Testimony of Secretary Ernest Moniz
U.S. Department of Energy
Before the
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Subcommittee on Energy and Water Development and Related Agencies
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Chairwoman Mikulski and Chairman Feinstein, Ranking Members Shelby and Alexander, and Members of the Committee, thank you for the opportunity to appear before you today to discuss the Department of Energy's (DOE) Budget Request for fiscal year (FY) 2015. This is my first time appearing before this Committee since I joined the Department of Energy last May, and I appreciate the opportunity to discuss how the budget request advances our clean energy, science, nuclear security, and nuclear waste cleanup goals to carry out the President's priorities.

The President has made clear that the Department of Energy has significant responsibilities for advancing the nation's prosperity and security through its mission. In particular, I would like to highlight three critical mission areas of the Department.

As the President said in the State of the Union address, "the all-of-the-above energy strategy I announced a few years ago is working, and today, America is closer to energy independence than we've been in decades." This strategy is driving economic growth and creating jobs, while lowering our carbon emissions. We are producing more natural gas in the United States than ever before. And for the first time in twenty years, we are producing more oil at home than we import from the rest of the world. We have also made remarkable progress in clean and renewable energy. In the last five years, we have more than doubled the amount of electricity we generate from wind and solar. At the same time, we are making the investments that will enable coal and nuclear power to be competitive in a clean energy economy, and aggressively advancing efficiency for its economic and environmental benefits.

In June 2013, the President launched the Climate Action Plan. Under this plan, the Department is working to reduce the serious threat of climate change and, with a heightened focus on resilience, preparing American communities for the impacts of a changing climate that are already being felt.

Just over a week ago at the Nuclear Security Summit in The Hague, the President reiterated his commitment to nuclear nonproliferation and security, calling on the global community to decrease the number of nuclear weapons, control and eliminate nuclear weapon-usable materials, and build a sustainable and secure nuclear energy industry. All of these areas are central to the Department of Energy's mission: maintaining a strong and credible strategic deterrent, working to secure and eliminate vulnerable nuclear materials around the world, and advancing safe nuclear power technology for the decades ahead.

Both of these mission areas – clean energy and nuclear security – depend on sustaining America's research and development (R&D) leadership. The Department of Energy, to a large extent through our seventeen national laboratories, plays a key role in our nation's respective advantage in the physical sciences.

Finally, the President's Management Agenda includes an emphasis on Federal agencies' effective and efficient execution of their missions for the American people.

Carrying Out DOE's Top Priorities through an Effective Organization

The Department of Energy's budget request for fiscal year (FY) 2015 aligns the agency's funding and organization with these three presidential priorities.

First, while the Department's science and energy programs have previously been managed and overseen separately by two under secretariats, we have merged those roles into a single Under Secretary for Science and Energy to more effectively carry forth our science and energy priorities. I'll discuss some of the cross-cutting initiatives facilitated by this new organizational structure, as well as how we are

reexamining and strengthening the way we work with our National Laboratories to better carry out our science and energy missions.

Next, an Under Secretary for Nuclear Security, who also serves as Administrator for the National Nuclear Security Administration, oversees our nuclear security missions and ensures effective and efficient collaboration across under secretariats on crosscutting activities and missions. This Under Secretary is also engaging in discussions with the National Laboratories and with Congress to ensure that all of our sites are working to serve the public interest to the greatest extent possible. This position is, of course, established with the principle high level charge of preserving U.S. nuclear security, this why we are moving the Office of Environmental Management to the new Undersecretary for Management and Performance.

Finally, we created the Under Secretary for Management and Performance to implement a strong focus on management to effectively carry out our missions on behalf of the American people. It is not a secret that DOE has room for improvement in this area, and establishing this new position will bring focus and leadership to these challenges.

This Under Secretary focuses on management across the Department, and oversees our environmental cleanup programs. It is inherently complex and challenging to design and implement one-of-a-kind projects to nuclear safety standards. We have had many successes in implementing major projects at the Department of Energy, and obviously we have had and are continuing to have major challenges. We have reduced our Cold War legacy "footprint" by 74 percent. But of course, the most complex and difficult projects remain. A focus on management and performance is critical to further building upon our successes and overcoming our challenges.

The Department of Energy's top-line discretionary budget request for FY 2015 is $27.9 billion, a 2.6 percent increase above FY 2014. The Department of Energy's 2.6 percent increase recognizes our high-priority missions for clean energy and addressing climate change, nuclear security, and innovation. The Department of Energy's budget request includes $9.8 billion for energy, science, and related programs, $11.9 billion for nuclear security, and $6.5 billion for management and

performance and related programs. I will discuss the budget request for each of these three programmatic areas in more detail.

Recognizing the importance of the two-year budget agreement Congress reached in December, the Budget adheres to the 2013 Bipartisan Budget Act's discretionary funding levels for 2015. However, these levels are not sufficient to expand opportunity to all Americans or to drive the growth our economy needs, and the need for pro-growth investments in infrastructure, education, and innovation has only increased due to the Great Recession and its aftermath. For that reason, the Budget also includes a separate, fully paid for $56 billion Opportunity, Growth, and Security Initiative (OGSI), which shows how additional discretionary investments in 2015 can spur economic progress, promote opportunity, and strengthen national security. Consequently, in addition to the base budget submission of $27.9 billion for the Department of Energy, OGSI provides $1.6 billion for additional investments at the Department of Energy. Those investments consist of over a billion dollars in the energy and climate arena—including $355 million for climate resilience and $684 million for clean energy and energy efficiency activities—and $600 million for additional investments in nuclear security.

In addition to our discretionary budget and OGSI, the Budget also proposes an Energy Security Trust. This $2 billion investment over 10 years will support R&D into a range of cost-effective technologies – like advanced vehicles that run on electricity, homegrown biofuels, renewable hydrogen, and domestically produced natural gas – and will be drawn from existing royalty revenues generated from Federal oil and gas development.

Science and Energy

The budget request includes $9.8 billion for science and energy programs to further our all-of-the-above energy strategy, support the President's Climate Action Plan, continue the Quadrennial Energy Review, and maintain global scientific leadership. The request includes $4.7 billion for a portfolio of energy activities consisting of our applied energy programs, the Advanced Research Projects Agency—Energy (ARPA-E), the Loan Programs, International Affairs, the Energy

Information Administration, our new Energy Policy and Systems Analysis program, our proposed consolidation of the Office of Indian Energy Policy and Programs, and the Power Marketing Administrations. These offices reflect the wide diversity of programs, roles, and responsibilities that we have in the Nation's energy sector.

The budget request for science and energy also includes $5.1 billion for the Office of Science, which provides the national research community with unique research opportunities at major facilities for nuclear and particle physics, energy science, materials research and discovery, large-scale computation, and other disciplines.

Together, these programs support the President's Climate Action Plan, further an all-of-the-above energy strategy, and promote and sustain U.S. leadership in science and technology innovation to ensure that clean energy technologies are invented and manufactured here in America.

Energy Efficiency and Renewable Energy

The Department's Office of Energy Efficiency and Renewable Energy (EERE) is the U.S. Government's primary clean energy technology organization, working with many of America's best innovators and businesses to support high-impact applied research, development, demonstration, and deployment (RDD&D) activities in the areas of sustainable transportation, renewable power, and energy efficiency.

EERE has experienced tremendous success in contributing to efforts to reduce U.S. dependence on foreign oil, save American families and businesses money, and grow the domestic clean energy industry. For example, EERE has helped manufacturers increase their energy productivity, including providing technical support to 590 combined heat and power projects between FY 2009 and FY 2013. Since 1979, EERE-supported RD&D has advanced 220 new manufacturing technologies that can and will continue to significantly increase energy efficiency. In addition, through the EERE-supported SuperTruck Initiative, EERE partners have developed a full-scale, prototype class 8 heavy-duty truck that is 61% more

efficient than current technology. And these are only a couple of examples of the work underway.

The budget request for EERE is $2.3 billion, a 22 percent increase over the FY 2014 enacted level to fully support investments in these areas of sustainable transportation, renewables, and efficiency and manufacturing.

From day one as Secretary, I have placed a strong emphasis on energy efficiency. This budget follows through on that focus by proposing a 39 percent increase in energy efficiency programs in building efficiency, weatherization of homes, advanced manufacturing, and Federal energy and State and local partnership activities. This increase includes funding for activities, such as developing and issuing new appliance standards and working with States on building code development, to strongly promote energy efficiency in support of our goals for the climate, the economy, and American competitiveness.

In his State of the Union address, the President articulated his vision for supporting American manufacturing, including a focus on increasing the number of our manufacturing institutes to accelerate U.S. development of world-leading manufacturing technologies and capabilities. These Institutes connect businesses to research universities that can help America lead the world in advanced technologies. In addition to DOE's contribution to the first institute on additive manufacturing led by the Department of Defense, the Department of Energy awarded an additional institute this year that specializes in wide bandgap semiconductors and announced a competitive solicitation for an additional institute on advanced composites. The FY 2015 budget request will support at least one additional manufacturing institute funded at up to $70 million over five years, with at least one-to-one matching funds from the recipient.

Vehicle technologies are a major focus of DOE's EERE budget request and of the Energy Security Trust proposal. The FY 2015 budget request supports research, development, demonstration, and deployment of efficient and alternative fuel vehicles, including the EV Everywhere goal that aims to make electric vehicles as affordable and convenient as the gasoline powered vehicles we drive today by 2022. This would be accomplished through cost reduction and improved

performance in batteries, electric drive systems, lightweight materials, and integration with the electric power grid. The request also includes funding to continue a focused research and development effort to reduce the cost and increase the durability of fuel cell systems. The request further includes $60 million, administered through authority provided by the Defense Production Act, in collaboration with the Departments of Agriculture and Defense, to continue to enable the objective of producing advanced biofuels that meet military specifications at a price competitive with petroleum—an initiative first supported with DOE funding in FY 2014.

The Department's budget request also continues to advance renewable energy through a number of ongoing initiatives. The request supports the SunShot Initiative's mission to make solar energy technologies, including both solar photovoltaic (PV) and CSP technologies, cost-competitive with traditional sources of electricity, without subsidies, by 2020. It supports research, development and demonstration for wind energy, including funds for three advanced offshore wind demonstration projects to be operational by 2017, and it includes funding to advance technologies in both conventional hydropower and marine and hydrokinetic devices. The request continues to support the Frontier Observatory for Research in Geothermal Energy (FORGE), a new geothermal energy R&D project started in FY 2014, and a critical step for learning how to harness our vast but untapped domestic geothermal resources through enhanced geothermal systems.

Fossil Energy

As part of our all-of-the-above energy strategy, DOE's Fossil Energy Research and Development program advances technologies related to the reliable, efficient, affordable, and environmentally sound use of fossil fuels which are essential to our Nation's security and economic prosperity. Since President Obama took office, the Department of Energy has invested more than $6 billion in carbon-capture and storage (CCS) research, development and demonstration. The Office of Fossil Energy is leading this charge, supporting critical research and deployment efforts to ensure that all sources of energy, including fossil fuels, are competitive in a carbon constrained economy.

The budget request continues the Department's strong focus on carbon-capture and storage (CCS) through its $476 million request for Fossil Energy (FE) Research and Development. In addition to our current portfolio of demonstration projects, The request includes $25 million for a new demonstration program, Natural Gas Carbon Capture and Storage (NG-CCS), to support a project to capture and store carbon emissions from natural gas power systems. Looking into the future, CCS technologies will be required for natural gas, as with coal, to be a major player in a low-carbon world.

In addition, the Loan Guarantee Program is currently receiving applications for up to $8 billion in loan guarantees focused on advanced fossil energy projects that reduce CO_2 emissions. Together with these ongoing projects and the fossil loans, the FY 2015 budget request constitutes a major fossil energy program.

The request includes $15.3 million to implement priority collaborative research and development with the Environmental Protection Agency and Department of the Interior to ensure that shale gas development is conducted in a manner that is environmentally sound and protective of human health and safety; $4.7 million to fund a new midstream natural gas infrastructure program focused on advanced cost-effective technologies to detect and mitigate methane emissions from natural gas transmission, distribution, and storage facilities and to communicate results on methane emissions mitigation to stakeholders; and, $15 million to conduct lab- and field-based research focused on increasing public understanding of methane dynamics in gas-hydrates bearing areas.

The budget request provides for the full operational readiness of the Strategic Petroleum Reserve including restoration of its designed drawdown capability.

Nuclear Energy

The Office of Nuclear Energy works to advance nuclear power as a resource capable of contributing to meeting the Nation's energy supply, environmental, and national security needs. The budget request for the Office of Nuclear Energy, $863.4 million, is roughly flat compared to the FY 2014 appropriated level. The Office will continue ongoing work with particular focus in two main areas: the

development of next-generation nuclear reactors and the management of nuclear waste.

For next-generation reactors, the budget request continues to fund research and development on advanced reactor technologies, as well as technical support for two awards to help accelerate the commercialization of small modular reactors. It also provides funding for the continuation of the Department's first Energy Innovation Hub into a final five year term, assuming the determination is made that the Hub meets all requirements and criteria to be eligible for renewal. The Department is using a formal process make the renewal determination, which will be completed within FY 2014. This hub is focused on nuclear energy modeling and simulation and currently centered at Oak Ridge National Laboratory.

In addition to the focus on new reactor technologies, the budget request funds for activities to advance the Administration's *Strategy for the Management and Disposal of Used Nuclear Fuel and High-Level Radioactive Waste*. The budget request continues to lay the groundwork for implementation within existing authorities by providing $79 million for Used Fuel Disposition activities, including $30 million for generic process development and other activities related to storage, transportation, disposal, and consent-based siting, and $49 million for related generic research and development. The budget also includes a funding reform proposal needed to support implementation of the nuclear waste management program over the long term.

Electricity Delivery and Energy Reliability

The Electricity Delivery and Energy Reliability (OE) program drives electric grid modernization and resiliency in the energy infrastructure through research and development, partnerships, facilitation, modeling and analytics, and emergency preparedness and response. OE also serves as the Federal government's primary liaison to the energy sector in responding to energy security emergencies, both physical and cyber.

OE's development of advanced sensors to measure the flow of electricity in real time is enabling grid operators to monitor system health and mitigate disturbances.

Roughly 1700 sensors have now been installed nation-wide, providing wide visibility of the grid that can prevent the kind of cascading events that caused the 2003 blackout. OE's cybersecurity research has produced commercially available tools designed specifically for the energy sector. Just one example is a tool to assist the electricity sector assess and strengthen their cybersecurity maturity posture. This program has been accessed by over 100 utilities and has now been adapted and released for use by the oil and natural gas sector. OE also responded to three energy emergency events in FY 2013, including Superstorm Sandy, facilitating restoration efforts through trained analysts and responders coupled with the deployment of the program's near-real time visualization capability, enabling quicker power restoration and fuel delivery systems.

The budget request, $180 million, includes a substantial increase for OE, over 20 percent, to emphasize grid modernization and resiliency in several areas. The budget increase supports the Department's growing focus on increasing the resiliency of the energy infrastructure through emergency preparedness and response. From the severe cold weather over the past winter to extreme storms, including Superstorm Sandy, we have seen how important these activities are. The Department is also focused on the growing danger of cyber-attacks and the physical security of the grid. The budget increases funding to strengthen the energy infrastructure, critical for national, economic and energy security, against both natural and man-made hazards, through research and development and through the establishment of an Energy Resilience and Operations Center.

The budget increase also helps move the Nation closer not only to a more resilient grid, but one that is also more reliable, efficient and flexible through research and development into microgrids and grid-scale energy storage. It also invests in transformation of the distribution system toward higher performance through new, more advanced control systems.

Advanced Research Projects Agency—Energy

The Advanced Research Projects Agency—Energy (ARPA-E) program takes a unique entrepreneurial approach, supporting high-risk high-reward energy technology research projects that could create the foundation for entirely new

industries, but are too early in their development for private sector investment. With ARPA-E, we are swinging from the heels and trying to hit home runs, not just base hits.

ARPA-E has invested over $900 million across 363 projects through 18 focused programs and two open funding solicitations. In the past year alone, ARPA-E has launched focused programs to improve techniques to manufacture light-weight metals, develop robust battery chemistries and architectures for electric vehicles, biologically convert natural gas to liquids, create innovative semiconductor materials for improved power conversion, and use solar concentration techniques for hybrid solar converters. To date, 22 ARPA-E projects have attracted more than $625 million in private-sector follow-on funding after ARPA-E's investment of approximately $95 million.

ARPA-E funded companies and research teams have successfully engineered microbes that use carbon dioxide and hydrogen to make a fuel precursor for cars, developed a one megawatt silicon carbide transistor the size of a fingernail, produced a new hardware device that regulates the flow of power on the electrical grid and software that allocates electricity in much the same way internet routers allocate bandwidth throughout the internet.

The budget request provides $325 million for ARPA-E, a 16 percent increase, which will be split between an open solicitation to capture potentially transformational ideas not within the scope of existing programs, as well as 4-5 new programs looking at critical energy challenges.

Loan Programs

The Department's Loan Programs Office supports a large, diverse portfolio of more than $30 billion in loans, loan guarantees, and commitments, supporting more than 30 closed and committed projects. The projects that LPO has supported include one of the world's largest wind farms; several of the world's largest solar generation and thermal energy storage systems; the first new nuclear reactors to begin construction in the U.S. in more than three decades; and more than a dozen

new or retooled auto manufacturing plants across the country. The program as a whole is performing very well to date, with losses below expected levels.

The example of utility scale solar shows how the Loan Program can jumpstart an entire industry. If we think back to 2009, photovoltaic projects larger than 100 MW were non-existent in the United States. And there was no commercial financing market for large solar projects. Using Recovery Act Funds, our Loan Program Office financed the first six utility scale PV projects in the United States. And these projects helped prove to private industry that the technology was viable and cost effective. Since our initial investments, ten new utility scale projects have been funded by the private sector.

The budget request includes administrative funds for the Title 17 Innovative Technology Loan Guarantee Program and the Advanced Technology Vehicles Manufacturing Loan Program. While the budget does not propose new loan authority or credit subsidies, I would note that the Loan Program celebrated a number of milestones in the last few months, including the opening of the Ivanpah solar plant—the world's largest solar-thermal plant—and the financial closing of two loan guarantees to support the construction of the Vogtle nuclear reactor project. We have also begun accepting applications for an $8 billion advanced fossil energy loan guarantee solicitation, and we look forward to continue to use the Program's existing authority to support the President's all-of-the-above energy strategy.

Energy Information Administration

The Energy Information Administration (EIA) is the statistical and analytical agency in the Department of Energy. EIA collects, analyzes, and disseminates independent and impartial energy information to promote sound policymaking, efficient markets, and public understanding of energy and its interaction with the economy and the environment. In the last year, EIA released a new Drilling Productivity tool, which has already received widespread, praised from industry participants and will also lead to a more accurate baseline for production estimates in many other of EIA's reports. In 2013, EIA also launched the most

comprehensive portal of the U.S. government's national and state energy data currently available.

EIA is important both to the mission of the Department and also to the functioning of energy markets. The budget request proposes $122.5 million, an increase of 5 percent, to fully support EIA's important capabilities through upgrades to its infrastructure and the development of the new products for evolving energy markets.

Energy Policy and Systems Analysis

The Office of Energy Policy and Systems Analysis (EPSA), established last year, serves as my principal policy advisor on energy and related integration of energy systems and acts as a focal point for the Department's analysis and development of energy policy that could facilitate the transition to a clean and secure energy economy. EPSA carries out strategic studies and policy analysis, maintains and coordinates a supporting set of analytical capabilities, and carries out assessments of the strength, resiliency, and anticipated challenges of national energy systems.

By identifying and prioritizing ways in which DOE programs may be strengthened to contribute to the economic well-being, environmental quality, and energy security of the United States, EPSA plays a critical role in the Department's policy formulation, and in efforts like the Quadrennial Energy Review (QER) and DOE's crosscutting grid modernization initiative.

The QER report will provide an integrated view of, and recommendations for, Federal energy policy in the context of economic, environmental, occupational, security, and health and safety priorities, with attention in the first report given to the challenges facing the Nation's energy infrastructures. It will review the adequacy, with respect to energy policy, of existing executive and legislative actions, and recommend additional executive and legislative actions as appropriate; assess and recommend priorities for research, development, and demonstration programs to support key energy-innovation goals; and identify analytical tools and data needed to support further policy development and implementation.

The budget request for EPSA is $38.5 million, an increase of $22.4 million, to support several key initiatives. The increase primarily funds the crosscutting grid modernization efforts, as well as analytics and modeling in support of DOE's responsibility as secretariat for the government-wide Quadrennial Energy Review.

Indian Energy Policy and Programs

The Office of Indian Energy Policy and Programs (IE) directs, fosters, coordinates, and implements energy planning, education, management, and competitive grant programs to assist Tribes with clean energy development and infrastructure, capacity building, energy costs, and electrification of Indian lands and homes. IE performs these functions consistent with the federal government's trust responsibility, Tribal self-determination policy, and government-to-government relationship with Indian Tribes, and accomplishes its mission through technical assistance, education, and capacity building; research and analysis; and financial assistance to Indian Tribes, Alaska Native Tribes and corporations, and Tribal energy resource development organizations.

The budget request, which provides $16 million for Indian Energy Policy and Programs as a separate appropriation, reflects the consolidation of our tribal energy programs into a single office.

Science

DOE's science programs provide the technical underpinnings to accomplish the Department's missions and form part of the backbone of basic research in the physical sciences in the United States. Almost 28,000 researchers use Office of Science user facilities each year, and the successful construction and operation of these facilities is central to the economic competitiveness, national security, and scientific leadership of the Nation.

The budget request provides $5.1 billion for the Office of Science, a 1 percent increase above FY 2014. The request builds upon the Department's strength in the development of large-scale computational capability. The FY 2015 request supports the Office of Science in developing next-generation computational

tools—and in applying these tools to many of science's grand challenges, such as climate modeling and computational material science.

In particular, Science will lead, in conjunction with NNSA, research focused on developing capable exascale computing platforms. Maintaining a strong program in high performance computing will be tremendously important to our economic competiveness and national security, and government-wide coordination of this effort will ensure that the U.S remains a global leader in high-performance computing for science, defense and industry.

The budget request also supports our ongoing commitment to leading-edge scientific facilities. The request ramps up construction of the Facility for Rare Isotope Beams at Michigan State University, which was dedicated on March 17th. The request also continues construction of the Linac Coherent Light Source II—another example of the many cutting-edge DOE facilities that provide an unparalleled set of research tools to tens of thousands of science users.

In FY 2015, we sustain our commitment to our highly productive Energy Frontier Research Centers and three Bioenergy Research Centers. The budget request also includes funding for the Office of Science's two Energy Innovation Hubs, which focus on batteries and converting sunlight to liquid fuels. I would also note that I have charged the Secretary of Energy Advisory Board to look at how we can evaluate and continue to improve the performance of the Department's Hub model moving forward. The Advisory Board's draft report was released late last month, and I would be happy to discuss its findings once the report is finalized.

Crosscutting Initiatives

Finally, we have identified a number of areas for crosscutting initiatives to tackle common challenges and recognize shared opportunities across multiple DOE offices. I have selected these initiatives because of their potential to be game-changers in energy and security, to add value through collaboration and leveraging DOE's full breadth of research and technologies, and to ensure there is no duplication of effort. These collaborative efforts extend across DOE's programs

and National Labs and are designed to leverage the unique, first-class array of facilities and capabilities that exist across the DOE complex.

The grid modernization initiative implements a unified strategy to address institutional and technological challenges to creating a more secure, resilient, and flexible future grid. The initiative enlists the unique strengths and focuses of four offices: OE, EERE, EPSA, and the Office of Congressional and Intergovernmental Affairs.

The subsurface environment is critical to the U.S. for energy production, energy and CO2 storage, remediation of existing legacy waste, and ultimate disposal of future energy wastes. With the subsurface crosscutting initiative, DOE is bringing together its Science, Fossil Energy, Environmental Management, Energy Efficiency and Renewable Energy, and Nuclear Energy programs into a coherent, coordinated approach to common challenges in characterizing, engineering, monitoring, and controlling subsurface systems in various geologic environments.

The exascale computing initiative continues research and development with our Office of Science and NNSA leading to the implementation of advanced computing systems that will be tremendously productive for science, defense, and our Nation's innovation leadership. An approach coordinated across DOE Offices as well as across the government will help to accelerate that effort. The Department of Energy is part of an interagency effort to optimize investments to sustain our nation's leadership in high performance computing to the benefit of our research capacity, our nuclear security and our industrial base.

Supercritical carbon dioxide (SCO_2) power systems have broad potential for substantially lower-cost, higher-efficiency energy in a number of energy areas. The supercritical CO_2 crosscutting initiative continues related work in renewable energy and fossil energy, and fully-funds a new 10-megawatt supercritical CO_2 technology electric power (STEP) demonstration project in the Office of Nuclear Energy.

Finally, the cybersecurity crosscutting initiative funds activities in four offices—NNSA, OE, Science, and the Chief Information Officer—to strengthen the

protection of DOE from cyber-attacks, bolster the Nation’s capabilities to address cyber threats, and improve the cybersecurity of the energy sector.

Nuclear Security

The budget request provides $11.9 billion for our nuclear security missions, a 4 percent increase over FY 2014, in support of national security priorities articulated in the 2010 Nuclear Posture Review, the Stockpile Stewardship and Management Plan, and the 2010 National Security Strategy of the United States, to secure nuclear materials globally, and to ensure protection of DOE's national security assets.

Weapons Activities

The Department of Energy is responsible for certifying a safe and reliable stockpile without testing, as long as we have nuclear weapons. While budget caps have put difficult constraints on the nation’s national security enterprise, the interagency planning process—involving the Department of Defense, Department of Energy, National Security Council, and the Office of Management and Budget—created a revised strategy and budget request that remains committed to the “3+2 strategy” to maintain a safe and reliable stockpile while reducing the numbers and types of weapons in the next two decades.

The FY 2015 budget request for Weapons Activities is $8.3 billion, a $534 million or a 7 percent increase over FY 2014, to maintain a safe, secure, and effective nuclear stockpile, and to strengthen key science, technology, and engineering capabilities and modernize the national security infrastructure. The budget request supports the revised strategy to achieve the B61-12 LEP First Production Unit (FPU) by FY 2020 and complete production of the W76-1 warhead by FY 2019. The strategy defers the W78/88-1 Life Extension Program by five years, achieves the W88 ALT 370 FPU in the first quarter of FY 2020, and delays the Long-range Standoff warhead by three years to 2027, while evaluating the option for a future budget request. Under the strategy, the budget continues engineering design for the Uranium Processing Facility into FY 2015, and it continues to support the Nation's current and future defense posture and its attendant nationwide infrastructure of

science, technology and engineering capabilities. We are also continuing to make the investments necessary for maintaining continuity of plutonium capability at Los Alamos National Laboratory while reducing safety risks in the Chemistry and Metallurgy Research Facility and PF-4.

The budget request also includes funding for Defense Nuclear Security (DNS) to support DOE's physical security reform efforts emphasizing mission performance, responsibility, and accountability. The request also provides funding within Weapons Activities to sustain emergency response and nuclear counterterrorism capabilities that are applied against a wide range of high-consequence nuclear or radiological incidents and threats.

In short, the budget request continues to support interconnected critical life extension programs; rebuilding of infrastructure; and the continuation of the science and engineering base that we will need in the long run for certification of the nation's stockpile.

Defense Nuclear Nonproliferation

The Defense Nuclear Nonproliferation (DNN) FY 2015 budget request is $1.6 billion, a $399 million reduction from FY 2014. The Office of Defense Nuclear Nonproliferation continues to support U.S. leadership in nonproliferation initiatives both at home and abroad that increase global nuclear security. While we will continue to support a very robust program, the DNN budget reflects a substantial reduction, which is a result of difficult choices within our prescribed budget caps. Further, more than half of the reduction to DNN's budget is due to reduced funding for the Mixed Oxide Fuel Fabrication Facility.

DNN has had many successes in recent years. Since the President laid out his nuclear security agenda in 2009, DOE's Office of Defense Nuclear Nonproliferation (DNN) has removed or confirmed the disposition of over 3,000 kilograms of highly enriched uranium – enough material for more than 100 nuclear weapons. These removal activities have resulted in eleven countries plus Taiwan becoming HEU-free. DNN has also overseen the downblending of roughly 13 metric tons of surplus U.S. HEU, and cooperated with Russia in the downblending

of about 2 metric tons of Russian HEU. I have just returned from the Nuclear Security Summit in The Hague where the U.S. and Japan announced a program to remove hundreds of kilograms of HEU from Japan's Fast Critical Assembly.

After the conclusion of a four-year accelerated effort, the budget request supports continued efforts to secure or eliminate the world's most vulnerable nuclear weapon materials. The Global Threat Reduction Initiative will continue to convert or shutdown HEU reactors, remove vulnerable HEU and plutonium, and protect additional buildings containing high-priority materials. The research and development program will continue to improve capabilities in nonproliferation and foreign weapons program activity monitoring.

The Fissile Material Disposition program remains a vital commitment. However, as part of an ongoing analysis of options to dispose of U.S. surplus plutonium, it has become apparent that the Mixed Oxide (MOX) Fuel Fabrication Facility will be significantly more expensive than anticipated, and therefore, the budget request places the MOX Facility in cold stand-by while the Department evaluates plutonium disposition options. While we remain committed to the disposal of the 34 metric tons of weapons plutonium, we must go into a standby mode while we look at the full range of options.

Naval Reactors

The Office of Naval Reactors supports the U.S. Navy's fleet of aircraft carriers and submarines by maintaining its unique infrastructure and advanced naval nuclear capabilities. The FY15 budget includes funding for Naval Reactors operations at four Program sites including two laboratories, two operating prototype training reactors and spent fuel handling operations

Naval Reactors' request for FY15 is $1.4 billion, an increase of 26 percent ($263 million) over FY 14 spending levels. The increase is critical to ensuring maintenance of the high standards required to operate the U.S. Navy's nuclear-powered Fleet and executing its National Security mission. It further funds research, development, engineering and testing required to support operating and future nuclear powered warships.

The Program is advancing the design of the life-of-ship core for the OHIO-class Replacement submarine and meeting scheduled milestones for manufacturing and development efforts being performed as part of the Land-based Prototype Refueling Overhaul. Naval Reactors continues conceptual design for recapitalizing its spent fuel handling facility in Idaho. The facility is critical to meeting the Navy's aircraft carrier refueling schedule.

NNSA Federal Salaries and Expenses

The FY 2015 budget request includes $411 million for NNSA Federal Salaries and Expenses, formerly the Office of the Administrator, to support the staffing and Federal support needed to meet mission requirements. The $33 million increase over FY 2014 primarily results from the congressionally-directed transfer of Corporate Project Management and $20 million to move the Albuquerque Complex to a different leased facility.

Management and Performance

The FY 15 budget request provides $6.5 billion for management and performance programs, to support efforts to manage more effectively and to meet our legal and moral obligations to clean up nuclear waste from the Cold War. As mentioned, a suite of efforts supported by the budget aim to improve how effectively we carry out our missions for the American people.

The budget request moves responsibility for the Environmental Management program from the Under Secretary for Nuclear Security into a mainline responsibility for the Management and Performance Under Secretary in order to improve departmental management and execution of some of our most technically-complex cleanup missions. We are currently implementing a reorganization to establish an enterprise-wide approach to health, safety and security that improves both execution and accountability. We continue to support diversity, small businesses, and Native Americans across activities at the Department.

We are pushing forward initiatives to improve the strategic partnership with the National Laboratories including by establishing a National Laboratory Policy Council and a National Laboratory Operations Board to address strategic and management issues with leadership from the Department and the Laboratories. We are also working to improve delivery and reduce the cost of human resource functions and IT services, to strengthen management through new cyber and incident management councils, and to institutionalize more effective enterprise-wide project management by convening a senior-level working group with representatives from across the Department.

Environmental Management

The Environmental Management (EM) program is responsible for the cleanup of millions of gallons of liquid radioactive waste, thousands of tons of used nuclear fuel and special nuclear material, and large volumes of transuranic, mixed, and low-level waste and contaminated soil and water. The program also supports the

deactivation and decommissioning of thousands of excess facilities across the complex.

The EM Program has achieved a number of recent successes. To provide just a few examples, the program has completed cleanup at 91 of 107 sites across the country and significant portions of the remaining 16 sites. Sites that once housed large industrial complexes, like Rocky Flats in Colorado and Fernald in Ohio, are now wildlife preserves. In December 2013, EM closed two additional radioactive waste storage tanks at the Savannah River Site, a major milestone that brings the total number of tanks closed to six. At Oak Ridge, EM recently completed demolition of the K-25 facility, a mile-long, facility that was once the world's largest building under one roof. EM has decommissioned and demolished another 2 million square feet of excess facilities at the Idaho National Laboratory. And at Los Alamos National Laboratory, EM is on track to meet its commitment to complete the removal of all above-ground combustible transuranic waste by the end of June, despite the temporary closure of Waste Isolation Pilot Plant.

The FY 2015 budget request provides $5.6 billion for Environmental Management to meet the Nation's legal and moral imperatives for environmental remediation at DOE sites. The budget request continues to support cleanup progress at 16 sites across the DOE complex, including continued progress on environmental management of the former uranium enrichment facilities at Oak Ridge, Portsmouth, and Paducah. EM has successfully completed many cleanup projects. What remains are some of the most complex cleanup efforts.

For example, the request supports continued construction of the Hanford Waste Treatment and Immobilization Plant (WTP) and efforts to resolve the project's remaining safety and technical challenges. Consistent with the Department's revised option for WTP, which is designed to move the WTP toward immobilization of waste as soon as practicable while resolution of technical issues continues, the FY 2015 budget includes support for analysis and preliminary design of a Low Activity Waste Pretreatment System. This approach demonstrates a commitment to complete the Waste Treatment Plant in a realistic and sustainable way. This will give Congress and the affected communities' stronger confidence in

the Department to get the job done. We will also continue making tank waste cleanup progress at Savannah River and Idaho.

The Budget also proposes $172 million for Legacy Management (LM), the final element of site remediation and closure after active remediation is complete. LM fulfills the Department's commitments to ensure protection of human health and the environment and ensure all contractual obligations are met.

Conclusion

The Department of Energy's FY 2015 budget request will allow it to deliver the innovative and transformative scientific and technological solutions to energy, security, economic, and environmental challenges facing the United States in the 21st century.

Through its Science and Energy programs, the budget request will further the President's Climate Action Plan to cut carbon pollution while reducing America's dependence on foreign oil and will support an all-of-the-above energy strategy. The budget request for Nuclear Security programs will advance the President's vision for reducing the levels of nuclear weapons in the world, strengthen nonproliferation efforts, and combat nuclear terrorism. Finally, the request for Management and Performance programs will allow DOE to address the legal and moral imperative of cleaning up legacy nuclear waste and to better manage our programs on behalf of the American people.

Thank you, and I would be pleased to answer your questions.