NRC NEWS

U.S. NUCLEAR REGULATORY COMMISSION

Office of Public Affairs Telephone: 301/415-8200

Washington, D.C. 20555-0001 E-mail: opa@nrc.gov

Web Site: http://www.nrc.gov

No. S-07-005

Remarks by Dr. Dale E. Klein
Chairman, U.S. Nuclear Regulatory Commission
Before the
Waste Management Symposium
Plenary Session

'Education and Opportunity for the Next Generation of Waste Management Professionals'
Tucson, Arizona

February 26, 2007

Good morning. I note that the theme of this plenary session is "Education and Opportunity for the Next Generation of Waste Management Professionals." If you have been following my speeches, you know this is one of my favorite topics.

I strongly believe that this country is woefully short of the educated and talented personnel needed to run tomorrow's nuclear industry in every phase -- and not just professionals but technicians and crafts workers as well. I fear that the nuclear industry is not paying enough attention to fostering education among the young people it will need to run its facilities in the future.

Today I do not want to focus on education so much as opportunities that you, the waste management community should consider. But first I want to say a few things about Yucca Mountain. It is always a major topic at this meeting.

My fellow Commissioner, Ed McGaffigan, has been extensively quoted recently about Yucca's prospects. As you may know, Ed is retiring as soon as a replacement is confirmed, and he has recused himself from any further decisions concerning Yucca Mountain that may appear before the Commission. That is probably a moot point, since the Department of Energy is not expected to deliver a license application until mid-2008.

However, since I am not retiring, about all I can say is that I believe the NRC will be prepared to receive the application when it is presented. And we will deal with it expeditiously and with full technical rigor.

The NRC is not just sitting on its hands in the interim. NRC staff interacts frequently with DOE to ensure they understand what is required to submit a high-quality application. As soon as the Environmental Protection Agency finalizes its new regulations, the NRC will change its Part 63 rule governing Yucca Mountain to conform to EPA's standard that considers repository performance beyond 10,000 years.

Regardless of when or whether the repository is licensed and begins operation, much of the spent fuel destined for Yucca Mountain sits at commercial nuclear plants. What is sometimes overlooked is that the NRC already regulates that spent fuel. And we hold plant operators to high standards for its safety, security, and for protecting people and the environment.

As another colleague, Commissioner Greg Jaczko, noted recently, "the past half century has shown that spent fuel can be safely and securely maintained onsite at nuclear power plants."

That has been the case, and will continue to be the case, because of the rigor of NRC's regulatory oversight and the performance of the nuclear power plant operators. Our oversight will continue unabated, and perhaps, intensify, as we look at the 30 or more new reactor applications coming in. As I have told nuclear industry executives, a high level of performance is more important than ever.

There are some who question the development of new nuclear power plants without resolving the repository issue. I would point out that there are already some 70,000 metric tons of spent fuel. That material will not go away just because no new plants are built. This is an issue that must be addressed regardless of the course the nuclear renaissance may take.

I believe programs such as the Global Nuclear Energy Partnership could make the disposal of spent fuel and high-level waste easier to resolve. At some point, this country will likely need to reconsider recycling spent fuel. And if the GNEP vision is realized, it would modify the material ultimately designated as high level waste. That waste will still require disposal, and I believe that the safest long-term option remains a stable geologic repository.

But for now, NRC continues to rigorously regulate the onsite storage and management of spent fuel. And as I see it, the current lack of a permanent repository or recycling option will not be barriers to the licensing of new reactors.

We cannot discuss radioactive waste without also talking about low-level waste. We are in the process of doing a strategic assessment of options for disposal of low-level waste. It will be completed within the next several months. The strategic assessment is the first such effort undertaken by NRC staff since 1996. It is prompted in part by the prospect of the closure of the Burwell facility and the concerns raised in reports by the National Academy of Sciences, the Government Accountability Office and NRC's Advisory Committee on Nuclear Waste.

Many of you know that the closure of Barnwell has been debated in South Carolina for decades, but the site remains open – as it well may after this current debate ends.

Nevertheless, the NRC has frequently commented that the reliability and cost-effectiveness of the low level waste system could be improved. Waste generators need to be made aware of disposal options in order to plan their operations effectively.

Although we are studying contingencies, I don't foresee any kind of crisis in the disposal of low-level waste, given the prospect of a new facility in Texas, and the other activities being carried forward by the nuclear waste industry.

NRC also regulates the decontamination and decommissioning of power and research reactors, and the materials and fuel cycle facilities, with the ultimate goal of license termination when they meet our criteria. Currently there are 77 non-routine sites that are under NRC jurisdiction undergoing partial decommissioning. Three power reactors -- Trojan, Maine Yankee, and Big Rock Point – are decommissioned.

The NRC has made considerable progress on applying lessons learned through the commercial reactor decommissionings and continues to reduce review times. For example, License Termination Plan reviews have been reduced from 37 months to a current goal of 12 months for Rancho Seco. The decommissioning of these and other sites and test reactors are providing valuable experience for the current generation of reactors when they reach the ends of their useful lives.

NRC has also made progress in regulating the decommissioning of materials licenses. We have noted a steady increase in the number of sites terminated each year, from one to two sites in the 2001 timeframe to seven terminated last year, and we project eight material's license terminations in 2008.

However, the Commission is facing issues concerning decommissioning with long-term institutional controls. The Commission will have to make decisions on these issues and they could have significant bearing on future decommissioning projects, including such areas as mill tailings.

Those are the visible cases, but what are less visible are the 300 or so routine, non-complex decommissioning and terminations of materials licenses that go on year after year with no significant fanfare.

Now I want to turn to three opportunities which I think should be considered for the future of the nuclear industry.

First up is communicating risk in educating the public about radiation effects. One of the first issues that came before me when I joined the Commission was tritium in groundwater near nuclear plants. It has not been found to be a public health hazard, yet it caused needless anxiety. Why? Because the industry had not been sufficiently proactive in educating the public about what is a real danger and what is not. The same was true to some extent with the polonium 210 poisoning of a Russian spy. It generated enormous media interest and public fear.

There are very real issues and grave dangers involved with radiation, and it is incumbent on all of us to lay them out in detail. But let's be comprehensive about it – the public deserves to know what not to be afraid of, as well. I would urge all of you to go back and review your public education programs, and strengthen them.

The second opportunity flows from the first, and it relates to what the rest of the world calls "de minimis" standards – the vanishingly small radioactive content of thousands of items – natural and manufactured – in international commerce. I believe that the radiological risk with such minute quantities of radionuclides is inconsequential.

A few months ago, I visited the Port of Seattle and toured the radiation detectors operated by U.S. Customs and Border Patrol at the Port. Their primary mission is to examine cargo entering the U.S. that may contain nuclear materials that could be used in weapons or dirty bombs. They have excellent equipment and well trained and motivated agents. Part of that training is to understand what is a real threat versus a naturally occurring source. They need to make decisions—at this one facility, they average 1600 hits per month. In fact, while I was there one cargo container triggered the alarms--it was a shipment of Chinese fireworks and isotopic analysis showed the culprit was potassium 40.

The Customs agents told me about one particular port that receives nothing but bananas – and virtually every shipment sets off the detectors. That struck a chord with me, because some of my fellow Commissioners recently joked about creating the "standard banana" as a harmless unit of radioactivity. Commissioner McGaffigan has frequently pointed out that we're all in violation of standards.

"We're self-radiating ourselves at 40 millirems per year because of the potassium 40 we carry in our bodies," Ed said in a recent interview. "Double beds -- your spouse will radiate you to about two to three millirems per year. Those are doses at which we actually regulate. And I've always wondered, when people [demand] tighter regulation, why they're not demanding that double beds be regulated, or bananas, or brazil nuts…."

These anecdotes underscore that our abilities, and efforts in the post-9/11 world, to detect ever smaller amounts of radiation will lead to increasing economic bottlenecks and unnecessary public anxiety over inconsequential radiation exposures. This will become a national problem, and I believe that all stakeholders should work together, sooner rather than later, to formulate a rational, science-based solution. It should help the public understand the causes, effects, costs, and benefits of the problem and its potential solutions.

And finally, the third opportunity I want to raise is really a suggestion.
I believe the country, and the nuclear materials and waste management industry, would be well served by the creation of an entity like the Institute for Nuclear Power Operations (INPO).

INPO highlights and encourages best practices and develops industry standards on the power side. They serve as a powerful peer review of practices, training, and operations. They can identify and correct problems before they become regulatory issues. INPO makes our job as regulators much easier.

I have observed there is no similar buffer -- no formal organization to set guidelines, to identify issues, to strive towards excellence – on the radioactive materials and waste management side. I believe that if this community expects to gain and hold public trust, it must show that it is constantly improving practices and striving towards excellence.

I have no particular suggestions as to the form or scope of such an organization, only the goal that it should have: to ensure excellence.

It would make my job easier, and undoubtedly yours, as well.

With these observations, I will end my presentation and join my fellow panelists in taking your questions.

###