NRC NEWS

U.S. NUCLEAR REGULATORY COMMISSION

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No. S-09-012

Remarks of NRC Chairman Dale E. Klein
Dry Storage Information Forum
Bonita Springs, FL
May 12, 2009

Thank you, I am very pleased to be here.

When people in the general public think about nuclear energy, they understandably focus on the safety and security of reactors. But, of course, safe and reliable commercial nuclear power also requires that industry and regulators maintain sound practices and procedures for the entire fuel cycle, from the recovery and processing of uranium, to the safe storage and transportation of spent fuel. So I want to thank the organizers of the conference for giving me an opportunity to share a few thoughts on that topic.

I have some definite things I want to say today about spent fuel storage and transportation containers. But first, I would like to take this opportunity to give you a little background on waste issues, and update you on the status of the NRC's waste confidence findings. Some of you may know this already, but I think it may be useful to go over this briefly.

Before the early 1980s the NRC did not look in any systematic way at the so-called "back end" of the fuel cycle—the spent fuel disposal issue—when assessing environmental impacts from new reactor licensing. That changed in response to two significant litigation issues in the late 1970s, which prompted the NRC to undertake a waste confidence rulemaking proceeding in 1979. So the NRC initiated an assessment and associated rulemaking to evaluate generically the degree of confidence in the safe storage, management, and final disposal of high-level radioactive waste. This became known as the "waste confidence rulemaking," and it provides generic findings pertinent to environmental analyses related to power reactor licensing.

The first waste confidence decision was issued in 1984. In this initial assessment, the Commission found:

- reasonable assurance that safe disposal of high-level waste and spent fuel in a geologic repository is technically feasible,
- that repository capacity will eventually be available,
- that high-level waste and spent fuel will be safely managed until repository capacity is available,
- that spent fuel generated in any reactor can be stored safely and without significant environmental impacts for extended periods, and
- that spent fuel storage will be available as needed.

The initial waste confidence rulemaking also said that we would revisit the issue periodically.

Five years after the first waste confidence rulemaking, the NRC took another look and basically reaffirmed and expanded the original findings. We made it clear that our confidence in the environmental soundness of on-site storage extended for at least 30 years beyond the licensed life-span of operating reactors, including life extensions that might occur from license renewals. As a practical matter, this means that any new plants, using the same technology for storage, would fall under the same assessment.

In 1999, the agency reviewed the matter again and found that experience and developments in the interim confirmed the confidence we had earlier expressed. The Commission said it would look at the issue again after the ongoing repository process had run its course, or if "significant" and "unexpected" events occurred that warranted a reassessment.

To give you a one-line summary of how the matter stands now: The NRC has formally expressed its confidence that spent fuel can be safely and securely stored on site, without significant environmental impact, for at least 100 years.

I wanted to provide that brief background because the question of whether the NRC has any plans to revisit the waste confidence rule is something that comes up frequently, often in connection with Yucca Mountain. I need to mention that because the Department of Energy submitted a license application for the Yucca Mountain spent fuel repository last year, and that application is currently under review by our agency, I really can't say much about it.

What I can say is that a proposed revision to our waste confidence rule is currently under consideration. This is not because we have found significant and unexpected events, but rather because we thought that it would be an appropriate time to update our assessment as we begin to consider new applications for reactor licensing.

In October of 2008, the staff prepared a proposed rule for public comment that proposes to reaffirm our confidence in 120 years of storage in the case of plants that have received a license renewal. The proposed rule and finding updates assume that Yucca Mountain may not become available for a repository.

Under the proposed findings, the Commission expects a spent fuel repository to be available within 50-60 years beyond the period of licensed operation for any reactor. This is, in effect, a prediction that a repository will become available by 2050 to 2060. The proposed finding would also expand the period of confidence in safe on-site or off-site storage to 60 years beyond the licensed life of the reactor.

Naturally, the safety and reliability of appropriate storage options will have a bearing on some of these findings. Which brings me to the topic of waste packaging. The regulatory framework for certifying packages is well established and has been effective in providing for adequate protection of public health and safety, and the environment. But, as with anything, I think there is room for improvement.

On the one hand, there have been quality issues in some applications for package certifications. And the staff has recently taken actions to clarify expectations in order to improve the quality and clarify the expectations for applications. At the same time, some vendors contend that the NRC cask certification process is expensive and cumbersome, which has deterred some manufacturers from attempting to design and certify new packages.

I commend the staff for their efforts to make improvements in the process, which primarily involve adding a "technical sufficiency" review, in addition to the administrative review, of spent fuel cask applications. And I would encourage any of you who have not yet provided input on the draft procedures to do so before the public comment period closes on June 1st.

But for a variety of reasons, I think the time has come for the Commission to consider a more comprehensive review of the cask certification process – including standards, regulations, and guidance. This would include identifying areas where the process can be made more risk-informed and efficient, while continuing to ensure adequate protection of public health and safety. Such a review could identify risk-informed enhancements that can clarify the review process and make it more predictable. And since I mentioned vendor quality assurance, I think we should extend this review to the oversight process, as well.

I am raising this issue with all of you at this conference, because I think such a review would benefit from your feedback. In fact, I would like the NRC staff and the relevant stakeholders to cooperate, perhaps through working groups, to evaluate lessons learned from approaches which have already proven successful – such as developing and maintaining the Reactor Oversight Process, or the power uprate review process. Ideally, we would not tweak the current process, but rather take a fresh look at where we want to be, and how to get there.

This could also provide an opportunity to invest in some long-term research efforts. In particular, I would support a coordinated approach – as appropriate – between NRC, the Department of Energy, and industry groups such as EPRI to conduct additional research into cask longevity, including aging mechanisms and ways to manage them. I also think we could benefit from more research with regard to the transfer of spent fuel from storage casks to transportation containers in locations where there is no longer a pool.

Let me be clear in saying that the existing casks are safe. If they were not, the NRC would not allow them to be in use. But I do think that current circumstances present an opportunity to look into additional technical questions for future cask designs, and also consider improvements in the certification process. In my opinion, this will be better for industry, and better for the NRC. And it will help all of us to continue meeting our mutual goals of protecting public health and safety. Therefore, I will be pushing for the NRC to undertake this work at an early opportunity.

Thank you for the opportunity to share some thoughts with you.