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on the
Fiscal Year 2017 President's Budget Request
Before the
Subcommittee on Energy and Water Development
Senate Committee on Appropriations

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Chairman Alexander, Ranking Member Feinstein, and Members of the Subcommittee, thank you for the opportunity to present the President's Fiscal Year (FY) 2017 budget request for the Department of Energy's (DOE) National Nuclear Security Administration (NNSA). It is a pleasure to be here this afternoon. We value this Committee's strong support for the nuclear security mission, and for the people and institutions that are responsible for executing it.

The President's FY 2017 budget request for NNSA is $12.9 billion, this is an increase of $357.5 million or 2.9% over the FY 2016 enacted level. The request is approximately 43% of the DOE's total budget, and 67% of DOE's total 050 budget.

The NNSA has a unique and special responsibility to maintain a safe, secure, and effective nuclear weapons stockpile for as long as nuclear weapons exist; to prevent, counter, and respond to evolving and emerging nuclear proliferation and terrorism threats; to provide nuclear propulsion to our Navy as it protects American and Allied interests around the world; and to support our outstanding NNSA federal workforce. By supporting overall growth, this budget request represents a strong endorsement of NNSA's vital and enduring missions, and is indicative of the Administration's unwavering commitment to a strong national defense.

NNSA's missions are accomplished through the hard work and innovative spirit of a highly talented federal and Management and Operating (M&O) workforce committed to public service. To provide this team the tools they need to carry out their complex and challenging task, both now and in the future, we must continue to modernize our scientific, technical, and engineering capabilities and infrastructure. In doing so, we are mindful of our obligation to continually improve our business practices, and to be responsible stewards of the resources that Congress and the American people have entrusted to us.

The FY 2017 budget request also reflects the close working partnership between NNSA and the Department of Defense (DoD). NNSA works closely with DoD to meet military requirements, support our Nation's nuclear deterrence capabilities and modernize the nuclear security enterprise. I would also note, that as in previous years, DoD is carrying in its FY 2017 budget request separate funding in FY 2018 and beyond that will be reallocated annually to NNSA's Weapons Activities and Naval Reactors.

I want to thank the committee for its support of the FY 2016 budget request and look forward to your continuing support in FY 2017. We have made some tough decisions and tradeoffs to meet both military commitments and nuclear security priorities. Without congressional support, modernization of our nuclear enterprise, implementation of our long-term stockpile sustainment strategy, and sustainment of our nonproliferation and prevention and response capabilities could be at risk. The program we have proposed is highly integrated and interdependent across the four accounts.

Details of the FY 2017 budget request for the NNSA follow:

Weapons Activities Appropriation

For the Weapons Activities account, the FY 2017 budget request is $9.2 billion, an increase of $396.2 million, or 4.5% above the FY 2016 enacted levels. This account provides funds for the Defense Programs portfolio, which is responsible for all aspects of the stockpile stewardship, management, and responsiveness programs; the enterprise-wide infrastructure sustainment activities managed by our Office of Safety, Infrastructure, and Operations; NNSA's physical and cybersecurity activities; and the secure transportation of nuclear materials.

Maintaining the Stockpile

Last year, the work of the science-based Stockpile Stewardship Program (SSP) allowed the Secretaries of Energy and Defense to certify to the President for the 20th time that the American nuclear weapons stockpile remains safe, secure, and reliable, without the need for underground explosive nuclear testing. This achievement is made possible each year by essential investments in state-of-the-art diagnostic tools, high performance computing platforms, and modern facilities, which are staffed by NNSA's world-class scientists, engineers, and technicians.

For Directed Stockpile Work (DSW), the FY 2017 budget request is $3.3 billion, a decrease of $57.3 million, or 1.7% below the FY 2016 enacted levels. These reductions will not restrict NNSA's ability to annually assess system performance and reliability or maintain the schedule for Life Extension Programs (LEP).

The major LEPs are a fundamental part of this account. The $222.9 million requested for the W76-1 warhead LEP directly supports the Navy and will keep the LEP on schedule and on budget to complete production in FY 2019. We continue to make good progress on the B61-12 LEP, which will consolidate four variants of the B61 gravity bomb and will improve the safety and security of the oldest weapon system in the U.S. nuclear arsenal. With the $616.1 million requested, we will remain on schedule to deliver the First Production Unit (FPU) in FY 2020. NNSA is responsible for the refurbishment of the nuclear explosives package and new bomb electronics, while the Air Force will provide the tail kit assembly under a separate acquisition program. When fielded, the B61-12 bomb will support both Air Force strategic long-range

nuclear-capable bombers and dual-capable fighter aircraft, providing extended deterrence to our allies and partners, and allow retirement of the last megaton class weapon in the inventory, the B83 gravity bomb.

In July 2015, we began Phase 6.2 (Feasibility Study and Design Options) for the W80-4 cruise missile warhead LEP. The FY 2016 budget request included $195 million to accelerate the FPU by two years to FY 2025, a decision made by the Nuclear Weapons Council (NWC) in late 2014. The FY 2015 budget request included $10 million to start the program. We had initially planned a ramp-up of Phase 6.2 study activities beginning in FY 2016 to support the NWC FPU decision. However, as a result of the FY 2016 continuing resolution, we were unable to begin the planned ramp-up activities until just recently. Furthermore, because of the delay in receiving FY 2016 funding, the program cannot execute the full FY 2016 enacted amount this year. As a result, a significant amount of the program's FY 2016 funding will carry over into FY 2017. Consequently, the FY 2017 budget request is $25.3 million over the FY 2016 budget request, rather than $117 million over the FY 2016 budget request, as previously projected. While this delayed start will affect planned technology maturation activities in Phase 6.2A (Design Definition and Cost Study), we still fully expect to meet the planned FPU date in FY 2025 to support the Air Force Long Range Stand Off (LRSO) program.

In FY 2015, the NWC approved additional scope for the W88 Alteration (ALT) 370 to meet an emerging requirement. NNSA is now accelerating the new Conventional High Explosive (CHE) refresh work to match the original ALT schedule. As a result, we are synchronizing the full program to transition seamlessly to the Production Engineering phase in February 2017. In preparation for that phase transition, NNSA will publish a baseline cost report by the end of this fiscal year. This budget request reflects these efforts and includes $281.1 million in FY 2017 to support the FPU in FY 2020.

Also within DSW, the FY 2017 budget request includes $1.3 billion for Stockpile Systems and Stockpile Services. These programs sustain the stockpile pursuant to the direction given in the President's Nuclear Weapon Stockpile Plan (NWSP). In doing so, the programs deploy unique skills, equipment, testers, and logistics to enable the daily operations of the nation's nuclear deterrent. Specifically, these programs produce and replace limited life components (LLCs) such as neutron generators and gas transfer systems, conduct maintenance, surveillance, and evaluations to assess weapons reliability, detect and anticipate potential weapons issues such as the recent CHE refresh issue mentioned above, and compile and analyze information during the Annual Assessment process.

The pursuit and application of technological advancements to enhance safety and security while reducing life cycle costs of the stockpile runs through all of these activities. The development of Integrated Surety Architectures enhancing transportation safety and security is an example of these efforts.

Within DSW, the FY 2017 budget request also includes $577.8 million for the Strategic Materials account to maintain NNSA's ability to produce the nuclear and other materials needed to

support the enduring stockpile. This program includes Uranium Sustainment, Plutonium Sustainment, Tritium Sustainment, Domestic Uranium Enrichment (DUE), lithium and other strategic materials. Funding for Uranium Sustainment will enable enriched uranium operations in Building 9212, a Manhattan Project-era production facility at the Y-12 National Security Complex in Oak Ridge, Tennessee, to end in FY 2025, and allow the bulk of this obsolete building to shut down. The sustainment and modernization of enriched uranium capabilities and the acceleration of Area 5 de-inventory will reduce safety and mission risks in the near term.

Plutonium Sustainment funds replacement and refurbishment of equipment and the critical skills needed to meet the pit production requirements as outlined in the National Defense Authorization Act (NDAA) for Fiscal Year 2015.

Tritium Sustainment ensures the Nation's capability and capacity to provide the tritium necessary to meet national security requirements, either through production at Tennessee Valley Authority nuclear power plants or by recovering and recycling tritium from returned gas transfer systems.

The DUE program continues its efforts to ensure that we have the necessary supplies of enriched uranium for a variety of national security needs.

The FY 2017 budget request also includes $69 million for Weapons Dismantlement and Disposition, an increase of $16.9 million, 32.7% above the FY 2016 enacted level, which includes funds to support the President's goal to accelerate the dismantlement rate of previously retired weapons by 20%. This will enable NNSA to dismantle the weapons retired prior to FY 2009 by 2021, rather than the original goal of 2022. It will also result in increased Management and Operating staff at both the Pantex Plant in Amarillo, Texas and the Y-12 National Security Complex.

For Research, Development, Test, and Evaluation (RDT&E), the FY 2017 budget request is $1.9 billion, an increase of $36.2 million, 2% above the FY 2016 enacted level. This includes $663.2 million for the Advanced Simulation and Computing (ASC) Program, an increase of $31 million for the Advanced Technology Development and Mitigation (ATDM) subprogram that supports high performance computing on the path to exascale, and $87.1 million for Advanced Manufacturing Development (AMD), a decrease of $43 million. The decrease reflects a realignment from technology development investments to address higher NNSA priorities. The budget request focuses on continued investment in advanced manufacturing opportunities and improving the manufacturing processes for components that support multiple weapons to maximize the benefits of these investments. Advanced Manufacturing invests in technologies that will reduce the time and cost of current manufacturing methods, replaces obsolete processes, and supports manufacturing developments for future weapon upgrades. Additive Manufacturing, also known as 3-D printing, aids in developing and manufacturing components for stockpile and weapon technology applications. The overall RDT&E request reflects small increases for the Science Program ($442.0 million, an increase of $18.9 million) to achieve two

subcritical experiments per year before the end of the FYNSP, and begin alterations to U1a tunnel complex at Nevada to prepare for these experiments: Inertial Confinement Fusion Ignition and High Yield Program ($523.9 million, an increase of $11.9 million) and the Engineering Program ($139.5 million, an increase of $8.1 million).

The Inertial Confinement Fusion Ignition and High Yield program has spearheaded ongoing improvements in management and operational efficiencies at NNSA's major high energy density (HED) facilities, including the National Ignition Facility (NIF) at Lawrence Livermore National Laboratory (LLNL) in California and the OMEGA facility at the University of Rochester in New York. In FY 2015, NIF markedly improved its shot-rate efficiency with over 350 key experiments performed (compared to 191 in FY 2014) in support of the SSP. This level of effort represents an 85% increase over the previous year and an 18% increase over its goal for 2015.

NNSA has taken major steps in high performance computing to deliver on its missions and play a leading role to support the President's Executive Order on the National Strategic Computing Initiative (NSCI). In 2015, Los Alamos National Laboratory (LANL) and Sandia National Laboratories (SNL) received the first hardware delivery for NNSA's next generation high performance computer, Trinity. This computer will initially have eight times more applications performance than the Cielo machine it is replacing. NNSA also continued its CORAL collaboration with LLNL, the DOE Office of Science national laboratories at Oak Ridge and Argonne, IBM, and other vendors. CORAL will help develop next generation computing platforms to dramatically improve our ability to run increasingly complex codes and will be a significant step on the path to exascale computing.

NNSA collaborates with the DOE Office of Science while making these much needed investments in exascale computing. The FY 2017 budget request includes $95 million from NNSA for the development of capable exascale systems.

Defense Programs also maintains the vitality of the broader National Security Enterprise. An important aspect of this effort is investing in Laboratory-, Site- and Plant-Directed Research and Development (LDRD/PDRD). Independent reviews have consistently affirmed the importance of the program to the long-term vitality of the labs. LDRD/PDRD provides basic research funding to foster innovation and to attract and retain young scientific and technical talent and is critical to the long-term sustainment of our national laboratories. Congressional support is essential to ensuring that we have both the workforce and the new developments necessary to support the nation's security into the future.

Improving Safety, Operations and Infrastructure

NNSA's ability to achieve its mission is dependent upon safe and reliable infrastructure. The age and condition of NNSA's infrastructure will, if not addressed, put the mission, the safety of our workers, the public, and the environment at risk. More than half of NNSA's facilities are over 40 years old while 30% of them date back to the Manhattan Project era. The FY 2017 budget request for Infrastructure and Operations is $2.7 billion, an increase of $442.8 million,

19.4% above the FY 2016 enacted level. This funding will help NNSA modernize and upgrade aging infrastructure and address safety and programmatic risks through strategic investments in both general purpose infrastructure and program-specific capabilities that directly support our nuclear weapons and nonproliferation programs.

To support critical programmatic activities, we are making important strides in recapitalizing our aging infrastructure and capabilities. In FY 2015, NNSA funded new and continuing projects to enhance or replace programmatic capabilities and address the risks posed by the aging infrastructure. NNSA's investment in these projects is vital to the revitalization of the NNSA enterprise. The FY 2017 budget request provides funding for more than 70 recapitalization projects. The request will also support general purpose infrastructure and program-specific capabilities through Line Item Construction projects. These projects include, for example, the Uranium Processing Facility (UPF), the Chemistry and Metallurgy Research Replacement (CMRR) project, the U1a Complex Enhancements Project (UCEP) in support of the Enhanced Capabilities for Subcritical Experiments (ECSE) portfolio, the Albuquerque Complex Project to replace the current inadequate facilities, and a project to expand the electrical distribution system at LLNL.

One of the most worrisome of the NNSA infrastructure challenges is the excess facilities that pose risks to our workers, the environment, and the mission. While many of these facilities will ultimately be transferred to the DOE Office of Environmental Management for disposition, NNSA is focusing on reducing the risk where it can. In FY 2015, NNSA successfully demolished our second non-process contaminated building at Y-12 within the past two calendar years. The FY 2017 budget request supports a number of activities to continue to address excess facilities. These activities include the transition of the Kansas City Bannister Federal Complex to the private sector for environmental remediation and redevelopment, risk reduction activities at Alpha-5 and Beta-4 at Y-12 – both of which are highly process-contaminated – and disposition of more uncontaminated facilities across the NNSA enterprise.

Our Secure Transportation Asset (STA) program provides safe, secure movement of nuclear weapons, special nuclear material, and weapon components to meet projected DOE, DoD, and other customer requirements. The FY 2017 budget request of $282.7 million includes an increase of $45.6 million, 19.2% above the FY 2016 enacted levels, to continue asset modernization and workforce capability initiatives. These initiatives include: (1) restoration of federal agent strength levels to meet the goal of 370; (2) the Safeguards Transporter (SGT) Risk Reduction Initiatives to manage the SGT beyond its design life; (3) development and testing of the selected alternative for the SGT replacement, the Mobile Guardian Transporter (MGT); and (4) replacement of vehicles and tractors.

The Office of Defense Nuclear Security (DNS) develops and implements sound security programs to protect Special Nuclear Material (SNM), people, information, and facilities throughout the nuclear security enterprise. The FY 2017 budget request is $670.1 million, a decrease of $12.8 million, or 1.9% below the FY 2016 the enacted level of $682.9 million due to one-time dedicated increases in FY 2016. After adjusting for an FY 2016 one-time $30 million

designated plus up and $13 million dedicated line item construction amounts for each year, the remaining FY 2017 operating request of $657.1 million is an increase of $17.2 million, or 2.7% above the FY 2016 enacted operating level of $639.9 million. The request manages risk among important competing demands as NNSA continues to face the challenges associated with an aging physical security infrastructure that must be effectively addressed in the coming years. To this end, DNS is conducting a Site Condition Review (SCR) of the physical security systems at all locations to facilitate the development of an enterprise-wide security systems upgrade and refresh strategy. This effort will identify and manage current and future security improvements and upgrades on a 10-year planning cycle and includes determining the condition of critical security equipment and infrastructure. A final report of this effort will provide DOE/NNSA leadership and Congressional stakeholders with consolidated and up-to-date information to enable informed decisions for fiscal planning and programming.

The SCR is being conducted within the context of important organizational improvements and management strategies published in the June 2015 Security Roadmap. The document establishes a clear vision and path forward to correcting identified security issues and promoting sustained performance within the NNSA security program. The Security Roadmap is a multi-year effort that implements key recommendations for improvement identified in past assessments; it includes a total of 57 strategic initiatives covering culture, process, infrastructure, and workforce challenges. As of the end of 2015, DNS has completed six of the initiatives and is currently working on another 20 initiatives. The remaining 31 initiatives are pending formal initiation.

For Information Technology and Cybersecurity, the FY 2017 budget request is $176.6 million, an increase of $19 million, or 12.1% above FY 2016 enacted levels. This increase will fund much needed improvement to the Information Technology and Cybersecurity program, including Continuous Diagnostic and Mitigation (CDM), Telecommunications Security, infrastructure upgrades for the Enterprise Secure Computing Network (ESN), Public Key Infrastructure (PKI), Energy Sciences Network (ESnet) program, and an increased Information Technology budget. This cybersecurity program continuously monitors enterprise wireless and security technologies (e.g., identity, credential, and access management) to meet a wide range of security challenges. In FY 2017, NNSA plans to continue the recapitalization of the Enterprise Secure Network, modernize the cybersecurity infrastructure, implement the Identity Control and Access Management project at NNSA Headquarters and site elements, and implement all Committee on National Security Systems and PKI capabilities.

Defense Nuclear Nonproliferation Appropriation

The Defense Nuclear Nonproliferation (DNN), FY 2017 budget request is $1.8 billion, a decrease of $132.4 million, 6.8% below the FY 2016 enacted levels. This appropriation covers NNSA's nuclear threat reduction mission. DNN addresses the entire nuclear threat spectrum by helping to prevent the acquisition of nuclear weapons or weapon-usable materials, technologies, and expertise, countering efforts to acquire such weapons, materials, and technologies, and responding to nuclear and radiological incidents. The FY 2017 budget request funds two

mission areas under the DNN appropriation: the Defense Nuclear Nonproliferation Program and the Nuclear Counterterrorism and Incident Response (NCTIR) Program.

Nonproliferation Efforts

NNSA made significant progress in nuclear threat reduction in 2015. Working with foreign partners, the Office of Defense Nuclear Nonproliferation removed approximately 170 kilograms of highly enriched uranium (HEU) and plutonium from several civilian sites; successfully down-blended additional HEU to achieve a cumulative total of 150 metric tons of U.S. excess, weapons-usable HEU (approximately 6,000 nuclear weapons worth of material); recovered more than 100,000 curies of disused or orphaned radioactive material; ensured the United States remains on track to fulfill the commitments made at the 2014 Nuclear Security Summit; and supported the Secretary of Energy's efforts to develop the Joint Comprehensive Plan of Action (JCPOA) by providing scientific expertise and technical options to the United States negotiating team.

The Material Management and Minimization (M^3) program provides an integrated approach to addressing the threat posed by nuclear materials through a full cycle of materials management and minimization. The primary objective of the program is to achieve permanent threat reduction by minimizing and, when possible, eliminating weapons-usable nuclear material around the world. The FY 2017 budget request is $341.1 million, an increase of $24.5 million, 7.7% above the FY 2016 enacted levels. This funding increase will accelerate reactor conversions in Kazakhstan and in the United States, as well as initiate the critical decision process to support the dilute and dispose program for domestic plutonium disposition.

The Global Material Security (GMS) program works with partner nations to increase the security of vulnerable nuclear and radiological materials and improve their ability to detect, interdict, and investigate illicit trafficking of these materials. The FY 2017 budget request for this program is $337.1 million, a decrease of $89.6 million, 21% below the FY 2016 enacted level. This decrease is possible because GMS is completing its work to protect the remaining International Atomic Energy Agency (IAEA) Category I radiological sources in the United States to meet our 2014 Nuclear Security Summit commitment, and because GMS is committed to reducing its prior year carryover balances.

The Nonproliferation and Arms Control (NPAC) program supports the nonproliferation and arms control regimes by developing and implementing programs to strengthen international nuclear safeguards; control the spread of nuclear and dual-use material, equipment, technology and expertise; verify nuclear reductions and compliance with nonproliferation and arms control treaties and agreements; and address other nonproliferation and arms control challenges. The FY 2017 budget request will fund safeguards and export control activities, including efforts specifically in support of JCPOA implementation. This funding also supports statutorily mandated activities such as technical reviews of export licenses and interdiction cases, technical support for the negotiation and implementation of civil nuclear cooperation agreements (123 Agreements), and upgrades to the 10 CFR 810 authorization process. The FY

2017 budget request for this program is $124.7 million, a decrease of $5.5 million, 4.2% below the FY 2016 enacted level. This decrease primarily reflects a return to baseline funding following the one-time increase of $3.5 million by Congress in the FY 2016 budget for improvements in the export control process, as well as cost-savings in export licensing activities achieved through operational efficiencies.

The DNN Research and Development (DNN R&D) program supports innovative unilateral and multi-lateral technical capabilities to detect, identify, and characterize (1) foreign nuclear weapons programs, (2) illicit diversion of special nuclear materials, and (3) nuclear detonations. To meet national and Departmental nuclear security requirements, DNN R&D leverages the unique facilities and scientific skills of DOE, academia, and industry to perform research, including counterterrorism-related R&D. The FY 2017 budget request for this program is $393.9 million, a $25.4 million or 6.1% decrease below FY 2016 enacted levels. The decrease in funding reflects projected savings resulting from a reduction in planned activities for arms control-related R&D and a return to the baseline Nuclear Detonation Detection (NDD) program after development of an initial mitigation path for supply chain interruptions.

Nonproliferation Construction consolidates construction costs for DNN projects. Currently, the MOX Fuel Fabrication Facility (MFFF) is the only project in this program; however, the FY 2017 budget request terminates the MOX project. The Department will complete pre-conceptual design for the dilute and dispose approach to establish Critical Decision-0 (CD-0), Approve Mission Need, and begin conceptual design in late FY 2017. The FY 2017 budget request of $270 million will be used to bring an orderly and safe closure of the MFFF. The scope and costs will be refined in subsequent budget submissions when the termination plan for the MFFF project is approved.

Nuclear Counterterrorism and Emergency Operations

DOE has adopted an enterprise-wide approach to strengthen overall preparedness to respond to a broad spectrum of potential emergencies. These emergencies include natural phenomena, such as adverse weather events or earthquakes, and man-made events, such as accidents or acts of terrorism. To better accomplish this mission, in November 2015, NNSA reorganized the Office of Emergency Operations and the Office of Counterterrorism and Counterproliferation.

Both of these organizations are supported under the Nuclear Counterterrorism and Incident Response (NCTIR) Program. In FY 2016, the NCTIR program transitioned to the DNN account in order to align all NNSA funding to prevent, counter, and respond to nuclear proliferation and terrorism. The FY 2017 budget request includes $271.9 million to support the NCTIR program, an increase of $37.5 million, 16% above the FY 2016 enacted level. Within NCTIR, NNSA continues to work domestically and around the world to prepare for and improve our ability to respond to radiological or nuclear incidents.

Our counterterrorism and counterproliferation programs are part of broader U.S. Government efforts assessing the threat of nuclear terrorism and to develop technical countermeasures. The scientific knowledge generated under this program ensures that NNSA's technical expertise

on nuclear threat devices, including improvised nuclear devices (INDs), supports and informs broader U.S. Government nuclear security policy and guides nuclear counterterrorism and counterproliferation efforts, including interagency nuclear forensics and DoD contingency planning.

NNSA's emergency response teams must deploy and respond with the most up to date equipment. The current equipment is aging, increasing maintenance expenses, and has started to impact NNSA's ability to perform its emergency response mission. The Radiological Assistance Program (RAP) remains the nation's premier first-response resource to assess a radiological incident and advise decision-makers on necessary steps to minimize hazards, but its effectiveness is beginning to be compromised by obsolete equipment. To ensure that NNSA is able to execute its radiological emergency response mission, RAP's equipment must be recapitalized regularly. Additionally, NNSA is acquiring state-of-the-art, secure, deployable communications systems that are interoperable with our Federal Bureau of Investigation and DoD mission partners, ensuring decision makers receive real-time technical recommendations to mitigate nuclear terrorist threats.

The Office of Emergency Operations is now aligned to focus on its core Department-wide all-hazards and complex-wide emergency management mission. The FY 2017 budget request for this office is $34.7 million, an increase of $9.6 million, or 38% above the FY 2016 enacted level. This will improve the emergency management system through an enterprise-wide approach that effectively increases the Department's all-hazards emergency preparedness and response capability during complex, cascading, or enduring incidents, and more effectively calls upon and leverages the assets, resources, and skills across the DOE complex. The Emergency Operations Center (EOC) will continue to be the 24/7/365 single-point-of-contact for Departmental and interagency notifications regarding situations requiring centralized management such as, national emergencies, heightened international tension, Departmental emergencies, natural disasters, or acts of terrorism. The program also manages the Emergency Communications Network, and Continuity Programs for all of DOE, including NNSA. The Office of Emergency Operations will continue to work within the DOE to develop plans to replace the existing EOC and to improve the Department's capabilities to respond to emergencies.

Naval Reactors Appropriation

Advancing Naval Nuclear Propulsion

NNSA supports the U.S. Navy's ability to protect and defend American interests across the globe. The Naval Reactors Program remains at the forefront of technological developments in naval nuclear propulsion and ensures a commanding edge in warfighting capabilities by advancing new technologies and improvements in naval reactor performance and reliability.

In 2015, Naval Reactors enabled U.S. nuclear powered warships to operate for another year safely and effectively, steaming more than two million miles in support of national security missions. Initial reactor start-up was achieved in the lead reactor plant of pre-commissioning unit (PCU) GERALD R. FORD (CVN 78), the first new design aircraft carrier propulsion plant in 40

years. This historic milestone represents the culmination of almost 20 years of dedicated and sustained effort by Naval Reactors and its field activities, our Department of Energy laboratories, nuclear industrial base suppliers, the Navy design team and the nuclear shipbuilders. This is the first step in fully testing the integrated operations of the propulsion plant, culminating in sea trials this spring. Finally, we continued our reactor plant design and reactor core manufacturing development efforts in support of the new design OHIO-class Replacement reactor plant, including the life-of-ship core.

The Naval Reactors FY 2017 budget request is $1.42 billion, an increase of $45 million, 3.2% above the FY 2016 enacted level. In addition to supporting today's operational fleet, the requested funding will enable Naval Reactors to deliver tomorrow's fleet by funding three national priority projects, and recruiting and retaining a highly skilled work force committed to the Navy and the nation. The projects include (1) continuing design of the new reactor plant for the replacement of the OHIO-class SSBN, which will feature a life-of-ship core and electric drive; (2) refueling a Research and Training Reactor in New York to facilitate OHIO-class Replacement reactor development efforts and provide 20 more years of live reactor based training for fleet operators; and (3) building a new spent fuel handling facility in Idaho that will facilitate long term, reliable processing and packaging of spent nuclear fuel from aircraft carriers and submarines.

Naval Reactors has requested funding in FY 2017 to support these projects, and to fund necessary reactor technology development, equipment, construction, maintenance, and modernization of critical infrastructure and facilities. By employing a small but high-performing technical base, the teams at our four Program sites – the Bettis Atomic Power Laboratory in Pittsburgh, the Knolls Atomic Power Laboratory and Kesselring Site in greater Albany, and our spent nuclear fuel facilities in Idaho – we can perform the research and development, analysis, engineering and testing needed to support today's fleet at sea and develop future nuclear-powered warships. Importantly, our labs perform the technical evaluations that enable Naval Reactors to thoroughly assess emergent issues and deliver timely responses that ensure nuclear safety and maximize operational flexibility. This technical base supports more than 15,000 nuclear-trained Navy sailors, who safely maintain and operate the 98 nuclear propulsion plants in the fleet 24 hours per day, 365 days per year around the globe. It will also facilitate delivery, as directed by Congress, of our conceptual plan for potential naval application of low enriched uranium.

NNSA Federal Salaries and Expenses Appropriation

The NNSA Federal Salaries and Expenses (FSE) FY 2017 budget request is $412.8 million, an increase of $49.1 million, 13.5% above the FY 2016 enacted level. The FY 2017 budget request provides funding for 1,715 full-time equivalents (FTE) and support expenses needed to meet mission requirements. We are actively engaged in hiring to that number in a thoughtful and strategic manner. The FY 2017 budget request will support 1,715 FTEs, an increase of 60 FTEs (25 above the authorized 1,690) above the anticipated number of FTEs in FY 2016, and request an additional 25 for a total of 1,740 FTEs in FY 2018 and the outyears. The exact number of

FTEs will be determined following a detailed staffing review. It also provides for a 1.3% cost of living increase and a 5.5% increase for benefit escalation. In addition, the request provides funding for additional Federal Background Investigations for security clearances and provides additional funding to the Department's Working Capital Fund, primarily for Office of Personnel Management (OPM) credit monitoring and the Department's accounting systems (iMANAGE).

In FY 2017, NNSA will continue its efforts to meet current and future workforce needs by analyzing how evolving missions are affecting job requirements. Reshaping of the workforce over the next several years will be essential, including identifying the right staffing size and skill sets and implementing professional development plans now and in the future. NNSA will also continue to streamline its operations, particularly in travel and support services, to provide a lean and efficient organization.

Management & Performance

To enhance our ability to carry out our mission and execute this budget request, we will continue to focus on improving our project management and cost estimating capabilities. In keeping with the Secretary of Energy's increased focus on Management and Performance, NNSA is committed to managing its operations, contracts and costs in an effective and efficient manner. The NNSA's Office of Acquisition and Project Management (APM) is driving continued improvement in contract and project management practices. APM is leading NNSA's effort to institute rigorous analyses of alternatives, provide clear lines of authority and accountability for federal and contractor program and project management, improve cost and schedule performance, and ensure Federal Project Directors and Contracting Officers with the appropriate skill mix and professional certifications are managing NNSA's work. NNSA participates in the Secretary of Energy's Project Management Risk Committee as a means to institutionalize and share best practices across the Department. NNSA established the Office of Project Assessments, reporting directly to the Principal Deputy Administrator, ensuring senior leadership visibility and accountability throughout the Enterprise for project performance. This office generated $33 million in cost avoidances as a result of their independent project peer reviews.

Since 2011, NNSA has delivered approximately $1.4 billion in projects, a portion of NNSAs total project portfolio, $70 million (or 5%) under original budget. Significant examples in the last year include the Uranium Processing Facility (UPF) Site Readiness Subproject, which delivered $20 million under budget; Y-12's Nuclear Facility Risk Reduction Project, which delivered $6 million under budget and 11 months ahead of schedule; and LANL's Transuranic Waste Facility Project, which is on track to complete $3 million under budget. Using the Department's best practices, the UPF and Chemistry and Metallurgy Research Replacement Facility Projects were restructured into smaller more manageable subprojects, significantly reducing project delivery risk.

NNSA is committed to encouraging competition and increasing the universe of qualified contractors, by streamlining its major acquisition processes. The most significant example was

the competitive award of the Kansas City National Security Campus M&O contract, awarded without protest, saving taxpayers $150 million and increasing the use of small businesses. As an affirmation of the quality of NNSA's acquisition management team, only four out of 103 competitive procurements were protested, with NNSA winning all protests. Finally, NNSA exceeded its small business goal by over 20%, awarding $233 million to small business in FY 2015.

NNSA will continue to focus on delivering timely, best-value acquisition solutions for all of our programs and projects. NNSA will use a tailored approach to contract structures and incentives that is appropriate for the unique missions and risks at each site. Our M&O contractors are responsible for disparate activities, ranging from research and development to industrial production. Accordingly, we will work to develop the right incentives for each circumstance and for each of our contracts.

Cost Estimating and Program Evaluation

The Office of Cost Estimating and Program Evaluation (CEPE) continues to develop its capabilities to provide trusted independent cost and resource analysis of NNSA's programs and projects. As detailed in its implementation plan, the number of CEPE federal staff will grow from a target of 15 in FY 2016 to 18 in FY 2017. CEPE will conduct independent cost estimates on the B61-12 LEP and W88 Alt 370 in FY 2016 and the W80-4 LEP in FY 2017. CEPE is also institutionalizing best practices for analysis of alternatives and leads the corporate process to build the NNSA budget.

Conclusion

The NNSA performs vital activities at home and throughout the world in support of the nuclear security mission. Its success in addressing 21st century challenges hinges upon the technology, capabilities, and infrastructure entrusted to the organization.

Again, thank you for the opportunity to appear before you today.