

**U.S. Nuclear Regulatory Commission  
Chairman Christopher T. Hanson  
Remarks for the  
American Nuclear Society Virtual Annual Meeting  
June 14, 2021**

Good morning. Thank you, Thomas, for your introduction.

I appreciate the opportunity to speak with you today and look forward to seeing you all in person soon. As activities associated with small modular and advanced reactors continue to increase, it is crucial the NRC maintain an ongoing, open dialogue with interested stakeholders, including reactor designers, operators, the Department of Energy, and our international regulatory counterparts.

Over the last few years, Congress and the Administration demonstrated bipartisan support for advanced nuclear technologies through enactment of several laws. Last year, the Department of Energy awarded the first round of funding for the development and deployment of advanced power reactors through the Advanced Reactor Demonstration Program.

When Congress created the ARDP it took seriously the idea that deployment of advanced nuclear technologies to help combat climate change faced a complex series of chicken and egg problems. The program attempts to resolve at least one of those: government support and investment.

But it also touches on another. By creating a “demonstration” program instead of a “pilot” or “engineering” program, Congress indicated that it wanted to support relatively mature technologies that could be connected to the grid. And by virtue of that connection, those projects must be licensed by the NRC. That nexus with the NRC attempts to resolve another chicken and egg problem, getting the regulatory framework right to support eventual broader commercial deployment. Responding to this growing demand in a safe and secure way, consistent with NRC’s principles of good regulation—particularly clarity, reliability, and openness—is a priority for me.

Another key principle as we work to establish a framework for new nuclear technologies is regulatory independence and its role in fostering public trust. The NRC is an independent regulatory agency—we are neither a proponent of these new technologies nor do we intend to be an impediment.

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But as I've said before, independence does not mean isolation. Working with scientists, international counterparts, industry, public interest groups, and others is key to the safe use of nuclear energy in the future. It is important to build public trust in science and increase reliance on operational experience and sound technical bases. As we move toward more risk-informed approaches, to maintain public confidence, we must ensure transparency and clear and effective communications in all our actions.

The heart of our agency efforts on advanced reactors is development of a technology-neutral, risk-informed and performance-based regulatory framework, also known as 10 CFR Part 53. This effort will continue to include frequent, extensive public stakeholder engagement. Part 53, together with our principles of good regulation will provide efficiency, clarity, and reliability to our licensing process for new technologies.

The development of Part 53 happens to line up with my term on the Commission, and I am actively engaged with NRC staff on this subject. I know we have received some criticism, but it is still early, and I would urge everyone to be patient. The NRC must balance a number of issues to get to a rule that is both comprehensive and usable for as many technologies as possible. It must be risk informed, but where data is missing, there needs to be defense-in-depth. It needs to be both predictable and flexible and reconcile competing interests of vendors and utilities while considering public input. It is complex, but I am confident we will get there.

The NRC is also making strides in other areas of the advanced reactor regulatory infrastructure. A key accomplishment for the NRC is its endorsement of the industry-led, DOE-supported Licensing Modernization Project to provide guidance for risk-informed and performance-based licensing approaches. This is a fundamental shift in thinking from the traditional deterministic approach the NRC used for large light water reactors. And it is an important step in modernizing our licensing approach and in accommodating a wide range of reactor designs within a consistent framework.

However, with much more reliance on risk assessment, it is critical that underlying assumptions and computer models are validated with real-world data whenever possible. Demonstrating, not just asserting, the performance of inherent safety features will be key to effective and efficient reviews.

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Finally, we published a proposed rule on emergency preparedness, as well as preliminary proposed rule language for physical security requirements for advanced reactors. We're developing a Generic Environmental Impact Statement for advanced reactors, and the staff has been advancing approaches to address technical and policy issues on topics such as Micro Reactor Policy and Licensing, Advanced Reactor Siting, and fuel qualification.

We are conducting our efforts in the context of renewed global interest in nuclear power as a reliable, carbon-free source of electricity. I view as critical to our success the ongoing bilateral and multilateral international engagements in at least two key ways.

First, 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. In support of nuclear safety, it is imperative that we continue to work with embarking countries to ensure they pursue high standards of nuclear safety, security, and non-proliferation. I encourage the industry to help instill the values of a strong safety culture in these countries, which will further strengthen global nuclear safety and security.

Second, we are sharing information and approaches through some of our long-standing partnerships. For example, the NRC and the Canadian Nuclear Safety Commission (CNSC) have been working together on advanced reactor and SMR technical review approaches and pre-application activities under a memorandum of cooperation signed in 2019. I am optimistic about this first-of-a-kind effort and hope it will inform future bilateral activities. I am confident our efforts with the CNSC in this area will enhance both regulators' reviews of new technologies and support their eventual safe deployment.

Thank you for the opportunity to speak with you. I look forward to our panel discussion.