NRC NEWS

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"The Future of Nuclear Regulation"

Prepared Remarks for

The Honorable Gregory B. Jaczko
Commissioner
U.S. Nuclear Regulatory Commission

before the

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Center for Science, Technology, and Security Policy's
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It is a pleasure to be here with this distinguished group of scholars and scientists from around the world. I am glad to have the opportunity to share my views of the future of nuclear power and how regulatory agencies should respond to those developments. I also look forward to hearing your insights into the national security challenges you address through your work.

Before I get to that, however, I thought I would give you a brief overview of my philosophy of government. I strongly believe that to best accomplish its mission of protecting public health and safety and the environment, the Nuclear Regulatory Commission (NRC) should be as open with information as possible and transparent in explaining the processes the Commission uses to make decisions.

To be successful we need two things: policy based on sound science, regulatory, and technical decisions, AND public confidence in those decisions. We only get that public confidence when we engage a diverse group of stakeholders, to hear their concerns and ideas, and

to make them active participants in our decision making processes. That is why I am excited to be able today to engage a knowledgeable and diverse group of "stakeholders" who contribute to the effort to make sound public policy in the energy and security realms.

Now that you know a little about how I approach my job as one of five Commissioners of the NRC, I will get right to the topic that I understand is of the most interest to you. What is the realistic future of nuclear power both in the U.S. and abroad? I hate to disappoint you, but the answer is...we do not yet know.

During the 1990's the Nuclear Regulatory Commission changed the licensing process for new nuclear power plants - basically the order was reversed. The traditional licensing method involved getting a permit to build the plant and then applying for a license to operate that plant after it was constructed. Now utilities have the option of a new process through which they can apply for a license to operate a nuclear power plant and then make a subsequent decision about building it.

This has taken some of the financial uncertainty out of the decision, since the cost of preparing a license application is dramatically less than actually constructing the facility. Some have pointed to that fact, and the concern about global climate change, as proof that there will be a nuclear renaissance. I have a slightly different take on the issue of climate change - I do not believe it is a factor in determining whether new plants will be built. Ultimately, those decisions will be economic ones. Certainly if laws are changed that benefit electricity generation by nuclear power versus other sources, nuclear plant construction becomes more likely. Those decisions, however, are up to policymakers and the U.S. Congress in the years ahead.

The Commission has been working to be prepared in the event we do receive applications to build new plants. Last year we established a prioritization system to help determine how serious potential applicants are and how to allocate our resources if the agency is presented with more work than it can safely and effectively do simultaneously. I do worry that we have not gone one step further and set a reasonable limit on the maximum number of applications we would process each year but the prioritization system should help if a number of applications are submitted.

Along with budgeting and staffing up for this work, the agency has been engaged in challenging discussions about security. The Commission has taken some steps in this area but I believe we have not yet done enough as a regulator to address security for any new plants which may be built. If there is going to be a so-called nuclear renaissance, it presents a unique opportunity to ensure any new plants include design features which make them inherently safer and more secure. That is why I proposed that the Commission complete an expedited rulemaking which would require any new nuclear power plants built in the U.S. be designed to withstand a large commercial aircraft impact.

It was not easy to address new security threats for the fleet of existing reactors, but the Commission thought it was vital to do so following September 11, 2001. The agency, therefore, issued orders requiring licensees to identify and implement strategies to maintain or restore

cooling for the reactor core, containment building, and spent fuel pool. The NRC directed licensees to identify mitigative strategies - or measures they could take to reduce the potential consequences of a large fire or explosion - that could be implemented with resources already existing or readily available.

This was an acceptable approach for the existing fleet of reactors. Nuclear power plants are robust and it is difficult to alter their features. It is not, however, sufficient, to miss an opportunity to design away the need for these mitigating strategies in new plants.

The U.S. would not be a leader in issuing rules requiring that plants be able to withstand aircraft crashes - Europe, and Finland in particular, have adopted effective standards. The NRC should also act, as the regulator of one critical infrastructure sector, to require improvements that will limit the damage that may occur from such an impact. Now is the time, before any applications have even been submitted, to require reasonable design changes to address the commercial aircraft threat.

I view this issue similar to the issue of fire protection at nuclear power plants. The most straightforward way to address the risk of fire damaging important components is through separation and redundancy of cabling and safety systems. Fire protection has proven a tremendous challenge for the existing fleet, however, because those plants were not designed with fire protection needs in mind. Addressing fire hazards for the new fleet is much easier and I believe the aircraft crash threat should be dealt with in a similar manner. It is not a theoretical threat to our infrastructure. This does not mean that plants will be designed without considering these issues, but my concern is that the NRC has not *required* that this be done.

Regardless of whether there is a so-called nuclear renaissance, government radiation safety agencies will continue to have important public health responsibilities dealing with the current fleet of reactors and the thousands of radioactive sources used commercially each day. This requires an international effort based on the International Atomic Energy Agency's risk-based Code of Conduct. As part of that effort the NRC is developing a National Source Tracking System of the most risk-significant radioactive sources, known in the Code as category 1 and 2 sources. This effort will be important but it is being developed really as more of an inventory than a real time tracking system at this point. It will be crucial to include less risk-significant sources known as category 3, since they can potentially be aggregated to pose a threat.

In summary, I hope this discussion has given you a good overview of where things stand with NRC licensees and some of the safety and security issues the agency is currently addressing. I am not sure any applications to build new plants we may receive can really be called a nuclear "renaissance," maybe calling it a potential nuclear "resurgence" would be more accurate. There are certainly many issues - security, financial, public confidence - that would have to be addressed before we see nuclear power providing more than the current approximately twenty percent of electricity produced in the U.S. today.

Thank you. I look forward to answering any questions you may have and to continuing to follow the results of your important work.