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U.S. NUCLEAR REGULATORY COMMISSION
BEFORE THE
CLEAN AIR AND NUCLEAR SAFETY SUBCOMMITTEE
April 21, 2016

Chairwoman Capito, Ranking Member Carper, and distinguished Members of the Subcommittee, I appreciate the opportunity to testify this morning. I appear before you today representing the technical staff of the Nuclear Regulatory Commission. I plan to briefly discuss the NRC's current and planned activities to prepare to review an application for an advanced non-light-water reactor design, and to offer NRC staff views on S.2795, the "Nuclear Energy Innovation and Modernization Act."

ADVANCED REACTOR ACTIVITIES

Designers are developing a number of advanced non-light-water reactor designs that employ innovative solutions to technical nuclear power issues. The NRC has the necessary licensing and oversight authority over commercial advanced reactors, and is ready to work with potential applicants to prepare for and review applications for these reactors. However, the NRC is also considering the extent to which enhancements to the existing framework could increase the efficiency, timeliness, and predictability of such safety and environmental reviews.

The NRC's mission is to license and regulate the use of radioactive materials to ensure adequate protection of public health and safety and promote the common defense and security. Our statutory authority does not extend to promotion or implementation of nuclear energy design or technology. The NRC remains committed to continued planning and engagement with stakeholders to effectively and efficiently accomplish the agency's potential advanced reactor licensing workload. Our ongoing work in this area adheres to the NRC's Principles of Good

Regulation, while we verify through oversight the safe operations of the current fleet of operating nuclear power plants.

Our objective for the activities I am discussing with you today is to strategically prepare for non-light-water reactor applications commensurate with the development of vendor and industry plans. With this as our goal, we expect the result of our efforts to be an effective, efficient, clear, and predictable licensing process for advanced reactor safety reviews.

In pursuit of this goal, and within available resources, the NRC staff is pursuing a multi-part strategy to prepare for efficient and timely reviews of non-light-water reactor technologies. We expect to complete the first draft of that strategy soon and will discuss it in a public meeting with the Commission in June. The President's FY 2017 budget request includes $5 million in non-fee-recoverable activities to execute this strategy. If Congress appropriates this funding, it will be used to facilitate the NRC's preparation to undertake effective and efficient safety reviews of advanced reactor technologies.

The NRC plans to pursue activities in three primary areas: licensing infrastructure, technical preparation, and stakeholder outreach.

First, within licensing infrastructure activities, we will optimize the regulatory framework and licensing process for advanced reactor safety reviews. We plan, for example, to conduct a gap analysis of regulations and guidance to find areas where revisions may be needed, and to fill those gaps by beginning to revise our regulations and guidance for advanced reactors. We will also complete development of advanced reactor design criteria, evaluate new approaches to review conceptual designs on an incremental (or staged) basis, and evaluate novel policy issues for Commission consideration. Of note, the NRC recently published draft design criteria for

advanced reactors on our public web site, and we are seeking public comments on the draft document. We look forward to continuing to engage with stakeholders on this issue.

Second, our technical preparation activities will evaluate, clarify, and resolve critical technical and policy issues that need to be addressed for effective and efficient advanced reactor safety reviews. For example, the NRC recently expanded an existing interagency agreement with the U.S. Department of Energy for exploring regulatory issues and research needs for novel fuel designs, and held a seminar on advanced reactor and accident-tolerant fuels. We also have completed some training, and plan further training for staff on different reactor technologies. Additionally, we will work with others to develop proposed revisions to industry codes and standards to address certain advanced reactor designs and develop related requirements. Further, we will conduct a hazard analysis to better understand the potential hazards and safety requirements necessary to prevent or mitigate these hazards.

Finally, we will pursue outreach activities that proactively engage key stakeholders to ensure all parties will be ready to proceed. These activities will include the continuation of engagements with designers of advanced reactors and members of the public; participation in standards development for advanced reactors; and information sharing with various national and international groups, including the U.S. Department of Energy, the Organisation for Economic Co-operation and Development's Nuclear Energy Agency, the International Atomic Energy Agency, and the NRC's international regulatory counterparts. I am happy to share with you that a second joint DOE/NRC workshop on advanced non-light-water reactors will be held June 7th and 8th here in the Washington area.

Our strategy reflects insights we have gained from years of interaction with the Department of Energy and the non-light-water reactor industry. We believe this strategy will enable the resolution

of novel policy issues, and lead to the development of design criteria, regulatory guidance, and industry codes and standards for non-light-water reactor designs. By enhancing the efficiency as well as the effectiveness of non-light water reactor reviews, this strategy will reduce regulatory uncertainty and business risk.

S.2795, THE NUCLEAR ENERGY INNOVATION AND MODERNIZATION ACT

The NRC's advanced reactor program is one of several topics addressed in Senate Bill 2795. Consistent with my role as the NRC's Executive Director for Operations, my comments represent the NRC staff's assessment of factual issues associated with the bill.

The bill would require the NRC to undertake a number of activities related to developing plans, strategies, and a rulemaking associated with the licensing of advanced reactors and of research and test reactors; and report on those to Congress. As my testimony indicates, the NRC currently has extensive ongoing and planned activities in these areas. Significant time and resources would be required over several years to implement the full range of additional activities described in the bill, particularly with regard to the rulemaking required by the bill and any other activities that may require rulemaking.

Another area covered by the bill is performance and reporting. These provisions would require the NRC to develop performance metrics and milestone schedules for any activity requested by a licensee or applicant and to report to Congress for certain delays. This would require the NRC to develop performance metrics and milestone schedules for many activities beyond those for which such metrics and milestones are currently prepared. We believe we currently have appropriate performance metrics to provide the desired outcome. These measures recognize that schedule performance can be affected by applicant, licensee, or NRC performance, and may need fluidity to

account for emerging safety or security issues, changes in licensee plans, and the like. As written, the proposed requirements could limit the NRC's flexibility in this area.

CLOSING

In closing, I welcome the Committee's interest in, and ideas for, enhancing the NRC's performance and the success of our mission.

Chairwoman Capito, Ranking Member Carper, and distinguished Members of the Subcommittee, this concludes my formal testimony. I thank you for the opportunity to appear before you and would be pleased to respond to your questions.