



# NRC NEWS

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**Statement of Dr. Dale E. Klein  
Chairman, U.S. Nuclear Regulatory Commission  
Keynote Address  
19<sup>th</sup> Annual Regulatory Information Conference  
Rockville, Maryland  
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Thank you, Luis [Reyes]; and thank you for all you do to help the Commission and to maintain the excellence of the NRC staff and its work.

As I have noted on many occasions, I was very pleased to find, upon coming to the NRC, that the agency has a superb and hard-working staff.

I am pleased to participate in this, my first, Regulatory Information Conference.

Before I get to the substantive portion of my remarks, let me take this opportunity to thank my fellow Commissioners for their diligence and hard work in overcoming the latest challenge we've faced at the NRC.

Until a few weeks ago, the Commission was operating under a Continuing Resolution; that is, without a real budget authorization from Congress. Had this situation not been resolved, it would have had a crippling effect on our ability to carry out our core functions. But thanks to the unflagging efforts of the staff and my fellow Commissioners, Congress has promised us \$825 million to accomplish our mission.

This was not an easy task. The senior leadership of the agency worked hard on this for well over two months. We talked to members of both the House and Senate, the Congressional leadership, and staff members on the relevant committees in nearly 80 meetings to explain what would happen if we did not receive full funding.

As I noted in a recent memo, all good things come to those who wait, providing you work like heck in the meantime. That was certainly the case here.

We are now able to move forward and work with all of you to meet the anticipated expansion of the nuclear power sector in a safe, secure and predictable way.

I've been on board about nine months now, and aside from quite a few trips to Capitol Hill, I have spent a fair bit of time going out and talking to various stakeholders to explain my priorities and vision for the Commission. I would like to recap these points briefly, and then I want to address one very significant matter that I think we should get out in the open here at the beginning of the conference.

One of the most important themes I have been stressing is the need for the NRC to be a strong, credible, and consistent regulator. No less a figure than James Madison addressed this subject in the *Federalist Papers* — that famous series of essays which serve as a kind of “user’s manual” for the Constitution. Madison explained that stability and predictability in the law would, quote, “inspire a general prudence and industry, and give a regular course to the business of society.”

As a regulatory body, the NRC does not serve as an advocate for or against commercial nuclear power generation. Rather, I think that the industry and the general public should have a reasonable expectation of timely regulatory decisions based on good science and high quality engineering practices.

We will hold our licensees accountable. We will articulate our requirements clearly. We will be demanding and we will be responsive to their legitimate needs and concerns. All stakeholders in the nuclear industry — the financial community, and especially the public — must be made aware of the status and progress of issues of interest to them.

In short, my goal is for the NRC to provide, to the maximum extent possible, the regulatory oversight and stability needed for this rapidly expanding, technologically complex and capital-intensive industrial sector. In this way we can help give “a regular course” — to use Madison’s phrase — to the coming nuclear renaissance.

This recognition that the nuclear power sector is on the cusp of significant growth leads me to two other topics I’ve been addressing. They concern what I see as significant pinch-points for future growth.

The first involves the manufacturing sector. As we confront the prospect of a global nuclear expansion, the companies that will make those multi-billion-dollar orders must make critically important decisions as to where to buy their systems and components. Clearly, much of the technological capability to supply their needs now rests outside the United States. And many of the world’s nuclear manufacturers are now operating at capacity; right now, the lead time for delivery of reactor vessels is upwards of four years, and other key components have equally long backlogs.

In the face of those long lead times, nuclear projects will need to get in line and scour the globe for available components and materials.

The NRC has in place the rigorous inspection programs needed to ensure the quality and authenticity of the components that go into plants built in the United States. However, we cannot ensure the quality of the materials used globally, and if use of substandard materials should lead to a high-profile event anywhere in the world, the nuclear industry worldwide would suffer.

Whatever this country does, it is clear that nuclear power is growing elsewhere in the world. This world-wide demand for components, along with the consideration of nuclear power to meet our own energy needs, may serve as a springboard to rebuild U.S. technology and manufacturing capabilities. A revival of domestic production could help return the United States to something approaching the leadership it once enjoyed, while also facilitating the NRC's inspection process.

But this kind of growth won't be possible over the long haul unless we address the second pinch-point, which is the need to prepare the next generation of construction workers, engineers, technical workers, and managers.

A 2001 nuclear industry survey estimated that demand for nuclear engineers through the end of the decade would be about 150 percent of supply, and the need for radiation protection professionals would be about 160 percent of the supply. That survey predated the recent movement toward new reactor planning, and I'm told the next industry survey, due out later this year, will show an even more acute shortage of candidates to fill the waiting jobs.

I ask this audience the same questions I have asked others: Where are we going to get the educated and skilled workers to safely run the current fleet over extended lifetimes and the potential nuclear plants of the future? Where are they being educated? Where are they being trained?

The NRC alone will increase staff by a net of 200 professionals each year through 2008 to handle the increased workload of new plant applications and other business. The U.S. Department of Energy, the national laboratories, NASA and other government agencies will also have personnel needs.

None of our interests — not to mention the national interest — is going to be well served if we spend our time and money chasing after a limited number of candidates. Instead of bidding against each other, all of us — industry and government alike — must focus on an intensive nationwide effort to expand the base of qualified people.

The nuclear industry is working on many fronts to address this critical need. It has launched major programs to provide scholarships, training programs, and recruitment drives. For instance, you may have read last week about the announcement by General Electric that they are donating \$175,000 to kick off a new program in nuclear training at Cape Fear Community College in North Carolina. On a similar note, First Energy in Akron, Ohio, is providing funds to two local colleges to create an educational "pipeline" for future employees at its plants near Cleveland and Toledo.

These contributions to workforce development are invaluable; but this is still an enormous challenge that will require even more concerted effort by people at the highest levels.

You may know that I spent some time working at DOD. While I was there I was impressed by the process through which the military develops its senior officer corps. I believe that there would be of great benefit for the safe and effective operation of nuclear power plants if the industry had something like a Command School for a nuclear energy equivalent of Flag Officers — a structure that brings up-and-coming managers together in an organized way and gives them the big picture. Such a program for developing a cadre of well-trained executives might look for inspiration to a place like the National Defense University, which — to quote from their mission statement — addresses "national and international security challenges through multi-disciplinary educational programs, research,

professional exchanges, and outreach.” Substitute “nuclear energy” for “national security” and you have some notion of what I am suggesting.

That is, of course, just one idea — which builds on the good work already being done by INPO, the Institute for Nuclear Power Operations. What we really need, however, is a comprehensive approach through every level of education in the country, starting with a commitment to get elementary and middle school children interested in science and engineering.

In fact, I believe this is a challenge that not only cuts across the whole spectrum of education, but also extends beyond the United States’ borders. The same need to address future workforce issues is likely confronting other countries with mature nuclear industries whose workforce, like that of the United States, may be aging.

And there are other issues that we can extrapolate worldwide. The U.S. nuclear industry has restored itself by sharing knowledge to improve performance. Lessons learned from that experience can and should be applied internationally. Open cooperation in standardizing design and applying best practices will help to set new and higher standards of safety and operating efficiency for nuclear facilities worldwide.

That is, of course, the intent of the Multinational Design Evaluation Program. I am going to be on a panel tomorrow with my French counterpart, ASN Chairman André-Claude Lacoste and Javier Reig, of the OECD Nuclear Energy Agency, where we will discuss this subject in greater detail. But let me say a word this morning about why this is such a significant topic.

The reality is that the NRC and other regulators are already becoming in many respects *de facto* international regulators. The nuclear power industry is now an international one, from the upstream mining of the uranium ore, through nearly all the downstream steps of the fuel cycle. So when I talk about international cooperative efforts like MDEP, it isn’t just nice-sounding rhetoric, it is a substantial and important element in our portfolio of responsibilities right now. Our focus must be on making international cooperation a more systematic and explicit part of what we do.

So in addition to maintaining various bilateral nuclear safety exchanges and participation in multilateral organizations such as the IAEA and the Nuclear Energy Agency, I foresee intensified international efforts related to the licensing of new nuclear power plants and fuel cycle facilities, as well as with enhanced controls of nuclear and radioactive materials. I believe that these new challenges will require strategic rethinking of how the NRC approaches its international activities, including the development of mutually beneficial and innovative programs to leverage the knowledge and experience of our regulatory peers throughout the world.

Unlike this previous generation of reactors, the majority of plants to be built around the world in the next five to 15 years will likely be limited to a small number of relatively standardized designs, purchased from a limited number of multinational corporations.

Through MDEP, we are undertaking an international effort to define the terms of how we plan, design, build and regulate nuclear power plants. Different nations may have different ideas of “adequate protection”; but I believe it would be an understatement to say that we should all agree on a standard set of metrics, in the sense of consistent definitions of terms. For lack of a better metaphor, I

would say that it doesn't matter what color we paint the concrete, as long as we agree on the same standards of concrete's strength, consistency, etc.

While the first step of MDEP focuses on the planned design reviews associated with the AREVA EPR reactor, the next phases can move us toward leveraging the knowledge and experience of regulators around the world and providing a catalyst for convergence of associated codes, standards, and regulations.

My hope is that we can eventually extend these efforts on standardized licensing and design of reactors to other stages of the fuel cycle, including even a global regulatory framework for waste disposition.

I also 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 — which will require, I should add, clear codification into laws and regulations — 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.

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

And whatever the outcome, the NRC will continue 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 is not a barrier to the licensing of new reactors.

Another area in which I believe everyone can benefit from greater standardization is with respect to establishing common threat parameters. Unless the international community addresses the terrorist threat in a consistent way, we will continue to send mixed signals to each other, to the manufacturing sector, and to our partners in the national security and law enforcement communities.

So the time to discuss this topic is now. It is a next step in the process of ensuring the safety and security of nuclear energy.

Whatever the outcome of this debate, however, I want industry and, above all, the public to know one thing for certain: The NRC will provide clear and consistent guidance that establishes high standards of safety and security.

These complementary and critical goals of safety and security require unflagging commitment from all of us. For our part, the NRC will be a strong and independent Commission, and we will continue with the hard work of creating the needed framework of regulatory stability. In turn, we expect that the manufacturers, builders, and operators of current and future plants will meet their obligations to the public as well. In this way, with all of us doing our jobs, nuclear energy will continue to play a valuable role in our nation's energy future.

Thank you for your attention. I will be happy to take some questions.

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