't let anything happen. We can't react to this. We must prevent it. This is how severe this is.

So back to Congresswoman Marcy—Ms. Kaptur's—sorry, Marcy, to call you by your first name.

Ms. KAPTUR. Everyone does.

Mr. FORTENBERRY. Yes. Okay. Your point to her about a classified briefing, very quickly, on some of these things, in addition to what the Secretary apparently has latched onto regarding engaging us in some more of these processes that might have to be in another forum and setting. I welcome that, but again, not in the next round of budgetary hearings. We have got to move.

Thank you, Mr. Chairman. I am done. Yeah.

Mr. SIMPSON. Thank you. I appreciate that.

And we can arrange for a classified hearing on these—on these types of things. We do that kind of thing.

Mr. FORTENBERRY. Right.

Mr. SIMPSON. Admiral, the past few years, the infrastructure portion of your budget has grown significantly. In the fiscal year 2014 budget, this subcommittee has directed you to prepare a 10-year infrastructure plan for Naval Reactor sites because we haven't heard the details of your overall vision of Naval Reactor sites and where they need to be over the next 10 years. We need that for a projection of our budget and what it is going to. What is your vision for the Naval Reactor sites and what major investments need to be made, you can either talk about it now or you can submit your plans for the record so that we would have something, whichever—

Admiral RICHARDSON. Certainly. I will be happy to submit in detail our plans for the record, and you know, again, I go back to the comments made earlier. In terms of the plans that we have in place, first and foremost is this spent fuel handling project that we have discussed. There are some other major projects up in New York to support the refueling of the SAT prototype. There are some necessary security upgrades and those sorts of things that we are

trying to get done, but I will be happy to provide that 10-year plan in detail.

This, as I said, has been an area of significant turbulence as we have tried, you know, to just navigate through, you know, the budget environment of the past few years, and so this has been an area where we have gone to, as I mentioned, prioritize higher—I am sorry, fund prior priority work, and from that, all of those plans are—they are subject to constant sort of perturbation, modification, but we will give you our very latest and give you as much insight as you need, certainly, sir.

Mr. SIMPSON. I appreciate that. Thank you.

Marcy, do you have any other questions?

Ms. KAPTUR. I have no other questions.

Mr. SIMPSON. If there are no other questions, again, I would remind the witnesses to please have all responses to questions to the committee within 4 weeks from the date you receive them. We appreciate it very much.

Obviously, the work that you all do is very important to the committee. So we want to work with you to make sure that this agency does the job that we all hope it will do and you will all be successful in the work that you do, so I appreciate you being here today, and we will be in constant contact with you, and we will probably set up a classified briefing before too long because it sounds like some of the members want one. Thank you all.

QUESTIONS FOR THE RECORD
SUBCOMMITTEE ON ENERGY AND WATER DEVELOPMENT
HOUSE COMMITTEE ON APPROPRIATIONS

NATIONAL NUCLEAR SECURITY ADMINISTRATION:
DEFENSE NUCLEAR NONPROLIFERATION AND NAVAL REACTORS FISCAL
YEAR 2015 BUDGET HEARING

APRIL 3, 2014

NAVAL REACTORS

HIGH RATE OF GROWTH OF BUDGET REQUEST

Subcommittee. Admiral, the rate of growth of your budget request is very high – 26% percent over last year's level. Because these high rates of growth are being requested under dwindling caps for defense, this subcommittee has been unable to fully fund the request for Naval Reactors and has made the tough decisions to ensure our highest priority needs are being met.

If you do not receive your full budget request in FY 2015, will you reevaluate how you have sequenced activities or conduct a more basic programmatic review to reconsider your planning basis?

Admiral Richardson. If Naval Reactors is not funded at the FY15 requested funding level, we will prioritize the available funds to the highest priority work within the constraints of the budget categories the Committee has recently required. Naval Reactors' FY15 budget request represents a \$270M increase over its FY14 funding level. Without this full funding, impacts to major work efforts will result since Naval Reactors does not have the flexibility to absorb these work efforts. For example, Naval Reactors base funding supporting the existing fleet and laboratory operations has been reduced by over 20% in real terms since 2005.

Naval Reactors conducts internal comprehensive reviews of all planned activities twice each year. In addition to these periodic reviews, Naval Reactors has conducted several comprehensive reviews of its funding requirements over the last decade. In addition to identifying funds to address increased requirements such as start-up of dry storage of spent Naval fuel in Idaho, and recapitalization of our 60+ year old infrastructure, Naval Reactors has undertaken several efficiency efforts to reduce overall program costs. These efforts have consolidated our procurement activities into one prime contractor and further consolidated our prime contractor laboratory activities. Therefore, there is no further room for reducing these base operating costs without major impact to our fleet support and nuclear operator training efforts. Additionally, over the last few years, we have taken on three new projects (OHIO-class Replacement Reactor Plant Design, Land Based Prototype Refueling Overhaul, and Spent Fuel Handling Recapitalization Project), representing the largest project workload in the

last 20 years for Naval Reactors. If Naval Reactors does not receive its FY15 requested level of funding, we will need to further delay or reduce our project investments resulting in major impacts to nuclear operator training, strategic deterrent capabilities or spent nuclear fuel storage.

Naval Reactors' programmatic and funding requirements were also independently reviewed by DOE and DOD's Office of Cost Assessment and Program Evaluation (CAPE) in 2012. This review validated NR funding requirements consistent with those included in our FY2014 budget request.

Subcommittee. Have you conducted any reviews to date that show the impacts to the long-term goals of the Naval Reactors program if this rate of growth cannot ultimately be supported?

Admiral Richardson. Yes. Naval Reactors funding requirements are the minimum necessary to adequately support the existing nuclear fleet, train nuclear operators, support nuclear technology development, minimally sustain our aging infrastructure, meet emergency planning requirements and safely store spent nuclear fuel. Each year in preparing its funding request, Naval Reactors reviews what work is required to support the safe and effective long term operation of the nuclear powered fleet. Efficiencies achieved in operations and elimination of low priority work are factored in to these yearly reviews. As a result of reduced funding over the last several years, Naval Reactors has deferred needed infrastructure maintenance and recapitalization, and long term technology development efforts to the maximum extent possible. Further reductions will fundamentally alter Naval Reactors' ability to adequately support nuclear powered ship operations since long term technology investment does not support further nuclear propulsion advancements for the fleet and additional reductions in infrastructure funding will result in increased emergent shutdown and repair of laboratory training reactors and spent fuel handling facilities.

Reductions in project funding will also result in major impacts. For example, if the OHIO-class Replacement is not fully funded in FY16 and out, we expect delays to continue until full funding is provided. The additional delay to the Spent Fuel Handling Recapitalization Project jeopardizes support of nuclear powered warship refueling as the current Expended Core Facility ages and project delays will require the Navy to procure additional containers for temporary storage of spent fuel at a cost of \$100M-150M per year.

SIMULTANEOUS MODERNIZATION OF REACTORS AND INFRASTRUCTURE

Subcommittee. Admiral, there has been a massive debate over the NNSA's life extension plans and major construction projects, not to mention Government Accountability Office, Inspector General, and other organizational studies.

Has there been a similar study of NR's desire to simultaneously design new reactors and modernize its infrastructure?

Admiral Richardson. Over the last two years, the need and funding levels for the Land-based Prototype Refueling Overhaul, OHIO-class Replacement, Spent Fuel Handling Recapitalization Project, as well as NR's base funding were validated by NNSA, DOE, and DOD. The timing of these new projects and facility recapitalizations is dictated by fleet strategic deterrent and nuclear operator pipeline requirements as well as the necessity to properly maintain laboratory and spent fuel handling facilities in a manner that allows prompt and technically robust response to emergent fleet issues.

Subcommittee. Was consideration for the infrastructure of Naval Reactors included in the Nuclear Posture Review? How did that review drive requirements for Naval Reactors?

Admiral Richardson. The nuclear posture review looked specifically at the Nation's Strategic Requirements for nuclear weapons. The nuclear posture review did not address the infrastructure at Naval Reactors' sites, which support nuclear propulsion only.

UPDATE ON THE OHIO-REPLACEMENT

Subcommittee. Admiral, your budget request contains \$156 million, a \$30 million increase, to provide the fourth year of funding for the development of the reactor for the Ohio-replacement ballistic missile submarine.

Can you provide the multi-year funding needs to support the Ohio-replacement over the next ten years?

Admiral Richardson.

FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25
\$156.1	\$186.8	\$213.7	\$156.7	\$138.0	\$75.5	\$64.7	\$55.0	\$53.9	\$52.9	\$45.6

Subcommittee. Are the outyear funding needs fully identified in the five year plan?

Admiral Richardson. No. Based on OMB-directed funding targets for NNSA, NR applied a shortfall of \$270M to OHIO-class Replacement funding requirements in FY16-20. That choice, based on Program priorities, was made to protect critical funding for NR’s base operations including operations and infrastructure . Funding levels for OHIO-class Replacement in FY16 and beyond will be part of the discussions and deliberations during the FY16 budget formulation.

SAVINGS AND EFFICIENCIES

Subcommittee. Admiral, this Subcommittee is aware of the challenges that your program is facing under the budget constraints for defense. We've had to make some tough choices on priorities in order to pass funding bills at current spending levels. We've also called on your leadership and expertise to help solve some of the problems posed by such a challenging fiscal environment.

Does this budget request shift any schedules or include any changes to requirements or scope of work from what you had previously planned?

Admiral Richardson. The schedule shifts reflected in this budget request are those that result from requirements that were not funded in FY13 and FY14. The Spent Fuel Handling Recapitalization Project has been delayed by an additional two years, resulting in an increase in project costs and \$200M of costs to the Navy to procure additional shipping containers for temporary storage. Other significant impacts include prototype maintenance and a high-performance computer that will need to be reconciled if other sources of FY14 funding outside Naval Reactors are not found. Finally, a variety of maintenance items and planned replacements for failing infrastructure have been deferred, growing an already large bow-wave of maintenance that results in unplanned impacts to NNPP operations at DOE sites. Out-year budget shortfalls are currently being evaluated for their impact to Spent Fuel Handling Recapitalization Project and OHIO-class Replacement.

Subcommittee. Budgeting in this day is truly a zero sum game. Increases in one area have to be found in other places. Are there any savings in this budget request that help offset the increasing costs?

Admiral Richardson. NR continuously looks for means to increase efficiency and reduce funding requirements. Over the 5-year Future Years Nuclear Security Plan (FYNSP) included in the FY15 request, savings generated total more than \$380M, on top of the \$170M in savings to the Navy's shipbuilding budget. The following cost-reduction initiatives have yielded savings before, during and beyond the FYNSP:

- The life-of-ship core in OHIO-class Replacement ultimately enables a reduction in force structure by two SSBNs, which the Navy estimates saves over \$40B.
- Combining the manufacturing development for OHIO-class Replacement core with the Land-based Prototype core results in savings of approximately \$200M that are already incorporated in our budgets.
- Combining our two laboratories under a single management and operations contract has yielded annual savings of over \$16M that are already incorporated in our budgets.
- Consolidating our procurement prime contractor saves \$8M annually in overhead costs that are already incorporated in our budgets.
- Early core load for the FORD Class aircraft carriers results in approximately 18 weeks of propulsion plant schedule reduction and saves the Navy approximately \$50M in ship construction costs for each FORD class carrier.
- Reuse of existing equipment for the Land-based Prototype refueling will save us \$19M that is already incorporated in our budgets.
- Use of computer modeling in place of large scale testing of OHIO-class Replacement systems will save us \$40M, which has already been incorporated into the OHIO-class Replacement project and Land-based Prototype Refueling Overhaul.
- More than 95% reuse of major existing equipment/equipment designs/equipment concepts for Spent Fuel Handling Recapitalization Project reduces the cost of the new facility by over \$85M which has been factored into funding projections for this project.
- Planned design features of the Radiological Work and Storage Building reduce the duration of service support required for the Land-based Prototype Refueling Overhaul and save \$13M compared to conducting this work with legacy facilities. These efficiencies have been factored into funding projections for the Land-based Prototype Refueling Overhaul.
- Consolidation to a single Decommissioning & Decontamination contractor across all sites that reduced costs by \$1M annually that are already incorporated in our budgets.
- Development of the VIRGINIA Forward Fit reactor core, which reduces the cost of VIRGINIA-Class submarines by \$17M per ship.

Subcommittee. Is there anything that can be done to improve the affordability of the NR program, without sacrificing our strategic defense?

Admiral Richardson. As a result of constantly driving to improve efficiency and reduce costs, the NR Program is lean. In the 1990s, NR accomplished two design projects under a declining top line. In the 2000s, NR accommodated requirements for spent nuclear fuel dry storage, recapitalization of degraded facilities and failing infrastructure, and increasing requirements for maintenance of aging prototype reactor plants without topline relief. Fees to prime contractors are the lowest in the DOE, our overhead is among the lowest in the DOE complex, and further efficiencies have been obtained through integration of the laboratories into a single contract. Further reductions only come through reductions in scope, and at the expense of capabilities required to safely support the nuclear fleet.

CHEATING SCANDAL

Subcommittee. Admiral Richardson, last month the Navy reported that dozens of personnel in the nuclear navy had viewed a leaked training exam at some point over the past year and did not report it. These are senior personnel, returning from sea duty, who knew full well this was completely unacceptable. These personnel were responsible for instilling the same values of integrity and standards of excellence that have kept the Navy's Nuclear Propulsion Program accident-free since its inception over 50 years ago. You've had two months to investigate this incident.

Where are you at in your investigation?

Admiral Richardson. We are in the adjudication phase of the investigation, which includes administering accountability actions recommended by the investigation team and certifying the findings of the JAGMAN investigation. This is nearly complete.

Subcommittee. Do you think you have an idea of the extent of the cheating in the nuclear navy? How many sailors have you investigated?

Admiral Richardson. I directed the investigation team to take a very broad look at integrity issues, which included interviewing all of the sailors at NPTU Charleston and all available personnel who have since transferred back to the fleet that were certified using the compromised exam. Details of the investigation will be released after it is complete.

Subcommittee. Figuring out why these sailors acted the way they did is important for taking actions which will prevent this from happening in the future.

Why do you think these senior sailors would have felt it necessary to risk their military careers to either cheat on an exam or look the other way? Is there a clear root cause of why this happened?

Admiral Richardson. The senior Sailors who participated in this exam compromise were part of a small group where trust within the community had become more important than upholding the values and standards of the Navy and the Navy nuclear program.

In addition to the investigation at the NPTU and establishing accountability for those who did wrong, I have established two other lines of effort to address the root causes from the incident.

One line of effort is focused on implementing best practices to improve the robustness of exam security at all NNPP sites. I plan to utilize state of the art processes and technology as part of this effort to improve exam security. We established a task force to complete an exam security vulnerability assessment throughout the Program. This assessment is complete for my laboratories and training commands and is in progress at the shipyards and the fleet.

The other line of effort is focused on further strengthening the culture of integrity throughout the NNPP. I have consulted experts from inside and outside of the Navy to better understand the motivations behind lapses of integrity. I plan to implement changes to program processes and training to help reinforce the importance of integrity and to clearly establish the values and behaviors that we require of our Sailors.

EXTENT OF POTENTIAL CULTURAL PROBLEMS IN THE NUCLEAR NAVY

Subcommittee. Admiral, there is evidence that a significant number of personnel had knowledge that the cheating was happening at the command.

Why did it take so long for the cheating to be reported?

Admiral Richardson. The senior Sailors who participated in this exam compromise were part of a small group where trust within their community had become more important than upholding the values and standards of the Navy and the Navy nuclear program.

Subcommittee. These Sailors were not at this command to the learn values of the Navy's nuclear propulsion program, but had already served for years at other nuclear Navy commands. Doesn't this indicate a potential for an erosion of values at those other commands?

Admiral Richardson. In response to the report of cheating at NPTU Charleston, I directed three distinct lines of effort.

The first is to establish individual accountability for those who did wrong. This consists of an independent team interviewing current and former staff and current students, conducting detailed forensic analysis, reviewing relevant documentation, and making recommendations to me. The final action, which is currently in process, includes administering accountability actions recommended by the investigation team and certifying the findings of the JAGMAN investigation.

The second line of effort is focused on implementing best practices to improve the robustness of exam security at all NNPP sites. I plan to utilize state of the art processes and technology as part of this effort to improve exam security. We established a task force to complete an exam security vulnerability assessment throughout the Program. This assessment is complete for my laboratories and training commands and is in progress at the shipyards and the fleet.

The third line of effort is focused on further strengthening the culture of integrity throughout the NNPP. I have consulted experts from inside and outside of the Navy to better understand the motivations behind lapses of

integrity. I plan to implement changes to program processes and training to help reinforce the importance of integrity and to clearly establish the values and behaviors that we require of our Sailors.

The second and third lines of effort are intended to address any broader issues across the fleet.

Subcommittee. Even if you believe the cheating is isolated to this particular command, what actions have you taken to reinforce the importance of integrity at your other units? How can this Subcommittee have confidence that you've fully addressed the problem and that our nation's naval reactors are being operated safely?

Admiral Richardson. Naval reactors are safe. The US Navy has been operating Naval nuclear propulsion plants safely for more than 60 years. Naval Nuclear Propulsion Plants are designed with defense-in-depth in the design, including multiple redundant safety features. The Naval Nuclear Propulsion Program also maintains high standards and conservative defense-in-depth principles in the training and qualification programs.

There are a number of independent mechanisms to assess the performance and knowledge of personnel within the NNPP. These include command-led continuous training programs involving continuous training exams including written, oral, and practical examinations. Additionally, personnel from outside the command routinely provide oversight to verify that the training and level of knowledge of those responsible for propulsion plant operations. Collectively, these measures provide confidence that Naval Nuclear Propulsion Plants continue to be operated safely.

SCOPE CREEP IN NEW CONSTRUCTION PROJECTS

Subcommittee. Admiral Richardson, this subcommittee has been seriously concerned by the Department of Energy's inability to accurately estimate and control costs on its construction projects. We understand that Naval Reactors has an entirely different way of managing its projects and has not experienced the same extent of problems as other programs at the Department. Nevertheless, the costs on many Naval Reactors projects have grown.

The Expanded Core Facility that has been under construction was projected to cost \$24 million when it was originally funded in 2010, but costs tripled to \$75 million the next year when NR made changes to the project. The cost of a staff office building has increased by 63%, from \$15 to \$24 million. The cost of the materials characterization lab has increased by 75%, from \$22 to \$38 million, over what you reported in fiscal year 2014.

What type of controls do you have against scope creep – one of the most commonly cited causes of cost growth?

Admiral Richardson. The project management process used by Naval Reactors for major construction projects is modeled after the process prescribed by DOE Order 413.3, and is implemented by Naval Reactors for all projects with a total estimated cost of \$10M or more (DOE Order 413 states it is applicable to projects in excess of \$50M).

Naval Reactors maintains thorough control of cost estimating and project growth. Proper execution of the process requires headquarters approval of all project critical decisions up to and including establishing the performance baseline (i.e., Critical Decision - 2) for a major construction project. Beyond that, any changes to scope impacting the mission of the project or any increase in the cost baseline for construction or design activities as approved in CD-2 requires headquarters approval.

As shown below, the three projects identified in the question are not indicative of a problem with scope or cost growth for Naval Reactors major construction projects. Rather, these examples represent the dynamic process of ensuring the most effective use of taxpayer funds to meet Naval Reactors' mission requirements.

As indicated in the response to the FY 2011 Questions for the Record (QFRs), the cost of the Expended Core Facility M-290 Receiving/Discharge Station project (08-D-190) mentioned above was modified in FY11 to include the Overpack Storage Expansion line-item budgeted project (\$13.4M). Additionally, Naval Reactors recognized the need to build a new facility as opposed to modifying an existing facility which required changes to the scope of the project. Operational experience and completion of analysis of the process and workflow identified a conflict between two significant program missions, (1) Return of Fuel from the Idaho Nuclear Technology and Engineering Center (RFI), and (2) aircraft carrier reactor servicing. As a result, it became apparent that modification of the existing structure as included in the FY10 budget request could not be executed concurrently with RFI without a direct negative impact on both the State of Idaho settlement agreement and operational needs of the nuclear aircraft carrier fleet. Building a new Cask Shipping/Receiving Facility eliminates workflow conflicts, and allows for accomplishment of both required missions simultaneously. The performance baseline for the combined project was set in FY11 at \$75.2M. The combined project will be delivered on time and at a cost of \$69.6M.

The cost increases of the staff office building (15-D-901) and the materials characterization laboratory (14-D-902) mentioned above were not the result of scope creep. The cost increases for these projects were the direct result of combining smaller budgeted projects into a single larger project to save costs. In both cases, the cost of the larger project was less than the combined cost of the smaller projects previously included in our budget requests.

Subcommittee. How can you improve your early estimates to make sure that the projects we start are affordable and that scope increases are controlled?

Admiral Richardson. Naval Reactors has not experienced problems that warrant changes to its processes for developing early project estimates and controlling project scope.

PROTOTYPE REACTOR IN NEW YORK

Subcommittee. Admiral, a refueling of a land-based S8G prototype reactor in upstate New York is driving major costs into the NR program. Following the S8G refueling, the Navy plans to shut down and defuel the second prototype reactor that you are operating there.

What is the schedule for the refueling and could that schedule change?

Admiral Richardson. The refueling overhaul will begin in 2018. In order to be ready for the start of the overhaul, NR will accomplish the following key milestones in the coming years:

- FY15 – Commence construction on the Radiological Work and Storage Building.
- FY15 – Commence construction on the Prototype Staff Building.
- FY17 – Complete Radiological Work and Storage Building (RWSB) construction, ship refueling equipment from Norfolk Naval Shipyard to Kesselring Site, train workforce.
- FY18 – Complete Core Assembly.
- FY18 –Prototype plant shutdown for refueling and overhaul.
- FY21 – Complete refueling, overhaul and return prototype to operations.

The schedule for the Land-based Prototype Refueling Overhaul is coordinated with inactivation and recapitalization of the other Program training platforms, including the need to complete the refueling overhaul prior to inactivation of MTS 626. The refueling overhaul cannot be delayed without impacting the training program capacity by 33%. At this time we do not anticipate changes to this schedule.

Subcommittee. Instead of the three new projects in your budget request, can you support the refueling with smaller facilities on temporary basis?

Admiral Richardson. Yes, however this action would increase refueling costs and delay completion of the refueling due to the inefficiencies discussed below. This would result in unacceptable impacts to training program capacity.

Subcommittee. Have you looked at the possibility of reusing any of the numerous facilities you have planned for demolition to help reduce overall costs?

Admiral Richardson. Yes, see discussion below.

The three FY15 Major Construction Projects (MCP) are driven by overall site needs, not solely due to the planned refueling and overhaul of the S8G Prototype.

1. The Radiological Work and Storage Building (RWSB) MCP is required on the Kesselring Site to support reuse of existing Program reactor servicing equipment, which was radiologically contaminated during prior Program reactor servicing work and is currently stored and used at the public shipyards to support Fleet needs. The RWSB will support multiple reactor servicing evolutions at the Kesselring Site, including the FY18 Land-based (S8G) Prototype refueling and the FY21 defueling of the MARF prototype. The RWSB project is required in FY15 to support the start of the S8G Prototype refueling overhaul.
 - a. Using other facilities on-site to provide the radiological work and storage space of the refueling is not prudent due to:
 - Lack of sufficient radiologically controlled space (a new facility would still be needed even if other facilities were used),
 - Significantly higher costs (2-3 times more) to renovate existing degraded facilities than to provide equivalent space in a new facility,
 - Additional costs and delays to the refueling schedule resulting from multiple, inefficient radioactive material transfers on site, and
 - Use of temporary facilities now does not address the long-term needs of the site, such as MARF inactivation required in FY21.
 - b. Naval Reactors also evaluated potentially reducing space requirements by procuring new non-contaminated equipment. Procuring new equipment and using non-radiologically controlled work and storage space is cost-prohibitive, since the cost of

procuring new equipment alone exceeds the RWSB facility construction costs.

2. The Central Office and Prototype Staff Building MCP is required for long-term office and nuclear operator training space at the Kesselring Site and will allow permanent site personnel to relocate from several older, degraded facilities. These aged and deteriorating facilities will be retained with limited refurbishments, to provide temporary space to accommodate the short-term peak requirements during the Land-based Prototype refueling and overhaul. When the requirement declines following the refueling and overhaul, these facilities will be demolished. To accommodate the temporary increase in office seating needs during the S8G Prototype refueling overhaul, the Kesselring Site will perform limited refurbishments to these vacated, older facilities, and maintain existing leased and permanent trailer facilities. Unless a facility is degraded beyond repair or it is in the footprint of a needed new facility, any demolitions of office space or trailers on site will be delayed until after the S8G Prototype refueling overhaul.
3. The Security Upgrades MCP requirement is independent of the S8G Prototype refueling overhaul and is based on existing site security infrastructure not meeting the standard for comparable Nuclear Regulatory Commission-regulated sites with operating reactors. Naval Reactors has validated the need for this project with security vulnerability assessments.

Subcommittee. After the refueling, what is your long-term vision for activities at the site?

Admiral Richardson. Following refueling of the S8G Prototype and inactivation of the MARF prototype in FY20, the Site will continue to execute its existing research, development and initial Fleet operator training mission using the refueled S8G Prototype, augmented with a partial engine room simulator. Kesselring Site remains the only Naval Reactors Program site with the capability to field test developmental technologies on a critical reactor platform prior to deployment aboard Fleet assets.

NAVY'S SHIFT TO FULL-LENGTH CARRIER FUEL

Subcommittee. Admiral Richardson, the Navy's decision to defuel, ship and process full length carrier fuel has been a driver of costs in your budget. New shipping containers that are twice as long as the current containers shipped to Idaho had to be designed and purchased. You had to construct a new facility that can handle the larger and heavier containers, and the size of the new spent fuel facility must be considerably larger.

When and why did the Navy make the decision to change its carrier defueling process?

Admiral Richardson. The Navy made the decision to change the aircraft carrier refueling and defueling process in 2007. The Navy faces a new challenge of end-of-life defueling older aircraft carriers concurrent with the mid-life refueling of newer aircraft carriers. The concurrent refueling/defueling schedule increases the volume of spent nuclear fuel that must be processed at the shipyard beyond the capacity of the existing infrastructure. The Navy evaluated alternatives that included delaying ship schedules to fit within the existing shipyard capacity, expanding shipyard capacity to process spent fuel using existing methods, and changing the refueling method to process full length spent fuel modules at the Naval Reactors Facility in Idaho. Changing the refueling method by shipping full length aircraft carrier spent fuel to the Naval Reactors Facility in M-290 shipping containers was the only alternative that met the primary objective of supporting the operational needs of the Navy. The Navy's decision to change the aircraft carrier refueling and defueling process was made in compliance with National Environmental Policy Act processes.

Subcommittee. Is it possible to continue to defuel and process carrier fuel the same way that you do now, which is to cut the fuel in half before it is shipped to Idaho?

Admiral Richardson. It is not practical to continue the aircraft carrier refueling process in the same manner that has been used in the past. The current process requires pre-shipment disassembly of full length aircraft carrier spent nuclear fuel in a shipyard work facility (barge). The existing facility is not capable of supporting the expected aircraft carrier refueling/defueling schedule, is greater than 50 years old, and will be disposed of in conjunction with the USS ENTERPRISE inactivation. The

continued use of this process would require significant expense to replace the current barge with a facility that meets modern design standards and is sized to support the projected workload of near-concurrent aircraft carrier refueling and defuelings.

Subcommittee. Can you provide an estimate of the total costs to Naval Reactors and report whether those costs were taken into account by the Navy when the decision was made to shift to full-length de-fueling?

Admiral Richardson. The M-290 shipping container system began delivery in FY13 and is expected to cost approximately \$600M, including the fleet of M-290 shipping containers required for long term aircraft carrier refueling/defuelings. The associated modification of the existing Expended Core Facility infrastructure would require a near-term investment of \$200M - \$300M. Although the Expended Core Facility could be modified to include M-290 capability, the facility is over 55 years old, does not meet current standards, and requires recapitalization. The Expended Core Facility requires approximately \$2B in major sustainment and refurbishment efforts for existing assets to extend their useful life for reliable operation. This large investment would provide a capable facility but would entail use of a modified facility that was not designed to efficiently support simultaneous overhaul and spent nuclear fuel operations.

Based on an analysis of alternatives, Naval Reactors concluded that recapitalization of the spent fuel handling infrastructure, including the capacity to unload and process full length aircraft carrier spent fuel, at the Naval Reactors Facility in Idaho is necessary to efficiently and effectively support planned aircraft carrier and submarine refueling and defueling operations. The Spent Fuel Handling Recapitalization Project is the only option that meets the mission need. The current project cost of the Spent Fuel Handling Recapitalization Project is \$1.6B. The need for the recapitalization of the spent fuel handling infrastructure in Idaho, including the Spent Fuel Handling Recapitalization Project, is not driven by the Navy's decision to revise the process for aircraft carrier spent nuclear fuel refuelings/defuelings and the implementation of the M-290 shipping container system; the need for the new facility is driven by the aging and deteriorating condition of the existing Expended Core Facility.

The FY 2012 – FY 2014 funding shortfalls have resulted in a 4½ year delay and a \$337M increase to the Spent Fuel Handling Recapitalization Project.

This delay will require the DOD to store naval spent nuclear fuel in M-290 shipping containers until the capability is available to empty the containers and process full length aircraft carrier spent nuclear fuel. With the current delay, the DOD will need to procure 14 additional M-290 shipping containers at a cost of \$350M. Each additional year of delay in availability of the Spent Fuel Handling Recapitalization Project facility will require the DOD to procure between \$100M and \$150M of additional M-290 shipping containers.

COST ESTIMATE OF THE SPENT FUEL RECAPITALIZATION

Subcommittee. Admiral, the energy and water bill carries a provision each year which requires that all projects with a total project cost of greater than \$100 million have an independent cost estimate. I understand that NR follows a slightly different project management process than the rest of the department. The current cost range for the Spent Fuel Recapitalization tops out at about \$1.4 billion, which is about \$400 million more than the original cost range approved in 2008.

When do you expect to perform an independent cost estimate on this project?

Admiral Richardson. Naval Reactors will conduct an independent cost estimate after appropriation of FY15 funding and before approval of Critical Decision-2.

Subcommittee. Will there be one performed at the Critical Decision -1 milestone, the same as other Department of Energy projects?

Admiral Richardson. Prior to Critical Decision-1, the Naval Reactors prime contractor contracted for a review of the Project's cost estimate by independent engineering and construction management experts. The review concluded that the existing project funding requirements are reasonable based on the existing project scope and requirements. In addition to the cost reviews provided by the prime contractor, the Naval Reactors project team will continue to perform independent cost reviews at all critical decision milestones.

Subcommittee. Do you expect further cost growth above the current \$1.4 billion estimate?

Admiral Richardson. We do not expect further cost growth if funds are appropriated consistent with the current project plan. The total cost growth to date on the Project, approximately \$337M, is the result of delays associated with FY12-FY14 funding shortfalls. The Spent Fuel Handling Recapitalization Project has an estimated current total project cost of \$1.6B. Since FY12, the Project has received less than half of the funding required to achieve the original 10½ year baseline schedule and \$1.249B estimated total project cost. The entire cost growth on the Project is associated with the 4½

year project delay and includes the costs associated with (1) de-staffing and re-staffing of Project personnel, (2) re-planning, re-phasing, reworking, and rescheduling of Project activities, (3) additional overhead for the extended Project duration, and (4) escalation. Escalation alone accounts for nearly 60% of the Project's cost growth.

A delay in delivery of the Spent Fuel Handling Recapitalization Project not only increases the total project cost but requires continued operations in the current facility with vulnerabilities associated with an aging infrastructure. Additionally, Project delays have resulted in the need for the DOD to procure 14 M-290 shipping containers, at a cost of \$350M, for temporary storage of naval spent nuclear fuel until a facility is available for unloading. Each additional year of delay in delivery of M-290 unloading capability will require the DOD to procure \$100M to \$150M of additional M-290 shipping containers to be used for temporary storage of naval spent nuclear fuel.

From FY12 – FY14, the Spent Fuel Handling Recapitalization Project experienced a funding shortfall of approximately \$100M. The Project delays that have occurred due to these funding shortfalls have resulted in a total cost impact to the DOE and DOD of over \$700M.

MEETING SPENT FUEL COMMITMENTS TO IDAHO

Subcommittee. Admiral, in fiscal year 2014, you received only a \$3.7 million increase over the post-sequester amount for Operations and Infrastructure. The budget request shows that you used your internal flexibility to cut funding for nuclear spent fuel management by almost \$15 million, from \$147 million to \$132 million, in order to address other priorities.

How will those cuts impact your spent fuel program?

Admiral Richardson. Our Operations and Infrastructure funding in FY13 was \$14M below our request due to a continuing resolution and sequestration. In FY14, Operations and Infrastructure funding was appropriated \$99.5M below the requested amount. Those reductions, totaling more than \$100M in FY13-14, left NR with no flexibility to absorb the funding reduction without impact to nuclear spent fuel management.

This reduction to nuclear spent fuel management resulted in a slower pace of corrective maintenance and sustainment work at the Naval Reactors Facility, exacerbating the problem caused by further delay in bringing on the new spent fuel handling facility. The Expended Core Facility, including a pool that stores over 500 modules of spent naval nuclear fuel, is more than 55 years old and will age an additional nine years before a new facility can come on line. Examples of deferred work in the Expended Core Facility include refurbishment of the floor, replacement of crane rail segments which have critical defects, and replacement of electrical equipment that has exceeded its design life or is undersized for planned usage. Reducing the pace of corrective maintenance and sustainment work increases the likelihood of emergent equipment failure and disruption of facility operations pending repair of the failed equipment. Disruption of facility operations will adversely impact Naval Reactors ability to support refueling aircraft carriers and submarines.

Subcommittee. Are you still on track to meet your Settlement Agreement requirement that all legacy spent nuclear fuel be out of water pool storage by 2023?

Admiral Richardson. Although Naval Reactors is currently on track to meet the Idaho Settlement Agreement requirement to move fuel out of water

pool storage, disruption of operations due to failed equipment would jeopardize our ability to meet agreement milestones. Compliance with the requirement to reduce the inventory of spent naval nuclear fuel managed in Idaho is dependent on actions beyond my control (e.g. development of a geologic repository). I regularly update the Governor of Idaho on our actions to comply with the Settlement Agreement requirements. I have also assured him that despite fiscal pressure we have and will continue to conduct our work in Idaho in a safe and environmentally responsible manner.

DEFENSE NUCLEAR NONPROLIFERATION

DECLINING BUDGET REQUESTS

Subcommittee. Ms. Harrington, this year's budget request is \$585 million below last year's budget request, continuing a trend of declining requests since peak funding in FY 2013. Placing the MOX plant in cold standby accounts for only \$190 million of that reduction.

Why is the budget request for this program declining so rapidly?

Ms. Harrington. Chairman Simpson, the decrease in the FY 2015 budget request of \$585 million includes \$256M due to the transfer of the funding requests for the Nuclear Counterterrorism Incident Response and Counterterrorism and Counterproliferation programs from the Defense Nuclear Nonproliferation appropriation account to the Weapons Activities appropriation account. Therefore, the real decrease to the FY 2015 budget request for Defense Nuclear Nonproliferation is \$329 million, of which approximately half is due to the MOX project.

With the exception of MOX, the current funding request is in line with funding levels before the acceleration needed to implement the President's four year effort to secure the most vulnerable nuclear material around the world. Due to the successful completion of the four-year effort this past December, it is logical to see some funding reductions to the two key programs that supported this effort (Global Threat Reduction Initiative and the International Material Protection and Cooperation program).

Subcommittee. Are we shortchanging our efforts to enhance global nuclear security?

Ms. Harrington. The Administration and DOE/NNSA remain committed to our nuclear nonproliferation and nuclear modernization objectives, consistent with the President's vision of reducing nuclear dangers and our reliance on nuclear weapons. As a demonstration of our continued commitment to nuclear security as a priority, the FY 2015 budget request provides funding to continue remaining high-priority nuclear and radiological threat reduction efforts, following completion of the accelerated four-year effort activities. For example, we plan to remove an additional 125 kilograms of HEU and plutonium from high priority countries, protect

an additional 105 buildings with high-activity radioactive sources, and initiate some important new activities in the Middle East.

Subcommittee. Do you envision this trend of declining requests to continue?

Ms. Harrington. The President's request for NNSA's Future-Years Nuclear Security Program (FYNSP) provides a stable level of funding to fully support the President's nonproliferation priorities, as well as have the flexibility to take advantage of new priorities and opportunities.

PROJECTS IN UKRAINE

Subcommittee. Ms. Harrington, the NNSA has done a significant amount of work in Ukraine and they have become a regional partner in countering trafficking of nuclear materials.

What work has the NNSA done in Ukraine, and are any of those projects in Crimea?

Ms. Harrington: NNSA has partnered with Ukraine on a number of successful nuclear security and nonproliferation issues. NNSA's ongoing work in Ukraine includes:

- Providing fixed and mobile radiation detection equipment to approximately 80 major points of entry in Ukraine. To date, 54 sites and two training centers have been completed, which strengthens the capabilities of Ukraine to deter, detect, and interdict illicit trafficking of radioactive materials at border crossings. Six of the 54 completed sites are located in Crimea; we have also provided 4 mobile detection vans and associated training.
- In exchange for Ukraine's removal of all highly enriched uranium (HEU) in 2012 (including removing HEU from the research reactor in Sevastopol), the United States agreed to provide Ukraine with a state-of-the-art Neutron Source Facility (NSF) at the Kharkiv Institute of Physics and Technology in Kharkiv. Construction of the NSF has been completed and NNSA will work to complete the testing and start-up of the system as the situation on the ground allows.
- Providing and maintaining physical protection at low enriched uranium (LEU) research reactors, and sites that use or store more than 10 curies of radioactive material. NNSA has installed physical protection upgrades at three sites in Crimea that still retain an inventory of radioactive material, including the LEU-fueled research reactor in Sevastopol and two oncology centers that use Cobalt-60.
- Consolidating disused and orphaned radioactive sources at storage locations throughout Ukraine. Two former military sites in Crimea are thought to have a combination of disused sealed sources and radioactive waste, but the inventories have not been verified.
- Supporting Ukraine's implementation of its IAEA safeguards obligations, including by helping them to address nuclear material accounting challenges at the Chernobyl Nuclear Power Plant and

providing a specially-designed waste drum assay system to measure and account for special nuclear material in recovered wastes.

- Strengthening Ukraine's export control system by training customs and export enforcement officers to identify illicitly-trafficked WMD-related materials, equipment, and technology across their borders.

Subcommittee. What is the status of that work?

Ms. Harrington: We have stopped all work in the Crimea, and are in the process of determining a path forward for our other engagement. We will proceed in a manner that is consistent not only with interagency guidance, but also with our own standards of safety.

COUNTERING NUCLEAR MATERIAL SMUGGLING IN EASTERN EUROPE

Subcommittee. Ms. Harrington, in the past Russia has been unwilling to share law enforcement information on nuclear smuggling with the United States and our allies in Europe. Considering the events in Ukraine, Russia stands to become even further cut off.

How do we counter nuclear smuggling in Eastern Europe with an uncooperative Russia?

Ms. Harrington. While Russia has shared only a minimal amount of information on nuclear smuggling with the US, our cooperation has resulted in the deployment of radiation detection equipment at all Russian international crossing points. We believe the Russians continue to fully utilize this equipment. However, the recent formation of a customs union between Belarus, Kazakhstan, and Russia has essentially pushed out the Russian borders. The Second Line of Defense Program (SLD) is working on the outer borders of Belarus and Kazakhstan, and also of Kyrgyzstan, which is expected to join the customs union, to ensure that detection assets are in place on the boundaries of this enlarged area.

At the same time, because of the large amount of weapons-usable material in Russia, and issues of corruption, insider threat, and political hindrances, we see Russia as a major potential source of material for nuclear traffickers and are working with almost all the countries in the former Soviet Union as well as the countries of eastern Europe to provide fixed and mobile radiation detection to counter this threat. SLD has collaborations with partners in the Baltic States, Hungary, Romania, Poland, Bulgaria, Slovakia and Ukraine. We provide equipment, along with extensive training and sustainability support, which includes initial maintenance, workshops and exercises.

Subcommittee. Is there additional work we can do in Ukraine to bolster our lines of defense?

Ms. Harrington: SLD is providing fixed radiation detection capability to approximately 80 major points of entry/exit in Ukraine as well as mobile detection capability. To date, 54 sites and two training centers have been completed (six of the 54 completed sites are located in the Crimea.) Four mobile detection vans have also been provided.

Additional work could include providing vans for use in areas of tension, and to provide redundant detection on the Ukrainian side of the border with Russia. The current SLD strategic plan for Ukraine does not include installations on Ukraine's border with Russia, since the Russian side of the border is already equipped with radiation detection systems. However, given the current crisis, SLD can revisit this strategic approach.

NNSA'S REVIEW OF NUCLEAR TECHNOLOGY EXPORTS

Subcommittee. Ms. Harrington, some have criticized the NNSA's process for reviewing requests to export of nuclear technology is the slow and inefficient, which puts American firms at a competitive disadvantage to nuclear exporters from other countries.

What is NNSA doing to improve this process?

Ms. Harrington. DOE/NNSA is committed to making the 10 CFR Part 810 application process more efficient, transparent, timely and predictable. DOE/NNSA recognizes that the current Part 810 approval process can be challenging for exporters for several reasons: (1) the Part 810 regulation is out of date and no longer reflects the way that nuclear commerce is conducted globally; and (2) U.S. Department of State concurrence on applications is dependent upon the provision of written nonproliferation assurances from foreign governments, which can take more than six months to obtain for some of our highest volume trading partners.

In order to improve efficiencies in the current Part 810 regulations, DOE/NNSA issued a rulemaking in 2011 and a supplement to that rulemaking in 2013 to comprehensively update Part 810 regulations for the first time since 1986. The supplemental notice of proposed rulemaking clarifies many aspects of the regulation that have caused confusion for U.S. exporters and incorporates comments that DOE/NNSA received from industry and other interested stakeholders during the public comment period.

To address the significant delays in licensing caused by long wait times to receive assurances from foreign governments, DOE/NNSA has initiated discussions with partner governments of high volume export destinations to streamline the assurance process, where possible, and create fast track procedures for authorization of activities that present the lowest proliferation risk.

In parallel, the Department is making changes to the Part 810 application process to increase efficiency and transparency. Specifically, DOE/NNSA is developing an ISO-9001 compliant, Six Sigma-based process improvement plan (PIP) that will eliminate redundant interagency reviews of applications, introduces an "e-Licensing" application system, and establishes a documented process and system to monitor performance. The e-Licensing

system will allow U.S. firms to submit licensing applications online and will feature FAQs, guidance on Part 810, (redacted) sample and Secretarial Determinations, among other resources.

Subcommittee. What is the schedule for the implementation of your reforms?

Ms. Harrington. DOE/NNSA has completed its review of comments received during the public comment period, which closed April 2, 2014. Accordingly, DOE/NNSA is preparing a final rule. DOE aims to issue the final rule by September 2014 as outlined in DOE's Spring Unified Agenda.

DOE/NNSA is planning to complete its PIP and the first phase of development of the e-Licensing system by mid-summer 2014. The completion date of the e-Licensing system will depend on the results of subsequent beta testing. We are working with key stake-holders to keep them informed of our timelines and help them prepare guidance for their constituents as to how the new rule, process, and e-licensing system will work.

Subcommittee. What are the metrics by which NNSA will evaluate the success of implementing new practices?

Ms. Harrington. DOE/NNSA is employing two known industry practices to ensure that the Part 810 licensing process is efficient and standardized moving forward. First, DOE/NNSA is taking steps to make the Part 810 application process ISO 9001-compliant. ISO 9000 standards, developed and published by the International Organization for Standardization (ISO), define, establish, and maintain an effective quality assurance system for manufacturing and service industries. Second, DOE/NNSA is undertaking a Six Sigma-based quantitative analysis of its process to improve the quality of process outputs by identifying and removing the causes of defects (errors) and minimizing variability in the process. The specific metrics will be developed as part of the ISO-9001 certification process.

2014 NUCLEAR SECURITY SUMMIT

Subcommittee. Ms. Harrington, just last week, the President visited the Netherlands for the 2014 Nuclear Security Summit.

What were the accomplishments of the summit?

Ms. Harrington. The 2014 Nuclear Security Summit, which took place on March 24-25 in The Hague, The Netherlands, saw 53 countries and 4 observers (the International Atomic Energy Agency (IAEA), the United Nations, INTERPOL, and the European Union as represented by the European Council and the European Commission) reaffirm their political commitments to take tangible actions to reduce the threat of nuclear terrorism and to make progress towards strengthened international norms and standards for nuclear security. The Hague Summit saw several notable achievements and major announcements for further actions, including:

- A U.S.-Japan commitment to remove to the United States hundreds of kilograms of weapons-usable nuclear material from Japan's Fast Critical Assembly facility;
- Reporting on the [successful] shipment to the United States of surplus highly enriched uranium and separated plutonium from Belgium and Italy, continuing progress in minimizing such materials worldwide;
- A statement by 35 countries expressing their intent to further strengthen nuclear security by meeting or exceeding the objectives recommended in specific IAEA nuclear security documents and to consider additional actions that would further ensure continuous improvement in nuclear security, including initiatives to work together to share experiences, lessons learned, and assist other countries in raising their nuclear security capabilities;
- A statement by 23 Summit countries expressing their intent to secure their highest-risk radioactive sources, consistent with guidance in the IAEA Code of Conduct on the Safety and Security of Radioactive Sources and with consideration of other IAEA Nuclear Security documents by 2016;

- A statement by 13 Summit countries expressing their intent to combat illicit nuclear material trafficking by seeking enhanced measures to remove nuclear and radiological materials not under regulatory control from the global maritime supply chain; and
- Recognition of the need to continue strengthening the global nuclear security architecture of legal instruments, international organizations and initiatives, and guidelines and best practices.

Subcommittee. What role does the NNSA have in moving forward with the agreements made?

Ms. Harrington. As was the case in the 2010 and 2012 Summits, DOE/NNSA programs will have a leading role both in assisting other Summit countries in achieving their 2014 Summit objectives, as well as in contributing to the U.S. efforts to meet these objectives. For example:

- DOE/NNSA's Global Threat Reduction Initiative (GTRI) program will be responsible for removing the nuclear materials identified in the U.S.-Japan Fast Critical Assembly project.
- DOE/NNSA's GTRI program will also assist Summit countries, as well as facilities in the United States, to secure their remaining highest-risk radioactive sources, in order to support efforts to secure all such sources by 2016.
- DOE/NNSA's Second Line of Defense Program will assist other Summit countries in supporting the goals of the Summit's joint statements on combatting illicit nuclear material trafficking and in removing materials not under regulatory control from the global maritime supply chain.
- Several DOE/NNSA offices, particularly the Defense Nuclear Nonproliferation's Office of Nonproliferation and International Security, as well as DOE/NNSA programs in counterproliferation /counterterrorism, emergency incident response, and U.S. domestic nuclear security, will fulfill the U.S. leadership role in the 2014 Summit's statement regarding meeting or exceeding the intent of internationally-accepted levels of nuclear security.

Subcommittee. What pledges were made that require funding?

Ms. Harrington. DOE/NNSA has incorporated the anticipated Summit initiatives into fiscal year 2015 and future year's budget planning, largely because the 2014 Summit maintained the momentum for tangible actions to reduce the threat of nuclear terrorism and to make progress towards strengthened international nuclear security norms, and because the majority of 2014 Summit pledges fall within existing DOE/NNSA program areas. DOE also was involved in the planning for the 2014 Nuclear Security Summit, including not only having a DOE representative on the U.S. Summit Sherpa Team, but also in drafting many of the proposals for new voluntary joint statements (referred to as gift basket statements) for the 2014 Summit.

Subcommittee. Are any of those pledges in jeopardy with the reductions in the budget request?

Ms. Harrington. As stated previously, the majority of the 2014 Summit statements reflect initiatives that DOE/NNSA programs already have anticipated in their fiscal year 2015 and future year's budget planning. Assuming a sufficient level of cooperation and political willingness from DOE/NNSA's foreign partners, all of the 2014 Summit initiatives are judged to be achievable with the cooperative assistance programmed in the DOE/NNSA future years' budget plans.

MNEPR AGREEMENT WITH RUSSIA

Subcommittee. Ms. Harrington, during the rollout of your budget rollout, you stated that there were projects that had been conducted in previous years that would simply not be able to move forward under the new MNEPR agreement with Russia. That is different from what we were originally led to believe - that the NNSA projects would not be impacted and that Russia had agreed to a legal framework to continue those projects.

Can you please clarify what projects NNSA is able to accomplish in Russia under the new MNEPR agreement? How does the new agreement differ from Cooperative Threat Reduction?

Ms. Harrington. The protocol to the MNEPR agreement signed in June 2013 allows bilateral nuclear security efforts with Russia to continue. This work includes Material Protection, Control, and Accounting (MPC&A) upgrades, cooperation in the area of nuclear security regulation and other efforts to enhance national infrastructure for nuclear security, and material consolidation and conversion. The MNEPR agreement covers Second Line of Defense work to strengthen Russia's capability to deter, detect, and interdict illicit trafficking of nuclear and other radioactive materials. The MNEPR agreement also covers the Global Threat Reduction Initiative's (GTRI) radiological material protection and removal efforts, its work to convert highly enriched uranium (HEU) fueled research reactors to low enriched uranium (LEU), and its nuclear material removal efforts.

The new agreement differs from the Cooperative Threat Reduction Agreement in that cooperation with Russian Ministry of Defense (MOD) sites is not covered.

Subcommittee. Have you made progress on getting those ongoing projects back up and running under the new agreement? Do you expect further delays? Ms. Harrington. Though the protocol to the MNEPR agreement was finalized in June 2013, additional implementing agreements needed to be negotiated to allow MPC&A and radiological material protection and removal efforts to fully resume. These agreements, which regulate U.S. access to Russian facilities and sharing of sensitive information, were finalized in December and MPC&A program representatives are actively working with Russian site counterparts to update contractual mechanisms for MPC&A work. Once the necessary contract

vehicles are approved and in place, we do not anticipate further delays in getting MPC&A work back up and running under the MNEPR framework. GTRI's reactor conversion and nuclear material removal efforts continued without interruption through this period of time, as they were not covered by the CTR agreement.

Subcommittee. Are you concerned about the safety of our employees in Russia, particularly if relations do not improve soon?

Ms. Harrington. Employee safety is always our top priority. We will continue to closely monitor the security situation in Russia. As of today, we have no plans to halt program travel to Russia, but will continue to work with the U.S. Embassy in Russia to assess the situation on the ground.

REMAINING RISKS IN RUSSIA

Subcommittee. Ms. Harrington, it is important to understand where we are leaving things if we indeed have to curtail our cooperative security work in Russia.

Has NNSA already successfully secured the most high risk materials in Russia, or are there any notable risks remaining?

Ms. Harrington. NNSA has made considerable progress in securing the most high-risk nuclear material in Russia, namely by improving the physical protection and material control and accounting systems at over 200 buildings containing metric tons of weapons-usable nuclear material. However, significant work remains to be done in order keep those materials secure and out of the hands of terrorists.

NNSA will continue to work with Russia to secure vulnerable nuclear materials in ways that protect against both outsider attack and theft by insiders.

GLOBAL THREAT REDUCTION ACTIVITIES IN FY 2014

Subcommittee. Ms. Harrington, you received an increase above your budget request in FY 2014 to secure domestic radiological materials. There are many who are critical of how cost effective that program is, considering the high administrative costs and corresponding minimal impact they seem to have on the national problem. Current goals aren't planned to be reached until 2044, even with NNSA planning to triple funding in the next few years.

What are your plans to use the additional funds in FY 2014?

Are you conducting the program review that was directed by the House report?

What are your goals?

How will you look to improve the way you are carrying out this program so that you can make a bigger impact on the problem?

Ms. Harrington. NNSA, through the Global Threat Reduction Initiative (GTRI) was appropriated \$59 million for domestic material protection efforts in FY 2014, a decrease of \$3.93 million from FY 2013. GTRI will use those funds to upgrade the security at least 80 buildings in the United States with high-priority radiological sources.

GTRI is focused on reducing the program lifecycle from the current project target of 2044 to a date much nearer on the horizon. The program recently revised its FY 2014 Annual Performance Measure for GTRI's material protection activities from a cumulative total of 1,674 buildings (domestic and international) to 1,785, reflecting GTRI's continually outperforming its annual targets. GTRI is also currently conducting a strategic review of both its domestic and international radiological protection efforts, including strategies to increase efficiency and decrease the program's outyear completion timeline. Among other factors, GTRI will consider emerging non-radioactive alternative technologies, development of tracking technologies of mobile industrial radiological devices, and more cost-sharing or incentive arrangements for domestic and international efforts that will allow for lower lifecycle costs and faster completion timelines. The review is slated to be complete by fall 2014.

SECURITY OF DOMESTIC RADIOLOGICAL SOURCES

Subcommittee. Ms. Harrington, the House report has carried language questioning the NNSA's rationale to fund upgrades to domestic facilities like hospitals and medical research facilities that are in fact regulated by the Nuclear Regulatory Commission. These licensees already have enforceable requirements for providing adequate security.

Why do you see the protection of domestic radiological materials as an important activity for the NNSA nonproliferation program?

Would greater regulation remove the need for NNSA to carry out its domestic radiological protection programs?

Ms. Harrington. The Nuclear Regulatory Commission (NRC) and state regulatory agencies have worked together to create a strong and effective regulatory framework that includes licensing, inspection, and enforcement of facilities with high-activity radiological materials. This framework provides a common baseline level of security. The ultimate responsibility for securing nuclear and radioactive materials in the United States rests with the licensees who possess these materials. To assist in that effort, NNSA works with the NRC, the materials licensees, state, local and tribal governments, and other federal agencies, to build on the existing regulatory requirements by providing voluntary security enhancements, improving threat awareness, and promoting linkages with local law enforcement. NNSA's voluntary upgrades complement NRC regulations to ensure the highest possible protection for U.S. locations with high-activity radiological sources.

Further, a major element of the NNSA program is integration of radiological site security with local law enforcement and other off-site security entities that would provide alarm response, the inclusion of which goes outside of NRC regulatory space. Unlike nuclear power plants, the NRC regulations do not require a site to have its own armed guard force, and therefore most sites rely on local law enforcement. A timely, well-equipped, well trained response to a security incident is critical to interrupt and neutralize an adversary before they gain access to a radioactive source. NNSA implements security systems with remote monitoring capabilities to alert the local law enforcement and prevent a single point failure. NNSA has also developed an Alarm Response Training course that brings together site radiation

protection staff, on-site security and local law enforcement to train in realistic scenarios using actual radioactive sources. Thus, NNSA programs bridge the gap that is outside of regulatory space by training and equipping local law enforcement agencies to reduce the threat.

Additionally, NRC regulations require the licensee to develop a security program with measures specifically tailored to its facility, which requires a level of expertise that is generally not available to licensees. NNSA provides specific security enhancement recommendations based on well established security principles such as graded protection measures based on material attractiveness levels and specific physical security measures designed to improve detection, assessment, delay, and response capabilities. NNSA project teams include physical security experts with years of experience in physical protection to include experience at Department of Energy/NNSA nuclear weapons complex facilities. Additionally, NNSA has conducted extensive analysis to demonstrate the improved security resulting from the specific security enhancements provided by NNSA such as physical protection upgrades, In Device Delay and remote monitoring systems.

Lastly, in 2012, the GAO reported on the status of security measures for high-risk radiological sources at medical facilities in the United States. The GAO found that NRC security measures are not prescriptive, that state inspectors are not adequately trained to provide effective security oversight, and that hospital and medical facility personnel do not have the training to implement security controls. GTRI's protection efforts aim to address these key gaps in the near-term to ensure that terrorists, insiders and other rogue actors do not acquire the material necessary for a radiological dispersal device, or so-called dirty-bomb.

MOX AFFORDABILITY UNDER SEQUESTRATION

Subcommittee. Mr. Held, there is the perception among some that the decision to put MOX into cold standby is driven more by the increasing costs of the modernization plans for the weapons complex than anything else.

Can you please respond to that criticism?

Mr. Held. It has become clear that the MOX fuel approach will be significantly more expensive than anticipated. Given a lifecycle cost estimate for the program of approximately \$30 billion, we are pausing to look at our options. As responsible stewards of taxpayer dollars, we owe it to the American people to continually review our work and make strategic decisions for the future.

Subcommittee. If the sequestration and Budget Control Act levels were not an issue, would you consider the MOX project more affordable?

Mr. Held. Continued cost increases led the Department to determine that the MOX fuel approach is significantly more expensive than anticipated. Given these cost increases, the Department owes it to taxpayers to step back and look at this project as well as alternative approaches to ensure the most efficient path forward, and ensure we are taking steps to minimize costs and maintain taxpayer investments while we independently validate whether there is a more efficient path forward.

COST ESTIMATES FOR MOX

Subcommittee. Ms. Harrington, our bill carries a provision that requires all DOE projects with a total project cost greater than \$100 million to have an independent cost estimate. The MOX project has been under construction since 2005.

Why didn't NNSA ever perform an independent cost estimate on this project, particularly once it saw contingency funding being rapidly depleted?

Ms. Harrington. The project did report usage of contingency and management reserve that was below planned (as of the end of fiscal year 2011 only \$455 million used of the \$683 million planned), but also reported lower confidence levels that the baseline cost could be achieved (by early 2012 below 30% confidence). However, annual updates of the estimates to complete the project did not include all of the known factors likely to contribute additional costs and showed an optimistic picture of the project's performance. By May 2012 the project started reporting contingency and management reserve usage including pending changes showing total management reserve and contingency remaining of only \$9.5 million. In the project's earned value management system (EVMS) the use of management reserve and contingency was masking the size of project cost variances (a noncompliance with the expected practice for EVMS). Following an EVMS surveillance, this practice was corrected so that the system could be more easily used to forecast project performance. Starting in 2011 NNSA started conducting regular peer reviews of the project that, while not independent cost estimates (ICE), did assess the quality of the estimates to complete the project work; each of these reviews found that the project's estimate to complete was understated and pointed to potential cost overruns. Upon submittal of the baseline change proposal in September 2012, NNSA commissioned an ICE as required by DOE Order 413.3B to validate the costs in the submittal.

Subcommittee. Do you believe you would have discovered the lifecycle cost issues earlier if NNSA had performed an independent cost estimate on the project?

Ms. Harrington. The lifecycle cost estimate includes not only the costs for construction of the MOX Fuel Fabrication Facility (MFFF), but also for MFFF operations, pit disassembly and conversion capabilities,

Waste Solidification Building (WSB) construction and operations, and fuel qualification and irradiation. While the independent cost estimate would highlight the issues with construction costs that could also impact other programmatic costs, the independent cost estimate would not cover the costs of the entire program.

ADDITIONAL FUNDING FOR THE WSB PROJECT

Subcommittee. Ms. Harrington, the GAO found that contractor performance was a major cause of the cost increases on the Waste Solidification Building project and that as a result, the NNSA has withheld 41 percent of the WSB contractor's fee. Now you are requesting another \$5 million to pay for Requests for Equitable Adjustments from the contractor.

Why hasn't NNSA held back a greater portion of the contractor fee from WSB, and are you still considering that as an option?

Ms. Harrington. Since the project began experiencing issues with performance in FY 2011, NNSA has withheld 75 percent of available fee. The "41 percent" refers to the fee available from FY 2009 – FY 2012 only and includes periods in which performance on the project was satisfactory. From FY 2011 to present, fee was withheld in order to encourage improved performance in the execution of remaining construction activities. NNSA will continue to assess the performance of the contractor and to either award or withhold fee accordingly. The \$5 million requested is part of the funding identified in the project baseline approved in 2012 and does not constitute additional funds over that approved baseline.

Subcommittee. Considering the poor performance of this project, why should the Subcommittee support spending additional taxpayer dollars when there is still an option to withhold additional fee to cover these costs?

Ms. Harrington. The remaining available fee is small relative to the remaining obligations (to-go activities and settlement of REA's) on the project. Funding in accordance with the approved baseline is necessary to complete the remaining project activities. Depending on the performance going forward, NNSA would apply any fee withheld to cover these remaining obligations.

NATIONAL SECURITY NEED FOR A DOMESTIC ENRICHMENT CAPABILITY

Subcommittee. Mr. Administrator, some have argued that the funding spent to date on the domestic uranium enrichment demonstration project is little more than an earmark intended to bolster the bottom line of the United States Enrichment Corporation (USEC).

Do you believe there is a credible national security need for a domestic uranium enrichment capability?

Have you determined a timeline for when a domestic enrichment capability is needed?

Mr. Held. Yes. The Department needs a domestic uranium enrichment capacity to fulfill its national security purposes and obligations because enrichment facilities using foreign technology, even if they are located in the U.S., produce uranium that carries peaceful use assurances that render the material unavailable to be used for defense purposes. The United States needs LEU produced with domestic-origin enrichment technology because it currently uses LEU to produce tritium.

USEC R&D AGREEMENT

Subcommittee. Mr. Administrator, the NNSA's fiscal year 2015 budget request includes no funding for uranium enrichment research and development. The fiscal year 2014 conference report included \$62 million to maintain the current research and development agreement with the United States Enrichment Corporation (USEC), through April of this year, plus another \$56.6 million of transfer authority after we approve a path forward for domestic enrichment technologies for national security needs.

How would you evaluate the progress made under the USEC R&D agreement?

Administrator Klotz. The Department has invested significant resources to support the development of the technology behind the American Centrifuge Project (ACP) and has met its \$280M commitment toward completion of the initial scope of the \$350M cost-shared, multiyear research, development, and demonstration (RD&D) effort.

This 2012 Cooperative Agreement concluded on April 30, 2014. The work on the ACP under the RD&D project has been successful at reducing technical risks associated with the ACP. The cascade testing has confirmed the operational flexibility of the demonstration cascade to produce low-enriched uranium (LEU) within varying product and tails assay ranges. But the progress still leaves the work short of the goals and milestones of the June 2002 Agreement, which would have resulted in USEC's constructing and operating a commercial enrichment plant.

Subcommittee. Mid-April is quickly approaching. What are your plans for your relationship with USEC?

Administrator Klotz. The Department notified USEC in March 2014 that there would be no follow-on funding after concluding the Cooperative Agreement, scheduled for April 30, 2014. However, DOE instructed UT-Battelle, the management and operating contractor for the Oak Ridge National Laboratory (ORNL), to assist in developing a path forward for achieving a reliable and economic domestic uranium enrichment capability that promotes private sector deployment and supports national security purposes. ORNL chose to subcontract with USEC at about \$7 million per month to preserve its American Centrifuge technologies as a potential

technical path forward. We note that this represented a significant reduction to USEC's scope of activities compared to that with DOE under the Cooperative Agreement. Specifically, this included eliminating parts procurement and production of additional machines, which is an estimated decrease of about \$4 million per month. On May 1, 2014, USEC signed an agreement (the American Centrifuge Technology Demonstration and Operations Agreement) with UT-Battelle for continued research, development and demonstration of the ACP technology in furtherance of DOE's national security objectives.

The Department will also closely monitor evolving defense program requirements to determine if, when, and what action is needed to acquire additional unobligated LEU. Ensuring access to of enriched uranium for defense and nonproliferation national security purposes as needed over the long term will require a dedicated effort that spans multiple programs.

Subcommittee. Many people at USEC have their jobs dependent on your decision. What is your timeframe for letting USEC know whether DOE will be providing additional funding?

Administrator Klotz. The Department notified USEC in March 2014 that there would be no follow-on funding after concluding the Cooperative Agreement, scheduled for April 30, 2014. However, DOE instructed UT-Battelle, the management and operating contractor for the Oak Ridge National Laboratory (ORNL), to assist in developing a path forward for achieving a reliable and economic domestic uranium enrichment capability that promotes private sector deployment and supports national security purposes. ORNL chose to subcontract with USEC at about \$7 million per month to preserve its American Centrifuge technologies as a potential technical path forward. We note that this represented a significant reduction to USEC's scope of activities compared to that with DOE under the Cooperative Agreement. Specifically, this included eliminating parts procurement and production of additional machines, which is an estimated decrease of about \$4 million per month. On May 1, 2014, USEC signed an agreement (the American Centrifuge Technology Demonstration and Operations Agreement) with UT-Battelle for continued research, development and demonstration of the ACP technology in furtherance of DOE's national security objectives.

ALTERNATIVES FOR THE FUTURE OF THE DOMESTIC ENRICHMENT

Subcommittee. Mr. Administrator, the Department has \$56.6 million of transfer authority available once we all agree on a path forward for domestic enrichment.

What alternatives are you considering?

Administrator Klotz. DOE will consider domestic technology alternatives that can meet conditions necessary to enrich uranium for defense purposes and also that promotes private sector deployment. The field of technologies that meet these conditions are summarized in the April 2014 Report to Congress, *Analysis of Available and Prospective Domestic Enrichment Technologies for National Security Needs*.

Given the expertise of the Oak Ridge National Laboratory (ORNL) in uranium fuel cycle technologies, DOE has tasked UT-Battelle, LLC, the management and operating contractor for ORNL, to assist in assessing these technical options for meeting the Department's national security needs and in developing a path forward for achieving a reliable and economic domestic uranium enrichment capability that promotes private sector deployment as well.

Subcommittee. When are you planning on communicating your ideas to Congress?

Administrator Klotz. In response to section 321 of the Consolidated Appropriations Act, 2014 (Public Law 113-76), the DOE Secretary has signed the April 2014 Report to Congress, *Analysis of Available and Prospective Domestic Enrichment Technologies for National Security Needs*. This summarizes the cost-benefit analysis of available and prospective domestic enrichment technologies for national security needs, the scope, schedule, and cost of the preferred option.

Subcommittee. If you decide to shut-down the American Centrifuge Project, what are the chances that we will decide to utilize this technology?

Administrator Klotz. With the help of experts at ORNL, DOE will analyze options over the next several months to provide an enrichment

capability using U.S-origin technology. ACP technology-related activities, equipment and facilities will remain in warm standby while DOE and ORNL perform the analysis.

Subcommittee. Will it cost more in the end if we put the plant into cold-standby?

Administrator Klotz. All cost drivers will be included in the assessment of alternatives that lead to the timeline requirements for a functional domestic enrichment capacity.

CHAIRMAN SIMPSON'S QUESTIONS

DELAYS TO THE OHIO-REPLACEMENT

Chairman Simpson. Admiral Richardson, the Chief of Naval Operations recently testified that the Navy's "highest-priority program," the Ohio-class replacement, "could face a six-month delay to a funding shortfall in fiscal year 2014 for the manufacture of the submarine's reactor core." You made a comment to the press that the funding shortfall he was referring to was coming from the Department of Energy. The budget request for the R&D supporting the Ohio-replacement program was fully funded in fiscal year 2014.

Where is the shortfall you were referring to which would delay the program six months?

Admiral Richardson. This shortfall was part of the \$99.5M reduction to our FY14 request for Operations and Infrastructure, which is a portion of the base budget that supports both the current nuclear Fleet and new design and project work.

Chairman Simpson. Why weren't these costs accounted for within the costs of the Ohio-replacement program?

Admiral Richardson. These costs are not included in the OHIO-class Replacement funding line because they are not dedicated solely to OHIO-class Replacement. Funding for Naval Reactors' technical base, supports ongoing Fleet support work as well as OHIO-class Replacement.

Chairman Simpson. Are there any other activities in the request that directly support the Ohio-replacement that are outside your request for that program?

Admiral Richardson. All work that solely and directly supports the OHIO-class Replacement reactor plant design is included in this budget category. Since they are all vital to effectively supporting the complex challenges that come with overseeing nuclear propulsion, Program test facilities, analysis equipment and capabilities, as well as other resources that support both the OHIO-class Replacement reactor plant design and Fleet operations are funded within our base technical work efforts. The high

performance computer procurement is one specific example. The OHIO-class Replacement is also supported by a number of laboratory test facilities and operation of the Advanced Test Reactor that are funded from within Naval Reactors' base. The base funding for Naval Reactors is vital to the development of the OHIO-class Replacement core as well as operation of the current nuclear-powered fleet.

Chairman Simpson. Is there funding in the 2015 budget request for these high performance computers?

Admiral Richardson. No. High Performance Computers were planned to be procured in FY14 and FY16. We are working on potential resources from within the DOE to procure the computers this year. If that proves unsuccessful, we plan to reprioritize FY15 resources to procure high performance computers, dependent upon our FY15 Appropriation level.

Chairman Simpson. When is the latest you can purchase these computers to ensure they do not impact the schedule of the Ohio-replacement?

Admiral Richardson. FY14 is the latest we can procure these computers to ensure they do not impact the schedule for OHIO-class Replacement. If they are procured in FY15, we will reprioritize other important work to minimize the impact to OHIO-class Replacement to the maximum extent possible.

FIVE-YEAR BUDGET PLANNING GAPS

Chairman Simpson. Admiral, the NNSA is required to submit a five-year budget as part of the President's Budget Request. The five-year plan provided in this budget request doesn't appear to include full funding for all your activities in the outyears.

The most obvious omission is in your budget for construction projects. You've requested to start five new construction projects with a collective total cost of \$1.6 billion dollars, but your outyear budget includes less than \$50 million per year for construction.

Which activities are not fully accounted for in the budget plans and how much is the total shortfall?

Admiral Richardson. The FY15 budget request, if enacted, fully funds Naval Reactors' highest priorities in FY15. As noted, it does not reflect full funding of those priorities in the following years. The two activities not fully accounted for are the Spent Fuel Handling Recapitalization Project (SFHP) and the OHIO-Class Replacement design. The table below shows the outyear shortfall to requirements for each project.

\$M	FY15	FY16	FY17	FY18	FY19
FY15 SFHP Request	145	0	0	0	0
SFHP Requirement	145	60	68	271	298
SFHP Shortfall	0	60	68	271	298
FY15 OHIO-class Replacement Request	156.1	168.9	181.4	126.0	13.1
OHIO-class Replacement Requirement	156.1	186.8	213.7	156.7	138.0
OHIO-class Replacement Shortfall	0	17.9	32.3	30.7	124.9

TOTAL Shortfall	0	77.9	100.3	301.7	422.9
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The funding level for these projects in FY16 and beyond will be part of the discussions and deliberations during the FY16 budget formulation.

Chairman Simpson. Is it wise to start new projects when there is no real plan for how to fund them within the anticipated budget caps?

Admiral Richardson. These projects are not discretionary. OHIO-class Replacement reactor plant design is needed to support recapitalization of the strategic deterrent force. The Spent Fuel Handling Recapitalization Project is required to support long-term refueling and defueling of nuclear powered submarines and aircraft carriers. Both projects were started in FY10. Funding cuts, including the Budget Control Act and sequestration followed and resulted in a new schedule. The FY14 budget again fully funded these projects. Due to the other budget issues within DOE, NR’s funding was limited in FY16 and beyond; the budget request reflects the amounts required in FY15. Funding level for those projects in FY16 and beyond will be part of the discussions and deliberations during the FY16 budget formulation.

COOPERATION WITH RUSSIA IN SECURING NUCLEAR MATERIALS

Chairman Simpson. Ms. Harrington, some press reports indicated that Russia was not supportive of U.S.-led efforts during the Nuclear Security Summit. In the past, our nuclear cooperative efforts have been a way to show that cooperation was possible even in tense times.

Do you think that Russia will continue to cooperate on securing nuclear and radiological materials?

Ms. Harrington. NNSA has received clear indications from its Russian counterparts that Russia intends to continue to cooperate with the United States on nuclear and radiological security under the legal framework of the 2013 U.S.-Russia Protocol to the Multilateral Nuclear Environmental Programme in the Russian Federation (MNEPR).

Chairman Simpson. What is the continued value to our national security of carrying out these projects if our relations with Russia continue to deteriorate?

Ms. Harrington. Russia and the United States have a special responsibility toward strengthening global nuclear security and combating nuclear terrorism, given both countries' deep experience and special expertise in nuclear security matters. Therefore, it continues to be in our national security interest to work with Russia—as well as with other countries—to deny terrorist organizations access to weapons-usable nuclear materials. The potential consequences of a nuclear terrorist event are simply too catastrophic to pursue an alternate course.

Chairman Simpson. How do you respond to those who might argue that these programs are providing assistance to Russia and therefore not in our national interest?

How much funding in your budget request is for projects in Russia?

Ms. Harrington. NNSA has requested approximately \$100 million for FY 2015 to fund threat reduction activities in Russia.

IDAHO SETTLEMENT AGREEMENT

Chairman Simpson. Admiral, previously the Subcommittee has asked you about your discussions with the State of Idaho in modifying the Settlement Agreement to support your plans. Everyone has been operating under the assumption that Idaho does not want Naval Reactors to halt operations in 2035, but the legal requirements under the Settlement Agreement still place restrictions on the Navy's spent fuel shipments. You've provided testimony in the past that "there is agreement between Naval Reactors and the State of Idaho on expectations for Program operations at NRF beyond 2035."

Can you please explain how the current Settlement Agreement applies to the Naval Reactors program beyond 2035?

Admiral Richardson. An addendum to the Idaho Settlement Agreement was negotiated and signed in 2008. The addendum establishes limits on the quantity of naval spent nuclear fuel that can be managed at the Naval Reactors Facility after 2035 as well as the amount of time that fuel may be managed in a water pool for examination and processing prior to placement in temporary dry storage. It also extends indefinitely the limit on the annual number of naval spent fuel shipments to Idaho. These limits meet Naval Reactors plans for spent fuel shipments through and beyond 2035.

Chairman Simpson. Do the new quantities negotiated with the State fully meet Naval Reactors plans for spent fuel shipments through and beyond 2035?

Admiral Richardson. Yes.

Chairman Simpson. Do you anticipate needing future modification of the Settlement Agreement? If so, which facilities and states would be impacted if your spent fuel could not be shipped to Idaho?

Admiral Richardson. The original Settlement Agreement and the addendum are premised on the development of a geologic disposal site (or interim storage facility) outside of the State of Idaho for eventual receipt and disposal of spent nuclear fuel. If that national capacity is not developed in a timely manner, discussions with the State of Idaho regarding potential further modification of the Settlement Agreement would be necessary.

Without a modification, naval spent nuclear fuel shipments from the following facilities could be impacted:

- Newport News Shipbuilding, Newport News VA
- Norfolk Naval Shipyard, Norfolk VA
- Portsmouth Naval Shipyard, Kittery ME
- Puget Sound Naval Shipyard and Intermediate Maintenance Activity, Bremerton WA
- Kesselring Site, Knolls Atomic Power Laboratory, West Milton NY

STORAGE AND DISPOSAL OF FOREIGN SPENT FUEL

Chairman Simpson. Ms. Harrington, the Department has already shipped about 5 metric tons of spent nuclear fuel to DOE sites as part of the Global Threat Reduction Initiative. Now, there's a new deal with Japan to bring even more foreign nuclear materials into the U.S., as well as new deals with Belgium and Italy to accept spent fuel from their research reactors. We are well aware this Administration has no plan for permanently disposing of U.S. nuclear waste.

Where do you plan on storing and/or processing these foreign nuclear materials?

Why should the U.S. continue to accept foreign nuclear materials, particularly from countries that have a strong enough economy to pay for security and disposal themselves?

Why not simply work with those nations to improve security on their own soil or ship the materials back after they've been processed into less-desirable forms?

Will DOE recover the full cost of storage, security, transport, and disposal from Japan, Belgium and Italy under these deals?

Do you intend to extend the foreign reactor fuel removal program beyond its current sunset date of 2019 to support these and other agreements that may be in the works?

Ms. Harrington: The Global Threat Reduction Initiative (GTRI) continuously looks to identify additional proliferation sensitive materials that should be removed to eliminate the risk that they could fall into the hands of terrorists. Although some of this material is brought to the United States for disposition, the majority of GTRI's removal efforts involve sending material back to Russia and downblending the material there. In all cases, GTRI continues to work with its foreign partners to identify the best disposition pathway to eliminate this material and GTRI anticipates removing or dispositioning approximately 1,100 additional kilograms of highly enriched uranium (HEU) and plutonium through 2022. Not all of this material is destined for the United States.

While high-income countries may be able to pay for security of material, securing material does not eliminate the risk that this material may fall into the hands of terrorist or other rogue actors. GTRI remains committed to realizing permanent threat reduction wherever possible. The only way to permanently eliminate the threat is by removing and eliminating the material.

GTRI and EM work closely together to make sure these important DOE nonproliferation programs can be implemented in a timely manner. In accordance with the Record of Decision (ROD) that announced the establishment of the Foreign Research Reactor Spent Nuclear Fuel (FRR SNF) Acceptance Program (scheduled to end in May 2019) and DOE's established fee policy for the program, DOE charges high income economy countries a fee to send spent fuel to the United States for disposition. Although the fee is not likely to fully cover the costs to dispose of this material (noting that the full costs are unknown at this time due to the lack of a selected disposition pathway), GTRI has supported EM requests to increase the fee in three phases (77 FR 4807, January 31, 2012). The first phase took effect in January 2012 and the second phase in January 2014. The third phase will take effect in January 2016. For shipments of non-U.S.-origin spent fuel to SRS from other than high income countries, GTRI pays EM the established disposal fee noted above.

For shipments of fresh HEU, DOE charges high income economy countries an amount that is estimated to cover all costs to receive, store, and process the material. Similarly, there is a separate fee structure for countries that ship plutonium to the United States based on the amount of material. This fee rate was established through consultations between GTRI and EM and is subject to revision should there be significant changes in circumstances involving management and disposition costs.

GTRI has also directly provided over \$15M to SRS to support EM operations during the FY11-FY14 period in addition to any fees accrued through the shipment of nuclear materials.

GTRI does not intend to extend the foreign reactor fuel removal program beyond 2019. GTRI may, as was the case with Japan, extend the removal program on a country-by-country basis if it supports larger nonproliferation objectives, consistent with applicable laws and regulations.

ALTERNATIVES TO MOX

Chairman Simpson. Ms. Harrington, for the better part of a year now, you've been investigating alternatives to MOX. Now, you've decided to place the facility in "cold standby," but still have not come to any decisions on what the path forward should be.

What exactly do you mean by "cold standby?"

Ms. Harrington. The Department intends to place the MOX project in a reversible cold standby condition, preserving the taxpayer investment while we independently validate whether there is a more efficient path forward to dispose of excess plutonium. As part of these efforts, we would stop design and construction activities not required to support placing the MOX facility in a safe and secure state. This action will minimize costs while working with MOX Services to develop a detailed cold standby execution plan. This plan would include but not be limited to closing and securing design documents; developing equipment maintenance and preservation plans; completing work efforts to protect the site such as closing construction openings, closing pipe and conduit, and securing purchased materials; and developing a staffing retrograde plan for professional and craft labor. We will complete subcontracts where it is more cost effective to finish or take delivery rather than suspending or terminating a subcontractor's performance. We will account for and protect Government property, records, and data and perform any other activities that the project teams believe need to be taken to preserve the Government investment should the project be restarted.

Chairman Simpson. Which alternatives do you think are viable and how do the costs of those alternatives compare with the cost of constructing the MOX plant?

Ms. Harrington. The Department has reviewed a number of options for U.S. plutonium disposition, including improving efficiencies in the current disposition approach of disposing of surplus weapon-grade plutonium as MOX fuel in light water reactors (LWRs), fast reactor options to dispose of weapon-grade plutonium, and non-reactor based options. Preliminary analysis shows that some options will cost more than the MOX approach and some will be more efficient than the current approach. Upon identifying a preferred option, the Department will commission an

independent assessment of the option. This independent assessment will be conducted by an organization external to the Department and its laboratories and will include establishment of life cycle costs, schedules, performance and scope of the selected option.

Chairman Simpson. You've had a year. How much longer do you think you need to make a decision on an alternative?

Ms. Harrington. We expect to complete the options analysis and independent assessment within the next 12-18 months.

LIFE CYCLE COST ESTIMATES ON MOX

Chairman Simpson. Ms. Harrington, this Subcommittee asked the Government Accountability Office to investigate the cost increases on the MOX project and they produced a report on their work last month. They noted that NNSA completed a draft estimate of the lifecycle costs for the plutonium disposition program in April 2013 which stated those costs would be about \$24 billion. Now, the Department is saying that the costs have grown to as much as \$30 billion.

How did you go about calculating your lifecycle costs and can you account for the growth in your estimate from \$24 to \$30 billion?

Ms. Harrington. The GAO reviewed the \$24 billion lifecycle cost estimate (LCCE), which included the contractor-submitted baseline change proposal for the MFFF project with a \$7.7 billion total project cost (TPC) and a completion date of 2019. The GAO stated that this estimate “did not meet best practices for reliability” and was “minimally credible.” The \$30 billion LCCE includes a \$10.5 billion TPC for the MFFF project with a projected completion date of 2027. This analysis was conducted by the United States Army Corp of Engineers (USACE). In addition, the LANL steady state operations estimate provided by LANL was reviewed by an independent review team (independent of LANL) and concluded that the estimate was closer to \$5 billion versus the \$3.7 billion used in the \$24 billion LCCE. Furthermore, due to the MFFF projected completion date of 2027, operations for the MFFF and WSB would also be delayed contributing to the cost increase due mainly to compounded escalation associated with pushing operations far out into the future.

Chairman Simpson. GAO has found that NNSA has no in-house capability to conduct its own high-quality cost estimates.

Were these figures ever externally reviewed, or do you plan to have them externally validated before finalizing your decision on an alternative?

Ms. Harrington. Individual components of the estimate have been validated by external organizations. The United States Army Corps of Engineers conducted an analysis of the construction costs for the MOX project and the Office of Cost Policy and Analysis within NNSA Defense Programs conducted an analysis of the MOX facility’s operations costs. In

addition, upon selecting a preferred option, the Department will commission an independent assessment of the option. This independent assessment will be conducted by an organization external to the Department and its laboratories and will include establishment of life cycle costs.

MOX FUEL AGREEMENTS

Chairman Simpson. Ms. Harrington, one of the criticisms of the MOX plan was that your early commercial partners decided not to move forward with fuel agreements. However, many things have changed in the commercial nuclear industry since and we understand that some progress had been made on generating interest. There was a proposal on your desk as recently as 2011 and in fact, the NNSA requested, and the House mark supported, \$52.4 million in 2013 to begin fuel qualification.

Why didn't NNSA move forward with the most recent fuel agreement that was proposed?

Ms. Harrington. DOE/NNSA negotiated and finalized a blanket commercial agreement (BCA) with AREVA. However, a decision was made to defer signing the agreement while the status of the MOX project remained uncertain.

Chairman Simpson. What were your concerns?

Ms. Harrington. DOE/NNSA negotiated and finalized a blanket commercial agreement (BCA) with AREVA. However, a decision was made to defer signing the agreement while the status of the MOX project remained uncertain. Additionally, AREVA insisted that it had identified utilities interested in MOX, but it needed the BCA in place to be able to move forward with these utilities. AREVA would not share the names of the utilities with the Department. When DOE offered to sign a nondisclosure agreement with AREVA, AREVA still refused to share the names of the interested utilities.

LONG TERM VISION OF NAVAL REACTORS INFRASTRUCTURE

Chairman Simpson. Admiral, over the past few years, the infrastructure portion of your budget has grown significantly. In the fiscal year 2014 bill, this Subcommittee has directed you to prepare a ten-year infrastructure plan for the Naval Reactors sites because we haven't heard the details of your overall vision for the Naval Reactors sites and where they need to be over the next ten years.

What is your vision of the Naval Reactors sites and what major investments need to be made?

Admiral Richardson. The Naval Reactors infrastructure budget requests (i.e., operations and infrastructure plus construction) identify the need to address aging Program's facilities. Many facilities are over 60 years old. Equipment is beyond design life and obsolete. Investment in these facilities is needed to avoid failures in the infrastructure which at best cause unplanned delay and disruption to Program work and at worst place workers, the public, and the environment at risk. In contrast to the budget requests, enacted budgets have not risen from the recent peak in FY 2012. For example, the FY 2013 budget sequester resulted in funding for operations and infrastructure plus construction 15% below the budget request and more than \$45M below the FY 2012 enacted level. The FY 2014 enacted funding was more than 25% below the requested amount and nearly \$20M below the FY 2012 enacted level. Funding below requirements exacerbates the infrastructure planning, budgeting, and execution problem by necessitating repeated re-profiling of required work into later years.

The major infrastructure investments needed at Naval Reactors sites are those most critical to support of the Navy's operating fleet and to ensure continued protection of workers, the public, and the environment. They include the following projects:

- ECF M290 Receiving/Discharge Station [08-D-190]
- KAPL Security Upgrades [10-D-903]
- Kesselring Site Radiological Work and Storage Building [13-D-904]
- Kesselring Site Central Office and Prototype Staff Facility [15-D-901]
- Kesselring Site Engineerroom Team Trainer [15-D-902]
- Spent Fuel Handling Recapitalization Project [14-D-901]
- NRF Overpack Storage Expansion 3 [15-D-904]

- Bettis Laboratory Fire System Upgrade [19-D-901]
- Knolls Laboratory Fire System Upgrade [15-D-903]
- Knolls Material Characterization Laboratory [14-D-902]

Chairman Simpson. Given the budget constraints we are facing, are you rethinking the timeline for making these investments?

Admiral Richardson. Aged and obsolete infrastructure fails when the material condition can no longer bear the stress of operations. Given the fiscal situation, the available resources now and in the coming years are planned for the investment on the portions of the infrastructure most critical to support of the Navy's operating fleet and to ensure continued protection of workers, the public, and the environment. In particular, the facilities and infrastructure needed to sustain the Kesselring site's role in training and qualifying Sailors for operation of naval nuclear propulsion plants and the Naval Reactors Facility's role in supporting refueling and defueling of nuclear-powered warships. These projects cannot be further delayed.

In addition to the major investments described above, modest works-type projects are needed to upgrade and replace other aged infrastructure at all Naval Reactors sites. Such projects were starved over the preceding years, necessitating repeated deferral of proactive investment to later years and an intervening 'replace it when it breaks' approach. As noted above, executing replacements as equipment fails is both inefficient and disruptive to site operations. Examples of required emergent repairs in this area over the last two years include the following:

- Failed underground fire mains
 - Failed heating, ventilation, and air conditioning (HVAC) systems and equipment
 - Failed uninterruptable power supplies
 - Failed utility poles
 - Failed site steam boiler tubes and steam distribution system piping and components
 - Failed sanitary sewer lines and lift stations
 - Failed air compressors
- Cracked fuel oil storage tanks and revetments

NNSA ENFORCEMENT OF 10 CFR 810

Chairman Simpson. The National Nuclear Security Administration is responsible for the administration of export controls under 10 CFR 810 for the export of nuclear technology. A chief concern about this regulation is the slow and inefficient process through which it is administered. This puts U.S. firms at a competitive disadvantage to nuclear exporters from other countries which greatly diminishes U.S. influence on nuclear safety, security and nonproliferation norms and costs American jobs.

The Department of Energy's Notice of Proposed Rulemaking on Aug 2, 2013 stated that "DOE is initiating a process quality improvement program to make the processing of part 810 applications more orderly, expeditious, effective, and transparent." We applaud your effort to undertake this process improvement and would like additional details about it.

What resources are NNSA focusing on this process improvement program for 10 CFR 810?

Ms. Harrington. DOE/ NNSA staff is drafting the proposed final rule and working with the Department of State to negotiate fast track assurances. DOE/NNSA has hired outside experts in both Six Sigma and 10 CFR 810 to lead the review of the current licensing process and conduct a quantitative analysis of data from the current process. DOE/NNSA is leading the development and implementation of the e-Licensing system. Our goal is to develop a modern licensing process which is recognized as being compliant with industry standards. When DOE/NNSA completes its process it will be the only U.S. Government export control application and review process that will be ISO-9001 compliant. The importance of the ISO-9001 compliance program is to ensure that through regular reviews the 810 process remains efficient and transparent to the public.

Chairman Simpson. How are you ensuring that sufficient resources are being utilized to achieve meaningful improvements?

Ms. Harrington. The requirements for the e-licensing system were developed by an outside contractor that worked with current 810 applicants to identify specific functions to build into the system for ease of use. We are coordinating with the NNSA Office of Information Technology and Cybersecurity, the office leading the development and implementation of the

e-Licensing system to ensure that the system is cost effective and responsive to the needs of industry. In addition, we have both federal and contractor support on the Process Improvement Plan (PIP). While DOE/NNSA averages fewer than fifty 810 applications a year, we believe that moving to an e-licensing system will benefit the applicant and the Department in the review process. However, given the small average number of applications, we want to ensure that we do not build an expensive system that will have limited overall utility. Ensuring the best return on investment has been a Department priority.

Chairman Simpson. What are the specific elements of the process improvement program that NNSA is undertaking and what are the implementation schedules and success metrics for each major element?

Ms. Harrington. DOE/NNSA is committed to making the 10 CFR Part 810 application process more efficient, transparent, timely and predictable. DOE/NNSA recognizes that the current Part 810 approval process is challenging for exporters for several reasons: (1) the Part 810 regulation is out of date and no longer reflects the way that nuclear commerce is conducted globally; and (2) U.S. Department of State concurrence on applications is dependent upon the provision of written nonproliferation assurances from foreign governments, which can take more than six months to obtain for some of our highest volume trading partners. DOE/NNSA will address each of these elements through its PIP.

In order to address the inefficiencies in the current Part 810 regulations, DOE/NNSA issued a rulemaking in 2011 and a supplement to that rulemaking in 2013 to comprehensively update Part 810 regulations for the first time since 1986. The supplemental notice of proposed rulemaking clarifies many aspects of the regulation that have caused confusion for U.S. exporters and incorporates comments that DOE/NNSA received from industry and other interested stakeholders during the public comment period. DOE/NNSA has a goal of issuing the final rule by September 2014 as outlined in DOE's Spring Unified Agenda.

In order to address the significant delays in licensing caused by long wait times to receive assurances from foreign governments, DOE/NNSA has initiated discussions with partner governments of high volume export destinations to streamline the assurance process, where possible, and create

fast track procedures for authorization of activities that present the lowest proliferation risk.

In parallel, the Department is making changes to the Part 810 industry application and interagency review process to increase efficiency and transparency. Specifically, DOE/NNSA is developing an ISO-9001 compliant, Six Sigma-based process improvement plan (PIP) that will eliminate redundant interagency reviews of applications, introduce an “e-Licensing” application system and establish a documented process and system to monitor performance. The e-Licensing system will allow U.S. firms to submit licensing applications online and will feature FAQs, guidance on Part 810, (redacted) sample and Secretarial Determinations, among other resources. DOE/NNSA is planning to complete its PIP and the first phase of development of the e-Licensing system by mid-summer 2014. The completion date of the e-Licensing system will depend on the results of subsequent beta testing.

Chairman Simpson. How do they address the deficiencies identified in the responses to the 2011 Notice of Proposed Rulemaking?

Timeliness of internal DOE and interagency reviews.

Timeliness of foreign government nonproliferation assurances.

Lack of transparency and accountability for the number of specific authorizations sought, approved and rejected, and the average authorization processing time

Lack of transparency in decisions issued and lack of available guidance

Ms. Harrington. As mentioned above, we are:

- conducting a Six Sigma process review project to review the DOE/NNSA and interagency processes in order to identify inefficiencies;
- consulting with the Department of State and foreign partners on the possibility of streamlining the assurance process in high volume destinations;
- developing an e-Licensing system that will provide a customer interface (based on customer suggestions) for submitting applications

and host DOE-developed guidance, redacted licenses and related documents and provide status updates to applicants; and

- creating guidance documents that will assist applicants with understanding the rule once it is published.

Chairman Simpson. We understand that NNSA is developing an e-licensing system to provide more uniform and transparent authorization standards and practices. What is the schedule for the implementation of this new system?

Ms. Harrington. The DOE/NNSA Office of Information Technology and Cybersecurity, which is developing the e-Licensing system, plans to have the customer interface up and ready for test by mid-summer 2014. Future phases, including the internal tracking and concurrence process and posting of FAQs and redacted licensing documentation, will follow and will be scheduled based on the outcomes of the beta testing, PIP and the ISO compliance processes.

Chairman Simpson. What are the metrics by which NNSA will evaluate the success of this system?

Ms. Harrington. Our goal is to develop a modern licensing process which is recognized as being compliant with industry standards. When DOE/NNSA completes its process it will be the only U.S. Government export control application and review process that will be ISO-9001 compliant. The importance of the ISO-9001 compliance program is to ensure that through regular reviews the 810 process remains efficient and transparent to the public. The specific metrics will be developed as part of the ISO-9001 certification process.

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