

Remarks to Nuclear Energy Institute Board of Directors

Chairman Christopher T. Hanson

February 4, 2021

Background

Thank you, Maria, for that kind introduction. It's good to be with you all this afternoon. Here it was, not very long ago, I thought I could no longer be considered the new guy. But thanks to the President, I can reclaim a bit of that. I think this is day 15.

But seriously, it is an incredible honor to be designated by President Biden as Chair of the NRC. It is the privilege of a lifetime to be given the opportunity to lead the women and men at this remarkable agency during such a dynamic time for nuclear energy in the United States.

By way of a disclaimer, I want to point out that I'm speaking for myself today and not on behalf of the Commission. My colleagues will have their own views on how they believe the agency should proceed on key issues.

Approach: Institutional Independence & Innovation

Over the last several months, I have often spoken to the NRC staff about my approach to my tenure at the agency. Since being designated chair, I see no reason to change the fundamentals of my approach. So, let me share with you some of my thinking.

In my discussions with NRC staff, I try to paint a picture of three inter-related efforts in the form of a triangle, with agency transformation, risk-informed regulation, and diversity and inclusion at each vertex. Undergirding that triangle are three pillars: regulatory independence, reliance on data, and our people – people first

Risk-informed regulation

Let me begin with risk-informed regulation. Becoming a more modern, risk informed regulator is still a key goal for the NRC. Reasonable assurance of adequate protection is the standard to meet, not absolute certainty or elimination of all risk. So much of our transformation efforts are aimed at looking hard at our data and identifying areas where we can shift focus to the most risk-significant aspects of both current reactors and new technologies. We are shifting our inspection and oversight approaches to focus more on safety and less on compliance by utilizing risk insights from senior reactor analysts and risk models.

For example, without increasing the overall inspection burden on licensees, regional offices have shifted resources to conduct focused baseline inspections during periods of elevated risk such as refueling outages. In my view, these approaches should be expanded more broadly.

As we move forward with the development of the regulatory framework for advanced reactors, I recognize the importance of using risk-informed, performance-based approaches. However, with much more reliance on the risk assessment, it is critical that the underlying assumptions 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.

Transformation

I've touched on transformation, the NRC's ongoing effort to rethink our outward and inward facing business processes through technology and employee engagement. A number of specific transformation efforts are focused at using the agency's experience and data to risk-inform our processes. The low-safety significant issue resolution process is just one example of this, and there are dozens more.

In my view, the key challenge in agency Transformation going forward is to: a) sustain the culture of innovation that has been created, b) institutionalize successes to reap the returns on investment, and c) more fully explore transformation efforts in the regulatory arena, particularly with regard to new reactor technologies.

Diversity and Inclusion

Transformation is directly related to diversity and inclusion, because it is inherently democratic – it is about the value of ideas instead of where someone sits in the organization. This has resulted in a tremendous amount of staff buy-in and participation in efforts so far. Diversity and inclusion efforts are also critical to risk-informing our regulations as they broaden the number and types of perspectives on the meaning of data and therefore appropriate safety margins and adequate protection.

I've touched on the three vertices, let me say a few words about the pillars - independence, data, and people.

Independence & Public Trust

Public trust is essential for the future of nuclear power. I believe that in order to ensure the public trust it's important that the government act as an independent, impartial regulator to oversee the industry and protect people and the environment. Additionally, the public should be comfortable in trusting the industry to deliver on its promise of developing and operating safe, reliable and economic nuclear power plants and facilities. There is no future for nuclear power without safe operation of the current fleet.

It's also important to recognize that at the NRC, independence does not mean isolation. Working with scientists, international counterparts, industry, public interest groups, and others is key to the future of nuclear energy. It is important to build trust in science and increase reliance on operational experience. As we move forward, we need to recognize that the traditional approaches to safety are simpler to communicate than those that are risk-informed, performance-based. To that end, as we move toward more risk-based approaches, ensuring transparency in our licensing reviews becomes more important for maintaining public confidence.

Data

One of the most exciting aspects of NRC's transformation and risk-informed efforts to me is the focus on data. On Capitol Hill, one of the programs I spent a lot of time on was the National Nuclear Security Administration's Science-based Stockpile Stewardship program – the confirmatory science program that ensures the safety and reliability of our nuclear weapons.

On the civil nuclear power side, we have a lot of data from 50 years of operation that we are only beginning to systematically analyze. My hope is that by expanding efforts to draw on the data held by NRC, licensees, universities, and others, we can better focus our regulatory efforts on realism. Our regulation of new technologies will be driven by data too – computer models certainly, but real-world experimental data and analogs will be just as crucial.

People

Members of the Commission routinely say that our people are our greatest asset – we say it because we believe it. NRC has historically ranked high among federal agencies as a great place to work due to staff engagement and recognition of the importance of our mission. But our workforce is changing while the agency faces other external challenges. Forty percent of NRC employees are eligible to retire in the next five years, that is about 1,100 people. The likelihood that we are going to hire our way out of that situation is very small. But the overall mission remains – if anything, it is becoming more complex and challenging.

We recently held an agency-wide Transformation event called IdeaScale where 1400 staff members signed up. That is a tremendous amount of buy-in for any organization, private or public. As an agency, these efforts are the key to our future because they focus on what's most important to safety, fully engage our staff's skill and talent areas, and allow us to be agile to changes in the broader energy ecosystem.

Priorities

So, what does this all add up to – all these vertices and pillars?

First, the nuclear sector is evolving at a fast pace. The NRC needs to ensure the safety of both the existing fleet and new technologies, not by confining ourselves to historical frameworks, but building off of them to identify and focus on the most risk-significant components and systems. I believe the staff and I have confidence that my fellow Commissioners too are committed to regulating where the data takes us.

Second, the Commission is a collegial body. We move together or not at all. I believe we can accomplish much by working together. We have different strengths and interests. And with the recent change, we are all pitching ideas to one another about what we can accomplish. There is no reason for us to pause while we await nomination and confirmation of a fifth commissioner. For my part, I plan to keep up the pace of voting.

That said, the ongoing public health emergency will continue to be front and center for us. We remain committed to providing flexibilities afforded us under the law to our licensees while ensuring the safe operation of facilities and use of materials.

In addition, I think we all have a keen interest in developing a transparent and predictable regulatory framework for advanced reactors. Part 53 is on an aggressive, but achievable schedule. We recently completed regulatory guidance in several key areas including the principal design criteria for non-light-water reactors, functional containment performance criteria, and a risk-informed, performance-based licensing approach. We continue our focus on frameworks for advanced reactor emergency preparedness, security, siting, and environmental reviews.

Increased interaction with and feedback from outside parties is critical to our success. The goal is to be able to conduct reviews and issue key licensing decisions to support deployment, whether through the Advanced Reactor Demonstration Program or other avenues.

A personal area of interest for me in the advanced reactor area is the need to ensure that regulatory enhancements and needed licensing of fuel cycle technologies moves in parallel with reactor regulatory frameworks. High-Assay Low Enriched Uranium, on which many advanced reactor technologies rely, is just one area where I think NRC needs to examine its current regulations to not only ensure adequate protection, but also to ensure we have approved processes and technologies in place.

Another area where you might see some movement by the commission is in the decommissioning and waste areas. Decommissioning is another quickly evolving subsector, and I've felt for some time that it warrants some focused attention by the Commission. Likewise, with Greater than Class C low level waste.

Finally, I believe we all recognize the value of building and sustaining an agile workforce capable of tackling the regulatory challenges of the future. We had our first class of apprentice regulators last summer and the Commission is reviewing this program and other novel recruiting strategies.

Nuclear technology is evolving at a rapid pace. The NRC needs to ensure the safety of these new technologies, not by confining ourselves to historical frameworks, but building off of them to identify and focus on the most risk-significant components and systems.

Some of you have heard me say that I'm an institutionalist by nature. After my initial tenure at the NRC during a public health emergency and a time of social and political upheaval, that is truer than ever. Institutions provide the culture and structure necessary for human flourishing and we must be dedicated to ensuring our institutions live up to our ideals.

So, reform, transformation and innovation, absolutely, yes. But also, independence, transparency, predictability, and a commitment to reasonable assurance of adequate protection, so that the benefits we have all enjoyed can be passed on.

Thank you and I'm happy to take questions.