

STATEMENT SUBMITTED
BY THE
UNITED STATES NUCLEAR REGULATORY COMMISSION
TO THE
COMMITTEE ON ENERGY AND COMMERCE
SUBCOMMITTEE ON OVERSIGHT AND INVESTIGATIONS
UNITED STATES HOUSE OF REPRESENTATIVES

CONCERNING
NRC REACTOR OVERSIGHT PROCESS

PRESENTED BY
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COMMISSIONER

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Mr. Chairman and Members of the Subcommittee, it is a pleasure to appear before you on behalf of the U.S. Nuclear Regulatory Commission (NRC) to discuss our Reactor Oversight Process (ROP). When Chairman Diaz and I came to the NRC in 1996, the reactor oversight process needed serious attention. It was not as transparent or risk informed as it could be, and the watch list of problem plants did not integrate the results of performance indicators (PIs). The process was criticized by the public and the industry. Therefore, the Commission unanimously decided to develop a new process that would be better than the one the staff was using and to involve the industry and other stakeholders in its development. The new process was piloted in 1999 and fully implemented in April 2000. Since implementation, we have continued to improve the process by incorporating lessons learned from our experience. The Commission believes that the Reactor Oversight Process is one of NRC's most important achievements in the past 10 years.

The ROP is a risk-informed process that focuses inspections on activities or areas that are most important to plant safety based on each plant's design and that increases the level of regulatory oversight as a licensee's performance declines. The ROP requires that inspections be performed by NRC inspectors in seven fundamental areas that we call cornerstones, to measure plant performance and maintain safe plant operation. These inspections routinely evaluate plant design, modifications, maintenance, and operations. The ROP also uses PIs which are reported to the NRC each quarter by the licensees. The NRC uses a four color system to characterize inspection findings and performance indicators. The color of an inspection finding or PI is determined by a defined significance determination process. Green inspection findings or PIs indicate very low risk significance and therefore have little or no impact on safety. White, yellow, or red inspection findings or PIs represent increasing degrees of safety significance.

The performance indicators and inspection findings determine what level of oversight a plant receives. For example, the NRC determines if a plant should be in a column requiring greater scrutiny of its performance. If so, it receives more inspections. A plant is assigned a column based on its performance as indicated by the inspection findings and PIs. Therefore, the licensee's performance ultimately determines the column in which a plant is placed, it is not based on a subjective determination by NRC managers. Currently 85 of the 103 operating reactors are in the lowest, or licensee response, risk column of the Action Matrix and are receiving the baseline inspections. Eleven plants are in the second column, while 4 plants are in the third column, and 3 are in the fourth column; all of these 18 plants are receiving additional oversight. No plants are in the fifth or unacceptable shutdown performance column.

The NRC has focused on improving the transparency of the ROP to the public from its inception through stakeholder involvement and open communications. The staff has used a variety of communication methods to ensure that stakeholders have access to ROP information and results, and have an opportunity to participate in the process and provide feedback. The ROP web page provides the public with easy access to PIs and the latest plant assessment results and other useful information about the ROP. For example, these posters, which reflect the information posted on our web site, provide the latest information for the Seabrook plant in New Hampshire, including PIs and inspection findings, with links to the plant's inspection reports, assessment letters, and other ROP-related information. The ROP has allowed us to provide the public better and more current information on the safety of the nuclear plants than is provided to the public for other elements of the infrastructure. I should also add that the NRC staff conducts an annual meeting near each reactor to share the staff's assessment with the public.

Very infrequently the NRC staff decides to modify the amount of oversight that is prescribed by the Action Matrix. This has happened nine times in five years, and in seven of the nine cases, the staff has decided to do more than prescribed. Any deviation from the ROP is first proposed by one of our four regional Administrators, and a public and well documented process is used to decide on the deviation. Deviations from the ROP must be approved by the Executive Director for Operations, and the Commission is informed. An example of a current deviation involves an increase in NRC oversight for the Salem and Hope Creek plants in the area of safety conscious work environment. The staff reviews each deviation to determine if changes to the ROP program are needed. Deviations are described and their significance is explained during a public Commission meeting held annually.

The NRC has made numerous improvements to the ROP since its initial implementation, many as a result of independent program evaluations and feedback from internal and external stakeholders. The inspection program and associated resources have been adjusted to better focus on risk-significant issues, with significant enhancements in the areas of problem identification and resolution, fire protection, safety culture, design engineering, and in-service inspections of safety-related components. Some of these changes were based on lessons learned from the agency's experience with the Davis-Besse reactor vessel head degradation. The timeliness and consistency of determining the significance of inspection findings have notably improved over the past several years due to program enhancements and an increased management focus. The plant assessment process has been modified to improve its predictability, particularly in the treatment of cross-cutting issues such as human performance, old design issues, and plants with significant performance deficiencies.

Three recent improvements to the ROP are the use of a new performance indicator, a greater focus on licensee safety culture, and a strengthened engineering inspection. This quarter, we have implemented the Mitigating System Performance Index (MSPI), a risk-informed performance indicator that combines component reliability and availability with plant-specific probabilistic risk assessment (PRA) information to arrive at a single performance index for five important systems. This performance indicator is complex, but it will give us real insights into key systems for mitigating accidents. Most importantly, it has brought the entire industry to a needed level of quality for so-called Level 1, internal initiating event probabilistic risk assessments. The MSPI replaced the safety system unavailability PIs, and licensees are scheduled to submit their initial data sets in July 2006. The NRC has also been working with internal and external stakeholders to enhance the ROP to more fully address safety culture. We have enhanced inspection procedures and developed processes to determine whether an assessment of safety culture is needed for plants with recognized performance deficiencies. The NRC staff is nearing completion of this effort and plans to fully implement the enhancements on July 1, 2006. The NRC recently undertook a substantial effort to strengthen its engineering inspection to increase the scrutiny of risk significant components and operator actions. The new component-based inspection ensures that the selected components are capable of performing their intended safety functions by verifying that the design bases have been properly implemented and maintained. The review includes evaluating the adequacy of the engineering calculations and analyses, the installed configuration, operating procedures, and testing and maintenance activities. A similar process is used to inspect risk significant operator actions.

The Reactor Oversight Process continues to evolve and improve. The staff performs an annual self-assessment of the reactor oversight process to evaluate the overall effectiveness of

the process. In addition to the annual ROP self-assessment program, several independent evaluations have been performed since the beginning of the ROP to analyze its effectiveness and identify improvements. The Office of the NRC Inspector General (OIG), the Office of Management and Budget (OMB), our Advisory Committee on Reactor Safeguards (ACRS), and a task force formed as a result of the Davis-Besse vessel head degradation have all performed evaluations related to the ROP. These evaluations have generally provided favorable results but have also suggested potential areas of improvement for the agency to consider. The Commission welcomes these critiques. For example, the OMB Program Assessment Rating Tool (PART) evaluation of the ROP in 2003, resulted in a score of 89 percent, which corresponds to an "Effective" rating of the management of the program. The Government Accountability Office (GAO) in its work following the Davis-Besse vessel head degradation incident has suggested areas for improvement in the ROP and is currently performing an independent evaluation of the ROP. The GAO has completed numerous staff interviews, reviewed ROP guidance documents, and performed a number of case studies over the past several months. We expect to receive a draft report of the GAO's findings in the next month or so with the final report later this year.

The NRC will continue to improve the ROP, increase its transparency and incorporate additional risk informed measures. Since I arrived at the Commission, the oversight process has become a much better system. We welcome feedback from our stakeholders and believe that such feedback will assist us as we continue to refine the process.

I appreciate the opportunity to appear before you today, and the Commission looks forward to continuing to work with the Committee. I welcome your comments and questions.