



# NRC NEWS

**U.S. NUCLEAR REGULATORY COMMISSION**

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**WHEN...  
LARGE IS SMALL AND  
SMALL IS LARGE**

Remarks of Commissioner Nils J. Diaz  
United States Nuclear Regulatory Commission  
Before the 2002 Regulatory Information Conference  
March 5, 2002

Good afternoon, I am pleased to be here and make good on my "I'll see you next year" parting remark. As usual, I will be presenting my individual views.

This is my 6<sup>th</sup> opportunity to address the Regulatory Information Conference. Time flies when.... I have used this forum to present my philosophy of regulation and practical pointers for strengthening the NRC regulatory infrastructure and its relationship to public safety, to licensees and to stakeholders. I have tried to push the envelope with principles and practices, and I ain't changing now.

Protection of public health and safety and the common defense and security is our business. For nuclear power plants, when the threat is terrorism and sabotage, security is a subset of safety. Today, security is very important; however, it should not overwhelm the safe operation and regulation of nuclear power plants. Security of nuclear power plants must be established in an integral manner with all the safety objectives and all their safety features, internal and external to the plant. Besides national security, energy security is also making headlines. I believe energy security is a key component of national security, and that the safe and reliable operation of nuclear power plants is vital to our energy security.

With a feeling of *deja vu*, allow me to recall my first RIC appearance in 1997, where I outlined three common objectives for consideration by NRC and industry:

- 1) to develop the capability to differentiate routinely between issues of higher and lower safety significance;
- 2) to establish sensible priorities, so that resources are applied where they are needed most; and
- 3) to provide clarity and specificity in the way that we communicate.

I stated that, by achieving those objectives, we could help assure that all of us contribute to the quality of life of the American people. These objectives were as practical then as they are now, and especially applicable to the physical security of nuclear power plants.

Many of the improvements made during the last few years at the NRC have been along these lines. For example, the Commission first tackled and appeared to resolve the “compliance vs safety” standoff, and from that point, resolved many regulatory and process issues using real safety as the determinant. These solutions propagated into the practical resolution of licensing, regulation and enforcement issues, where it was necessary to differentiate between issues of higher and lower safety significance, using changes in regulation when needed, but often developing timely and suitable processes for decision-making without rule changes. Sensible priorities have been used to determine where resources would do the most good.

Can we do any less for physical security in the aftermath of September 11? I think not.

It is now vital to think, implement and measure security using similar principles, not just “doing something” but doing something good, and resisting doing the unnecessary for appearance’s sake. Our national security begins and ends with the principles and practices of our democratic society, and with every component of our society that assures our freedom and the pursuit of happiness. Security does not depend on any one component, but on multiple layers of physical structures, systems and components, as well as other protective measures.

For example, protection of public health and safety is not solely dependent on the survivability of the containment, but also on the survivability of the protective systems, including the emergency response infrastructure, that assure the American people that their well-being is protected. The health effects of the Chernobyl disaster were not only due to the failure of the reactor and the lack of a containment, but of the failure of a totalitarian society to protect its people. And in that sense, I can assure you that America will not fail: we will protect our people, with every available means, whatever happens.

And now, maybe more than ever, we need to have clarity and specificity in our communications. I know we all have struggled with deciding what pieces of information could aid our enemies, and struggled with the balancing of restrictions that address the need to protect the public with the public’s need to know. And it is in deciding this balance that there is no substitute for clarity in purpose and action. These are responsibilities that befall every American: do provide information that is helpful to America; do not provide unsubstantiated information to create fear; and do provide substantiated information to defeat the roots of fear, with deeds and words. “Deeds without words will not be understood, words without deeds will not be accepted.” As we face the challenges of today and tomorrow, I will continue to publicly respond to counter unsubstantiated information and the unjustifiable fear that it can cause in our people, and the damage it could inflict to our common defense and security, our economy and our general well-being by the misdirection of resources that could result.

September 11 is a harsh reality, a reality that demands good deeds and good words. It is also a reality that nuclear power plants are vital to the energy security of this country and, therefore, to the well-being of our people. Thus, it is our responsibility to bolster nuclear facilities’ defenses within the envelope of reasonable protection of public health and safety and the common defense and security.

Often you have heard me speak about the need for predictability in a regulator. It is imperative that both regulators and licensees respond to the security needs of this country in a predictable manner. That is why I believe that requiring prudent compensatory measures during a period of a high level threat was

needed. Requiring common sense protective actions makes clear to the public, and predictable to both the public and the licensees, what is expected during a high level threat environment. The NRC needed to add clarity to physical security measures, with the information we had and with our knowledge of the facilities. It was the right thing to do.

Let me conclude my remarks regarding security by stating that I strongly believe that America is providing prudent and necessary responses to protect public health and safety, and will continue to do so as needs arise and new assessments are completed.

For the rest of my remarks, I will focus on improving the definition of the safety envelope required by the mandate to ensure reasonable assurance of public health and safety. It is this “reasonable envelope” that the NRC first prescribed in a very deterministic manner, and has been lately trying to further improve by using state-of-the-art technical know-how and methods, including probabilistic techniques.

There is probably a perception out there that I kind of like PRAs and risk-informed regulation. What I really like is to resolve issues in the most lasting manner, using the best tools available, and with clear and timely decision-making. Frequently, risk-informed regulation provides a reasonable quantifiable and scrutable approach to regulatory decision-making and its day-to-day implementation. I do favor improved safety categorization, implementing prevention and mitigation strategies accordingly, as well as deploying resources where they are needed most. I do believe that explaining the “why” and the “how” should be done using a quantitative basis whenever possible. This might be risk-informed regulation. Perception is reality....

The Commission categorically decided, over 4 years ago, to systematically move to a risk-informed regime, supported by the proper allocation of resources and employing sound communications. Soon afterwards, we specifically decided to risk-inform Part 50. It should be obvious to all the informed that many of the key regulatory improvements of the last few years have a strong risk-informed backbone. The new 50.59, the revised maintenance rule, Reg. Guide 1.174, license renewal, the reactor oversight process (ROP), improved enforcement, in-service inspection, and many every day processes are guided and supported by risk-informed decision-making. These are sound and successful regulatory improvements; the majority were implemented by changing processes and fewer by rulemaking. These are improvements to be lauded.

Now to one of the so called “challenges” that remain. Let me note that the risk-informing of Part 50 is taking a bit more time. In the famous SECY-98-300, submitted to the Commission in 1998, the staff estimated it would take 5-7 years to risk-inform Part 50. At that time, I expressed my dismay at such a protracted schedule. I wish we could have settled on a schedule, however protracted, then.

Allow me to do some arithmetic on the schedule and the pace of changes for Part 50. After 3 years, we have completed... none. Considering there are approximately 1800 provisions in Part 50, and assuming 50.44, 50.46, and 50.69 will be done in another 2 years, it would take over 2000 years to do it all, give or take 1000 years.... Of course, this is not an accurate assessment. The selected short-term actions of Option 2, Special Treatment Requirements, could be completed in another 2 or 3 years. Other “longer-term” actions and Option 3, however, could take a little longer.

It is my perception that the pace of risk informed regulation has slowed down. I am puzzled as to why. Every risk-informed change made has been fruitful in improving safety, effectiveness and efficiency. Some say that some in the NRC staff and the industry are not willing to let go of the “comfortable”, of what has been working for them. Some say NRC staffers here and there are “uncomfortable” with

abandoning conventional prescriptions or that some in the industry are not willing to make an investment for tomorrow. The more the pace slows down, the more valid the criticism becomes and the easier it becomes to oppose even a good thing. And it could be that the regulatory structure today is fine for today. But I believe it is not fine for tomorrow. Living in the past is not the way to ensure the future. One only needs to compare the regulatory regime, safety performance and plant operation ten years ago and today. This is the year 2002, almost 30 years after WASH-1400, and it is time that all licensees have a quality Level 2 PRA so they can effectively utilize our regulatory processes. Moreover, history has shown that one single event could require the quantitative placement of that event in a risk scale for the most appropriate regulatory response; yet, today we might not have the regulatory framework to do that. History has also shown us what happens when the appropriate regulatory framework is not available.

So, what is the problem? Could it be that, by us selecting the easy thing to do or what industry believes will provide the most near-term benefits, we are actually making the whole thing more difficult? No doubt the present is bounded by existing rules, no matter how good or bad they are, but the future should be ruled by what is most useful to society. I believe that by tackling the difficult -- the cornerstones of what really needs to be deleted or improved -- the difficult can be accomplished in a reasonable time, with reasonable expenditures of resources, and with predictable results that will astonish one and all! For example, we are dancing around how to resolve the Large Break LOCA. It is in the books and so much of the design safety basis is dependent on it. Yet, the Large Break LOCA is obsolete now, a true anachronism in today's safety envelope. It needs to be abandoned in favor of what really affects safety and is risk-significant. The Large Break LOCA was good in 1970 but it is absurd now as a dominant safety LWR criterion. If risk and safety are determinants, large (LBLOCA) is small and small (SBLOCA) is large.

The resolution of the Special Treatment Requirements has taken this long because of a lack of an overriding principle to resolve risk-informed regulation. Some would say that it has taken 3 years to even talk about soon resolving the Special Treatment Requirements and, therefore, it would take decades to get rid of the Large Break LOCA. To them I say that it will take that long, and more, to resolve anything if the principles are not well established for everyone to work from. Think about it....

Fundamental principles for risk-informing Part 50 were established years ago. At the time of the 1997 RIC, I was having some engaging discussions with Chairman Jackson on the design bases and compliance issues. I quoted in my 1997 speech one of her best statements, a sound regulatory standard for our times: "If regulations are not important to safety, they should be revised or eliminated." I say, amen and yes, in this regard I miss Mrs. Risk-Informed, Dr. Shirley Jackson! This axiom translates into a dominant principle that should be a deciding factor in how to risk-inform our regulations. Risk-informed regulation incorporates deterministic, experiential, and probabilistic components. In this context, the principle to use is: if it is not risk-significant, it is not important to safety. Again, amen.

Have a great conference and many happy returns.