



NRC NEWS

U.S. NUCLEAR REGULATORY COMMISSION

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No. S-08-014

Remarks Prepared for

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

at the

**Edison Electric Institute - International Utility Conference
London, United Kingdom**

March 10, 2008

“The Nuclear Option – A Perspective on U.S. Nuclear Regulatory Policy”

I appreciate the opportunity to be here. I will try to give a little bit of the regulatory perspective on several of the issues of interest at this conference. Being a regulator, sometimes you have the ability to be objective in your assessments about future events; although, it is always difficult to project the future. I think if any of us were good at that, we would all be in very different fields.

The important triangle that this conference addresses - security, price, and climate change - I think has right in the center of it nuclear policy. It is the convergence of at least two of those, energy security and climate change, that particularly in the United States has renewed discussions about nuclear policy, and about the possibility of new nuclear construction. The third leg of that, the issue of price, is probably one of the most uncertain as we go forward, and one of the elements of that triangle that could present the greatest challenge to nuclear construction in the United States.

So I want to focus on the issues that I think are important challenges for nuclear policy in the United States. Some of these really are the usual kinds of issues that we deal with. And the last one I will touch on a little bit. It's this issue of price, and I think that's very closely related to actions by the U.S. Congress, and actions by other agencies in the executive branch of our government.

As FERC Chairman Joe Kelliher mentioned in his remarks, I will also give my disclaimer. These are my views and my thoughts, and do not represent the views of the Commission in any way, well, other than to the extent they are my views.

I think it is important to keep in mind that at the Nuclear Regulatory Commission, we are safety regulators. Our focus is fundamentally on ensuring public health and safety. And, as such, when we take action, that is really the key element of what we do. With any new nuclear prospects in the United States, ensuring that the NRC continues to be viewed as, and continues to be a safe and effective regulator is one of the most important elements of that new development.

I believe that is an area where the NRC has more work to do; where the industry, in the United States has more work to do; and worldwide, both the nuclear industry and the regulatory community have more work to do to continue to reassure the public that nuclear operation can happen in a way that ensures protection of public health and safety.

In the United States, this area is most properly captured with the idea of public confidence. There continue to be incidents in the United States in which nuclear technology is the focus, regardless of whether nuclear happens to be a particular area of interest. And I'll give an example of what I mean.

There was recently a grid event in the state of Florida in the United States. At this point, the information we have leads us to believe that there were some problems with the transmission infrastructure. As a result of that grid disturbance, two nuclear units were shut down. Nuclear units are, because of the safety requirements, very sensitive to grid disturbances, and as a result, will often shut down for safety reasons in those situations. So what you had in the United States was a situation in which nuclear power plants functioned the way that they were intended, and they shut down safely.

The media and others in the United States were very interested in the status of the nuclear units in this event. I would say far more interested in many ways than the actual status of the transmission infrastructure. There were questions very quickly asked about the status of the nuclear units, what caused the nuclear units to shut down, were the nuclear units shutting down the cause of the grid disturbance; all of which, in my mind, was ancillary to what was really happening. There was a grid disturbance because of transmission problems, because of equipment failures with the transmission grid, and the nuclear components performed appropriately.

Interestingly enough, people criticized the Nuclear Regulatory Commission that we did not act quickly enough to alert people about the status of the nuclear units. Well, in my mind, there was very little to inform the public about. The nuclear units had functioned as intended, they had shut down correctly, and there were no issues. But I bring this up just to reinforce the importance that actions at nuclear units will always happen in public, that events that do not necessarily involve nuclear units will immediately concern the public. Given the tremendous access to information sources the public has, that information can be transmitted very quickly, and questions will be asked very quickly. So it is crucial for the regulator and the industry, in general, in the United States to continually focus on the ideas of openness and ensuring transparency in our decision making, and continuing to reinforce public confidence in the safe operation of nuclear power. That is probably the most important element for any new nuclear construction in the United States - the continued safe operation of the existing fleet.

Concerning, new reactors, I think one of the biggest challenges going forward is to really learn the lessons from the past. One of the greatest missed opportunities with the current fleet of reactors that we have in the United States was the failure to standardize around a limited number of designs. We currently have 104 operating nuclear units in the United States, and we have approximately 104 unique nuclear units in the United States. That is not an efficient approach from a regulatory standpoint. It is not an efficient approach from an operational standpoint. So that is one of the most crucial lessons

that I think we need to learn.

Right now, in the United States, the NRC is anticipating applications for approximately 30 new reactors over the next several years. According to the estimates, this would be a small share of the number of reactors the U.S. would need to maintain the 20 percent of electricity share that nuclear currently produces. About 50 new reactors are projected to be needed over the next 30 years to do that, so just maintaining that 20 percent would require tremendous investment.

The United States is focusing on possibly five new designs. When I first came to the Commission about three years ago, that number was closer to three. This reminds me of a funny scene from Monty Python's "The Holy Grail," where the characters count to three, and three is the number, and you don't want to go below three, you don't want to go above three. In my mind, I think that is a better number of different designs for the United States to consider. I think it is a more manageable number. It would provide the diversity of supply that is important, without providing an unnecessary and inefficient number of reactor designs to license and regulate. So I think standardization is really one of the key issues that we will have to deal with as we go forward. Without that standardization, the Nuclear Regulatory Commission simply does not have the resources to license and regulate a large number of new reactors. That is, I think, just a practical reality of where we are today.

In many ways, as I said, while I think the number of designs is a little bit higher than I would like to see, I think there has been a good recognition on the part of the industry that standardization is going to be important. So, what has developed is a set of working groups around those designs. And I think in many ways, vendors and applicants are focusing their attention, and working together to ensure that their applications are as uniform and consistent as possible.

Now, as I said, I think one of the really crucial cornerstones to any new construction in the United States is fundamentally going to come down to cost. And I will raise a question that I would be very interested to hear the rest of the panel address, as I suspect that they will. But I think there has been a bit of a conundrum that has developed in the nuclear industry in the United States.

Over the last several years, there has been a lot of discussion in the industry about achieving bipartisan support in Congress as a crucial element for new nuclear construction. I think in many ways that has been achieved. In general, I think the Congress, and the Administration right now are very supportive. The Congress, I think, is generally, in a bipartisan way, supportive of nuclear power. There are members certainly across the entire spectrum from support to opposition, but I think, in general, there is a majority that is supportive of new nuclear reactors.

In the past, I think that meant one thing, and that was really to provide industry with the tools that it needed to move forward with construction. Today, however, I think the debate really is not about whether there is a bipartisan consensus; the debate really needs to be about what that bipartisan consensus means. And I think if you look at one of the most important issues that has been out there with the industry, and that many potential applicants have stressed as the most crucial aspect for them to move forward with actual construction of new units, that is to provide federal loan guarantees for nuclear units.

Right now the Congress has provided about \$18 billion in federal loan guarantees that would provide approximately 80 percent of the financing of a new unit's construction. Given the current cost of reactors, that would buy you on the order of two to three reactors today. I think that is certainly a far cry from the number of applicants we have heard from, who have expressed directly to the NRC that the

loan guarantees are a crucial element of any new construction in the United States. So I do not necessarily have an answer to the question of what that will mean for the future of the nuclear industry, but I throw it out there more as a question, and something that I think needs to be looked at as we move forward.

The NRC has changed its licensing process in a significant way. In essence, we used to require applicants to build a plant, and then come in and get the authority to operate that facility. What we have done is reverse that order, so that today you get the authority to operate that plant before you have to commit to construct it. And what that has allowed industry to do is to bifurcate some of the financial risk, so that you can move forward with licensing without necessarily committing to build, because the cost is significantly lower for licensing versus actual construction, and, ultimately, operation.

So I think it is important to keep in mind when you talk about a resurgence of interest in nuclear power in the United States, so far it is interest in applying for a license. Given the uncertainties with the federal loan guarantee program right now, and the ultimate construction costs, I do not think it is clear whether all of those units will actually be built in the future. So I think that is really one of the areas that I would continue to watch, and I think it will be interesting to see how that plays out in the future with those financial incentives.

Just to conclude, I talked about a few things that I think are challenges. I would like to mention a few things that I do not think are challenges. I think the NRC is well prepared today to deal with the work of licensing, and potentially regulating a new fleet of reactors. Our focus has to continue to be on the existing fleet in the short term, of course, to ensure safe and secure operation in the future. The NRC has done a tremendous amount of work to build up its own internal infrastructure to handle that, so I do not see regulatory issues as being any obstacle to licensing at this point.

I would also say that although we often hear about a nuclear resurgence in the context of climate change, I think the actual determinant will be the economic realities of new base load generation in the United States. In many ways the economics are being driven by the climate debate, and those economics are, right now, pushing people into exploring nuclear. But I think, again, the uncertainties going forward about what those economic realities will be, and what kind of federal loan guarantees will actually materialize, creates a lot of uncertainty in terms of the numbers of plants that I think will actually be built in the United States.

So, with that, I appreciate the opportunity to be here, and I think we have time for a few questions.