



NRC NEWS

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“USNRC 25th Annual Regulatory Information Conference Commissioner Plenary”

Prepared Remarks of Commissioner William C. Ostendorff

at the 2013 NRC Regulatory Information Conference (RIC)

Wednesday, March 13, 2013

Good morning. I am pleased to be with you today at the 25th annual Regulatory Information Conference. It is a privilege to once again address this audience of distinguished colleagues from the global nuclear safety community. I would like to extend a special greeting to those of you who traveled to attend this year's RIC.

Before I begin, I have a few notes of appreciation. First, I want to thank the NRC staff who work so hard every year to prepare for the RIC. This is no easy undertaking, and I commend you for the thoughtful, relevant, and engaging agenda.

Second, I want to thank the entire NRC staff, fellow Commissioner colleagues and their staffs. We have had to address many tough technical and policy issues over the past year and I continue to be impressed with the caliber of work that I see on a daily basis.

One final note of thanks for the past three years I have had the pleasure of having Mike Franovich as my Reactor Advisor. Mike has performed his job admirably, especially during the weeks and months following Fukushima. He never tired of teaching me about the NRC and civilian reactor technology. I am grateful to have had him as my advisor. Mike is leaving my office to take on a new challenge in NMSS. Mike, thank you for your dedication these past three years.

Last year, I started my speech with a sea story. I believe a sea story related to situational awareness is in order this morning. [I apologize in advance to those of you who have heard this joke before.] What follows is a purported transcript of a radio conversation between a US naval ship and Canadian authorities off the coast of Newfoundland in 1995. For any sailors here, feel free to bring out your maneuvering boards, compass and parallel rulers to calculate the Closest Point of Approach (or CPA). Here goes:

U.S. Ship: Please divert your course 15 degrees to the South to avoid a collision.

CND reply: Recommend you divert *your* course 15 degrees to the South to avoid a collision.

U.S. Ship: This is the Captain of a U.S. Navy Ship. I say again, divert *your* course.

CND reply: No. I say again, you divert *YOUR* course!

U.S. Ship: THIS IS THE AIRCRAFT CARRIER USS CORAL SEA. WE ARE A LARGE WARSHIP OF THE U.S. NAVY. DIVERT YOUR COURSE NOW!!

CND reply: This is a lighthouse. Your call.

Although this joke has been around for many years, its message is just as relevant today: always maintain awareness of the situation around you, and always be open to correcting your course based on new information. This message will resurface throughout my remarks when addressing the NRC's use of operating experience.

During my first RIC, I provided my initial impressions as a new commissioner. Last year, I spoke about communications and public trust. Each of those speeches was a reflection of themes that I encountered throughout the previous year. This year, I really wanted to take on a broader, and some might suggest more ambitious, task. This year, I want to give the audience a 50,000-foot look at one Commissioner's decision-making post-Fukushima. (If that 50,000-foot look feels like a fly-by through some topics, I apologize. My time with you this morning is short and I want to leave room for questions.)

This post-Fukushima retrospective was especially important to me now that we have reached the 2-year anniversary of that tragic accident. Not since the accident at Three Mile Island in 1979 has the NRC been confronted with as many important issues, so central to the core of our mission, as have arisen in these past two years. While much of the attention has rightfully been on the technical merits of the NRC's Near-Term Task Force Report recommendations, it is just as important that we consider the long-term regulatory impacts of our post-Fukushima actions. Today, I want to walk you through my view of our adequate protection framework, how that has shaped my decision-making, and the factors that I take into account when I make decisions. I hope this will provide an insight into at least one Commissioner's views, as well as demonstrate that the post-Fukushima votes are not a series of disparate decisions, but rather are practical applications of a larger regulatory framework.

Adequate Protection: NRC's Regulatory Standard

I will start with the foundation of the NRC's regulatory framework: adequate protection. Most of those here today are familiar with our adequate protection mission, so I will not spend too much time here. As a very brief foundational overview, adequate protection of public health and safety is the Atomic Energy Act floor below which safety cannot fall. The NRC *may*, however, institute requirements that go *beyond* adequate protection, if certain conditions are met. Generally, this means a determination that the new requirement would be "a *substantial increase in the overall protection* of the public health and safety or common defense and security" that satisfies a cost-benefit analysis.

Although no court has ever defined “adequate protection,” nor has the NRC ever provided its own definition, there are four generally-accepted principles that we can look to for guidance. These principles have been synthesized over decades from a number of federal appellate court decisions. Those principles are:

First, the NRC’s authority under the Atomic Energy Act’s adequate protection mandate is extremely broad, and the NRC is afforded significant discretion in determining whether the adequate protection standard has been met.

Second, the NRC’s authority over adequate protection is bound to matters that have a reasonable nexus to radiological health and safety.

Third, the NRC is able to make case-by-case determinations on adequate protection—no set objective criteria are required.

The **fourth**, final, and perhaps most important principle is that adequate protection does not mean zero risk. To put it another way, adequate protection is *not*, and never will be, absolute protection.

One Commissioner’s Adequate Protection Framework

Because of the NRC’s broad responsibility on matters of adequate protection, each Commissioner’s judgment is vitally important. I will delve a little deeper into how I use my own judgment in making adequate protection determinations.

First, I strongly believe that we have a duty to use our “broad responsibility” judiciously, while also respecting the significant trust that Congress and the American public have placed in us to ensure adequate protection. In my post-Fukushima decision-making, I have found one simple question to be remarkably useful in striking that balance: “What, if anything, is broken?”

Second, if there is in fact something broken, it is essential that the Commission has a clear understanding of the exact nature of the problem to be addressed, as well as any risks associated with *not* addressing the problem. As a regulator, we must also take a hard look at whether concerns are based on realistic assumptions, as well as real world safety, security, and legal practices. The Commission should never consider these issues in a vacuum—outside the realm of real life and actual operating experience.

Drawing upon my career in Admiral Rickover’s Nuclear Navy, I recognize the importance of operating experience. As a young submarine officer on USS GEORGE BANCROFT (SSBN 643) in the ‘70, I saw first-hand the strong emphasis placed on learning from incidents in the nuclear propulsion plant. Following a watchsection critique of the precise events with the Engineer Officer, Executive Officer, and Commanding Officer, corrective actions were identified and a formal incident report submitted to Naval Reactors. These actions included, where appropriate, such steps as: retraining or requalifying watchstanders, updating procedures, or making material modifications. I see that very same principle—learning from operating experience—embodied in NRC actions.

Because of this experience, when I visit nuclear power plants and other NRC licensees, I always seek to understand, and if possible view the actual impacts of proposed or existing

regulations. Since maintaining situational awareness is a key to my decision-making, I try to answer questions such as:

- “How will this be implemented?”
- “What will be the impact of the new regulation?”
- “How will this affect other processes?” and
- “Are there any unintended safety consequences?”

Third, our work does not end once the NRC has determined that there is a problem, what the exact nature of the problem is, and what the risks associated with that problem are. In fact, this is when the hard work truly begins: we must evaluate all the information gathered in a structured manner within our regulatory framework. That framework has a built-in check and balance—the regulatory combination of adequate protection determinations and cost-benefit analyses—that ensures our regulations are neither too lax nor excessively burdensome.

I firmly believe that if the NRC has determined that adequate protection has already been achieved, we have a duty as a reliable and consistent regulator to ensure that we make this perfectly clear to our licensees and stakeholders. Thus, we must ensure that we have effectively evaluated questions of adequate protection at the outset. By adhering to our adequate protection standard, the NRC is able to maintain its position as a predictable and stable regulator. It serves no interest—not ours, not the regulated industry, and not the public’s—to have regulatory uncertainty.

Of course, to be clear, this does *not* mean that we should *not* consider new information or new insights. To the contrary, the NRC must remain vigilant in ensuring that adequate protection is being achieved. A stable regulatory structure *does not mean* a static regulatory structure. Operating experience and new information can and should lead to appropriate changes. I consider our ability to be self-critical and learn lessons to be strengths of our regulatory framework. The NRC must, however, ensure that additional requirements are imposed only after clearing the appropriate regulatory bar, and are *not* simply a result of determining that “we can do better.”

NRC’s Near-Term Task Force Report

In this agency’s response to Fukushima, I have witnessed a staff and Commission dedicated to undertaking thorough and thoughtful assessments on adequate protection matters, as well as commitments to the long-standing adequate protection framework. To highlight this, I want to discuss the foundation for my views on the Near-Term Task Force Report, as well as how I made my decisions on certain Task Force recommendations.

I will assume that everyone in this room is intimately familiar with the sequence of events at Fukushima and generally familiar with the NRC’s Near-Term Task Force Report and associated recommendations. Therefore, I will skip right to the five factors that anchored my views on post-Fukushima actions:

- 1) The Task Force concluded that “a sequence of events like the Fukushima accident is unlikely to occur in the United States” and that “continued operation and continued licensing activities do not pose an imminent risk to public health and safety.”
- 2) The Task Force further concluded that “Although complex, the current regulatory approach has served the Commission and the public well.”
- 3) In October 2010, the IAEA’s Integrated Regulatory Review Service Mission to the U.S. found that “the NRC has a comprehensive and consistent regulatory system that has been developed in a determined manner” and that “the NRC has a strong drive for continuous improvement in its own performance and has well achieved its goals.”
- 4) My good friend and colleague Commissioner Apostolakis had made the following observation, which I fully endorse: “The accident [at Fukushima] was not of extremely low probability, i.e., it was not ‘unthinkable’ or ‘unforeseen.’”
- 5) Finally, the Fukushima tragedy occurred in another country, with a regulatory structure that was quite different from ours at the NRC.

After reading the Near-Term Task Force Report, I formed my own opinion about which recommendations should be given high-priority status for short-term regulatory action. But, it was essential for the NRC to have an integrated, prioritized approach to those recommendations that was based on input from the NRC staff as a whole. The failure to have such an approach was a key lesson learned from the NRC’s response to the events at Three Mile Island and was stated as a key concern by the Executive Director for Operations at our first meeting on the Fukushima events in March 2011.

In my personal opinion, not all of the 12 Task Force recommendations (with 35 subparts) are equal from either a safety enhancement or urgency perspective; every post-Fukushima action cannot be the most important. Therefore, it was imperative for the NRC to focus on the most safety-significant actions first.

First Post-Fukushima Orders

Much of that focus and attention went to the first three orders that the NRC issued in March of 2012 to address Fukushima matters. Those orders require:

- 1) installation of reliable, hardened containment vents for boiling water reactors (BWRs) with Mark I and Mark II containments;
- 2) development of strategies to mitigate beyond design basis natural phenomena, which addresses both multi-unit events and reasonable protection of equipment identified under such strategies; and
- 3) installation of enhanced spent fuel pool instrumentation.

The proposal before the Commission was to issue the orders based upon a redefinition of the level of protection regarded as adequate under our Backfit Rule. This would have, in essence, “raised the bar” for adequate protection, which is quite a weighty decision for the Commission to make. In my opinion, decisions on adequate protection are among the most significant policy decisions entrusted to the Commission. I believe that the decision-making process for these orders demonstrated just how seriously the Commission took its responsibilities.

While I agreed with the staff that the requirements in the hardened vents and mitigation strategies orders were matters of adequate protection of public health and safety, I did not believe that the NRC was “defining or redefining” adequate protection. In my opinion, the NRC was responding to operating experience from Fukushima by supplementing existing requirements and codifying current regulatory expectations. To me, these orders were about ensuring, rather than redefining, adequate protection.

The spent fuel pool instrumentation order, however, was a different story. I did not believe that this was a matter of adequate protection. While the experience at Fukushima demonstrated that reliable and available instrumentation is *important* for plant personnel to effectively prioritize emergency actions, operating experience from Fukushima did not show that the absence of such instrumentation resulted in radiological consequences. But, based upon my many years of nuclear propulsion plant operations, I know from personal experience that a lack of reliable instrumentation can cause operator confusion and can be a significant distraction that may adversely impact safe operations.

Given the significant radiological inventory in a typical spent fuel pool, I believed it was important for spent fuel pools to have reliable instrumentation. As I could not conclude that this modification was necessary for adequate protection, in this unique circumstance, I determined that an administrative exemption to the Backfit Rule was appropriate.

In my opinion, one point should be evident from this discussion: our regulatory standard has *not* changed since Fukushima. The NRC *still* regulates based upon reasonable assurance of adequate protection of public health and safety. And the Commission’s existing framework is robust and flexible enough to disposition post-Fukushima actions.

Offsite Economic Consequences

The Commission is still finalizing its direction on the agency’s approach to addressing the offsite economic consequences associated with the unintended release of licensed nuclear material to the environment (or, as I will simply refer to it today, “economic consequences”). Economic consequences is not a matter of adequate protection under the Atomic Energy Act. But, this does not mean that the NRC does not take these issues into account. The NRC’s long-standing regulatory philosophy provides that regulatory actions that are protective of public health and safety also afford protection of the environment. As it specifically relates here, the NRC’s reliance on prevention and mitigation of severe accidents provides ancillary protection to offsite property, thus minimizing economic consequences.

When both the Near-Term Task Force and the NRC staff independently took second looks at our consideration of economic consequences in our regulatory structure, both determined that our current regulatory framework is sound and affords sufficient flexibility. Further, the NRC’s defense-in-depth philosophy and risk considerations for adequate protection of public health and safety already provide substantial additional protection of offsite property. While I will not discuss the substance of my vote today, I can say that I always strive to be

consistent with our Principle of Good Regulation on reliability: once established, regulations should be perceived to be reliable and not unjustifiably in a state of transition.

Moving Forward in the Wake of Fukushima Filtered Containment Venting

Another issue related to offsite consequences is that of reducing offsite radiological releases. As many of you are aware, the Commission is currently considering a staff recommendation to require installation of an engineered filtered containment venting system on BWRs with Mark I and Mark II containments. The Commission has not yet completed voting on this matter, so I will not be discussing my vote or where I think the Commission will come out on this issue.

I will mention, however, how struck I was by the almost universal consensus that existed among our diverse stakeholders. As Mike Johnson, our Deputy Executive Director for Operations and Chairman of the Japan Lessons-Learned Steering Committee observed at the Commission's January 9th briefing on this issue, "There were *no* stakeholders who argued for the status quo." Public interest groups, individual members of the public, NEI, utilities, Congress, and the ACRS all believed that there needed to be *some* type of filtering strategy to enhance defense-in-depth for these types of containments.

Although I won't be telling you my views today on this topic, hopefully everything that I've said so far will give you some insights into how I've been weighing this issue. I've attempted to determine what the impacts and consequences might be of moving forward and not moving forward. Given the principles of adequate protection, I've tried to determine whether this is a matter of adequate protection and, if not, whether there is a substantial safety benefit to be gained. I have considered, if there is a substantial safety benefit, how a proposal like this could be implemented.

The exact path forward is not clear-cut, but I can assure you that the staff and Commission are giving this matter careful, thoughtful attention.

Near-Term Task Force Recommendation 1

One Near-Term Task Force recommendation will not be resolved for quite some time. It is also the one recommendation that would have the most wide-ranging impact on our regulatory foundation. Recommendation 1 states that:

The Task Force recommends establishing a logical, systematic, and coherent regulatory framework for adequate protection that appropriately balances defense-in-depth and risk considerations.

One word used only three times throughout the Task Force Report seems to have shaped much of the debate on Recommendation 1: *patchwork*. My personal opinion is that the NRC's regulatory framework is not broken and calling it a patchwork unfairly paints it in a negative light. As I stated in my first vote on the Near-Term Task Force Report, the "use of the word 'patchwork' diminishes the dynamic, evolving nature of the NRC's regulatory framework." The NRC is a continuously learning organization, which should be viewed as a strength. With the

benefit of hindsight, one can usually suggest better ways to approach past issues. But, I am not a critic of actions this agency took in response to major events like Three Mile Island or September 11th. Rather, previous NRC staff and Commissions used their best judgment to appropriately address the problems they faced. Those judgments have generally stood the test of time. As I said then, and continue to believe now, “[w]hile the NRC’s regulatory approach . . . may not have the coherence of a framework that might be developed with the luxury of being done in a closed room at one static point in time, it does not mean that the framework is not effective.”

The Commission has not yet received the staff’s analysis and options for addressing Recommendation 1; therefore, I don’t know how I will come out on this issue. But, Commissioners have been periodically briefed on the working group’s progress. In the briefings I have had, I have consistently asked the same question: what is the problem we are trying to solve? To be clear, I am open to enhancing our regulatory framework, if warranted, but everything that I have seen during my time as a Commissioner has suggested that our current regulatory process has served us well.

One very apt example stands out on that very point: it appears that our current regulatory framework is robust and flexible enough to facilitate the Commission decisions on *all* Fukushima Tier 1, 2, and 3 actions under that same regulatory framework. And, in my opinion, this is being accomplished logically, efficiently, and effectively.

Conclusion

In conclusion, this agency must remain ever vigilant in ensuring that a fog of Fukushima does not result in loose interpretations of our adequate protection mandate. At the same time, operating experience from Fukushima can and should be taken into account in updating regulatory requirements where appropriate. But, I have not seen any evidence that suggests our current regulatory structure is broken or that there is any need to divert from the stable, predictable way that the NRC evaluates issues. The NRC must adhere to its well-proven approach to regulation. If we do not, the regulations will be only as predictable as the five individuals carrying the title “Commissioner.”

With that I will close. Thank you for your attention. I would be glad to take some questions from the audience.