



NRC NEWS

U.S. NUCLEAR REGULATORY COMMISSION

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PLENARY REMARKS

by Commissioner Nils J. Diaz
U.S. Nuclear Regulatory Commission

at the

AMERICAN NUCLEAR SOCIETY 2002 ANNUAL MEETING

Hollywood, Florida
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I am very pleased to make a few remarks today on topics of interest to the American Nuclear Society. I have used this forum so many times, to discuss so many different issues under so many circumstances that I get the uneasy feeling that I have said what I am about to say. However, I concluded that a few statements are worth repeating because they have some value to the present nuclear power arena. The theme of the conference is the "revival of the nuclear energy option." From the regulatory perspective, there is a solid foundation from which to respond to what the country could demand from the NRC.

The NRC has certified designs for ABWR, AP600, and System 80+. Westinghouse has applied for design certification of the AP1000, General Atomics has submitted a pre-application licensing plan for the Gas Turbine-Modular Helium Reactor, and General Electric has requested a pre-application review of the 4000 MWt European Simplified Boiling Water Reactor. Several potential applicants for early site permits have been identified, including Exelon Generation, Dominion Generation, and Entergy Operations, with applications expected in the near term. I believe that Bill Magwood will have something to say about early site permits and a few other developmental issues.

However, as you know the technical progress made and to be made in these areas could come to little unless unjustified fears of the public with regard to nuclear power plants and the security of these plants can be addressed. Nuclear power plant security and potential vulnerability is a real and clear issue that needs to be addressed well for both Congress and the public.

In this regard, it is indispensable for all of us to clearly communicate the robust physical protection that exist at these plants; the limited consequences of an attack, even if it does cause plant damage; and the many resources the US society has that will be used in the remote case that there are off-site consequences. It sounds like defense-in-depth all over, and in many sense, it is.

National security is now the dominant concern of this country, and will remain so for quite some time. In our nuclear area, there is a need to achieve a balance of security, operational and safety activities and to forge a new mission. A new mission that assures America that all we hold dear not only will survive, but keeps moving forward, and that supports overall national security initiatives. In this respect, I would like to bring my perspective into the debate.

- I strongly believe that having abundant and reliable energy is a national security issue. Moreover, it is a given that nuclear energy is an essential component of the energy portfolio of the United States.
- I will work to ensure that common defense and security activities are an integral component of the NRC's regulatory framework. These activities should be conducted as an enhancement, not a detriment, to our protection of public health and safety.
- I will continue striving to maintain nuclear power and radiation technologies as safe and as useful to the people of America as they are and should be.

And as the debate enters more and more into a “what should be done” phase, I believe we should consider that:

“Nuclear power is a global socio-political issue and until it is treated and resolved as such, its benefits cannot be realized.”

“There can be no credible regulator without a credible industry, nor can there be a credible industry without a credible regulator.”

“Regulations need to result in a benefit or they will result in a loss.”

“A nuclear regulator must master the technology, a nuclear technologist must master the regulations.”

“We are always inside a feedback loop, generating a positive or a negative signal. I prefer the positive output, cognizant I might have to dampen the instabilities.”

“My goal is to ensure the paths are clearly marked. A path that is clear of obstacles and unnecessary impediments, with well defined processes, will provide regulatory predictability, equity and fairness.”

“There is no such thing as zero risk. There is only one way to get zero: $0 = 10^{-\infty}$ ”

And quoting a United States Court: “The level of adequate protection, need not, and almost certainly will not, be the level of zero risk.”

Now, I want to emphasize where I believe some of our obligations lie regarding effectively communicating with Congress, decision-makers, and the public. My only concern in making the following statements is the welfare of the American public.

In general, I do not believe nuclear power is being portrayed in a balanced manner in the risk and benefit equation, especially when the issue of consequences is discussed, in the US Congress, in State Chambers, public meetings, or the media. This is probably the fault of all of us who know better since there have been strong currents for not mentioning consequences out loud and we may have succumbed. And consequences might very well be a nuclear power and a radiation technologist's strongest and most favorable argument in risks and benefits comparisons. Whether you compare normal operations, accidents or even a catastrophic release of radiation like Chernobyl, consequences can be found to be comparable with other societal risks, society's if realistically portrayed. Let me also state the fact that radiation is a relatively weak carcinogen, a fact accepted very clearly by the medical profession in their uses of radiation for diagnostic and therapy. I will dwell briefly on the consequences of an extreme case, the Chernobyl accident.

The Chernobyl disaster was costly in many ways, but the consequences were and are still being exaggerated and distorted into something worse than what they were in terms of health effects. For the record, what really happened at Chernobyl, in terms of public health and safety, was:

- a catastrophic release of radioactivity fueled by a fire in a combustible graphite reactor core, without a containment, that burned for many hours
- thirty-one prompt fatalities, twenty-eight due to acute radiation exposure of workers and firemen that were sent to put out the fire (we now have a deeper appreciation of firemen everywhere)
- no other prompt fatalities, outside or inside the site
- one major, established delayed health effect, that is especially bad because it was avoidable: about eighteen hundred children with thyroid cancer, with fewer than a dozen reported fatalities, due to the callous disregard of the former Soviet Union for its people. There are no other latent cancers attributed to Chernobyl. The 2000 UNSCEAR report states that “apart from this [thyroid cancer] increase, there is no evidence of a major public health impact attributable to radiation exposure 14 years after the accident. There is no scientific evidence of increases in overall cancer incidence or mortality or in non-malignant disorders that could be related to radiation exposure.”
- site recovery accomplished, with the other reactors continuing to operate for years; permanent shutdown will be effected years from now
- substantial areas of land that were left radioactively contaminated and unused because of financial constraints and political maneuvering.

I'd like to make additional points regarding the latent health effects of Chernobyl because the word cancer, like the word radiation, can be used to strike fear in the minds of people. Although thyroid cancer is usually treatable, it can have serious consequences and can be life-threatening if untreated. Evacuation and the use of potassium iodide pills would have significantly reduced the incidence of thyroid cancer. Leukemia has been expected to be among the early primary latent health

effects seen among those exposed to significant amounts of radiation, yet excess cases of leukemia that can be attributed to Chernobyl have not been detected.

I am not trying to compare in any way American reactors to Chernobyl-type reactors because there is no comparison. Our reactors are so much better and so is our society. What I am trying to portray is that the failure of the former Soviet Union to do what was needed to mitigate the accident significantly contributed to its consequences. Can the United States of America do better than that? You bet we can. Therefore, as we face the challenges of today and tomorrow, I will be publicly responding to the doomsayers, to counter the unjustifiable fear that they can cause in our people and the damage they could inflict to our common defense and security, our economy, and our well-being.

I do not believe the doomsday scenarios being portrayed for nuclear facilities or for spent fuel casks because, among other things, they do not take into account the decisive and powerful resources that the country would use to interdict and mitigate the consequences of terrorist attacks on any of our facilities that have hazardous materials. In addition, licensees and the U.S. Nuclear Regulatory Commission maintain very effective and frequently tested emergency plans whose sole purpose is to reduce hazards to the public. I can assure you that our licensees, the NRC, and Federal, State, and local officials, work together to achieve a high degree of safety and security.

It is true that the operation of industrial complexes involves risks, which are not zero, but which were not expected to be zero. A small radioactive release, or even a large radioactive release under some very extreme circumstances, cannot be completely ruled out. What I am going to rule out is that the health consequences of the aftermath of Chernobyl-like scenario would be applicable to the United States. Chernobyl was much more than a catastrophic reactor failure and the release of enormous quantities of radioactivity to the environment. Chernobyl's failure was the failure of a totalitarian society to protect and care for its people after a disaster...and this horrific mishandling of public health and safety cannot and is not going to happen in America.

We will take care of our people, promptly and passionately, as September 11 has shown, taking risks to avoid risks. Make no mistake, America will deliver the necessary responses to protect public health and safety, and therefore, there will be no "American Chernobyl."