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**Life after Fukushima: “The New Normal”**  
**Prepared Remarks of NRC Chairman Allison M. Macfarlane**  
**At the Nuclear Energy Institute (NEI) Nuclear Energy Assembly**  
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Good afternoon. I appreciate the introduction and the opportunity to be here to share my thoughts with you today. This morning, you heard Susan Eisenhower reflect on the evolution of “Atoms for Peace” in the 60 years since her grandfather’s speech on the subject. Today, nuclear power operates on a worldwide scale, with a global supply chain and the benefit of international operating experience to inform our work as nuclear regulators and industry’s approach to nuclear safety and security.

Adjusting to life in a globalized world with ever-advancing technology presents any number of new considerations. Increasing reliance on electronic media makes it easier than ever to share operating experience internationally, but also creates potential challenges like cyber security threats. Governments and industry collaborate – both among themselves on a domestic level and with their respective international counterparts – to ensure that lessons learned can be applied broadly to benefit safety and security. And quite unlike President Eisenhower’s time, this all transpires against the backdrop of a 24-hour news cycle, in which information is plentiful but not always accurate.

Over the course of the past two years, we’ve also had to contend with the additional, often dominating influence of the Fukushima Dai-ichi accident. I’ve had the opportunity to see the damaged reactors first-hand, and meet regularly with my new Japanese counterparts, most recently last week. Japan continues to face an enormous task in addressing on-going issues at the site in a way that fosters public confidence. The lessons learned from this accident should serve to strengthen nuclear safety worldwide. But, beyond that, we must also ensure that we have a plan in place for moving beyond our initial responses. After all the analyses are done and the reports are written, the changes we implement must be appropriate, effective, and sustainable.

As our work to understand the Fukushima accident evolves, and we examine our own approach to nuclear safety, we must strike an appropriate balance between incorporating Fukushima’s lessons into our safety-mission activities and preventing the accident from dominating these activities. The NRC is mindful of this, and we’ve discussed the need for this kind of balance at length with industry during our post-Fukushima interactions. If we continue to isolate Fukushima work in the long term, rather than incorporating it into existing programs and processes, it may appear as though we’re too narrowly focused on a single set of circumstances instead of on safety as a whole. This approach could cause us to overlook important priorities. It’s equally important for both regulators and industry to discuss this issue at an international level to benefit from what others are doing. At the same time, we

must consider the impacts of other changes unrelated to Fukushima. As technologies become more complex and involvement of the public becomes more frequent and sophisticated, the challenges placed on nuclear technology continue to evolve. Together, we must define “the new normal.”

As we consider what this concept means, we should recognize that in many cases, Fukushima added a new dimension to existing priorities. Above all, the accident brought a renewed emphasis on certain aspects of nuclear safety – particularly for beyond-design-basis events. We need to work together – both domestically and internationally – to reduce the potential for another accident and ensure that our mitigation strategies are robust should an accident occur.

In essence, I’ve just alluded to the “cumulative effects of regulation.” This was a subject of discussion long before Fukushima, but has taken on greater visibility in the months since we began our collective efforts to implement lessons learned from the accident. Our objective in addressing Fukushima’s lessons has been to enhance nuclear power plant safety worldwide in a way that will stand the test of time without distracting from other safety or security priorities.

While we continue to pursue these enhancements, we remain focused on the day-to-day safe and secure operation of our licensed facilities. Although the majority of the plants continue to operate safely, those that are currently shut down and under heightened oversight – like SONGS and Fort Calhoun – must address a significant number of questions before the NRC can determine whether they can be operated safely. Absent technically complete and satisfactory information from our licensees, the NRC is not able to reach conclusions about operational safety.

The NRC is working hard to explain these situations to the public in a clear and accessible way. This is a tough assignment when some of the issues are extremely complex with many moving parts. The situation at SONGS is an excellent case in point.

Whether your facilities are high performers or are experiencing challenges, I believe it’s equally important for you to engage interested parties in the communities around your plants regarding the plants’ performance, how you’re meeting the NRC’s requirements, and what you may be doing voluntarily in addition to what’s required by the regulator. Transparency and openness are essential to show both the industry’s and the agency’s processes can be trusted to be protective of public health and safety.

More than ever, nuclear power plant management must be plugged into the needs of its employees and the local community. I continue to maintain that good management goes a long way toward good performance. In any organization, nuclear or otherwise, managers are responsible for establishing both the priorities and the environment in which work is accomplished; managers set expectations and then ensure that employees live up to them. Unfortunately, and I can say this from experience, being a manager too often means being in a seemingly endless stream of meetings that prevents us from spending as much time as we should getting to know our staff and listening to their feedback. I believe good practices in this area should be captured and broadly applied. I’m sure you share my view that it’s essential that nuclear safety remains the highest priority from the newest entry-level employee to the most senior manager.

The NRC and industry alike can also derive great benefit from international operating experience. I'm sure you've heard me and my colleagues talk on numerous occasions about the benefits the NRC gets from cooperation with our international regulatory counterparts. In the Fukushima context, international cooperation is a key element in ensuring that we're learning and applying the right lessons. I believe industry should consider international cooperation an essential component of ensuring nuclear safety. I'd note the recent establishment of a Memorandum of Understanding between WANO and the IAEA as another positive step in enhancing these important relationships. There are also some opportunities for government and industry to collaborate internationally for mutual benefit. To that end, the NRC benefitted greatly from INPO's participation in last summer's Extraordinary Meeting of Parties to the Convention on Nuclear Safety in Vienna.

International operating experience informs performance at nuclear power plants in the United States and elsewhere, and is essential in ensuring safe operation of these facilities. Exchanges with our foreign partners are fruitful in sharing this type of information. For example, I'm sure that as the U.S. industry considers the question of filtered containment venting and other filtration strategies, you will benefit from the collective years of experience other countries have with this technology. One critical aspect of the "new normal" is that public interest in nuclear power, whether positive or negative, remains heightened. Where certain technology is in place in some countries and not others, both the public and our elected leaders are naturally predisposed to make comparisons. I believe that we must ensure that clear and accurate explanations are given for the choices made in establishing and implementing new NRC requirements.

One area of particular interest with respect to international cooperation is that of countries considering nuclear power for the first time. Though some countries have made policy decisions to cease or limit nuclear power operations, many countries are still moving forward with plans to introduce nuclear power into their energy supply mix. The Fukushima accident has brought some new considerations to bear, and placed other considerations in a new light.

Countries considering nuclear power for the first time have an opportunity to assess issues surrounding its use holistically and create their programs with "the new normal" in mind. Reflecting once again on "Atoms for Peace," there's an important need for balance between the right to acquire nuclear technology for peaceful uses, and the responsibilities that go along with it. Because these programs are new, there's also an opportunity to get it right the first time – to incorporate past lessons into the establishment of the nuclear safety and security infrastructure and the facility's design, construction, and operation. The responsibility to operate nuclear power plants safely and securely is at the forefront of the discussion in this post-Fukushima environment, but we must also consider the very important responsibility of ensuring that nuclear material is kept out of the wrong hands. A strong regulator is essential for accomplishing this. Some countries are still developing basic infrastructure while they're entertaining multiple design bids. Even before the accident two years ago, the NRC was strongly advocating the establishment of an independent, well-funded regulatory infrastructure for any country considering nuclear power. The accident at Fukushima only reinforces the importance of these regulatory criteria.

More than ever, it's essential for countries contemplating nuclear power to consider all aspects of what a nuclear program entails. This includes having an independent regulator that can make safety-related decisions without undue influence from other governmental or promotional entities, with enough staff to support its activities, and enough financial resources to be sustainable. I believe that it

also includes addressing the ultimate disposal of waste as part of the initial licensing process, as well as having sufficient mechanisms in place to communicate transparently with the public. As regulators, the NRC and its international counterparts play an important role in providing assistance to countries with emerging nuclear programs in establishing appropriate laws and regulations and devising strategies for sufficient staffing and resources. It's also important for national leaders to identify nuclear safety and security as priorities so that the regulator has strong support for its decisions.

But our best efforts in this area won't be enough without similar collaboration on the industry side. I believe vendors, in particular, have a responsibility to ensure that the appropriate infrastructure is in place in any country that is considering their technologies. Countries should be able to demonstrate that they can not only operate a nuclear power plant, but can do so safely and with a high level of security and independent oversight. I would point to the "Nuclear Power Plant Exporters' Principles of Conduct," established in 2011, as a good example of industry collaboration in this area. Through these voluntary "Principles," civilian nuclear power plant vendors have committed to share best practices that reinforce and enhance existing codes, standards, and regulations.

As I mentioned earlier, all industries are dealing with a global supply chain. There are many associated benefits, but there are also risks that must be considered and managed on a routine basis, not just in response to isolated incidents. Counterfeit, fraudulent, and suspect parts have found their way into a variety of products, particularly computer-related equipment.

The U.S. nuclear industry does not yet appear to be feeling the acute impacts of these challenges, but several reports of counterfeit and fraudulent items have surfaced abroad. The increased use of digital technology has also led to enhanced concerns about evolving cyber security threats. While there are no requirements compelling vendors to do this kind of due diligence about the countries that are interested in their designs, I think it's a good practice that makes both business and ethical sense. I believe addressing these challenges can go a long way in further enhancing public trust.

So how should we define "the new normal"? As we know, many of the most safety-significant post-Fukushima actions will be completed by 2016 in the United States. Some longer-term activities will continue into later years. As this work continues, the NRC, for its part, will reabsorb staff who have been devoted to Fukushima work back into our line organizations. Throughout this time, the day-to-day safety and security of our licensed facilities will remain NRC's top priority. Should new and different challenges arise, we will promptly evaluate our processes and ensure they are adequately addressing these issues. Our resident and regionally-based inspectors will continue to maintain their rigorous oversight over the operating fleet and new plants under construction. The staff will continue to review license renewal and new reactor license applications, and, once we have fully addressed the Waste Confidence issue, we'll begin issuing final licensing decisions again. We'll continue to prepare ourselves for potential activities related to new technologies and permanent waste disposal. To a large extent, the priorities we had prior to Fukushima remain unchanged.

However, the commitments we've made to learn lessons from the Fukushima accident, and what we've accomplished thus far in this area, should appropriately influence each of these other activities. Domestically, our review of the potential of normal earth processes – such as earthquakes and floods – to affect reactors will inform future regulatory decisions. By default, they'll also inform industry's operations, future applications, and NRC's inspections and technical reviews. Internationally, government and industry alike should maintain a commitment to continued cooperation. The exchange

of operating experience will continue to yield important lessons learned, not only from Fukushima but from other issues that arise. Industry leaders should evaluate experiences with technologies already in use in other countries as they consider future enhancements to U.S. plants. Taken together, these activities represent a demonstrated commitment to maintaining a high level of nuclear safety and security here and abroad. This commitment is essential in enhancing public confidence in the work we do. Countries considering nuclear power for the first time stand to gain particular benefit from this cooperation.

In the months and years ahead, we should continue to consider “the new normal,” and assess the nature of the influence Fukushima will have on our daily work. By incorporating these activities over time into established processes, we’ll ensure the continued applicability of lessons learned, while ensuring that we’re maintaining focus on the highest safety priorities. After all, there’s no going back to the mindsets that existed prior to March 11, 2011.

I appreciate the opportunity to be here today, and would be happy to answer your questions.