NRC NEWS

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"Keeping Pace While Firmly Grounded"
Prepared Remarks for
The Honorable Gregory B. Jaczko
Chairman
U.S. Nuclear Regulatory Commission
at the
NEI's Nuclear Energy Assembly
San Francisco, CA
May 19, 2010

Good morning. Thank you for the invitation to address this important conference. When people think about nuclear issues today, people think about change. And people are most likely to focus on the renewed interest in nuclear power and its implications for the industry, for the NRC, and for our national energy policy. The NRC's regulatory landscape in recent years has remained highly dynamic for reasons both related and unrelated to the developments regarding new reactors. Over the last ten years, the agency has implemented the Reactor Oversight Process, increased its focus on security, implemented significant safety changes after the Davis Besse vessel head degradation, and embarked on reviews of license renewal, design certification, new reactor and new fuel cycle facility applications.

Despite all these developments, we have no reason to think that our regulatory environment will now become static. It appears that 2012, in particular, will be a significant year for the NRC. During that year, the NRC may reach a final decision on the operating license for the Watts Bar 2 reactor application under the original Part 50 process, may reach a final decision on the first combined license (COL) applications for new reactors under the Part 52 process, and may receive the first design certification request for a small modular reactor. Make no mistake that - should these proposed new reactors move forward – we also will have to focus greater attention on construction inspection and other oversight issues. The deployment of digital

instrumentation and controls in potential new reactors is one such issue, and that development will make it all the more critical that we remain alert and responsive to the evolving cyber threat environment.

These licensing activities create the possibility that the NRC will be responsible for regulating a potentially larger number of reactors that employ a wider range of technologies than at any point in its history. That is in addition to all of our existing workload related to materials, as well as the increased interest that we anticipate in new uranium recovery and enrichment facilities. The public, policymakers, and stakeholders often focus on the many changes that these developments, especially those related to the renewed interest in nuclear power, have led to and are expected to lead to at the NRC.

And there certainly have been some changes. The agency's budget and staff have grown in size; the agency has reorganized certain office responsibilities; the Part 52 process for combined license applications has been utilized for the first time; and the NRC may soon implement the inspections, test, analyses, and acceptance criteria (ITAAC) process. For all the focus on what is new and what has changed, we should not overlook those aspects of the NRC's regulatory framework and our licensees' work that have not changed.

Above all, the NRC's mission has remained clear and constant: "to ensure adequate protection of public health and safety, promote the common defense and security, and protect the environment." In order to fulfill our mission, the NRC requires that old and potential new reactors meet essentially the same safety, security, and environmental objectives. The means by which operating reactors and potential new and advanced reactors meet those common safety objectives may differ. New and advanced reactor applicants can focus on design-centered approaches, while operating reactors necessarily focus on mitigative measures to address emergent safety and security issues.

Consider for example the issue of fire protection. The core safety objectives in the area of fire protection are: 1) to minimize the potential for fires and explosions; 2) to rapidly detect, control, and extinguish fires that do occur; and 3) to ensure that operators can shut down the reactor safely and minimize the risk of significant radioactive releases to the environment despite a fire. Those safety objectives are no different for new reactor designs than for currently operating reactors. With decades of government, industry, and academic research, we all now have a much better understanding of how fires can start in plants, how they can spread, and their potential risks to safety systems. That knowledge was not available when most currently operating reactors were designed and constructed, and so existing plants, therefore, have had no choice but to implement mitigative measures to address fire protection issues. We all know how difficult these issues have been. In part because of those challenges, the NRC expects vendors to

deal with these issues at the design stage where they can be more easily and effectively addressed.

That same approach is reflected in how the agency has chosen to approach the threat of aircraft impact on reactors. Following the September 11, 2001 terrorist attacks, the NRC issued several important orders that required operators to put new security measures in place in response to the evolving threat environment. Among those orders were mitigative actions for operators to take to reduce the potential consequences of a large fire or explosion. Those measures were sufficient to meet the NRC's high standards for protection of public safety. But looking ahead, the agency could instead expect new reactors to address the aircraft impact threat through design improvements. Again, the safety objectives do not differ, only the means by which they are met.

In addition to the common safety objectives, we all should remember there are certain issues that are so fundamental to what the NRC does as a regulator and what you do as a licensee that they are not likely to change significantly. I'll discuss three of those areas: the significance of human performance issues, the importance of a positive safety culture, and the role of licensees in communicating with the public.

Despite the expected safety improvements in the designs of new reactors, we always must be mindful of the importance of human performance for the safe and secure operation of plants and handling of materials. That was one of the important lessons that the NRC and its licensees learned from the Three Mile Island incident. Licensees have to contemplate the possibility that there may be confusion and that their personnel may not follow procedures, may not understand the indications on their instruments, or may not perform their duties with a focus on safety. All of those factors can contribute to errors and compromise safety. No matter the redundancies, the mitigation measures, or passive safety mechanisms that are designed into reactors, it will always be critical that plant employees remain unimpaired, alert, fit, and qualified to perform their important safety responsibilities.

This is a focus of the agency, and must be a priority for all licensees. The NRC relied on the latest research, practices from other relevant industries, and stakeholder input in developing regulations to enhance human performance in developing the recent revision of the agency's drug testing procedures, fatigue management programs, and other fitness-for-duty requirements for plant personnel. These programs are supported by well-trained inspectors, who as the NRC's eyes and ears help identify and resolve technical declines in plant performance and issues related to human performance. The NRC is confident in these programs, but you know your employees better than anyone and are responsible for managing them. That is why it is so important that you be proactive in making sure that your personnel always perform at the high level necessary to protect the public and the environment.

The second issue I want to highlight is safety culture. This is an area that the NRC has increasingly focused on, in recent years, for the simple reason that the agency has found that a deteriorating safety culture may be associated with safety problems. The NRC continually works to strengthen its rules, update its guidance, and enhance its inspection and enforcement programs to meet the agency's safety mission. But the regulator cannot be everywhere, and it cannot inspect everything. The operator always will retain the primary day-to-day responsibility for ensuring that a plant operates safely and securely. That will be as true for potential new reactors as it is for currently operating reactors.

It is critical that licensees focus on cultivating the type of open, collaborative organizational culture that ensures that safety and security are always the top priorities. To best promote safety, employees should feel comfortable coming forward with questions and, when necessary, presenting dissenting views. There are no easy answers on how best to establish a strong safety culture. It requires that the top management of an organization set the right priorities, that they have a strong commitment to establish the right type of work climate, and that employees at all levels of the organization demonstrate an unwavering dedication to those priorities. It can be challenging for leaders and managers to identify the concrete steps that are necessary to build an organization-wide commitment to safety. That is in part why the NRC has incorporated safety culture into the Reactor Oversight Process and has been working to develop a safety culture policy statement that clarifies our expectations for all our materials and reactor licensees.

It is the NRC's responsibility to identify violations and ensure that licensees take the appropriate corrective actions, but it always would be better if those violations had not occurred in the first place. A positive safety culture could help nip issues in the bud. That tremendous potential benefit means safety culture will likely always remain an important issue for the NRC and its licensees.

A third area that I believe will remain critical for the NRC's licensees is the importance of communicating clearly to the public what you are doing to ensure that your plant or site is safe and secure. The NRC has a responsibility to build public confidence that the agency's licensing and oversight programs are effective and adequately protective of public health, safety, and the environment. But it is the only the licensee that can build public confidence – through its actions and outreach – that it is doing everything possible to assure public safety.

When the public hears that safety issues have lingered on for years – issues like fire protection and the sump performance issue – that undermines the public's confidence in the licensee and the plant's safety. When the public hears about unmonitored releases – even those, as in the case of recent tritium leaks, that may not compromise public safety – it weakens public confidence in the ability of licensees to quickly discover a problem that *does* have a significant

impact on safety. Few civilian technologies – if any – have the ability of nuclear energy to attract public attention and elicit public concerns. That makes it crucial for licensees to take the initiative in communicating with the public and earning and sustaining the trust of the communities in which they are located.

And, in order to sustain public confidence, it is important to have updated information that we rely upon. Toward that end, the NRC has recently asked the National Academy of Sciences (NAS) to perform a new study on cancer risk for populations surrounding nuclear facilities. A non-governmental organization that advises the nation on issues of science, technology and medicine, the NAS is recognized for carrying out independent studies with transparency, objectivity and technical rigor. This new study will take advantage of the tremendous advances in science and data collection since the previous National Cancer Institute study was completed in 1990. The new study will look at cancer diagnosis rates as well as mortality, and it will be able to evaluate records for a broader range of geographical areas. We expect the study to be completed in approximately three years.

I have touched on many issues during my remarks today – aspects of the NRC's responsibilities and your work as licensees that will remain priorities in our respective efforts to protect the public and the environment. Having just embarked on a new decade, I would challenge all of you to make it one to remember for the nuclear industry. Not for the reasons that so many in the past have been memorable – for the safety challenges that have arisen and that have consumed so much of our time and focus – the Brown's Ferry Fire in the 70s, the TMI aftermath in the 80s, the extended plant shutdowns at Salem and Millstone in the 90s, and the Davis Besse degradation in the 2000s. Rather, I challenge you to make the 2010s a decade where the public cannot point to a single significant safety issue. The public expects and deserves no less. Thank you.