



# NRC NEWS

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**“Research and its Vital Role in Safety”  
Prepared Remarks for  
The Honorable Gregory B. Jaczko  
Chairman  
U.S. Nuclear Regulatory Commission  
Workshop on Extended Plant Operation  
Washington, D.C.  
February 22, 2011**

Thank you for the introduction. I would like to thank the Department of Energy (DOE) and the Nuclear Energy Institute for working with the NRC in organizing this workshop on license renewal. The first workshop three years ago was productive in identifying important research issues, and I hope that we can build upon that progress over the next couple of days. Although we are likely still several years away from the first possible submittal of a subsequent license renewal application, this workshop provides an important opportunity to take a proactive stance toward these issues.

In considering the possibility that licensees may submit subsequent license renewal applications, it's very important that we guard against any potential sense of complacency about aging management and license renewal. I understand that the industry is proud of their work over the past decade on these issues. As the 61 successful applications to date demonstrate, the industry has done good work in developing effective aging management programs to meet NRC safety requirements. That is a track record that the industry can be proud of. But it's also important to recognize that we have very limited experience in seeing how aging management programs actually work after the initial 40-year period of operation. In fact, it was less than three years ago that Oyster Creek became the first nuclear power plant to pass the 40-year operational mark, and only eight units have entered extended operation to date.

In order to plan for the possibility of subsequent license renewal applications and to effectively guard against any possible sense of complacency, the focus of this workshop is exactly where it should be – on research. Simply put, sound research is key to determining whether extended operation beyond 60 years can be safe and, if it can, what measures need to be taken to ensure safe operation. It is only through sound, safety-focused research that we can improve our understanding of materials degradation, support the development of effective aging management programs, and ultimately acquire the technical basis to verify that plants can and will remain safe through an additional period of extended operation.

The industry must take the lead on these research initiatives. While it is the NRC's role to establish the regulatory requirements necessary to ensure safety during extended operation, it is the individual licensee's responsibility to demonstrate that those requirements are met. That includes conducting the necessary research on materials degradation and aging management, as well as developing the necessary technical basis to demonstrate that safety will be maintained throughout extended operation.

Although a reactive approach has effectively maintained reactor safety, many within the industry and the agency increasingly believe that this may not be the most efficient approach and that there are benefits to being more proactive. For example, the industry should take the lead on developing new and improved inspection technologies, as well as researching such issues as the aging of the reactor vessel, the vessel's internal materials, cable insulation, buried structures, submerged structures, and concrete. Each utility that is exploring the possibility of extended operation needs to ask itself how much progress has been made in understanding these issues over a 50, 60, 70, or 80-year time period. They should consider whether there are other issues that need to be examined, and whether additional research needs to be done. Ultimately, all of this work must help answer the fundamental question of whether it is possible to safely conduct extended operation beyond 60 years and, if it is, how to do so.

Although it is not the NRC's responsibility to solve potential aging issues for the industry, the NRC will work with DOE, industry, researchers, and other national regulators to share information in the interests of enhancing safety. Currently, the NRC is in the process of revising the "Expert Panel Report on Proactive Materials Degradation Assessment" to include longer time frames and passive long-lived structures and components. This effort will allow the staff to (1) identify significant knowledge gaps and any new forms of degradation that may have arisen since the original proactive materials degradation assessment report was developed; (2) capture the current knowledge base on materials degradation; and, (3) help prioritize materials degradation research needs and directions for future efforts. I should note that this effort is moving forward in conjunction with a complementary DOE program – the LWR sustainability program.

In addition, the NRC is working with other national regulators and nongovernmental organizations to implement an International Forum for Reactor Aging Management. Such an organization would create a network of international experts who would exchange information on operating experience, best practices, and emerging knowledge. This will help pool technical expertise and avoid unnecessary redundant efforts among the variety of related research initiatives on materials degradation and aging management that have been launched in recent years.

If the industry's research demonstrates that licensees can safely conduct extended operation beyond 60 years, the NRC has every reason to believe that the licensing reviews will proceed efficiently and effectively. Over the past decade, the NRC has built up considerable expertise and experience in conducting the required reviews and hearings for license renewal applications. Although some concerns have been raised about the time required to review these applications, I believe these concerns are largely unfounded. The NRC takes the necessary time to ensure compliance with our regulatory requirements, and never allows schedule goals to trump our safety mission. That being said, the vast majority of applications have been reviewed on schedule, within 22 months if no adjudicatory hearing is required, or within 30 months if one is. In the rare instances where applications have taken longer than the anticipated schedules, that has been due to case-specific issues.

By statute, the NRC is required to provide the public an opportunity to participate in the license renewal process and to raise concerns about the application. Congress chose to structure the process in such an open and transparent way out of recognition that interested and affected members of the public might provide information or analysis not adequately considered by the applicant or the agency. In this way, public participation is one more check on the applicant and the agency's work to ensure that extended operation does not undermine public health or safety. The NRC's rules are structured so that only those contentions that raise genuine concerns are admitted into the adjudicatory hearing, and in those cases where the complexity of the contentions requires a lengthy review, the process ensures that the issues are fully vetted before a licensing decision is made.

The Commission is open to considering ways to improve the effectiveness and efficiency of our adjudicatory process. There may be possible changes that maintain the public's important role in the process while also allowing the Commission to more effectively manage the hearing schedule. One potential change that I would like to see is to allow for appeals of contention admissibility right away, rather than precluding them until licensing board hearing is complete. That would enable the licensing board to conduct the hearing with a clear understanding of which contentions are admissible, maintain the public's important role in the process, and minimize the need for hearings on remand.

Although these licensing issues are important, I hope my remarks today have been clear that your focus needs to continue to be on aging management research. There is important research to be done before licensing reviews or decisions enter the picture. I appreciate the commitment you all have shown to working through those important research issues by your participation in this workshop. Thank you.

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