# NRC NEWS

**U.S. NUCLEAR REGULATORY COMMISSION**


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**Prepared Remarks of Dr. Dale E. Klein**
**ICONE**
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Thank you, I am very pleased to be here.

Let me begin by congratulating the ASME for again organizing this large and important annual conference. The ASME, founded more than 125 years ago, is a great example of how professional societies can cultivate excellence and high standards.

As you know, one of the challenges facing the nuclear power industry – and an issue that the NRC faces in our inspection duties – is that the nuclear supply chain is very different today than it was when the nuclear power plants operating in the United States were built.

The U.S. was once the primary supplier of nuclear components. Three-quarters of the world's reactors operating today are of U.S. origin, either in construction or design. So when the current fleet of U.S. reactors was built, parts and components could be purchased almost entirely from domestic vendors. Today, nearly the opposite is true.

When reactor orders in the U.S. ground to a halt about 30 years ago, technological progress and manufacturing innovation moved abroad – and along with them, most of the links in the global supply chain. On top of this, there has been a great deal of international consolidation.

This fundamental shift toward global commerce in the nuclear industry is not limited to reactor components. Many elements of the fuel cycle also operate in the international arena. So today I would like to say a few words about containers and packaging for the transportation of nuclear materials, and suggest some possibilities for increased international cooperation in safety standards.

The issue of transportation and interim storage containers for nuclear materials is especially relevant at the NRC and in the United States in general. You are probably aware that the new administration in Washington, D.C. has altered the nation's course on the back end of the fuel cycle. Specifically, the administration has made it clear that it does not support construction of a geologic repository at Yucca Mountain.

The U.S. Energy Secretary, Steven Chu, has stated that he will convene a blue-ribbon panel to study alternatives to Yucca Mountain, including new repository locations and disposal technology concepts. I have no inside knowledge as to when or how this will be addressed. But I think one can say with reasonable confidence that given the economic, political, and technical questions that would need to be asked, and answered, the NRC will not be receiving another application for a high-level waste site any time soon.

Therefore, I think that this decision to change a long-standing national policy will make it more likely that we will develop centralized interim storage and recycling options. I think this conclusion is supported by the Administration's budget submittal to the Congress, which provides substantial funding to the Advanced Fuel Cycle Initiative.

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

I suggested in a recent speech that 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. 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.

I would like to take the opportunity today to propose another step: a cooperative effort among regulators and industry to enhance international safety standards for the containers used to transport and store nuclear materials. Just as there are international agreements on safety standards for commercial aircraft, I think there could be great benefit in harmonizing codes and standards for nuclear materials packaging.

I think this effort could build on the very good work that is being done through the Multinational Design Evaluation Program – or MDEP. Through MDEP, the U.S. and nine other nations have been working to leverage knowledge and experience on nuclear power plant design, and promote global convergence in associated codes, standards, and regulations. This U.S.-initiated program reflects the NRC's commitment to building strong relationships with its regulatory partners. It is both expensive and unnecessary for regulators to operate in a vacuum.

I mentioned earlier the consolidation of global commerce in nuclear components. MDEP capitalizes on the fact that 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 these nuclear power plants are planned, designed, built, and regulated.

This is important not only because of the safety benefits that such standardization could bring, but also because the extra effort required to develop several designs to satisfy different national standards and requirements can substantially increase the cost of nuclear power plants, making them potentially unaffordable for many countries. We have learned that it takes significant time and planning to achieve convergence from disparate, pre-existing codes and standards and divergent regulatory approaches. But with good communication, and a willingness to cooperate, MDEP has made great progress over the last three years.

Today, I propose that we build on the groundwork set by MDEP to develop multinational regulatory evaluations and reviews of transportation and storage containers. I believe that such an activity should be led by the regulators of countries that are involved in the design and selling of these containers, with active participation from other regulators, and in coordination with the IAEA and NEA.

Let me emphasize that the current transportation methods, as well as the containers used, are safe. According to the World Nuclear Association, since 1971 there have been more than 20,000 shipments of used fuel and high-level wastes; and there has never been any accident in which a container with highly radioactive material has been breached, or has leaked. Moreover, strong national and international regulations already exist to ensure safe transportation of radioactive materials. But I think there are many differences between regulatory agencies in setting standards and certifying package designs. An “MDEP for Packaging” approach could bring a number of benefits, for both industry and regulators. I think this is a subject that is worth further discussion and investigation and I would welcome your feedback and ideas.

Thank you for the opportunity to share some thoughts with you, and I wish you a successful and informative conference.