NRC NEWS

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No. S-10-023

"Future Considerations Related to Regulation of the Fuel Cycle Industry"

Commissioner William C. Ostendorff
United States Nuclear Regulatory Commission

Fuel Cycle Information Forum
July 1, 2010

Good morning. I am very pleased to be here today. I would like to recognize the efforts of Cathy Haney, Dan Dorman, and the staff in the NRC' s Office of Nuclear Materials Safety and Safeguards in organizing this conference. I would also like to acknowledge the efforts of the fuel cycle industry in engaging the NRC staff on some very important issues. The theme of Fuel Cycle Information Exchange 2010, "Enhancing Safety through Open Communication" is right on the mark. It is your collective efforts that make conferences such as the Fuel Cycle Information Exchange very valuable forums for sharing lessons learned and ideas for the future. In that spirit, what I would like to do this morning is to share a few perspectives on important issues for the regulatory future of the fuel cycle industry.

I am honored to speak to you this morning as I think that the work you do to maintain and advance the fuel cycle is extremely important, particularly given the "nuclear renaissance" and the opportunity for the United States to become a leader in the front end of the fuel cycle. To that end, I commend both the NRC staff and the industry for the recent success in working diligently to ensure the safe initial start up of Urenco's enrichment facility – the first uranium enrichment facility to be licensed in the U.S. and begin initial operations in over 50 years. This is quite an accomplishment.

Today marks the end of my third month as an NRC Commissioner. In that time, I have learned a tremendous amount about activities in the fuel cycle area. I was impressed with the scope and complexity of issues in the fuel cycle arena when I first came to the Commission. Given the breadth of your industry, I thought it was important to learn more about the diverse activities at your facilities. Therefore, in the last 3 months, I have visited 3 fuel facilities and I plan to visit NFS later this month. These visits have emphasized the diversity of the fuel cycle as all 3 facilities I visited utilized vastly different processes to perform their respective functions within the fuel cycle. These visits have also put into perspective for me the technical challenges associated with these "one of a kind" facilities and your accomplishments in developing safe, yet advanced technologies. As an

aside, as Principal Deputy Administrator at the National Nuclear Security Administration, I routinely dealt with "one-of-a-kind" nuclear materials facilities supporting the national's nuclear weapons complex and thus appreciate the diverse nature of these challenges. These visits also facilitated my review of several fuel cycle issues currently before the Commission. I want to thank those of you who have accommodated these visits, both on the part of the NRC staff and the industry. Of course, there is still much more for me to learn. Hearing the perspectives of the domestic and international fuel cycle community at events such as this forum is very much a part of my education process.

I do not have a background in the fuel cycle industry but I have been a user of its products on six submarines. As a skipper on a Los Angeles-class attack submarine, I was a very satisfied customer of naval nuclear fuel as we traveled over 100,000 miles during 3 years in command. Much of what I have learned from my previous experiences in both the Navy and at the National Nuclear Security Administration is applicable to the policy decisions before the Commission in the fuel cycle area. What that experience has taught me is that domestic and international communication between and among regulators and the industry is crucial during periods of tremendous change and advancements. Also, I firmly believe that the United States should strive to be a leader in the advancement of a safe and secure fuel cycle. I'd like to touch on a few specific areas where, consistent with the theme of this conference, communications both between and among industry and the regulator are particularly important.

Let me expand a bit on the importance of communications between all those involved in the resurgence of the fuel cycle industry. It is an exciting and important time to be involved with the fuel cycle, with the development of new technologies and upgrading decades-old technologies to move us forward into a new age. In order to do so successfully, it will be important for industry and regulators, both domestically and internationally, to communicate extensively regarding technological advances, lessons learned, required technical expertise, the licensing process, and security. I am pleased to see that many such discussions have already occurred at this week's forum. I believe that forums such as this will become increasingly important as technology, expertise needs, and regulatory processes adjust to the reinvigoration of the fuel cycle industry. While such communication does not guarantee success, success of a nuclear renaissance cannot occur without extensive domestic and international communication. The recent initiation of operations at the Urenco uranium enrichment facility is an example where the NRC and the industry were successful in maintaining close communications to address the regulatory challenges associated with initial licensing of a new facility. I'd like to discuss the importance of communication with regard to technology advances, the licensing process, public participation, and security issues.

With regard to technology advances, the last 3 months I have spent at the NRC reinforces what I experienced with the Department of Energy- that regulatory infrastructure and policy <u>always</u> lag technological developments. One example of this that I have noted in both the fuel cycle and reactor arena during my visits to Urenco and several reactor sites is the disparity between the cutting-edge technological advances and the existing regulatory infrastructure related to digital I&C. In this area, both industry and the NRC are doing their best to carry out their missions. On the part of the industry this has meant developing state of the art solutions to facilitate operations. And, on the part of the NRC, it has meant ensuring that such systems are safe. In some cases, these missions necessarily have a healthy conflict.

Solutions to such gaps between technology development and policy formulation can be developed through cooperative communication and information sharing between the NRC, the industry, and our international partners. I will note that this is best accomplished in an environment that recognizes our different missions but common goals. For example, information sharing on the technologies and methods used to ensure safety may advance the missions of both industry and the NRC. At a high level this is occurring with regard to the new enrichment technologies of gas centrifuge and laser enrichment. In these cases, NRC has engaged licensees and international regulators to learn the details of the technologies so that we are informed about how to ensure their safety. In addition, ensuring that we have programs in place to develop the expertise in such highly complex areas will advance our common goals. This is currently occurring in the area of reprocessing in that the Department of Energy is facilitating information exchange between the U.S. and international industries and regulators in order to gain operating experience and expertise. That being said, it is important for industry to continue to communicate with the NRC to identify areas where it may be necessary for the Commission to take specific actions to advance our regulatory framework in technologically advanced areas such as digital I&C. This is particularly important given that this issue affects not only fuel facilities but also power reactors as many analog components are becoming obsolete.

The extensive discussions I have had with both the NRC staff and industry officials during my visits to Urenco, B&W and Areva Lynchburg, as well as during Commission meetings, have emphasized that the current licensing and oversight process for fuel cycle facilities is robust. It is clear too that both the NRC staff and the industry recognize the need to look for opportunities to streamline and advance the predictability of our processes. I fully support these efforts as I believe consistent and predictable regulation is a cornerstone of successful regulation.

I commend the NRC staff for proactively recommending revisions to the fuel cycle oversight process that are currently before the Commission in an effort to enhance its predictability and transparency. I also commend industry for its very helpful feedback on these suggested changes. While it will require effort and constant communication to refine the process into a valuable tool for both the NRC and industry, revising the process to be more predictable and transparent is a step in the right direction.

My discussions with the staff and industry have also touched on some of the challenges in the licensing process that are currently being resolved such as the concepts of “safe by design” and the boundaries of an IROFS or “Item Relied On For Safety” such as a system that controls or prevents criticality. Such issues again highlight the need for frequent and early communication. Such challenges are expected in a time of growth and they will continue as more unique and diverse facilities are proposed. I encourage both the NRC staff and the industry to proactively identify and communicate areas where more regulatory clarity is needed and to continue to work toward common solutions.

Lastly, the need for high-quality information in applications and NRC staff requests for additional information continues to be important. Once again the key here is communication – on the part of NRC regarding expectations and on the part of the applicant with regard to early indications on the level of detail you plan to include in such documents.

I would be remiss in not discussing the importance of transparent communication with the public. Clearly, expansion of the fuel cycle industry cannot successfully occur without the support of local stakeholders. I think it is important for regulated facilities and the NRC to engage local stakeholders directly and early to address concerns and fully explain the process. Early NRC and industry engagement with the local stakeholders has proved to be a success story for both the Urenco facility as well as in the early licensing stages of the GE Hitachi laser enrichment facility where significant local support for the projects has resulted. Further, while it is usually evident to those in the nuclear industry what the risks are associated with operation of nuclear facilities, it is important to educate the public by clearly articulating these risks and how they are being managed.

Another area of change that will necessitate close communication is of course that of security. We all recognize that security is an area that requires our constant vigilance. There have been changes in the security landscape given: changes in our security threat level, the challenges associated with the security of new technologies, and challenges associated with sharing security information within the framework of our national requirements. NRC and industry have managed these changes and challenges through clear communications between domestic and international stakeholders. Such communications should continue as we strive to bring additional stability to our security regulatory structure and responses while managing any additional necessary change.

I would like to open the discussion to hear from you. But before doing so, I want to close by emphasizing that I am excited to be on the Commission at a time of such renewal in the fuel cycle industry. I want to again recognize the efforts of the NRC staff and the industry in moving forward to safely license new facilities. The rapid pace of technological development requires all of us to keep our focus on our common goal of safety and to continue to communicate extensively to resolve challenges.