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International Conference on Effective Nuclear Regulatory Systems
Chairman Stephen G. Burns Keynote Panel: A Global Vision
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Good Afternoon. It's a pleasure to be on this panel with my distinguished peers from around the world.

I believe this conference's focus on the future builds on the excellent foundation set by the Ottawa conference. The action items from that conference focused on identifying ways to ensure safety on a continuous basis – no matter what the future may bring.

This sentiment segues nicely into our conversation today about our vision for the future. What do we see coming down the road? How will the promise of non-light water reactor technologies play out? What unforeseen events will impact the industry we regulate? Will there be a decline or resurgence in interest in nuclear? How, ultimately, will states deal with the challenge of managing spent nuclear fuel?

In my view, perhaps what is most important to remember at this moment is predicting the future is a bit of a fool's game. Like the gentlemen who declared cars would never replace horses or that light bulbs were a passing fad. When Jimmy Carter was President of the United States, he went out on a limb and said this: "Because we are now running out of gas and oil, we must preparequickly for a third change, to strict conservation and to the use of coal and permanent renewable energy sources, like solar power."

Fast forward to today. Solar energy provides but a fraction of the world's electricity. Coal is falling out of favor, the price of oil has dropped and abundant natural gas, at least in the US, is so cheap, it's posing an economic challenge to those same nuclear reactors once expected to provide electricity "too cheap to meter."

I believe the NRC, to some extent, fell victim to the murky crystal ball when we began hiring staff and gearing up to meet the expected wave of new reactor applications – part of the nuclear renaissance of the earlier part of this decade.

It appears to me that, for a variety of reasons, that renaissance in the United States turned out to be more a trickle. Of the 18 applications we received to license 28 new reactors, we've issued only seven licenses, and only four reactors are under construction. We do continue to review applications to license six additional reactors, but the remaining applications have either been suspended or withdrawn.

As a result, the NRC is now right-sizing and refocusing to adjust to the changing tide. Over the last decade and a half, we have seen the NRC go from an agency with just over 2,700 employees in the year 2000, to one with about 4,000 employees in 2010, to about 3675 today.

So if our ability to foresee the future is less than perfect, what vision ahead should a regulator focus on?

Some of you may have attended the NRC's Regulatory Information Conference held outside Washington D.C. last month. There, I spoke about what I call "Regulatory Craftmanship." To me, that term signifies the ongoing journey to achieve the goal of effective regulation.

I described "effective regulation" as the need for regulators "to constantly pursue the 'sweet spot' between under regulation and over regulation, to pursue effective regulation without imposing undue burden and stifling innovation." This, I think, is the real challenge facing all of us.

How do we apply craftsmanship in what we do, how do we make decisions, how do we collect information, how do we set up a regulatory framework within which the industry can innovate and improve – with safety remaining the paramount concern? And how do we do this NO matter what the future may hold for the industry we regulate?

One way is that the regulator of both today and the future must stay focused on the basics of its regulatory craft. In my view, these are to a large extent embodied in the NRC's five principles of good regulation. Those principles remain as important and relevant today as they were when they were first unveiled in 1991.

They are:

- Independence – A regulator must remain separated from the promotional organs of government, and maintaining independence from the industry it regulates is vitally important.

- Openness – In a field as complicated and controversial as ours, it is important that regulators ply their craft in an open and transparent manner.

- Efficiency – In our case, the American taxpayer, the rate-paying consumer and the licensees are all entitled to the best possible management and administration of regulatory activities.

- Clarity – Referring to the coherent, logical and practical regulatory regime we support.

- And Reliability – Our stakeholders must be confident in our reliability, our prompt and fair administration of appropriate regulations that lend stability to the industry operational and planning processes.

I believe these principles are the starting point of an approach that "focuses on the basics", which serves us well now and will serve us well in the future.

However, we must be mindful that we can be reliable and efficient without being static and entrenched with a "this is how it's always been done" mentality. In my view, a recent example where this mentality was challenged at the NRC is in changes to our Reactor Oversight Program (ROP).

The Reactor Oversight Program is the method through which the NRC assesses safety and security performance at reactors. The so-called ROP sets specific criteria within five columns of performance that lead to the amounts of NRC inspection. The original criteria for the NRC's oversight of a given licensee were established some 15 years ago, and needed to be reassessed in light of the significant operating experience we had under that program.

The NRC took a hard look at the criteria, and in doing so, challenged the "that's the way it's always been done" mentality. In fact, the changes to those criteria reflect our improved understanding of risk and more effectively target NRC and licensee resources.

The NRC's response to the Fukushima Dai-ichi accident is another example of the need to adjust to changing circumstances while upholding the 25-year-old principles of good regulation. Like the entire global nuclear regulatory community, the United States faced the regulatory problem of how to respond to the Fukushima Dai-ichi accident. Our expert staff came up with a variety of options, which the Commission narrowed down and prioritized based on safety significance. We listened to stakeholders and took appropriate, swift, actions – as did the industry.

By the way, the NRC expects that plants will implement most of the safety enhancements by the end of this year.

I believe the future of nuclear safety is brighter because of the changes made all around the world in a post-Fukushima environment.

Let me refer back to the principles of good regulation for a moment – specifically openness. Openness is not an easy principle to achieve. As we all know, conducting regulatory activities publicly and candidly is difficult. We will never convince everyone that we are effectively practicing regulatory craftsmanship and being truly transparent in our processes. One positive example of operating in the open is the practice of making Integrated Regulatory Review Service (IRRS) mission results public.

As you may know, the IAEA's IRRS is celebrating its 10th year of operation. We know this service strives for regulatory excellence, and I find it is a good barometer of an effective and improving organization. I believe we all need to encourage participation in this vehicle for self-assessment and peer review. While the future may be murky, as regulators we must adhere to the basic principles of good regulation that are embodied in the IRRS missions.

In this context, the NRC supports ongoing IAEA initiatives to improve the effectiveness of the review process by focusing on compatibility of national frameworks with the objectives of international safety standards rather than detailed conformity.

I'd be remiss not to at least mention the prediction before us now the possibility of a future that includes small modular and non- light water reactor technologies. It's hard to assess the ultimate outcome of industry interest in these new designs.

This may be another example of predictions that fail to materialize and thus we need to be both cautious and prepared. No matter what happens, we as regulators must remain focused on the day- to-day business of regulating correctly, while remaining adaptable and flexible enough to meet the challenges of whatever future comes to bear.

My global vision for the future can be summarized like this: moving beyond the Fukushima Dai-ichi safety enhancements and incorporating them into our day to day oversight and assessment, striving for regulatory craftsmanship that includes striking the appropriate balance between too much and too little regulation, continuing to regulate in an open and transparent manner, and preparing for what may – or may not – be the next big thing in the nuclear industry of tomorrow.

Thank you for inviting me to speak before you this afternoon and I look forward to your questions and comments.