WRITTEN STATEMENT

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UNITED STATES NUCLEAR REGULATORY COMMISSION

TO THE

SENATE COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS

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Chairman Carper, Ranking Member Capito, and distinguished members of the Committee. My colleagues and I appreciate the opportunity to update you on the U.S. Nuclear Regulatory Commission's (NRC) licensing and oversight activities.

The NRC is an independent Federal agency established to regulate commercial nuclear power plants; research, test, and training reactors; nuclear fuel cycle facilities; and civilian use of nuclear materials. Additionally, the agency regulates the transportation, storage, disposal, export and import of nuclear materials and waste; the export and import of nuclear reactors and production facilities; and the export of nuclear facility components. The NRC also works with agencies around the world to enhance nuclear safety and security.

The Commission last appeared before this Committee in March 2020, to discuss the agency's activities in the year ahead. Today, I will focus my testimony on the NRC's response to the COVID-19 pandemic and provide the Committee with an update on the agency's current regulatory activities, including NRC activities associated with the Nuclear Energy Innovation and Modernization Act (NEIMA), progress on NRC activities relating to advanced and small modular reactors, decommissioning activities, safety and security performance of the operating fleet of nuclear power reactors, and several other programs that are important to the Commission.

NRC'S RESPONSE TO THE COVID-19 PUBLIC HEALTH EMERGENCY

In response to the Department of Health and Human Services' declaration of the COVID-19 public health emergency in January 2020, the NRC took numerous actions to protect the safety of our workforce while continuing to perform our important safety and security mission. Our buildings have remained open, although most staff have performed their duties from home while remaining fully engaged. We stood up a COVID-19 Task Force and Working Group—a dedicated team of senior leaders and staff focused on identifying, tracking, and responding to COVID-19 issues pertinent to the NRC and its workforce.

During the 20 months before the NRC's re-entry on November 7, 2021, NRC employees successfully teleworked nearly full-time, with a peak of 98 percent employees teleworking at the height of the pandemic. This success of this transition was due in part to actions the agency had taken earlier to provide laptops and train staff on technology for working effectively in a virtual environment. The agency also expanded its bandwidth to accommodate the increase in virtual connections, which was made possible by a supplemental appropriation under the CARES Act.

Special attention was given to our inspection staff to protect both their health and that of licensee employees while our staff continued to carry out their important duties. Resident inspectors at nuclear power plants and fuel cycle facilities employed a risk-informed strategy to provide oversight through a routine, onsite presence supplemented by telework flexibilities, as appropriate. Licensees worked with us to provide new mobile technology, which enabled NRC inspectors to remotely monitor plant data systems, attend meetings, and access other information during the pandemic.

In keeping with our commitment to be transparent, the NRC communicated regularly with Congress, the public, industry, and licensees on conditions at sites and plant activities, including plans with respect to licensee staffing and work outages. In response to the pandemic, the NRC instituted an expedited exemption process to enable licensees to request relief from certain NRC regulations, such as work-hour limits, subject to thorough NRC review to ensure that reasonable assurance of public health and safety was maintained. The NRC also issued guidance to inspection staff in exercising enforcement discretion for specific cases of noncompliance that may have occurred as a result of the pandemic.

Although force-on-force inspection activities were briefly put on hold, in July 2020, the staff implemented a new inspection procedure for limited-scope tactical drills in a manner that mitigated the risk of COVID-19 transmission. In 2021, the staff developed another option that was broader in scope than the 2020 tactical drills. Depending on licensee site conditions due to COVID-19, the NRC staff has successfully performed either tactical drills or the modified force-on-force exercises throughout 2021.

Re-entry Preparations and Implementation

The NRC's re-entry date was November 7, 2021, which was based on the previous vaccine attestation guidance and the associated requirement for agencies to develop COVID-19 testing programs, which has since been replaced by the COVID-19 vaccine mandate. We are continuously consulting with other agencies, as well as monitoring public health conditions and updating our Workplace Safety Implementation Plan, in accordance with the latest guidance issued by the Centers for Disease Control and Prevention and the Safer Federal Workforce Task Force.

Currently, we are implementing the requirements in the recently issued Executive Orders requiring COVID-19 vaccination for Federal employees, as well as Federal contractors and subcontractors. As of November 23, 2021, 93% percent of NRC employees have provided documentation that they are fully vaccinated. We required that all NRC employees provide documentation by November 22, 2021, showing that they have been fully vaccinated or have sought an exception allowed by law. We are also taking steps to ensure that NRC contracts include appropriate provisions requiring contractors to comply with Safer Federal Workforce Task Force guidance, which specifies that contractor employees are to be vaccinated by January 4, 2022.

NRC'S CURRENT REGULATORY ACTIVITIES

I would like to take this opportunity to update the Committee on the NRC activities required by NEIMA and the NRC's other licensing and regulatory activities.

Nuclear Energy Innovation and Modernization Act (NEIMA)

The NRC has made significant progress in implementing the provisions in NEIMA since its enactment in January 2019. The NRC has submitted 12 reports to Congress and has undertaken significant efforts to implement other provisions, including the requirement to complete a rulemaking for a technology-inclusive regulatory framework for advanced nuclear reactors.

Most recently, the NRC provided the report, "Nuclear Energy Innovation and Modernization Act (NEIMA) – Implementation, Impacts, and Recommendations for Improvement of the U.S. Nuclear Regulatory Commission's Annual Budget Justification; Fees and Charges; Performance and Reporting; and Accurate Invoicing," to the Committee, as well as other congressional

committees. As detailed in the report, the NRC identified and implemented improvements to invoicing, the fee recovery framework, and performance reporting to reflect changes required by NEIMA, and complied with the specified corporate support percentage to the maximum extent practicable. However, the NRC has experienced difficulties meeting the corporate support cap and anticipates significant challenges in future years in meeting this cap, and the cap on the annual fees charged to operating reactors. As required by Section 102(e) of NEIMA, the NRC provided recommendations for improvement that could be made to address the impacts and challenges identified with implementing NEIMA Section 102. I would welcome the opportunity to work with the Committee to further discuss these implementation challenges.

Nuclear Reactor Safety

Operating Reactors

The NRC continues to provide licensing and oversight for 93 operating commercial nuclear power reactors and 31 research and test reactors. Since December 2019, the NRC has renewed licenses for six reactors to extend each reactor's period of operation from 60 to 80 years: Turkey Point Nuclear Generating Station, Units 3 and 4 in Florida; Peach Bottom Atomic Power Station, Units 2 and 3 in Pennsylvania; and most recently, Surry Power Station, Units 1 and 2 in Virginia. The NRC is currently reviewing applications for subsequent license renewal for Point Beach Nuclear Plant, Units 1 and 2 in Wisconsin; North Anna Power Station, Units 1 and 2 in Virginia; Oconee Nuclear Station, Units 1, 2, and 3 in South Carolina; and St. Lucie Plant, Units 1 and 2 in Florida.

The NRC expects to receive additional initial license renewal applications for plants seeking to extend operations from 40 to 60 years and a significant number of subsequent license renewal applications in the coming years as 79 units have licenses that will expire at 60 years of operation.

New Reactors

The staff is actively preparing for the completion of construction and anticipated transition to operation of the Vogtle reactor units in Georgia, and inspections are proceeding in accordance with the licensee's continued work at the site.

Interest in small modular reactors (SMRs) and advanced, non-light-water reactors has continued to grow. Regarding SMRs, the NRC has completed its technical review of the NuScale SMR application, and the application is currently in the design certification rulemaking process. Additionally, the NRC is engaged in pre-application discussions with vendors for three other new SMR designs, as well as a possible combined license application that might reference one of these designs.

The NRC is also committed to developing a regulatory infrastructure to review new reactor technologies. A rulemaking under a new Part 53 of Title 10 of the Code of Federal Regulations will define technology-inclusive, performance-based requirements for advanced nuclear reactors. This regulatory framework would provide an optional path for applicants seeking licenses for new commercial advanced nuclear reactor licenses.

The performance-based requirements of Part 53 will support a risk-informed approach that will acknowledge features designed to prevent or mitigate adverse consequences. The staff has

been working to develop the rule in a way that is creative, open, and responsive. The staff has received considerable input from a diverse set of stakeholders and will respond to that input in developing the rule.

Over the past year, the staff has had more than 30 external engagements, as well as briefings to the Advisory Committee on Reactor Safeguards (ACRS), on preliminary proposed rule language and associated draft guidance. To date, we have received more than 140 individual public comments, and over the past several months the staff has worked to address the feedback from external stakeholders and the ACRS. The staff has also been actively revising its preliminary proposed rule language, embracing new ideas and reflecting comments from these stakeholders.

The staff remains on a schedule that would allow for publication of the final rule significantly ahead of the NEIMA deadline of December 2027.

Nuclear Materials and Waste Safety

Major Licensing Activities

In the Nuclear Materials and Waste Safety program, the staff has recently completed two major licensing actions. The staff completed the safety and environmental reviews for Interim Storage Partner's application for a consolidated interim storage facility in Texas, and the staff issued the license in September 2021. The proposed facility is authorized to receive, possess, store, and transfer up to 5,000 metric tons of spent fuel and 231.3 metric tons of Greater-than-Class C radioactive waste.

In addition, the staff approved a license amendment in June that authorizes Centrus Energy to operate a 16-centrifuge cascade at the American Centrifuge Plant in Ohio to demonstrate the production of high assay low-enriched uranium for the Department of Energy.

Decommissioning Reactors

Twenty-six reactors are currently in decommissioning. Three additional power reactors have publicly indicated or submitted formal notifications to the NRC stating that they will permanently shut down before the end of 2025. The reactors at the Vallecitos Nuclear Center in California will be moving to active decommissioning by 2023, after the Commission denied GE Hitachi's request for an extension of the decommissioning schedule. Conversely, there have been some recent changes in plans for power reactors that had previously announced plans to decommission; specifically, Exelon Generation announced that it has decided to continue operations at Byron Station and Dresden Nuclear Power Station in Illinois as a result of the recent passage of Illinois energy legislation.

In November, the Commission approved a proposed rule to address decommissioning reactors. The goal of this rulemaking is to provide for a safe, effective, and efficient decommissioning process; to reduce the need for license amendment requests and exemptions from existing regulations; and to address other decommissioning issues. The rulemaking proposes to incorporate lessons learned from licensees that have completed or are currently in the decommissioning process. The rulemaking also will align regulatory requirements with the reduction in risk that occurs as the decommissioning process progresses, while continuing to maintain safety and security.

The proposed rule will be published in the Federal Register [in December], and the public will have an opportunity to provide comments on the proposed rule and draft regulatory guidance documents for a 75-day public comment period. The staff will conduct a public meeting during that time.

Nuclear Power Plant Safety Performance

As of September 1, 2021, 89 of 93 reactors were in the NRC's highest performance category and fully met our safety and security performance objectives. Three reactors were in the second performance category, needing to resolve items of low safety significance. For these three reactors, the NRC's regulatory oversight includes additional inspection and follow-up of corrective actions. One reactor was in the third performance category with a degraded, but still acceptably safe, level of performance. For this reactor, regulatory oversight includes increased NRC inspections, increased attention by NRC senior management, and oversight focused on the causes of the degraded performance. There were no reactors in the fourth (lowest) performance category.

Environmental Justice

The NRC is committed to engaging with a broad range of stakeholders on environmental justice. In April 2021, the Commission directed the NRC staff to review how environmental justice is addressed in the NRC's programs, policies, and activities, and as part of that review, consider the adequacy of the 2004 Policy Statement on the Treatment of Environmental Justice Matters in NRC Regulatory and Licensing Actions. The NRC staff continues to reach out directly to environmental justice communities to inform them about this effort and to solicit comments. In addition, the NRC staff has held several public meetings in support of this effort, including a listening session to hear perspectives from environmental justice community leaders and

practitioners on how the NRC has addressed, and might enhance, environmental justice in its programs and activities. The NRC staff also held a panel discussion on the agency's 2004 policy statement and how the agency might consider environmental justice beyond its reviews under the National Environmental Policy Act. The staff sent letters to Federally recognized tribes to provide notice of the NRC staff's effort and solicit comments and to offer consultation on environmental justice issues. Further, the staff is leveraging knowledge, ideas, and experience from across the agency by conducting interviews with staff experts. The NRC held an internal town hall-style meeting in October 2021 to receive comments and suggestions from the NRC staff.

International Activities

As activities associated with SMRs and advanced reactors continue to increase, the NRC is maintaining an open dialogue with all interested stakeholders, including reactor designers, operators, financers, and our international regulatory counterparts. NRC participates in a wide range of bilateral and multilateral activities that enhance the safety and security of nuclear activities worldwide. The agency has bilateral agreements with over 45 regulatory counterparts, including almost every country with a power reactor program. These agreements facilitate technical exchanges, regulatory information sharing, personnel exchanges, and regulatory assistance. The NRC's regulatory approach has long been considered a model for countries operating or considering a nuclear program, and both new and established regulators routinely seek the NRC's assistance and cooperation.

Transformation and Innovation

The NRC has continued its efforts to be a modern, risk-informed regulator by leveraging available technologies, increasing opportunities for current staff to gain new skills, attracting and retaining talented staff, and fostering a culture of safety and innovation that continues to account for differing viewpoints and well-managed risks in our decision-making. To enhance our use of technology, improve our decision-making, and better inform the public of the bases for our regulatory decisions, the agency recently launched the Operating Reactor Analytics public website. This website provides an overview of different aspects of the Reactor Oversight Process and allows users to filter and sort results on plant performance and findings by site, Region, or licensee. The NRC staff will use this tool to assess plant performance trends, compare results across different "cornerstones" of plant operation, and link to more details on findings from inspection reports.

NRC Workforce

The agency recognizes the importance of having a highly skilled staff and the need to maintain our unique expertise. Strategic workforce planning is vital to helping the NRC identify the knowledge, skills, and abilities necessary to perform our mission now and into the future. We have looked at skill adequacy and gaps through a modern, enhanced Strategic Workforce Planning process with a 5-year planning horizon. We are instituting increased entry-level hiring to ensure a pipeline of talent and have created the Nuclear Regulator Apprenticeship Network (NRAN) program, a full-time, 2-year training program designed to develop well-rounded regulators by focusing on skill development in multiple program areas across the agency.

Diversity and Inclusion

Shortly after becoming Chairman, I issued an agencywide announcement emphasizing that all NRC employees must consider diversity and inclusion in agency operations and maintain a work environment free from discrimination, harassment, and intimidation. I have since emphasized this message in meetings with employees at all levels of our agency, explaining that the NRC is most effective when we maintain an open, inclusive, and collaborative work environment that supports all employees. The agency's "Inclusive Diversity Strategic Plan for Fiscal Years 2021–2026" serves as our blueprint for efforts in this area.

Differing Views and Whistleblower Protection

In addition, the NRC strives to maintain a workplace where employees are comfortable raising concerns without fear of retaliation. The NRC has a strong open-door policy that allows employees to raise concerns informally, along with well-established programs that allow employees to register their formal disagreement with proposed or finalized actions. The NRC also regularly reminds employees of federal whistleblower-protection laws, promptly informs employees of changes in the law, and requires our supervisors to receive training in this area. We also offer whistleblower training to all employees, including a September 2021 seminar where an attorney from the Office of Special Counsel provided NRC employees with valuable information on prohibited personnel practices and whistleblower protections.

CONCLUSION

In closing, the NRC remains deeply committed to its safety mission. As part of this commitment, our dedicated employees work daily to help ensure the safety and security of nuclear power facilities and nuclear materials. We are closely monitoring changes in our external environment that affect our work, tackling new challenges, and taking new approaches to address the issues that confront us.

Chairman Carper, Ranking Member Capito, and distinguished members of the Committee, this concludes my formal testimony. On behalf of the Commission, I thank you for the opportunity to appear before you and for your support of the vital mission of the NRC. We would be pleased to respond to your questions.