



# NRC NEWS

**U.S. NUCLEAR REGULATORY COMMISSION**

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**“The Fuel Cycle: Current and Future Challenges”  
Prepared Remarks for  
The Honorable Gregory B. Jaczko  
Chairman  
U.S. Nuclear Regulatory Commission  
at the  
5th Annual Fuel Cycle Information Exchange  
Bethesda, MD  
June 29, 2010**

Good morning. I am pleased to be able to address the Fifth Annual Fuel Cycle Information Exchange. Over the last five years, this has become one of the most important annual events for the Nuclear Regulatory Commission (NRC). By bringing together a broad range of policymakers, regulators, licensees, stakeholders, and members of the public, this conference provides a valuable forum to share our diverse perspectives on the important issues in the fuel cycle area. This event would not be possible without the leadership of the Office of Nuclear Materials Safety and Safeguards (NMSS) and the hard work of the dedicated staff that organized this event.

The licensing and oversight issues that you will discuss over the next three days are vital to the NRC’s public health and safety mission. The agency has many important issues before it from the front end of the fuel cycle – in the licensing and oversight of enrichment and fabrication facilities – to the back end of the fuel cycle – in ensuring the safe storage and transportation of spent fuel. With several applications under review, the NRC may soon be responsible for regulating a larger number of fuel cycle facilities employing a broader range of technologies than at any point in our agency’s history.

In order to ensure that the NRC remains a strong and effective regulator, it is critical that the Commission continue to act decisively to tackle the important issues before the agency. That

does not mean that we should act hastily or impulsively. But it does mean after we collect the necessary information, identify the important issues, and give them careful consideration that we be decisive in charting the best path forward. So today, I want to discuss two significant issues – the fuel cycle oversight process and safety culture – where we have done a lot of good work in the past and where I think we need to be decisive in determining how we build upon that solid foundation.

As you are likely aware, the Commission has before it now a proposal to revise the Fuel Cycle Oversight Process to align it more closely with the Reactor Oversight Process's risk-informed, performance-based, and transparent approach. This policy issue goes to the core question of how the Commission thinks it can best structure the agency's oversight of fuel cycle facilities to protect public health and safety. There are few, if any, more important issues before the agency in the fuel cycle area given the safety challenges that some of our licensees have experienced in recent years, and the potential growth and diversification of facilities that we may see in the future.

It should be emphasized that this is a decision that the agency has been preparing for and building towards for the last decade. The process by which the agency has reached this point reflects some of the best attributes of how the NRC conducts its work an expert, rigorous approach that helps ensure that we make the right safety decisions. We saw what worked in one area – with the ROP in this case – and sought to extend the lessons and insights from that experience to another. We undertook careful study and thorough analysis to implement incremental changes that made our oversight more effective and laid the groundwork for further improvements. Because of all that work over the past decade, the Commission is now in a better position than ever to decide the key question of how to move forward with improvements to the Fuel Cycle Oversight Process.

Among the most important changes to our oversight process has been the Commission's decision to require many licensees to perform an integrated safety analysis (ISA). Through the ISAs, licensees undertake a systematic analysis of their facility's internal and external hazards, potential accident sequences, and other physical and human factors that can compromise a facility's safety. The ISAs have given both the NRC and its licensees a lot more information about the risks to facility safety, their likelihood, and how best to avoid or mitigate them.

The ISA requirement was a significant step towards developing a more structured, risk-informed oversight approach. We still have some work to do. The next step would be to move forward with the technical basis and determine whether or how we would depart from the ROP's approach. But I believe that our extensive experience with risk-informed regulations and with the ROP has clearly demonstrated our ability to continue down this path and the clear benefits of doing so.

Today, the NRC is a regulatory leader in the use of risk insights and risk tools. Although we still maintain a strong deterministic foundation, the Commission has long recognized that risk insights can enhance that traditional approach. With that mind, the Commission over the years has implemented significant changes to many of our rules and programs to make them more risk-informed and performance-based. Some of these reforms were controversial. Concerns were raised within the NRC – as well as by our licensees and our stakeholders – about altering our traditional deterministic approach. And understandably so since that approach had proven effective, and since we did not have the knowledge and experience that we do today to develop risk models. But, with the technical expertise of the staff and the long-term vision and commitment of the Commission, the agency worked through those challenges and step by step expanded our use of PRAs, ISAs, and other risk tools.

They enable us to consider a broader set of safety challenges, to prioritize those challenges based on their safety significance, and to deploy a broader set of resources to defend against them. Also, by providing a more objective process to assess safety issues, this approach makes our oversight more transparent and accessible to the public, our licensees, and our stakeholders. With all the good work that has been done, the Commission has a solid foundation to further build upon if it so chooses.

Like the fuel cycle oversight process, the second issue that I want to discuss – safety culture – is an issue on which the agency has focused increasing attention in recent years and on which the agency is also approaching important decisions. The role of safety culture in understanding why safety accidents happen is becoming increasingly prominent in many fields, and it is certainly not a new issue for the nuclear industry. In fact, the term “safety culture” is reportedly to have first been used in the nuclear context – in the 1987 report by the Nuclear Energy Agency on the Chernobyl disaster. But even going further back, you can read in the Kemeny Commission report on the Three Mile Island accident the concern about complacency, the need for a questioning attitude, and other factors that we would associate today with the concept of safety culture.

In recent years, the NRC has made substantial progress on this issue in two significant ways. First, the agency has incorporated safety culture into the Reactor Oversight Process (ROP) evaluation process. Second, the Commission has been developing a new safety culture policy statement that should help clarify our expectations in this area. The draft statement emphasizes (1) that safety culture is no less important for our materials licensees and fuel cycle licensees than for our reactors licensees and (2) that security is an important component of safety culture. The final version of the statement is expected to return to the Commission for its consideration by next spring. The Commission and the staff have been working on this issue for quite some time. The agency has worked hard keep the process open and transparent, and has received extensive feedback from the public and our stakeholders. With all the staff work and public and

stakeholder input, the Commission is in a strong position to move forward on this issue. It is clear that we have made a great deal of progress – in changing the ROP to address this issue and drafting the safety culture policy statement – and we will have to decide how much more work we have to left to do.

Regardless of how the agency moves forward, safety culture has to remain a priority for our licensees. No matter how strong our rules, oversight, and enforcement programs are, the simple fact of the matter is that the NRC can't be everywhere and it can't inspect everything. The licensees that we regulate always will retain the primary day-to-day responsibility for ensuring that their facility or plant operates safely. That is why it is critical that our licensees focus on cultivating the type of open, collaborative organizational culture that ensures that safety and security are always the top priorities. There are no easy answers on how best to establish a strong safety culture. It requires that the senior managers of an organization set the right priorities, that they have a strong commitment to establish the right type of work climate, and that employees at all levels of the organization demonstrate a consistent dedication to those priorities. If they can do that, then our licensees will be in the best possible position to preempt issues before they become problems. That's ultimately why I believe this is so important for us to focus on.

I would like to close by just briefly addressing one last issue that garners a lot of attention in the fuel cycle area – spent nuclear fuel. This is an area where we clearly have an important regulatory role but also an area where we need to be sensitive about the boundaries of that regulatory role. The question of what long-term disposal option our nation should pursue is a decision for other policymakers. We have to stay focused on our regulatory responsibilities, such as continued onsite storage of spent fuel.

Current sites likely will be active for many decades to come, given license renewals and the potential for new plants to be built at existing reactor sites. That is not a problem. The last half-century of experience has clearly demonstrated that waste can be safely and securely maintained onsite at plants. The agency and its licensees need to stay focused on short-and medium-term issues so that we do not miss opportunities to enhance the safety and security of interim storage. Keeping the right focus also entails making sure that we are prepared to conduct the regulatory reviews for whatever long-term disposal option is pursued. Our integrated spent fuel regulatory strategy and the ongoing review of our spent fuel programs will help advance both of these objectives. These issues have been the topic of many discussions here at the agency in just the last week. NMSS held its annual Spent Fuel Storage and Transportation Licensing Process Conference, and the Commission discussed these matters with the staff and stakeholders at a very interesting meeting just this past Friday.

In my remarks today, I have only touched upon a few of the many important issues in the fuel cycle area. These issues, however, highlight the importance of our work in this area and the

important policy decisions before the Commission regarding the fuel cycle oversight process and safety culture. Whatever decisions my fellow Commissioners and I ultimately reach on these questions, what is critical is that we continue to approach these issues in a pro-active way. It's been said that "when you have to make a choice and don't make it, that is in itself a choice." The agency should remain committed to ensuring that those kinds of choices – decisions by indecision – do not shape our agency's future.

I am confident that the Commission – with the support of the hard-working and dedicated NRC staff and your input – will continue to tackle the important decisions head-on to ensure that the NRC remains a strong and effective regulator. Thank you.

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