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**U.S. Department of Energy**  
**on**  
**NNSA Defense Nuclear Nonproliferation and Naval Reactors Activities**  
**before the**  
**Subcommittee on Energy & Water Development**  
**House Committee on Appropriations**  
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## **INTRODUCTION**

Chairman Frelinghuysen, Ranking Member Kaptur, and distinguished members of the Subcommittee, thank you for having me here today to discuss the National Nuclear Security Administration's (NNSA) Defense Nuclear Nonproliferation (DNN) and Naval Reactors (NR) Programs. But more importantly, thank you for your continued support of the NNSA, and the 35,000 men and women working across the enterprise to keep our country safe, protect our allies, and enhance global security. We could not do this work without strong, bipartisan support and engaged leadership from the Congress.

Earlier this month I testified before this Subcommittee about the considerable budget uncertainty facing the NNSA and our critical national security missions under our Weapons Activities account. We are currently operating under a Continuing Resolution (CR) that expires March 27, 2013, and the current fiscal uncertainty, including the uncertainty resulting from a potential sequestration, also present great challenges to meeting our nuclear nonproliferation and naval propulsion missions.

I want to assure you that NNSA is being thoughtful, pragmatic, and efficient in how we achieve the Nation's nuclear security objectives and shape the future of nuclear security.

## **SEQUESTRATION AND CR IMPACTS**

Should sequestration take effect on March 1, 2013, the DOE and NNSA could be severely impacted, along with other Federal agencies. The DOE/NNSA plays a critical national security role in the following areas: ensuring a safe, secure and effective nuclear weapons stockpile, leading critical nuclear nonproliferation and nuclear security programs around the globe, providing for the Navy's nuclear propulsion capabilities, and developing and deploying nuclear counterterrorism and emergency response capabilities. As Secretary Chu has previously stated, sequestration could affect thousands of jobs and reduce the Department's ability to serve the American people. These cuts could come five months into the current fiscal year, forcing the Department to absorb the spending reduction in a seven-month period rather than an entire year.

Under the current law, the NNSA FY 2013 budgetary resources would be cut by roughly 8 percent, which equates to an effective reduction of over 13% when implemented over the remaining seven months of the fiscal year.

### ***Defense Nuclear Nonproliferation***

Almost four years ago in Prague, President Obama shared his vision for a world without nuclear weapons, free from the threat of nuclear terrorism, and united in our approach toward shared nuclear security goals.

Under sequestration, the level for the DNN appropriation would be nearly \$250 M below the FY 2013 President's Budget, and more than \$84M below the FY 2012 enacted level.

Regarding the **NNSA workforce at our labs and plants**, more than 5,000 contractors could be impacted through either work hour reductions or other personnel actions. Specifically, this could result in layoffs of 216 DNN contractors, as well as more than 200 USEC-related FTEs, and 15 University and small business employees.

Some specific programmatic impacts of the sequestration on the Office of Defense Nuclear Nonproliferation are detailed below.

### **Office of Research and Development (R&D)**

Reducing the R&D budget by a little more than \$130M below the President's FY 2013 budget request will have significant negative impacts on the Domestic Uranium Enrichment and Nuclear Detonation and Proliferation Detection projects.

Budget cuts of \$60M from the President's FY 2013 budget request to the Domestic Uranium Enrichment Research, Development and Demonstration (RD&D) project will result in the project not meeting the scope and timelines stipulated in DOE's Cooperative Agreement with the U.S. Enrichment Corporation, and will likely result in the U.S. not having an indigenous uranium enrichment capability for at least the next 20 years.

The R&D Nuclear Detonation Detection budget cut of \$36M will cause NNSA to miss the delivery milestone of a crucial US Nuclear Detonation Detection satellite payload, and this satellite will be completed and launched without its intended nuclear detonation detection sensors. This will degrade the U.S. ability to monitor surface and above-ground nuclear detonations as required by Public Law 110-181; Sec 1065 & Public Law 111-383; Sec 913. The R&D Proliferation Detection budget cuts of roughly \$33M will cause NNSA to miss all six R&D initiatives planned for meeting the Administration's goals for nuclear nonproliferation test monitoring and arms control as required in Section 8115(b) of Public Law 111-118. This reduction may degrade the success of international treaties and agreements, which depend, in part, upon developing the capabilities to support negotiations and detect non-compliance of the treaty. In addition to the loss of laboratory FTEs described above, these cuts will also reduce future nuclear science and security research efforts at approximately 50 universities across the country over the next three years and at over 30 small businesses over the next two years.

## **Office of Nonproliferation and International Security (NIS)**

Reducing the NIS budget by \$10M, will have significant negative impact on missions that support compliance with the Nuclear Non-Proliferation Treaty (NPT), export controls for nuclear technologies, and efforts to stem the flow of nuclear expertise, all of which are Presidential priorities and commitments to foreign partners.

NIS support to the International Atomic Energy Agency's (IAEA) international safeguards regime, the main mechanism for ensuring compliance with the Nuclear Non-Proliferation Treaty and the cornerstone of the nonproliferation regime, will be cut. NIS will be forced to reduce safeguards and security capacity-building training for foreign partners and training to develop the next generation of safeguards experts.

Funding to develop sustainable national export control systems in other countries to enable them to track and prevent illicit transfers will be reduced. This loss of project funding will increase the risk of illicit trafficking of WMD-related dual-use items. Program contraction will mean that NIS will not meet its FY 2013 Performance Measurement Metric in this area and export control and counter illicit trafficking cooperation activities with major supplier states will be either eliminated or delayed.

NIS funding to scientist engagement activities through the transformed Global Security through Science Partnerships (GSSP) program will be reduced, eliminating GSSP plans for bilateral engagement with new priority countries, and terminating multilateral commitments including the large Fukushima Support Program through the International Science and Technology Center (ISTC) and the Science and Technology Center in the Ukraine (STCU). This loss of project funding will increase the risk of transmission of sensitive WMD-related information to both state and non-state actors of national security concern to the United States.

## **Legacy Contractor Pensions**

This reduction will leave a shortfall of \$11M in Legacy Pensions below the FY 2013 request.

## ***Naval Reactors***

Naval Reactors is responsible for the day-to-day work associated with supporting the safe and reliable operation of 96 naval nuclear reactor plants, plants which provide power to more than 40 percent of the U.S. Navy's major combatants -- 10 aircraft carriers and 72 nuclear-powered submarines, which includes 14 OHIO-class ballistic missile submarines.

Under sequestration, funding for Naval Reactors would be \$92M below the FY2013 President's Budget, and \$83M below the FY2012 enacted level.

Sequestration will result in approximately 400 contractor layoffs spread throughout facilities in New York, Pennsylvania, Idaho, Connecticut and Virginia. In addition, the refueling overhaul of the Nuclear Navy's land-based training prototype in New York will be delayed, degrading the

Nuclear Navy's ability to ensure adequate, qualified sailors exist to operate both CVN (aircraft carrier nuclear) and submarine fleets. Further, the construction of the new naval spent fuel handling facility in Idaho will be delayed. This delay will necessitate \$100M annually for additional shipping and storage containers.

As these examples demonstrate, sequestration will impact both the economic and national security of this country, and we urge Congress to take prompt action to avoid the budget uncertainty of sequestration.

## **ACHIEVING THE PRESIDENT'S NUCLEAR SECURITY OBJECTIVES**

### **DEFENSE NUCLEAR NONPROLIFERATION FY 13 PROGRAM STATUS UPDATES**

One of our most important missions has been to support the Administration's commitment to secure the most vulnerable nuclear material across the globe in four years. Our accomplishments in securing plutonium and highly enriched uranium around the world have made it significantly more difficult to acquire and traffic the materials required to make an improvised nuclear device, and I am proud to say that we are on track to meet our goals to remove or dispose of 4,353 kilograms of highly enriched uranium and plutonium in foreign countries, and equip approximately 229 buildings containing weapons-usable material with state-of-the-art security upgrades.

So far in FY2013, NNSA programs removed 57 kilograms of highly enriched uranium (HEU) and plutonium from countries such as Uzbekistan, Australia and Hungary, for a cumulative total of more than 3,520 kilograms of HEU and plutonium removed to date (enough for more than 135 nuclear weapons). This achievement includes the complete removal of all HEU from Austria—a total of 22 countries now have been completely cleaned out of all HEU. So far in FY2013 NNSA programs have converted or verified the shutdown of 2 HEU research reactors for a cumulative total of 84, and completed security upgrades at 27 civilian buildings containing high-priority radiological materials worldwide for a cumulative of 1,515 buildings completed to date. Our programs also completed nuclear security upgrades at a cumulative 218 buildings in Russia, Eastern Europe and Eurasia containing weapons-usable nuclear materials.

We continued construction of the U.S. Mixed Oxide (MOX) Fuel Fabrication Facility and have monitored the downblending of an additional 30 metric tons (MT) of Russian weapons-origin HEU to LEU (for a cumulative total of 463 MT from dismantled Russian nuclear weapons), and also have downblended a cumulative total of 141 MT of surplus U.S. HEU.

NNSA nonproliferation programs continue to advance the Administration's counter nuclear smuggling objectives, and to detect, deter, and prevent the spread of nuclear and radiological weapons and weapons-relevant materials, technology, and expertise. So far in 2013, our programs installed radiation detection equipment at 5 priority international sites including border crossings, airports and seaports, reaching a cumulative total of 498 sites and deployed 3 Mobile Detection Systems (MDS) in the Czech Republic and Lithuania for a total of 41 MDS units in 14 countries. We have also transitioned a total of over 240 sites equipped with radiation detection

equipment to full partner country responsibility, as part of a comprehensive sustainability approach. We work with roughly 30 partner countries annually to develop sustainable national export control systems that meet critical requirements, and played a leading role in the 2012 Nuclear Supplies Group (NSG) Plenary in Seattle, Washington, which resulted in significant changes to the NSG's control lists for reactor and enrichment technologies.

Long-term sustainment of nuclear security capacities around the world is a key element of the NNSA nonproliferation effort. Our technical experts continued to collaborate with Nuclear Security Centers of Excellence (COEs) in South Korea and Japan, and continued cooperative work with China and India to establish their COEs. Our programs have worked with partners in Kazakhstan and other Eurasian countries to establish indigenous nuclear security training centers for those who operate, maintain, and protect nuclear facilities. We promoted the importance of a strong Nuclear Security Culture via workshops in Ukraine, Belarus, and China as well as supported the further development of IAEA's Nuclear Security Culture Enhancement Program.

NNSA's nuclear safeguards efforts work in concert with its nuclear security efforts, preventing the diversion and theft of nuclear materials. NNSA is supporting the development of safeguards technologies, expertise and international safeguards infrastructure necessary to strengthen the international nuclear safeguards system and to lock in the gains achieved through NNSA's security and threat reduction efforts.

Finally, NNSA programs continued development of new nonproliferation technologies to detect the proliferation of nuclear weapons and other WMD, and to increase the capacity of the United States and other countries to monitor and verify the security and accounting of nuclear and radiological material worldwide. We have continued to develop new capabilities to detect and identify extremely low nuclear detonations around the world and at increasing levels of confidence, and we continue to evaluate technologies, such as nuclear warhead chain-of-custody methods, for their applicability for use in future nonproliferation and arms control inspection regimes as well as to identify gaps for additional work.

For 2013, the Defense Nuclear Nonproliferation FY13 budget requested \$2.46 billion to continue these and other critical nonproliferation and nuclear security efforts. Our continued focus on innovative and ambitious nonproliferation and nuclear security efforts is vital. The threat is not gone, and the consequences of nuclear terrorism and state proliferation would be devastating. We remain committed to reducing the risk of nuclear terrorism and state-based proliferation through a multi-layered strategy that strengthens the global nuclear security environment and prevents nuclear weapon proliferation.

## **NAVAL REACTORS FY 13 PROGRAM STATUS UPDATES**

The Naval Reactors program ensures the safe and reliable operation of reactor plants in nuclear-powered submarines and aircraft carriers, which constitute more than 40 percent of the U.S. Navy's major combatants. The FY 2013 request for Naval Reactors is \$1.09 billion. Funding for this program includes the day-to-day challenges associated with maintaining a nuclear-powered fleet; the design and development efforts for the Ohio-class Replacement; the refueling of the

Land-Based Prototype reactor; and recapitalization of the naval spent nuclear fuel infrastructure at the Naval Reactors Facility located at the Idaho National Laboratory.

The OHIO-class is the most survivable leg of the Nation's strategic arsenal and the only day-to-day assured nuclear response capability. However, that capability is moving toward the end of its service-life with the first of the current OHIO-class submarines scheduled to be taken out of service in 2027. Work to ensure the continuity of the sea-based deterrent is moving forward with the continued development of the OHIO-class Replacement submarine, the centerpiece of which is a life-of-ship reactor core. A life-of-ship core, coupled with emerging maintenance innovations will result in greater operational availability of these submarines and will ultimately enable the need for fewer submarines, 12 vice today's 14 OHIO-class submarines.

Critical to the development of the life-of-ship core, the planned refueling of the Land-based Prototype reactor provides a manufacturing development platform and opportunity for use of new technologies, materials, and components. As part of this project, reactor core manufacturing development and demonstration for the life-of-ship core will be performed. By constructing the replacement core for the prototype with technologies planned for the OHIO-class Replacement, Naval Reactors will mitigate technical, cost, and schedule risks to the ship construction program. Moreover, the Land-based Prototype provides a critical training asset to ensure the sailors of the Nuclear Navy continued to be the best trained in the world.

Naval Reactors responsibilities extend to the ultimate disposal of naval spent nuclear fuel. Major portions of the current spent fuel handling infrastructure in Idaho are more than 50 years old and were not designed for the efficient processing and packaging of spent fuel. Naval Reactors is continuing with the conceptual design phase for the new Spent Fuel Handling Recapitalization Project (SFHP) which will ultimately replace the aging Expended Core Facility (ECF). The ECF does not have the capability to unload full-length aircraft carrier fuel, a capability needed to ensure the Navy's tight defueling and refueling schedule for the NIMITZ-class aircraft carriers. Finally, the SFHP will enable us to meet our commitments under the 1995 Idaho Settlement Agreement which requires that our spent nuclear fuel be moved from wet to dry storage and ultimately to permanent disposal.

## **IMPROVING NNSA MANAGEMENT**

We are continuously improving so we are able to do the work the American people need us to do, in a time when everyone is looking to do more with less. We are positioning ourselves for the next decade by making big decisions focused on the future.

Most significantly, on January 8, 2013, the NNSA awarded a contract worth \$23 billion over 10 years to Combined Nuclear Security (CNS) for the combined management of the Y-12 National Security Complex in Tennessee and the Pantex Plant in Texas, with an option for phase-in of Tritium Operations performed at the Savannah River Site in South Carolina. Although the award is currently under an automatic stay while being protested at the GAO, the new business model will shape the future of the United States' Nuclear Security Enterprise and will save significant taxpayer dollars over the next decade. Furthermore, combining contracts and site offices will

allow us to improve performance, reduce the cost of work, and operate as an integrated enterprise.

We will continue to seek strategies to engender meaningful improvement in performance and reduction of costs for taxpayers at every nuclear security enterprise site in future competitions as well as existing contracts.

In addition, the recently established Office of Acquisition and Project Management (NA-APM) continues to integrate our acquisition and project management staffs resulting in \$20 Million in reimbursements from contractors last year as we utilize our contracts to hold them accountable for unsatisfactory performance. We issued an unambiguous design policy for our complex nuclear projects ensuring that sufficient design work is completed prior to approving project baselines at Critical Decision 2. We have completed 12 projects that were baselined in 2006 or later, eleven of the twelve were completed on or under their approved baselines, and the entire portfolio was completed 10 %, or \$32 million, under budget. We are confident that the lessons learned in delivering this work are applicable and scalable to the major systems projects we have had problems with in the past.

Finally, one of the major actions NNSA took last year was standing up a consolidated office to oversee and direct the operations and infrastructure. The new office will facilitate NNSA's management of the Nuclear Security Enterprise across all eight sides, and will make management more efficient and effective.

## **CONCLUSION**

Our mission is vital, and your past support has been key in helping us accomplish it. The NNSA budget reflects our commitment to keeping the American people safe while continuously improving and doing our part in a time of fiscal austerity. We are looking toward the future and building an organization that is aligned to succeed. I look forward to working with each of you to help us do that. Thank you.