U.S.NRC
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Protecting People and the Environment

NRC NEWS

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"A Perspective from the U.S. Nuclear Regulatory Commission"
Prepared Remarks of Chairman Allison M. Macfarlane
At the Nuclear Energy Institute's Nuclear Energy Assembly
Wednesday, May 21, 2014 – Scottsdale, AZ

Good morning. It's a pleasure to be back at the Nuclear Energy Assembly to offer the NRC's perspectives. I had an excellent visit yesterday to the Palo Verde plant and had the opportunity to see the deployment of the FLEX equipment. I also had productive and interesting discussions with Randy Edington, Maria Lacal and team on maintaining a quality workforce and safety culture.

Today I'd like to reflect on the progress the NRC and industry have each made in enhancing nuclear safety during the past year and highlight some key activities still underway. I'll also address steps the NRC is taking to ensure that we are meeting our obligations efficiently.

My first visit to Fukushima Dai-ichi was in December of 2012, six months into my tenure as Chairman. I had seen photos and videos of the earthquake and tsunami damage, but the reality on the ground was deeply affecting – villages that were clearly recently inhabited now overrun by weeds, with earthquake damage still evident. The destruction at the site was truly alarming, as were the thousands of masked and completely covered workers streaming into buses at the site.

I know that, in the past year, some of you have had the same experience. In September 2013, a group of Chief Nuclear Officers visited Fukushima. Then, a few months ago, a group of senior NRC managers made the same journey. Both groups reported that their visits reinforced the importance of the work we're doing to ensure that a similar accident does not take place here. I think it's important to reflect on these experiences, not only as we continue our post-Fukushima work, but in sustaining our continued commitment to nuclear safety in our country and worldwide. This is a critical time in our progress. While we can take pride in our accomplishments to date, a good deal of work lies ahead.

At last year's Nuclear Energy Assembly, I spoke about the influence Fukushima has had on the NRC and industry nuclear safety priorities. I argued that overall, our important mission and our most significant priorities remain unchanged, but that the lessons we've learned from the accident will continue to color our approach to achieving these objectives. I still believe this to be true – and I would caution us all not to lose sight of these important lessons as time passes.

In the initial months after the Fukushima accident, the NRC collaborated closely with regulators around the world to share insights and experiences as we began identifying and addressing lessons learned. At that time, we noted the similarities in the technical issues we identified as priorities,

irrespective of the reactor design, program size, or the geographic location of the plants. Many countries have made significant progress in implementing Fukushima changes at their plants.

We're at a point now where we can reflect on some significant accomplishments in the U.S. In a few hours, I'll be visiting the Regional Response Center in Phoenix, which will officially open its doors tomorrow. Getting this center and its companion in Memphis operational is an important milestone, and I know that you've put forth a substantial amount of effort and resources to do so. Individual plants have also made progress in enhancing their emergency preparedness communication abilities and training programs, and in addressing the NRC's mitigating strategies and spent fuel instrumentation orders. My Commission colleagues and I have noted some of this work during our visits to sites around the country.

But there's additional important work on the horizon. As you know, the NRC has recently communicated with all reactor licensees in the Central and Eastern United States about the recent seismic hazard reevaluations they conducted and we reviewed. We've established a schedule for plants to complete further risk analyses. We've prioritized the order in which sites should complete this work based on several factors, including which plants had a large change between the seismic hazard evaluated in the design basis of the plant and new hazards based on the updated seismic source and ground motion models.

Continued cooperation from industry in completing these risk analyses is essential, and the same is true for the flooding hazard reevaluations. As the NRC progresses through its other rulemaking activities, we also need input from industry. We are currently waiting for input on filtration strategies so that we have a solid basis to produce good analysis as we move forward with this rulemaking.

The work to address the lessons learned from Fukushima will continue. The industry needs to meet the 2016 deadlines to complete work on mitigating strategies and spent fuel pool instrumentation. The NRC will then turn to the Tier 2 and 3 priorities. We will continue to address the operational experience gained by the Fukushima accident. I believe this is a priority for the NRC.

We remain mindful that our licensees must balance these obligations with day-to-day safety and security priorities. The NRC tracks plant performance in multiple ways to ensure that these priorities are met and no statistically adverse trends emerge. The staff's most recent annual evaluation of industry trends demonstrates good performance on average. In fact, I was pleased to note that the industry's performance in certain emergency response areas such as drills, exercises, and alert system testing has steadily improved in the past few years.

However, we've identified some potential issues of concern that need to be addressed. The NRC's most recent Accident Sequence Precursor program results, published last fall, show a measurable increase in "important precursors" – component failures, scrams, or complicated reactor trips with a conditional core damage probability of greater than or equal to 10^{-4} – between 2010 and 2012. For comparison's sake, there were no events at this threshold between 2003 and 2009. The NRC also identified that human errors, especially in implementing appropriate corrective actions, had a role to play in each of these events. We'll issue new data from this program in the fall.

It is essential that both the NRC and the industry continue to anticipate plant challenges, rather than waiting for them to happen. In this context, I acknowledge the important contribution made by Admiral Willard and his team at the Institute of Nuclear Power Operations. For our part, the NRC

remains committed to continued robust inspection and performance trend analysis. But we recognize that, although trends can tell an important part of the story, each plant may also experience unique challenges that change over time. Each plant operator's management team must ensure that its licensing basis is well understood and that corrective actions are implemented with the objective of identifying and addressing problems before they have larger implications.

The NRC recognizes that stability and consistency are both important responsibilities of an effective regulator. We carefully consider each potential new or revised requirement based on a variety of factors, including cost – and conduct rigorous analyses to determine which actions may indeed be necessary for safety or security. We acknowledge that it can be difficult for the industry to implement multiple regulatory requirements effectively if they're imposed at the same time.

And while our rulemaking process has always, by law, afforded opportunities for public engagement, we're now doing even more to ensure that industry has multiple opportunities to weigh in and provide us information on cost estimates or implementation schedules. For reasons that are obvious, we must rely on industry feedback on our cost estimates in order to inform our regulatory analysis of proposed requirements. High-quality feedback from you relative to estimated cost impacts is particularly important.

As a government agency, we sometimes face situations where circumstances out of our control impact how we conduct business. When I spoke to this conference last year, the NRC was operating under a continuing resolution and sequestration that made our funding profile unpredictable and caused us to have to stop important work in progress. Our agency was under a continuing resolution again in FY2014 and was operating at the FY2013 sequester levels when the Appropriations Act was passed about halfway through the year, and we ultimately received our requested level of funding.

While overall, greater financial certainty is beneficial for our agency, we must now propose to collect a higher annual per reactor fee for fiscal year 2014 in order to comply with the mandates in the Omnibus Budget Reconciliation Act to recover 90 percent of our budget through fees. We recognize that this combination of circumstances places both the NRC and the industry in a difficult fiscal posture.

The NRC is also seeking to ensure stability and consistency, as well as flexibility, within our own organization. New reactor-related work remains active, with oversight of the construction at Vogtle, Summer, and Watts Bar Unit 2. We continue our review of design certification, combined license, and early site permit applications and we're preparing to review the first application for small modular reactors.

But, perhaps what is not a surprise to you, the NRC faces a different future from what we anticipated less than a decade ago, driven by the dynamics of changing mission requirements. Our priorities are no longer the same as they were when substantial new reactor construction was predicted, the D.C. Circuit Court had not yet challenged our Waste Confidence rule and Yucca Mountain licensing decisions, and Fukushima wasn't yet a household name.

Court decisions, a foreign reactor accident, and government-wide financial challenges have each impacted our current course, in many cases diverting scarce technical resources away from other routine work. Recent changes in the U.S. nuclear fleet have prompted us to place greater focus on decommissioning.

But those sites undergoing decommissioning must continue to meet license requirements. The NRC will maintain its oversight of these facilities for years to come, including having resident inspectors at certain sites for the next several years. As these sites progress in the decommissioning process, the NRC will account for the accompanying changes in regulatory responsibility in its planning.

Finally, we are obligated to use our resources as efficiently as possible while continuing to demonstrate excellence in accomplishing our core mission. In this context, the NRC's Executive Director for Operations is directing an agency-wide staff effort to assess the internal and external environments, forecast our mission responsibilities, address changing priorities, and ensure that we have the critical skill sets we need to continue effective and efficient regulation.

For this to be a successful effort, we need industry to provide the best possible projections. For example, when the industry notifies the NRC of license applications it intends to submit, we ramp up to ensure we're prepared to review them at the anticipated arrival date you identify. Of the 18 combined license applications we anticipated, licenses have been issued for two reactor sites and an additional eight are under active review, but six application reviews have now been suspended at your request and two applications have been withdrawn. In response, the NRC has had to define a path to redeploy underused resources to other priorities or transition to a smaller technical team. A similar story can be told with regard to small modular reactors. To borrow a metaphor, running a government agency is akin to driving an aircraft carrier, not a cigar boat. I can't turn this ship on a dime.

Having noted the fact-of-life changes from what we planned for a few years ago, we must follow our own mantra and learn from our operating experience. All appearances indicate that the nuclear power industry is in flux. I suspect what the EDO will find is that our new organizational future – in light of these uncertainties – must be more flexible, adaptive, and agile. Yet we must be careful and balanced in planning for this uncertain future given the critical importance of hands-on experience and the need for core technical competencies that can only be built over many years.

We're also scrutinizing our operations to identify efficiencies. In the past four years, we have, for example, made tangible progress in reducing our overhead costs by centralizing certain administrative functions. Since 2010, this centralization has achieved a net reduction of $15 million, for a 6.2 percent decrease in salaries and benefits. Additionally, we are in the process of consolidating our personnel from satellite buildings into a single campus consisting of two and a half buildings in the White Flint North complex and sharing newly constructed office space to reduce the agency's footprint.

Earlier, I mentioned our collaboration with other regulators regarding Fukushima lessons learned. The NRC's international engagement extends well beyond this, from regulatory infrastructure development to radioactive source security, operating experience to joint inspections. Identifying and enhancing efficiencies is also a priority in international nuclear safety cooperation.

One key aspect of our international new reactor collaboration is the Multinational Design Evaluation Program, or MDEP. MDEP's purpose is to tackle the issue of limited resources head-on by exploring opportunities to harmonize regulatory practices related to new reactors and to cooperate on reactor design reviews. I've had the opportunity to serve as Chair of the MDEP Policy Group for the past year and a half, and I've been impressed with the breadth of design-specific and issue-specific accomplishments the program has had since it began in 2006.

Every few years, MDEP hosts a conference to discuss its progress with reactor vendors, manufacturers, standards development organizations, reactor operators, and multinational organizations like the IAEA and the World Nuclear Association. The third such conference took place last week in Maryland. More than 130 participants shared ideas on how to ensure that new nuclear power plants are designed and constructed safely while using scarce resources as wisely as possible.

During the discussions, I was struck by how effective this kind of "idea cross-pollination" is for advancing worldwide safety goals. International regulatory cooperation is important, but as diligent as we are in this regard, regulators alone cannot accomplish the objective of strengthening nuclear safety worldwide. Vendors, operators, and others also have essential roles. To that end, I'm pleased that U.S. industry is engaging with its counterparts.

I also believe that we each have a particularly important responsibility when it comes to countries considering new nuclear power programs. I note that there's a session later this morning on strengths, weaknesses, opportunities, and threats in terms of nuclear energy around the world. I would argue that the presence of an effective, independent, well-resourced nuclear regulator is a strength – but perhaps more importantly, the absence of such an organization should be viewed as a threat, both to a good investment and to nuclear safety.

This past March, Palo Verde CNO Randy Edington and several other senior industry representatives joined me, NRC staff, and other U.S. Government representatives on the U.S. delegation to the Sixth Review Meeting of the Convention on Nuclear Safety in Vienna. The CNS parties meet once every three years to assess one another's efforts to maintain and enhance safe nuclear programs. This most recent meeting was the first opportunity regulators and industry had to discuss their progress implementing lessons learned from Fukushima.

There's a significant amount of energy surrounding the CNS process right now, with diplomatic efforts underway to amend the Convention as a result of Fukushima. This process will take some time. In the meantime, through the NRC's requirements and the industry's actions, we've demonstrated that safety is our collective priority and that we're taking the necessary steps to further enhance it. But our work is not yet complete.

I've talked a lot today about the need to anticipate future circumstances in order to best respond to them. Closely monitoring plant performance to anticipate future challenges, ensuring that the NRC and industry each have the critical skills needed to address current and future priorities, or anticipating necessary financial resources will each play a role in ensuring we continue to meet our collective nuclear safety and security objectives.

As we continue in this time of transition, the NRC commits to using its resources efficiently and positioning ourselves to respond as effectively and flexibly as possible to whatever lies ahead. We'll do so openly and transparently, with requirements based on thorough scientific, technical, and policy analysis as well as public feedback. In doing so, we'll continue to expect industry to do its part to ensure safety; a constant, but never stagnant, responsibility.

I appreciate this opportunity to speak to you today, and I'd be happy to answer your questions.