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Prepared Remarks of
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United States Nuclear Regulatory Commission

NRC Regulatory Information Conference

"Initial Impressions of a New Commissioner"

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Good morning. I am pleased to be here today to attend my first RIC. Before proceeding, I would like to thank the organizers and workers behind the scenes for their hard work in planning and executing this important forum. I was very excited to have the opportunity to be sworn in April 1, 2010, to serve as an NRC Commissioner. I have always had great respect for the NRC as an institution and consider it a real privilege to serve alongside my fellow Commissioners and a highly talented NRC staff. Furthermore, I am very encouraged to see a highly relevant RIC agenda teamed up with a talented industry, stakeholder and staff audience all committed to making our very strong nuclear enterprise even better. I would also like to extend a warm welcome to our international guests who have traveled from their home countries to participate in this conference.

Serving on an independent regulatory commission is a new experience for me. It is not like being skipper of an attack submarine – when I wrote in my Night Orders to clear baffles and make preparations for proceeding to periscope depth at 0430, or commence a normal battery charge on the mid-watch, by golly – that happened! It is not like serving as Principal Deputy Administrator at the National Nuclear Security Administration where I ran the day to day operations of a large organization where achieving collegial consensus was a good thing but not a necessary element of decision-making. Being here is quite different from my previous career endeavors – but in a challenging, rewarding positive way. Yes, collegial deliberation in decision-making is time consuming, but necessary. Yes, we do not always agree with each other on matters of policy – but on the home front, my wife of 33 years and I don't always agree on vitally important issues – she is a devoted Washington Redskins fan while I have always, and will always, root for the Dallas Cowboys. Diversity of opinion and experience among the

Commission members is a good thing. We can disagree without being disagreeable and are able to fully explore and discuss our differences. So, I am very pleased to be a member of this Commission and highly value my working relationship with fellow Commissioners and NRC staff.

What is this "new guy" Ostendorff going to talk about today? As a new Commissioner in the job for about 11 months, I am certainly not a seasoned expert. However, that will not stop me from offering comments. I will share initial impressions in three areas:

- First, observations on the nuclear industry
- Second, observations on the NRC as a regulator
- Third, one specific area where I believe we, both industry and the NRC, can improve.

I will begin with sharing three specific observations on the nuclear industry by looking at commercial nuclear power plants. While I had not visited a commercial nuclear power plant until April of 2010, I have been watching the industry for a number of years. I recall being in the radio room of USS GEORGE BANCROFT (SSBN 643) (GOLD) on a strategic deterrent missile patrol in the spring of 1979 when a low data rate message comes across the yellow teletype paper reporting a reactor incident outside Harrisburg, PA at a plant called Three Mile Island.

Seven years later, in the late spring/early summer of 1986, I was serving as Engineer Officer on an old missile submarine that had been converted to an attack submarine for special warfare missions with Navy SEALS. While in our homeport of Norfolk, VA, we were directed by Commander, Submarine Force Atlantic to take daily portable air samples topside due to the reactor accident at Chernobyl. Though thousands of miles away, we did have detectable activity on those samples. Twenty-two years later, in 2008 while serving at NNSA, I visited the port of Antwerp, Belgium to inspect our MEGAPORTS equipment installations. MEGAPORTS is one element of our nation's nuclear nonproliferation program used to screen cargo containers departing overseas ports for the presence of radioactive material. I asked the Director of the Belgian Port Authority what positive detections had occurred over the past year. He replied there were two: a shipment of scrap steel from India impregnated with Cobalt 60 and a shipment of blueberries from the Ukraine, the latter contaminated by Chernobyl 22 years earlier.

The aftermath of these two incidents – TMI and Chernobyl – which are often improperly labeled as being the same (they are not) have thus provided a lens for my observations of the nuclear industry worldwide prior to arriving at the agency.

So with a background in the naval nuclear propulsion program which shares many of the same guiding principles with the commercial nuclear industry – principles such as safety culture – I feel that I have some relevant operational perspective with regard to observations on the commercial industry. Since joining the Commission in April of last year, I have visited twelve operating reactor plants – 11 in the U.S. and 1 overseas. I would observe that the nuclear industry has made significant improvements since the time of Three Mile Island and that existing nuclear power plants are operated in a very safe manner. I believe the collective result of the NRC's Reactor Oversight Process (ROP) and initiatives by individual licensees and the broader nuclear industry have been effective. While I do have some concerns – for instance, the number of

manual and automatic trips over the past year – I do believe the NRC and industry are working hard to learn from and resolve these and other operational issues. Moreover, I know that neither industry nor the NRC staff is complacent about nuclear safety.

My second observation of the commercial nuclear industry deals with security posture. I first carried a 45 caliber pistol on my belt as a LTJG serving as a Ship's Duty Officer in a foreign port with responsibilities for nuclear weapons security back in 1978. As a frame of reference, I have had responsibilities for the safety and security of nuclear weapons not only during my submarine career but also during my time at NNSA dealing with nuclear weapons dismantlement, plutonium and highly enriched uranium safety and security.

Last month I had the chance to observe a Force on Force exercise at a commercial nuclear plant first hand. I was impressed by the professionalism and rigor of the exercise. I counted over 50 exercise controllers in the pre-brief, providing an indication of the degree of sophistication and complexity of the Force on Force exercise program. The actions of the Composite Adversary Force and the responding licensee security force reflected a well-trained cadre operating under conditions as realistic as can be achieved without compromising personnel or plant safety.

Going beyond the Force-on-Force Exercise, I also positively note the proactive steps I see being taken in the security arena by licensees to fully engage with local law enforcement agencies such as the licensee having local law enforcement personnel badged and rad-worker trained. My observation on security is succinct: I believe that the NRC's existing security regulations and practices for our commercial reactor plants are robust and that compared to other industrial activities – and fully taking into account the differing risks between industry sectors – our commercial nuclear power facilities are very well protected.

My third observation on the subject of commercial reactor plants deals with new reactor plant construction and the future of nuclear safety standards. I have had the chance to visit the Watts Bar, Vogtle and Summer construction/pre-construction sites. As a Commissioner, I join my colleagues in carefully monitoring the status of new reactor licensing efforts through reviewing monthly reports from the Office of New Reactors and engagement with their senior leadership. Along with you, I watched President Obama's State of the Union address in late January and heard his call for clean, low-carbon energy – including nuclear – to provide 80% of America's electricity by 2035. Nuclear currently supplies about 70% of the carbon-free electricity in the U.S. Most senior leaders in the Administration and Congress view nuclear as a clean energy source. My job is that of a safety regulator of the nuclear industry, not a promoter. Nevertheless, as an American citizen, I believe that our country's future energy sources need to be diverse. In this sense, I envision that nuclear has a clear, important role in our future.

We all watch what is happening with new construction internationally, with the latest IAEA report noting over 60 new reactors under some stage of construction worldwide. China, India, Russia, Japan and South Korea have very active construction activities underway today. I have toured construction sites overseas: the EPR in Flamanville, France; the AP 1000 at Sanmen in China; and the APR 1400 site at Shin Kori in South Korea. Recognizing that my role is that of a regulator, and not an advocate for nuclear power, I am compelled to comment that

irrespective of what happens in the U.S., the rest of the world is making significant strides in moving forward with new reactor plant construction. Based on this reality, my third observation is that the U.S. can best influence future nuclear safety practices if we, the U.S., are among the leaders in new nuclear technologies and international cooperative efforts to support "new entrant" nuclear power programs. This observation is in no way intended to detract from the significant manufacturing, fabrication and construction activities taking place worldwide. Rather, it is to state the obvious – that to be relevant to critical discussions concerning the safety of new reactors, the U.S. should be among the active participants in developing new nuclear technologies. In other words, the U.S. can advance its values in nuclear safety if it is among the leaders in the global nuclear industry. Enough said.

I will turn now to the critical and diverse component of our nuclear industry comprised of our materials licensees. I had little experience in this area prior to arriving at the NRC other than the occasional radiography on the backshifts at naval shipyards. In order to perform my duties as a regulator, I have performed my own "due diligence" by conducting site visits to learn about and better understand the issues faced by the thousands of materials licensees, some under NRC regulation and others under regulation by one of our 37 Agreement States. Thus, I have visited fuel facilities in Lynchburg, VA and Erwin, TN; enrichment facilities in New Mexico, waste facilities in Texas; a cesium chloride (CsCl) blood irradiator in Rhode Island; a food irradiator in New Jersey and nuclear medicine facilities in Pittsburg.

Similar to what I saw with DOE facilities, many, if not most, of these are "one-of-a-kind facilities." To complicate matters, many licensees, especially those providing nuclear medicine-based care to critically ill patients deal with major societal issues – such as the practice of medicine – that are quite frankly outside the "experience base" of the NRC, myself included. My observation: there are lots of moving parts and constituencies in the materials licensee community and this requires "extra due diligence" on the part of all parties – NRC staff, Agreement State, licensee, industry or medical practice community – prior to issuing or changing regulations. Based on my visits to irradiator, medical, and fuel cycle facilities, I would also say that my observations about security in the materials area are the same as for reactors. The existing security regulations and practices for source and material facility security are robust.

Let me now turn to a few observations on the NRC as a regulator.

First, we are blessed to have a truly talented, diverse, committed staff working on behalf of the nation. I have been very impressed with the technical competence and professionalism of NRC employees across the board. The human capital of this agency is a true national asset.

Second, the NRC is fortunate to have well-founded, clearly stated "Principles of Good Regulation." *Independence, Openness, Efficiency, Clarity and Reliability.* We owe a significant debt of gratitude to former NRC Commissioner Ken Rogers for his significant work in articulating these principles that guide our everyday work at the agency. I will not talk in detail about each of the "Principles of Good Regulation" today – I support them all, and do my best to live up to them. They are on the wall right above my computer for easy reference.

I will, however, highlight two of the principles – clarity and reliability – because doing so provides you, the audience, an insight into my regulatory philosophy and how my office approaches its responsibility to serve the Commission and the Nation.

The first principle I will discuss is that of "Clarity," which is stated as follows: (Quote) "Regulations should be coherent, logical and practical. There should be a clear nexus between regulations and agency goals and objectives whether explicitly or implicitly stated. Agency positions should be readily understood and easily applied." (Unquote).

So what does this mean to me as a Commissioner?

First: "Coherency, logical and practical" implies the regulator fully understands how any regulation would be implemented by a licensee. This step almost always requires the NRC staff and Commission to be able to "walk in the shoes" of our licensees as if we were the one responsible for execution of a new regulation. This requisite can only be accomplished through direct, two way engagement with a "listening ear" to the regulated community and stakeholders. I think the staff does an excellent job here but it is not easy. And, no shortcuts are allowed.

Second: "A clear nexus between regulations and agency goals and objectives" requires that we fully understand the "problem we are trying to fix." The old adage: "If it ain't broke, don't fix it" should always apply. As an Engineer on an old submarine, I would never tear down a high pressure air compressor – a piece of equipment capable of "banging air" at 4500 psi and due to its very dynamic operation, fraught with peril in repairs – unless it was broken. That same philosophy should apply to regulatory bodies. We need to always keep before us the end objective and fully understand whether the proposed (or existing) regulation helps us reach the desired end state as efficiently and effectively as possible.

Third: "Agency positions should be readily understood…" This critical attribute of regulation requires us to really be careful and precise in our communications. Words make a difference. It is incumbent upon all of us to ensure that what we <u>think</u> is being said in a vote, order or rule is how that instrument will be actually be interpreted by the licensee or general public. Votes on GSI-191, blending of wastes, alternative risk metrics for new reactors, mandatory hearings come to mind to name a few. Just ask my staff – we spend a lot of time on this aspect of our work! And, I might add that we as regulators maximize the probability of our regulations being readily understood and implemented if licensees and external stakeholders have been fully engaged in the process throughout. Our staff does a great job here but we will always want and need active participation by industry and the public to bring this concept of "readily understood" to reality.

Thus, the clarity of our regulations is absolutely essential.

I will now turn to the second principle of "Reliability." I will excise and paraphrase part of a somewhat lengthy statement in order to highlight two key points. This shortened excerpt reads as follows: (Quote) "…once established, regulation should be perceived to be reliable and not unjustifiably in a state of transition…; regulatory actions should lend stability to the nuclear operational and planning processes."(Unquote)

There are two attributes in the above principle that guide me as a regulator. The first is the concept that we should not unjustifiably be in a state of transition. On the part of the regulator, it takes a lengthy time to go through rulemaking and the associated processes, including the vitally important stages of soliciting and understanding public comment. The regulatory process has some built in inertia – which is a good thing – to preclude frequent changes. But we sometimes underestimate how long it takes to develop, vet, promulgate and execute regulations.

We also cannot forget to take into account the time it takes a licensee to train on, equip, reconfigure, test and implement changes – the human factors aspect is very real and helps us to reinforce the earlier stated notion of "if it ain't broke, don't fix it." A good example is our medical regulations-we made a revision in 2002 and shortly thereafter began a new revision which is still pending. While change is necessary in some cases, we should remain aware of the impact of continuous changes on the regulated community and mitigate these impacts as much as possible while still maintaining our safety mission.

The second attribute in Ostendorff's truncation of the principle of reliability is that of stability in the nuclear operational and planning processes. My lens for gauging this is driven by two prior professional experiences. Easy one first – from my time as Principal Deputy Administrator at NNSA, responsible for leading the $9 billion plus corporate budget process for the agency. We dealt with a FYNSP – a Future-Years Nuclear Security Program that projected budgets out for five years. It was real hard, emphasis on the word "real," for the federal government to make changes in the year of execution or the next year – hence the reason for a five year process. It is no different for the commercial nuclear industry. I have <u>never</u> seen Strategic planning that was effective when accomplished on "a one year at a time basis." While I fully acknowledge that new nuclear safety issues may emerge that will require regulatory action, I also fully appreciate and support the principle that long term stability helps managers run better operations.

The second attribute is harder to quantify but easily recognized by senior managers. A senior leader/manager – read that as Office Director at the NRC or Site VP for one of our commercial reactor sites or fuel facilities – can only effectively manage so many key issues or changes at a time. I know that this is a young audience, but I just bet that there is at least one of you who remembers seeing the guy on the Ed Sullivan show in the 1960's who would place plates on the top of wooden poles, set them spinning, and then keep them spinning continuously. Do you recall his name? Well – I checked it out on Wikipedia – his name was Eric Brenn. How many plates did he keep spinning at once on that Sunday evening show? The answer is "seven". For completeness, the Guinness Book of World Records states that the record is now held by David Spataky who spun 108 plates simultaneously in Bangkok on television in 1996.

These guys, Eric and David, were really good. As Engineer Officer on that old submarine 25 years ago, I struggled, along with Engineering Division Officers and their Leading Petty Officers, to manage more than a "Top Five" listing of ShipAlts or major equipment repairs during any single day during a pre-deployment upkeep. Industry works very hard to do this well – "spinning many plates" – during an outage; but, it is tough. And, that is in an environment of

constant, not changing regulations. The equilibrium that underpins the Principles of Good Regulation's proper acknowledgement of the benefits of stability should only be upset when change is really needed. Sir Isaac Newton's Third Law states that: "To every action there is always opposed an equal reaction." We need to remember the potential for unintended consequences in the form of distraction or lack of adequate time for leaders and managers – whether NRC or industry – when we propose changes to our regulations.

I will now turn to my last topic, that of areas where we – the NRC and industry – can improve. There are two areas that are first and foremost. As a former nuclear propulsion plant operator, I have never, and will never take nuclear safety for granted. I know that I share that perspective with everyone here today. We all are committed to the avoidance of complacency in all areas, but especially in the area of nuclear safety. Enough said.

So what I am going to talk about is one topical area for improvement or focus – this area deals with a word familiar to you all – COMMUNICATIONS. Specific areas that I will briefly address are:

1. Communications between the NRC and industry
2. Communications between industry and the public
3. And finally, communications between the NRC and the public.

Communications between the NRC and industry are absolutely critical to ensuring that the NRC effectively executes its own Principles of Good Regulation while providing the much needed, pragmatic feedback from our licensees to the NRC staff. Two-way, direct, communications in an atmosphere of openness and mutual trust serves us all. Is this happening now? My gut reaction is "yes" – I have been impressed with the level of communications between the NRC and industry in most situations where I have been on the receiving end of policy matters since joining the Commission. The development of a policy statement on safety culture is but one example of open, two-way communication between the NRC and industry. My visits and frank discussions with senior and junior NRC staff have provided me with a sense of the adequacy of those communications as have my visits to individual licensee sites.

But, this will always be a difficult area and requires continuous senior leadership focus. While by and large this area appears to be healthy, I have noted specific instances where there have been disconnects in proposed or final rulemaking between the staff and industry or regulated community. Two examples that come to mind are in the context of Part 26 worker fatigue rule implementation and medical event reporting for materials licensees. Each one of us needs to strive to fully communicate in realistic, unemotional terms to accurately portray the intended effect of a proposed rule and the expected consequences, intended and unintended, of its implementation.

The second area of Communications is that between industry and the public. I need not explain why this is important to this audience. I realize that historically there may have been some reticence on behalf of industry in communicating in certain areas of the country or with certain groups based on the belief that there may be little to gain in attempting these communications. I respectfully disagree with that position. I would assert that it is not only an

obligation, but clearly in every licensee's interest, to openly and continuously communicate with the surrounding community and stakeholders, including those who may be opposed to nuclear power. Building and sustaining community trust – which requires significant education, outreach and senior leadership commitment – is an essential aspect of doing business.

Traveling to the IAEA for a meeting last summer, we stopped at a nuclear power plant in Switzerland for a tour. While there, we saw a group of schoolchildren on a tour of the plant. This caught our attention and when queried, the plant manager said that they had 3 to 4 groups of school children a week come visit. Now I fully recognize the security and logistics challenges associated with making visits a reality. But, I know that many of you are making these efforts and strongly encourage you to continue to explore opportunities. I note with pleasure news reports of various public outreach efforts by nuclear power plant licensees: San Onofre operators demonstrate restart routines in their simulator for a media event, Duke Energy hosting school kids at Oconee and McGuire, and TVA hosting educators for tours at Bellafonte. I have personally toured visitor centers at Salem, North Anna, Millstone and Oconee. On a recent plant visit, I met with local officials who had previously met with the licensee to discuss issues of mutual concern such as whether the plant should transition to cooling towers. While I was pleased that they had engaged in a lively and friendly discussion, I would have been equally pleased to learn that they had a lively but not so friendly chat. The point is that public outreach efforts are always educational and key to better informing the public what happens behind the Owner Controlled Area fence. Even if there may be disagreements.

The final area of communications hits a bit closer to home for me – communications between the NRC and the public. As a general observation, I think that the government's posture in communications with the public has evolved from one that has been more cautious to one that is today more proactive – this may very well be the case in the NRC's history. I saw similar issues in my submarine service during the Cold War and during my time at NNSA. But, the world has changed. The advent of the internet to drive social and political change, whether it be coordinating demonstrations in Cairo or a flash mob dance to the Black Eyed Peas "I Gotta Feeling" in Chicago, has shown us new and different ways of communicating.

I commend Chairman Jaczko for his recent efforts to establish a blog on the NRC website. The NRC's principle of good regulation of openness, which I did not address earlier, requires, in my personal view, the NRC to openly address with the public such issues as the risks associated with the operations of our licensed facilities. This responsibility is not in lieu of that of industry to communicate with the public. Rather, it is <u>complementary</u> to the role of industry. And, this communication by the NRC to the public is a requirement to build public trust in the NRC as a regulatory body.

Let me offer a specific example – groundwater leakage at NRC-licensed nuclear power plants. I have followed this issue with great interest, particularly the NRC's communications related to the risks associated with releases of tritium. As I just mentioned, the internet has dramatically extended the reach and the potential impact of our communications. In looking at the NRC's website, I found that it provides very comprehensive information about the issue and the NRC's actions. I think the website is a very good "one-stop" shopping place for information on tritium in groundwater. I applaud the efforts of the NRC's Office of Public Affairs and the

NRC staff in setting up the site. Moreover, I applaud the communication efforts of the NRC's regional staff and management in their proactive outreach with affected communities on the groundwater issue. Apart from the groundwater issue, I believe that the NRC staff has done a great job in conducting proactive public outreach on many other regulatory issues such as our COL review activities, license renewals, and seismic safety.

But, as with our approach to safety – we need to always avoid complacency. Moving forward, we have to continue being proactive with our public outreach efforts and we should increasingly consider the use of information technologies to complement our face-to-face interactions. As food for thought, I think that in our risk communications with the public, we should look at ways to frame the risks associated with regulated nuclear activities in comparison to risks associated with non-nuclear hazards. I offer this thought, not to be promotional, but rather to provide another perspective for education and outreach with the public. For comparison purposes, I think it is worthwhile and insightful to communicate the radiation risks associated with regulated activities in the context of risks associated with smoking, driving a car, or other industrial hazards. I find it interesting that the general public is often willing to accept the health and safety risks associated with routine, day-to-day activities, such as those I just mentioned, that pose far greater risk than those associated with regulated nuclear activities. But, we all know that anything "nuclear" carries with it special concerns with the public. The more the NRC can do to communicate with and educate the public about what we do and the risks associated with what we regulate, the better we will be in building public trust and confidence in our credibility as a regulator.

I have spoken long enough. Thank you for the opportunity to be with you today, I will be happy to take questions from the audience.