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Full Committee

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Introduction

Chaiman Lee, Ranking Member Heinrich, and Members of the Committee. Thank you for the opportunity to testify today, *To Examine the Department of Energy's Implementation of President Trump's May 2025 Nuclear Energy Executive Orders*. It has truly been a pleasure to work with Members on this Committee in a bi-partisan manner. I appreciate the congeniality and openness we have shared working together for many years. I am deeply honored that this Committee has confirmed me to serve in several positions at the Department, now as the Assistant Secretary of the Office of Nuclear Energy (NE).

Background

Over the last 20 years, nuclear energy has become one of the most affordable, reliable, and secure energy solutions in the United States. With 95 reactors operating at 54 sites, nuclear power plants produce 97 GW of baseload power accounting for nearly 20% of all generated electricity. Nuclear power's 92% capacity factor, coupled with its ability to operate 24/7, make it one of this nation's bedrock energy sources. It is truly a remarkable, revolutionary technology.

Important Congressional investment in nuclear technologies and recent advancements at our National Laboratories, universities, and in industry, are enabling the next generation of nuclear reactors to offer enhanced safety features, improved efficiency, greater flexibility and portability, and reduced proliferation risk. As a result of renewed interest and new capital, the Department of Energy (DOE) is meeting weekly

with new entrants pursuing a whole suite of nuclear reactor technologies and I have never seen this much enthusiasm, excitement, and movement. With widespread public support and Congress' commitment specifically from this Committee, the nuclear renaissance envisioned in the early 2000s is now becoming a reality.

Presidential Leadership

This growth has been enabled and enhanced by the President's leadership. As part of his Energy Dominance Agenda, nuclear has become an administration priority. In 2025, President Trump issued four ambitious Executive Orders (EO) including Reforming Nuclear Reactor Testing at the Department of Energy, Deploying Advanced Nuclear Reactor Technologies for National Security, and Reinvigorating the Nuclear Industrial Base. These ambitious EOs laid the groundwork for a new atomic age, which will result in 400 GW of nuclear energy capacity by 2050 through expedited licensing, increased domestic enrichment capacity, and leveraging interagency partnerships. With the leadership of Secretary Wright, I am proud to say that DOE is meeting the deadlines outlined in the EOs.

Affordability

With the exponential growth in demand, DOE is focused on bringing down the cost of energy through energy addition, and this is part of the President's affordability plan. My office is concentrating on bringing online new generation and improving the output of the existing fleet at a fraction of the cost of building a new reactor. As a result, DOE is supporting the restart of retired nuclear plants. Last Fall, DOE announced a $1 billion loan for the Crane Restart project in Pennsylvania, bringing online 835 MW by 2027-2028. This summer DOE expects that Holtec will successfully restart Palisades, adding an additional 800 MW to the grid. My office is working with utilities to implement uprates. By uprating a reactor, a utility can improve efficiency, increase output, and extend its life at a fraction of the cost of a new large reactor, which costs billions. Given modest investment by the utilities, coupled with the Administration's technical support, I believe that uprates alone could add 2.5 GW by 2027 and 5 GW by 2029. This is part of DOE's strategy to meet the demand curve in the short term while building new capacity in the long term.

Priorities

The last time that I appeared before the Committee was for my confirmation hearing where I outlined a vision for the future. It included four key areas: enrichment, new starts, international markets, and fuel cycle. I am proud to report that we have made significant progress in each of these areas and would like to share with you my vision for the next year.

Enrichment

Starting with enrichment, a robust domestic enrichment industry is essential for U.S. energy security and prosperity. Congress astutely recognized this by passing the Nuclear Fuel Security Act and the Prohibiting Russian Uranium Imports Act. In 2024, Russian imports accounted for 20% of all enriched uranium consumed by the domestic fleet. As a result, the U.S. will have to fill the gap by producing an additional 3.043 million Separative Work Unit (SWU) to maintain the current domestic fleet.

As one of my first priorities, I am proud to announce that the Department is on track to meet the existing demand for low enriched uranium (LEU) and future demand for high assay low enriched uranium (HALEU) to fill the gap previously supplied from Russia. In January, DOE announced three $900 million enrichment awards to produce both LEU and HALEU. Once the awardees complete construction, the U.S. will have a durable, resilient enrichment supply chain. Not only will this make America more secure, but it will support the next generation of new nuclear reactors.

New Starts

The next important priority for the Department is new builds; Small Modular Reactors (SMR), microreactors, and pilots. NE is focused on developing, demonstrating, and deploying the next generation of nuclear reactors. To begin the new builds process, DOE is continuing to make progress on its projects in the Advanced Reactor Demonstration Program (ARDP) and GEN III+ SMR program while also collaborating with the Office of Energy Dominance Financing (EDF) to support large light water reactors.

On top of our existing portfolio, the President challenged DOE to show that it is possible to build new innovative reactors with speed and efficiency. To that end, we are working with the private sector to scale to what is possible and working across the interagency, including with the Department of War, to leverage our subject matter expertise to advance nuclear energy priorities for national security while avoiding duplication of effort.

Through the Reactor Pilot Program and Launch Pad USA, the Department is working closely with new companies to expedite the DOE authorization process for new reactor technologies. This collaborative approach with industry has accelerated the development timeline from paper to product. In the President's EOs, he challenged the Department to have three new reactors hit criticality before America's 250th anniversary. Today, we are on track to meet this challenge, which is a testament of American exceptionalism and ingenuity. With the success of the Reactor Pilot program, we have applied these principles to the fuel cycle with the creation of the Fuel Line Pilot program. Partnering with industry, this program has accelerated the production of tri-structural isotropic particle (TRISO) fuel, which is integral to the next generation of reactors.

Thanks to continued Congressional support in the recent appropriations act, which repurposed billions in Infrastructure Investment and Jobs Act funds, NE has doubled down on its investment of small modular reactors through ARDP and GEN III+. I am proud to announce that these programs demonstrate several new reactor designs with vastly different technologies. Each one has a path to commercialization, profitability, and mass production. Further, these programs are part of the Department's larger strategy to deploy new reactors in the United States. Thanks to this Committee's leadership, EDF received nearly $1 Billion in credit subsidy in recent legislation. DOE is well positioned to expedite and promote the production and operation of nuclear energy to provide affordable, reliable, safe, and secure energy to the American people.

International Markets

By demonstrating our technology at home, the United States is poised to export our technology abroad. In the first Trump Administration as Assistant Secretary of International Affairs at the Department of Energy, I helped broker intergovernmental agreements to facilitate nuclear energy projects which are expected to lead to the

development of U.S. reactor technologies in Poland and Romania. Building off this success, I hope to expand the map to new markets, particularly in Eastern Europe and Asia. Also, I am continuing to work with smaller countries who would be interested in using U.S. technology for nuclear reactor projects supported by international agreements. Not only do these instruments foster the development of partners' young civil nuclear programs, but it exposes them to our market leading technologies. Thus, when they are ready to build, they are more inclined to "Buy American." Moreover, through successful international deployments, America will prosper by offering high paid domestic wages in the United States while building 100-year relationships with other nations, enhancing U.S. national security.

Fuel Cycle

Lastly, nuclear can lead to the reindustrialization of America. On January 28, the Department issued a request for information (RFI) inviting states to show their interest in hosting a Nuclear Lifecycle Innovation Campus. This voluntary Federal-state partnership is designed to enhance economic growth, revitalize the American heartland, and establish a coherent end-to-end nuclear energy strategy. I believe hosting an innovative campus will turn participating states into regional industrial powerhouses, providing high paying jobs, improved infrastructure, and lower energy prices through the construction of advanced nuclear technologies. Since the RFI's release, the Department has had positive engagement with multiple states who are interested in being part of this new atomic age.

Conclusion

I look forward to working in partnership with members on this Committee and Congress to develop the programs and concepts that I outlined today. Together we can deliver a prosperous, secure, and affordable future. Thanks again for the opportunity to testify before the Committee and I look forward to hearing your questions.