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**Remarks of NRC Chairman Allison M. Macfarlane
At the 2013 Fuel Cycle Information Exchange
Rockville, MD
June 11, 2013**

Good morning, and thank you, John, for your kind introduction. On behalf of the Commission, I'd like to welcome you to the 8th Annual Fuel Cycle Information Exchange (FCIX). This is the first time I'm attending this conference. I think it's a timely opportunity to share experiences and lessons learned on various aspects of the fuel cycle.

If we examine the current landscape, we can see that there are a number of factors that influence our work. One that's receiving a lot of attention is applying lessons learned from the Fukushima accident into regulatory and industry practices. Operating reactor aging, new construction, developments in fuel cycle technology, security concerns, waste policy issues, restricted budgets, and an actively-engaged public are also important influences.

Participants in this conference have a common objective of ensuring that nuclear fuel is produced safely and securely, while representing a variety of individual interests. Our audience today consists of representatives from conversion and deconversion, uranium enrichment, and fuel fabrication industries, the regulatory community, as well as interested parties at the local and national level. I recognize that it's not always easy to find commonalities and see the benefits of collaboration across the diverse aspects of the fuel cycle represented here. But I believe that it's important to take a holistic view of the entire nuclear fuel cycle as an essential element of nuclear safety and security. Licensees and regulators should look at interfaces within the fuel cycle in order to understand how a decision in one area can affect another. In my view, making decisions in isolation, without this type of broad information-sharing, results in less-than-optimal solutions across the fuel cycle as a whole, and could result in unintended negative consequences down the road. For example, how does fuel design impact waste disposal?

The agenda for this conference illustrates this assertion. Issues like human performance, safety of facilities against natural events, cumulative effects of regulation, and material control and accounting have broad application. You'd be just as likely to see many of these same topics at a conference focused on reactor operations or waste management. Though there are clear differences between, for example, fuel fabrication and spent fuel storage, common principles of the over-arching safety issues I've just listed apply to both. These principles, in turn, contribute to ensuring the safety

and security of nuclear power as a whole and bolstering public confidence. I think we should explore areas of common ground. I commend the conference organizers and panelists for recognizing this and making a commitment to share information over the next two days.

I think we need to go beyond sharing ideas and good practices, however, and examine how we are capturing this information and using it to enhance our work. In my view, we must not only look holistically at how our work is connected with other aspects of the fuel cycle – we must bear in mind we are also connected to a broader community. As a regulatory body, the NRC takes a cross-cutting approach to its decision-making in order to understand how decisions in one area will impact others. We also seek external input from a variety of sources, including Congress, industry, public interest groups, and state and local governments, to better inform our decisions. I believe this is an equally important task for the industry.

Later this morning, our Executive Director for Operations, Bill Borchardt, will give you more detail about the NRC's efforts to engage the public. This has been a priority for me since I became Chairman nearly a year ago. I believe we must not only give the public information about our work in plain language, but also seek opportunities for active dialogue. Through this process, I think the NRC's safety decisions are better informed by the input we receive from a broad range of interested parties.

Bill will also share some insights with you on how the NRC is weathering a difficult budget environment. I am proud of how our staff is addressing the challenges that have come our way. We also continue to make every effort to keep you informed of any resource implications for fuel cycle work. Let me assure you that the NRC's main mission of protecting public health and safety is not adversely impacted by the current budget situation. We do face constraints, which Bill will elaborate on, but those constraints will not adversely impact safety and security.

We are mindful of the impacts of the current market on the fuel cycle. Global developments have spurred new competition in the fuel production industry. The demand for uranium source material, uranium enrichment services, and finished fuel has fluctuated because of surpluses, the economic down turn, and Fukushima-related impacts on the nuclear power industry. Advances in technology have spurred plans and regulatory approvals for new uranium recovery facilities, centrifuge and laser enrichment facilities, and innovative fuel designs. Meanwhile, the operation of some long-established technologies appears to be ending, for example at facilities like Paducah. The NRC has also advanced in our regulatory structure in the past decade new requirements and guidance for using integrated safety analysis (ISA) to systematically evaluate the safety of our licensed facilities. The NRC recognizes that each of these factors has a significant impact on industry that cannot be overlooked. As a regulator, however, we also believe that cooperation to enhance safety at a global level is beneficial if not essential. In this dynamic environment, it is essential to maintain our collective focus on safety. Rest assured that the NRC will not become complacent in fulfilling its regulatory role.

We also recognize that many of you are impacted by possible future regulatory changes. Since Fukushima, we have placed greater emphasis on the robustness of accident analyses in measuring facilities' ability to withstand severe events. As I said at the NRC's Regulatory Information Conference this past March, it's important to remember that Fukushima's lessons don't just apply to power reactors.

It is my personal view that ISA requirements for certain source material facilities, as part of a revised Part 40, are a step in the right direction toward strengthening the safety of these facilities. The Commission has recently directed the staff to revise the proposed Rule to address multiple issues and resubmit it for Commission consideration. While our individual votes reflected a variety of views, I believe my Commission colleagues and I worked collaboratively to reach an agreeable outcome. If approved by the Commission, I view the use of new ISA requirements as a potential opportunity for certain source material licensees to collaborate with enrichment and fuel fabrication licensees to discuss mutual experiences in applying ISA methodologies.

Bill Borchardt frequently reminds us of the critical role operating experience plays in informing good performance. I fully agree. Where problems have been identified and corrective actions taken, it is extremely useful for licensees to share their experiences for the benefit of others that may otherwise experience similar challenges. Likewise, efforts to establish and maintain a robust safety culture, both at the NRC and in the industry, should be widely acknowledged. I am pleased to see these kinds of cross-cutting issues featured on the FCIX agenda.

In the security area, both the NRC and the nuclear industry continue to address potential threats to physical and information assets. Though the precise nature of these threats varies in part based on facility type, there is a common need to understand and work to stay ahead of them. Tomorrow, you'll receive updates on current NRC activities in this area, including pending rulemakings and the important nexus between security and safeguards. Though the nature of your businesses may be very different, we are all bound by the obligation to keep nuclear material and sensitive information out of the wrong hands.

Cyber security, in particular, has been receiving considerable media attention lately, and the NRC continues to work closely with other federal agencies to address evolving cyber threats. For example, I understand that the Department of Homeland Security's Industrial Control Systems Cyber Emergency Response Team will soon provide a classified cyber threat briefing to appropriately cleared NRC staff and licensees. Our operating reactor licensees recently began undergoing inspections in accordance with their approved cyber security plans. As you're aware, we've developed a road map to evaluate the need for cyber security requirements for fuel cycle facilities. A recent step in that process took place at the end of May, when the NRC staff held a Fuel Cycle Cyber Security Threat Conference at the Center for Advanced Engineering Research. We are making it a priority to help licensees understand the seriousness of the potential threat that fuel cycle facilities face so that they may work as partners with the NRC to address potential problems as they arise.

I recognize that potential regulatory requirements in cyber security could be significant for your industries. We commend those facilities that have implemented voluntary measures to improve cyber security, and your shared insights on better defining the threats and consequences of concern. In addition, you may benefit from collaboration with nuclear plant operators who are already putting these requirements into practice. Sharing best practices across a broad demographic can result in beneficial insights in this dynamic area.

With all this discussion about identifying areas of common ground and broadening cooperation across industries, I believe we must also acknowledge that actions taken at the front end of fuel cycle may have an impact at the back end of the fuel cycle. Here, again, we see the relationship

between business considerations and safety considerations, both of which have merit. I think we could do more both within the NRC and in the industry to consider the benefits of further integrating our approach to the entire fuel cycle.

As one example, a primary consideration in designing fuel is optimizing reactor physics, and maintaining cladding integrity, to maximize energy production during reactor operations. Issues concerning the long-term behavior of spent fuel during eventual storage and disposal have historically received less consideration on the front end. I believe it would be both unrealistic and unwise to expect fuel fabricators to take on the responsibility of addressing these potential challenges independently. Rather, there could be some benefit to front-end collaboration with those who will be responsible for the long-term safety of spent fuel. I believe that more can be done to promote engagement among responsible parties across the fuel cycle, to better understand the issues that can arise, and to work together to identify solutions.

I'd also like to talk briefly about the importance of international cooperation. Exchanges with our regulatory counterparts around the world greatly benefit the NRC. This is true even when our regulatory program bears few similarities to another. In the weeks and months following the Fukushima accident, regulators around the world took extensive steps to evaluate how well the facilities they oversee could withstand a severe accident. Though the methods we used were diverse, we arrived at similar, if not identical, technical conclusions. These conclusions formed the basis for useful and productive cooperation, which has directly informed the NRC's post-Fukushima actions.

International cooperation among industry is also important when it comes to maintaining a high level of safety. There may be significant differences in how you operate your facilities versus how other facilities operate overseas. Some of these facilities may even be your direct competitors. I recognize that this can present obstacles. However, as I said earlier, the common objective of protecting public health and safety benefits from a collaborative approach.

As I've indicated today, I believe there are two key elements to maintaining a high level of safety across the fuel cycle. The first is to ensure that we are considering the entire fuel cycle in a holistic way. As Chairman, I will continue to encourage the NRC's work to move in this direction. The second is to recognize that, despite the diverse nature of the various aspects of the fuel cycle, there are areas of common ground that can benefit greatly from increased collaboration. I would encourage you to use this conference and others like it to identify more of these areas and work together to ensure that the insights you receive from one another are informing your decision-making. This kind of collaboration is essential for ensuring the continued safety of nuclear power in this country, as well as on an international level. In turn, I believe when we succeed in strengthening our safety approaches using these shared insights, we succeed in strengthening public confidence.

I appreciate the opportunity to be here this morning, and I would be happy to answer some of your questions. Thank you.