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U.S.-Japan Regulatory Cooperation and Nuclear Safety Enhancements in the United States since 2011

Chairman Stephen G. Burns

Reception - Japanese Ambassador's Residence

19 October 2016

It is my pleasure to be here today to honor former NRC Chairman Dick Meserve, a predecessor in the position in which I now serve. I'd also like to acknowledge and personally thank our host, Ambassador Kenichirō Sasae.

I first met Dr. Meserve in 1985 when he was opposing counsel and I was a staff attorney in an administrative case before the NRC. I later served under him as Deputy General Counsel during his tenure as Chairman.

Although our discussion this evening focuses on the lessons learned from the Fukushima Daiichi accident, I also want to use this opportunity to acknowledge Dr. Meserve's contributions to improving the security of nuclear installations and materials in the United States in the wake of the terrorist attacks of September 2001. His steady leadership helped the NRC respond effectively to the challenges for enhancing security in the new threat environment.

But now to the focus of this evening's program: I am pleased to be here today to briefly talk about NRC's cooperative relationship with Japan, as well as what we have learned and what we have accomplished at the NRC after the Fukushima Daiichi accident to enhance the safety of U.S. nuclear power plants.

International cooperation and the sharing of lessons learned is absolutely critical as national regulators strive to enhance nuclear safety. The NRC has maintained a strong cooperative relationship with its Japanese regulatory counterparts for many years and I am supportive of continued collaboration with Japan.

In 2012, following the Fukushima Daiichi accident, the NRC and Japan's Nuclear Regulation Authority (NRA) established a steering committee to provide direction for the agencies' cooperative activities. The steering committee meets semi-annually, and through this forum, NRC and NRA are able to discuss topics of mutual interest in a frank manner to ensure regulatory best practices and lessons learned from each country are shared at the highest levels.

One of the most effective ways to share regulatory best practices, I believe, is through personnel exchanges - to walk in each other's shoes, so to speak. Notably, the NRC placed its first staff member at NRA for a year-long assignment in 2015, where he observed and experienced Japan's regulatory approach and brought those experiences back to the NRC.

Currently, the NRC is hosting five NRA staff members on year-long assignments to learn more about the NRC's reactor oversight process. This program is unprecedented in scale -- five assignees at one time -- and activity -- the amount of inspections and activities they will observe. We expect that this experience will be extremely valuable for NRA as it considers revising its reactor oversight approach in the coming years.

Beyond personnel exchanges, NRC and its counterparts at NRA and other Japanese organizations meet frequently to discuss a wide number of topics. This fall, the NRC and its U.S. government partners are sharing technical information with Japanese counterparts during meetings on probabilistic risk assessment, emergency preparedness and source security.

One notable exchange from last year was the visit of NRA Commissioner Fuketa to the Palo Verde Nuclear Generating Station in Arizona, where he observed the safety enhancements. The NRC also facilitated a tour of the National SAFER Response Center in Phoenix, Arizona, to provide a first-hand perspective about the U.S. industry's FLEX approach to provide a diverse and flexible coping capability for nuclear power plants to deal with extreme events.

My colleague -- Commissioner Svinicki -- who is here this evening, accompanied Commissioner Fuketa on those visits.

I was privileged to visit Japan in April 2015. During my visit, I met with the NRA and other ministries and organizations, and I visited the Fukushima Daiichi and Takahama nuclear power stations. Throughout the trip, we had excellent discussions on a wide range of topics, including reviews of potential reactor restarts and decommissioning activities.

NRA Commissioners Tanaka and Fuketa and I jointly conducted an open seminar on decommissioning approaches and challenges faced by our respective countries.

Many NRC officials have visited the Fukushima Daiichi site since 2011 and I had some idea of what to expect; however, no one can visit the facility and not come away with an appreciation for the magnitude of the natural disaster that happened there five years ago, the heartbreaking loss of life, and the consequences for the nuclear facilities. The scale of decontamination work at the site is impressive and all of the officials working there -- including the workers, government officials, regulators and outside experts -- should be applauded for the tremendous progress that has been made.

Please be assured that the NRC, the U.S. Government, and the international nuclear community stand with the Japanese people as you conduct your important work.

The Fukushima Daiichi accident, of course, also had a profound impact globally and has sharpened the focus on practices and approaches to ensuring a high level of safety in the operation of nuclear power plants and other facilities.

In the United States, for instance, the NRC has made great strides in enhancing the already robust safety measures at our nuclear power plants, as well as augmenting their ability to prepare for and respond to extreme events that may exceed the already conservative design basis events at the plants.

The most safety significant enhancements from the lessons learned from the accident will be largely completed in the United States by the end of this year.

We expect every U.S. commercial reactor will have completed integrating portable pumps, generators and other resources and procedures to maintain key safety functions. The industry also has established, as I mentioned, two fully operational national response centers in Phoenix and Memphis with portable equipment that can be dispatched to any site in the country.

Significant progress has been made on the NRC's post-Fukushima requests for U.S. plants to re-examine earthquakes and flooding hazards. Every plant has updated its understanding of potential earthquakes at its site. More than a quarter of the plants have completed all their earthquake-related work. The remainder are performing limited assessments on specific plant equipment or performing a broader assessment to determine whether their new quake hazard affects the plant's ability to safely shut down.

While improving flooding hazard information has proven more complex, all but one plant have updated their understanding of flooding sources. All the plants will continue examining any risk changes due to revised flooding estimates.

The remainder are assessing whether their new quake hazard affects the plant's ability to safely shut down. While improving flooding hazard information has proven more complex, all but two plants have updated their understanding of flooding sources. All the plants will continue examining any risk changes due to revised flooding estimates.

The NRC's next step is to inspect the work that has been done and to ensure the improvements are maintained. We are adapting our inspections and other processes to cover these enhancements, and updating our assessment process to cover potential inspection findings related to the upgrades. We are now incorporating this work into our ongoing inspection and oversight processes.

I believe these efforts have made plants in the United States better prepared for extreme events than they were in 2011. This outcome is a product not only of regulatory resolve on the part of the NRC, but also the responsible initiative of the U.S. nuclear industry to take the lessons learned from the accident seriously.

While as a regulator we must be independent of those we regulate and do so in a transparent and arms-length fashion, we should not be isolated from one another in achieving our safety objectives. As recognized in the Convention on Nuclear Safety, both the operator and the regulator have important responsibilities for nuclear safety.

Thank you for inviting me to speak to you tonight on this special occasion to honor Dr. Meserve.