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**Prepared Remarks of NRC Chairman Stephen G. Burns  
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Thank you for inviting me to speak with you this morning. It's always good to be with you.

The focus of your forum today, as I understand it, is to talk about the latest policies and – importantly – trends affecting the energy sector. What do we see coming down the road? How will the promise of advanced reactor technologies play out? What unforeseen events might impact the industry we regulate? Will there be a decline or resurgence in interest in nuclear?

This is where it can get interesting, and very tricky. Talking with certainty about the future is usually a great opportunity, with the benefit of hindsight, to put one's foot in one's mouth.

Let me give you a few examples of how murky the crystal ball can be when trying to make predictions related to energy.

"When the Paris Exhibition [of 1878] closes, electric light will close with it and no more will be heard of it." So said Oxford professor Erasmus Wilson.

"The horse is here to stay but the automobile is only a novelty." So said the president of the Michigan Savings Bank advising Henry Ford's lawyer not to invest in the Ford Motor Co.

"Our children will enjoy in their homes electrical energy too cheap to meter" is the famous prediction about nuclear power said by Lewis Strauss, the first head of the AEC, in the early 1950s to an audience of science writers.

For a more recent example, let me cite then-President Jimmy Carter, who said: "Because we are now running out of gas and oil, we must prepare quickly 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 United States, 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 a few years ago when it began hiring staff and gearing up to meet the expected wave of new reactor applications – part of the nuclear renaissance of last decade.

For a variety of reasons, I believe, the renaissance in the United States turned out to be more a trickle in some respects. 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.

The NRC went from an agency with just over 2,700 employees in the year 2000, to one with about 4,000 employees in 2010. With refocusing to adjust to the changing tide, we are now at 3,675.

I can’t imagine any Chairman a decade ago would have foreseen this. So if our ability to foresee the future in the energy sector 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., in March. There, I spoke about what I call “Regulatory Craftsmanship.” To me, that term signifies the ongoing journey to achieve the goal of effective regulation in the present *and* the future.

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, I believe, is that the regulator of both today and the future must stay focused on the basics of the regulatory craft.

In my view, these basics 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** – It is vitally important that the regulator remain separated from the promotional organs of government, and be independent of the industry it regulates and other non-governmental organizations, and of any undue political influence.

**Openness** – In a field as complicated and controversial as ours, it’s important that regulators execute 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: The regulatory regime should be coherent, logical and practical.

And Reliability: Stakeholders must be confident in the prompt and fair administration of appropriate regulations.

I believe these principles are the starting point of an approach that “focuses on the basics,” which serves the NRC well today and will serve us equally well tomorrow. However, the NRC 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.

When I spoke to the NRC senior leaders last month, I said to them: It’s time to ask ourselves as we go about our day: Do we really need that rulemaking? Do we really need another request for additional information? Is this process really necessary – whatever that process might be? Are you trying to regulate to zero risk – a standard that is not, as a reminder, our legal mandate?

Not for a moment am I suggesting the regulator not do its job. The regulator must continue to be assertive, focused above all else on safety and security. That said, I believe the truly effective regulator can still question what it does in a thoughtful and productive way.

I believe that attitude will hold the NRC in good stead as the beat of the advanced and non-light water reactor band gets playing. We, at the NRC, would be wise to get our toes tapping to the beat.

Advanced reactors may be the way of the future – or may not. But either way, the NRC needs to be, to continue the metaphor, at the dance.

Within available resources, the NRC staff is pursuing a multi-part strategy to prepare for efficient and timely reviews of non-light-water reactor technologies. The staff is expected to complete the first draft of that strategy soon and will present it at public meeting with the Commission in June.

The President’s FY 2017 budget request includes \$5 million in non-fee-recoverable activities to execute this strategy. If Congress appropriates this funding, it will facilitate the NRC’s preparation to undertake effective and efficient safety reviews of advanced reactor technologies.

With that funding, the NRC would be taking on tasks related to licensing infrastructure, technical preparation, and stakeholder outreach.

While being prepared to evaluate potential applications for light water-based small modular reactors and non-light water reactor technologies presents some challenges for the NRC, the agency is ready to receive and review any such applications under our existing framework.

To be clear, the NRC has the necessary licensing and oversight authority over commercial advanced reactors, and is ready to work with potential applicants to prepare for and review applications for these reactors. No new legislation is required.

Of note, the NRC recently published draft design criteria for advanced reactors on our website, and we are seeking public comments on the draft document. The NRC has also recently expanded an existing interagency agreement with the Department of Energy for exploring regulatory issues and research needs for novel fuel designs, and we'll be holding the second joint DOE/NRC workshop on advanced non-light-water reactors in June.

Whether these designs prove to be the "next big thing" remains to be seen. However, the NRC will need to be thoughtful and cooperative consistent with our regulatory roles. We need to be flexible and adapt to the changing times.

The NRC can – and I believe must – adapt its regulatory regime for what lies ahead and do it with the kind of competence and adroitness that spurs confidence in us as a regulator. That is the future I see.

Before I surrender the podium, however, I'd like to stop looking ahead for a moment, to look back. Five years ago, the accident at the Fukushima Dai-ichi Nuclear Power Plant in Japan shook the nuclear power community around the world.

Today, I'm pleased to say, the bulk of the most safety significant enhancements to come out of the NRC's review of the accident will be completed by the end of the year. And the industry has two fully operational national rapid response centers in Phoenix and Memphis with portable equipment that can be dispatched if needed.

The NRC has made great strides in enhancing U.S. nuclear power plants' already robust safety measures. The agency took swift action after the accident, ordering a variety of safety upgrades. I believe a key lesson from the accident was that plants must be prepared to withstand reasonably foreseeable external events not contemplated when they were designed and constructed.

Just as important, strategies to address events must be flexible to deal with a variety of circumstances.

The next step is inspecting the work that's been done and ensuring the plants maintain their progress. The NRC is adapting inspections and other processes to cover these enhancements. We're also updating our assessment process to cover potential inspection findings related to the post-Fukushima upgrades.

The agency is now at the point of incorporating the Fukushima-related work into ongoing inspection and oversight processes. The important point is that U.S. plants are better prepared for extreme events than they were in 2011.

That concludes my short look back in time. Thank you for giving me this opportunity this morning. I look forward to your questions.