



NRC NEWS

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“Safety Excellence Starts with Compliance”

Prepared Remarks for

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Chairman

U.S. Nuclear Regulatory Commission

Institute of Nuclear Power Operations

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Introduction

Good afternoon everyone, and thank you for that introduction, Jim. I appreciate the opportunity to speak today at your annual CEO Conference and share my thoughts about some of the important issues facing the nuclear industry and the NRC.

Throughout its history, INPO’s assistance and expertise has helped enhance the industry’s safety performance. Although the NRC and INPO have different roles, we always have had a shared focus on safety and security. In a few hours, Admiral Ellis will be recognizing several facilities that have demonstrated strong safety performance over the past year. I also want to commend these high-performing nuclear plants. They have set an example for the industry through their hard work and their commitment to developing and implementing sound operational practices. We should applaud their efforts, and that of other facilities that have performed well this year.

We must not lose sight of the fact, however, that a number of plants over the last year or two have not performed nearly as well. The agency is concerned – and the industry should be as well – about some of the performance data that we have been collecting. For example, following an all-time low of 65 scrams in 2005, the annual scram rate has been steady or slightly increasing each year with 75 scrams reported in 2009. One facility even crossed the Unplanned Scrams with Complications threshold in late 2009 – the first instance in which this performance indicator threshold has been crossed since its inception. Additionally, so far this year, four plants have crossed the White threshold for the “Unplanned scrams per 7000 hours” Performance Indicator. These events, of course, raise concerns for the individual plants involved, but they also should be a cautionary tale to other facilities. This is no time for overconfidence or complacency.

When I spoke last year, I discussed what I saw as some potentially significant challenges to nuclear safety – challenges rooted in economics, distraction, and complacency. That message has continued resonance today, especially in light of some of the performance issues that licensees have experienced recently. The days of burgeoning utility revenues that made it relatively easy to reinvest the profits from nuclear plants back into nuclear infrastructure have not yet returned. Also, we have to stay alert to the possibility that the continued interest in new reactors may divert attention from the safety and security of currently operating plants.

In light of the recent safety issues that some licensees have experienced, I believe that the theme of this conference – “Nuclear Safety: Demanding Excellence” – is very appropriate. In the way that excellence is the touchstone of INPO’s work, adequate protection of public health and safety is the NRC’s benchmark. But as I’ve said earlier, INPO and the NRC have always had a similar focus on safety and security. As you strive towards the goal of excellence INPO has set for the industry, you must remember that compliance with NRC regulations is the foundation for the safety excellence that you strive for. Safety excellence includes more than just compliance, but it starts with compliance.

Rulemaking

In order to meet our mission, the NRC must have sound rules in place that protect public health and safety, and that licensees can effectively comply with. In order to make sure that we develop sound rules, the Commission is committed to maintaining an open and transparent decisionmaking process. The NRC invests substantial resources in providing opportunities for licensees, stakeholders, and the public to participate in the agency’s rulemaking. This open and transparent process helps us to acquire more information from licensees and a diverse range of perspectives from our stakeholders and the public, and ultimately helps us make the best policy decisions for safety.

Our rulemaking process only works if licensees and stakeholders are committed to taking advantage of the opportunity to participate and provide their input during the rulemaking process. The time it takes for the agency to conduct a typical rulemaking is measured in years – not months. That is more than enough time for interested parties to consider a proposed rule’s potential implications, as well as for the agency to evaluate and, if needed, address any possible issues licensees raise. If this process works as intended, there is no reason why licensees should not be in a position to implement the directions as outlined in the final rule.

Despite the agency’s efforts, there have been a number of areas in recent years where there have been significant delays in implementing new rules, including most recently in implementing Part 73’s new physical security requirements. These delays have occurred despite the fact that these rulemakings have taken several years to complete and provided ample time for licensees to raise concerns and for the agency to address any potential issues.

In response to these challenges, many licensees have asked the NRC to more directly address the cumulative effects of NRC requirements. There are two important considerations that licensees should keep in mind about this issue.

First, the NRC does not consider cost-benefit analysis when issuing rules and regulations that are necessary to ensure adequate protection of public health and safety, or common defense and security. Because they are so essential to safety, there is no wiggle room in our statute for reducing these requirements on the basis of cumulative effects. As the bedrock of our safety efforts, our adequate protection rules represent the bulk of the requirements that we impose on our licensees.

Second, it is important to recognize that - in the limited circumstances where the agency does consider cost-benefit analysis – the NRC already has processes in place to address these issues. The most significant is the public comment period built into our rulemaking activities. In the past, licensees have primarily raised issues specific to the rule under consideration, rather than concerns about cumulative effects. But that has been a matter of choice. The NRC has not precluded licensees from raising these kinds of issues.

Licensees should take full advantage of the opportunities the agency provides during our rulemaking to raise any concerns that they have about implementation. That is the appropriate time – not after the final rule has been adopted.

Human Performance

Even the most carefully crafted safety rules and procedures ultimately will remain only words on paper unless plants have well-trained, safety-conscious personnel capable of and committed to effectively implementing them. Both the industry and the NRC learned long ago that a hardware-centered approach to safety only takes you so far. You need good equipment and good people to operate it.

Both the nuclear industry's history and more recent safety events attest to this. You need look no further than the Three Mile Island accident to appreciate the importance of human performance to plant safety. But also over the last year or two, we have seen several issues at nuclear plants – of course, nowhere near as significant as that seminal event – that are rooted in part in human performance deficiencies.

For example, at one facility earlier this year, the NRC identified several human performance problems, including a failure to monitor critical reactor parameters and to adequately communicate important information about plant status. Additionally, there were examples of plant managers at this facility failing to correct issues with operator performance – for example, by not addressing known command and control problems with the crew.

This facility is by no means the only one that has experienced these types of human performances issues. The NRC also identified instances where lack of knowledge by operators contributed to safety events. Operators at one facility inadvertently drained the vessel 4.5 feet lower than intended due to instrument error and lack of knowledge of how the plant's design affected the rate of level change. This event also demonstrated the potential problems that can occur when managers step out of their supervisory roles by becoming too engaged in conducting activities.

There is no question that the industry and the agency have made considerable progress in increasing the qualifications and training of operators over the years. Nevertheless, these recent events raise unsettling issues. Both the NRC and the industry need to be certain that these human performance problems are isolated instances and are not more widespread throughout the industry.

Safety Culture

In recent years, the nuclear industry and other sectors also have increasingly appreciated the important role of safety culture in preventing accidents. In order to ensure that the NRC's safety rules are followed, you can't simply focus on qualifications and training. Those are essential to safety, of course. You need employees who have a safety focus and the dedication to consistently applying their skills to follow NRC requirements. Operators must remain keenly aware of the factors that can undermine an individual or organization's commitment to safety. Those factors include work environments that are not conducive to raising safety concerns, as well as a lack of willingness by management to receive and respond to concerns, or to correct known or recurring problems.

In the past, the NRC has identified instances in which degraded safety performance had some roots in a declining safety culture. The Davis Besse vessel head degradation is perhaps the most prominent example. But safety culture concerns have been identified among other licensees more recently as well. For example, one licensee was required to conduct a safety culture assessment, and after concerns about its safety culture persisted, was issued a chilling effect letter by the NRC earlier this year.

For the past few years, the Commission has been working with the staff to develop a safety culture policy statement, which will guide the activities of the NRC staff and help set the agency's expectations of our licensees. The final version of the policy statement will likely be ready for the Commission's consideration by early next year. We have made a lot of progress in the area of safety culture over the years, especially through the changes that we have made to the ROP to address this issue. By finalizing the policy statement, the Commission will continue that progress by speaking with one voice on an issue that is tremendously important to both safety and security.

The NRC, the industry and INPO are working hard together to address many of these human performance and safety culture issues as well. I want to commend Admiral Ellis and INPO for their efforts in helping focus the industry's attention on many of these performance shortfalls and the important issues that they raise.

Long-Standing Issues

As I have discussed, good rules and good people committed to implementing them are key to effective compliance. We need look no further than fire protection and GSI-191 to see what can go wrong when we experience delays in implementation. In one form or another, these issues have been the focus of the industry and the agency's efforts for decades, drawing resources that might otherwise be dedicated to other priorities.

Fire Protection

I imagine that some of you on an occasion or two in the past may have heard me speak on this issue. That is for a very simple reason – our research and experience has demonstrated the substantial risks that fires pose to reactor safety.

The industry has made progress in this area. We have come a long way since the days of the Brown's Ferry fire when workers used lighted candles to check for air leaks. Today, due to both the industry and the agency's research, we have a much more sophisticated understanding of how fires can start in plants, how they can spread, their safety risks, and how we can address those risks. The Commission has encouraged licensees to take advantage of our increased understanding of fire safety by transitioning to NFPA 805's risk-informed approach. The Commission has endorsed that policy because NFPA 805 allows licensees to undertake a comprehensive evaluation of their fire safety issues and employ a broader range of measures to address vulnerabilities.

Forty-nine plants have voluntarily opted to shift towards this risk-informed regulatory framework. Like many new processes, the NFPA pilot plant transitions have been complex, and have required a significant level of effort by licensees, as well as the NRC staff. The Shearon Harris pilot is now done, and we expect the Oconee pilot to be completed by the end of this year. Once that's done, the other 45 plants that have indicated their intention to transition to NFPA 805 will have six months under our regulations to finish their PRA models and submit their license amendment requests. In keeping with the Commission policy to encourage transition to NFPA 805, these licensees should press ahead with this work on schedule. Of course, the staff is ready now to receive any submittals if licensees want to get ahead of schedule.

Those licensees that have stayed with their existing fire protection licensing basis also have considerable work to do. For example, many of these licensees have been struggling to address safety issues involving fire-induced circuit failure vulnerabilities for more than a decade now. Earlier this year, these licensees were required to identify noncompliances for multiple spurious operations and to implement interim compensatory measures. With 24 months remaining before enforcement discretion ends, the agency has provided sufficient guidance to licenses to resolve these issues and ample time to implement the necessary changes.

By moving forward on schedule, all licensees can help bring an end to the long history of exemption requests, interim compensatory measures, and enforcement discretion that has characterized fire protection in the past. For such an important safety concern, these issues have taken far too long to resolve. Closing out fire protection issues will significantly strengthen plant safety and free resources to address other important issues.

GSI-191

Although it has not been around as long as fire protection, we are probably all at this point familiar with the considerable challenges that many licensees have encountered in closing out Generic Safety Issue-191. This is an important issue that raises significant safety concerns in

the event of a loss of coolant accident. Although the probability of this occurring may be low, we have to be cognizant of the magnitude of the potential safety consequences when we look at the risk that this issue poses.

In recent years, we have made some progress on this issue. Over half of pressurized water reactors have resolved their strainer performance issues, but there are 23 remaining plants that still have issues to resolve. The Commission has held two meetings on this issue this year, and we are working right now to develop a clear strategy for resolving this issue. The more effective the Commission is at resolving these long-standing issues, like fire protection and GSI-191, the more attention both the Commission and licensees can focus on the upcoming issues on our agenda. Those include proposed rules for the AP1000, ESBWR and ABWR reactor design certifications, the draft safety culture policy statement, and a proposed rule on ITAAC maintenance. And that's just a small sampling of the Commission's busy upcoming agenda.

New Reactors

My remarks to this point have focused on operating reactors. But safety is not just an issue for operating reactors; it is something that the industry has to keep foremost in its mind as it pursues the development of new reactors. With the safety and environmental reviews progressing on combined license applications, oversight issues concerning potential construction and operation are already commanding increasing attention. Among the most important issues, the Commission will have to be clear about its safety expectations for new reactors and whether we need to make any changes to our risk-informed oversight approach for new reactors.

Through our Advanced Reactors Policy Statement, the Commission has made it clear that it expects the next generation of reactors to achieve stronger safety performance than currently operating reactors. That expectation grows out of the Commission's recognition that designers have decades of technological advances and operating experience to draw from in developing more innovative and robust approaches to safety.

The question for the Commission and the challenge for the industry is how best to ensure that enhanced safety margins at the design stage are not diminished through potential construction or operation activities. During a meeting last month, the Commission began the process of examining this question, working to understand the complex issues at stake, and considering the best path forward. It is a credit to the NRC staff that they have brought this issue to the Commission's attention at this early stage. The Commission has the time to thoroughly consider this issue and make sure we make the right decisions to ensure the safety of any potential new reactors.

Conclusion

I have covered a broad range of issues today, including rulemaking, human performance, safety culture, and also several long-standing issues such as fire protection and GSI-191. These may seem to be disparate issues in some ways. But they are united in that they all point to what we need to do to achieve more effective compliance, and to lay the foundation for INPO's standard of safety excellence. Thank you.