

Update on Activities Not Within a Tier

Near-Term Task Force Recommendation 1 - Regulatory Framework

This lessons learned activity originated from Near-Term Task Force (NTTF) Recommendation 1, to establish “a logical, systematic, and coherent regulatory framework for adequate protection that appropriately balances defense-in-depth and risk considerations.” In the staff requirements memorandum (SRM) to SECY-11-0093, “Near-Term Report and Recommendations for Agency Actions Following the Events in Japan,” dated August 19, 2011 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML112310021), the Commission directed that NTTF Recommendation 1 be pursued independently of activities associated with the review of the other NTTF recommendations.

On December 6, 2013, the U.S. Nuclear Regulatory Commission (NRC) staff sent to the Commission SECY-13-0132, “U.S. Nuclear Regulatory Commission Staff Recommendation for the Disposition of Recommendation 1 of the Near-Term Task Force Report” (ADAMS Accession No. ML13277A413). The SECY paper asked for the Commission’s approval of the staff’s recommendation to move forward on three potential regulatory improvement activities to disposition NTTF Recommendation 1. These potential improvement activities were developed after evaluation of the considerations underlying the NTTF’s recommendation and consideration of the Risk Management Task Force’s recommendations for power reactors, and included:

- Establishing a new design-basis extension category of events and requirements and associated internal NRC guidance, policies, and procedures;
- Establishing Commission expectations for defense-in-depth through the development of a policy statement; and
- Clarifying the role of voluntary industry initiatives in the NRC regulatory process.

On May 19, 2014, the Commission issued SRM-SECY-13-0132 (ADAMS Accession No. ML14139A104), which disapproved the NRC staff’s proposed improvement activities. The SRM also directed that:

- Objectives of the first two improvement activities should be reevaluated in the context of the Commission direction on a long-term Risk Management Regulatory Framework (RMRF);
- Enclosure 3 to SECY-13-0132, “Defense-in-Depth Observations and Detailed History,” should be enshrined as an agency management tool and republished in other formats; and
- For the third improvement activity, NRC staff should evaluate the current status of carrying out the most risk- or safety-significant Type 2 initiatives and verify that these voluntary initiatives are being adequately carried out.

Work on the RMRF and other interrelated activities is being treated outside the scope of the NRC's post-Fukushima actions. The SRM concluded that the NTTF Recommendation 1 is closed.

Other NRC-Regulated Facilities

This lessons learned activity originated from the SRM to the Chairman's tasking memorandum COMGBJ-11-0002, "NRC Actions Following the Events in Japan," dated March 23, 2011 (ADAMS Accession No. ML110820875). The Commission directed NRC staff to consider the applicability of lessons learned from the event to "non-operating reactor and nonreactor facilities."

The NRC staff has developed a process to evaluate the potential applicability of lessons learned activities to facilities other than power reactors. The NRC offices responsible for these classes of licensees have created working groups to complete the evaluations. The offices include the Office of Nuclear Reactor Regulation (NRR) and the Office of Nuclear Material Safety and Safeguards (NMSS), while the associated licensees include:

- NRR – Research reactors and test reactors; and
- NMSS – Fuel cycle facilities, spent fuel storage and transportation, decommissioning materials facilities and reactors, uranium-recovery facilities, low level waste disposal facilities, irradiators, and radioactive materials licensees for medical, academic, and industrial uses.

As described in a previous update, NRC staff has completed inspections at selected fuel facilities and the results were used to evaluate systematically the processes and regulations applicable to fuel facilities. The results of the evaluation allow NRC staff to conclude that the current regulatory approach and requirements of these licensees continue to serve as a basis for reasonable assurance of adequate protection of public health and safety. However, NRC staff identified generic issues of compliance with the current regulatory framework with regard to the treatment of certain natural phenomena events in the facilities' (uranium conversion, enrichment, and fuel fabrication) safety assessments. NRC staff is in the process of developing a generic letter to request information from licensees to verify that compliance is being maintained with regulatory requirements and license conditions regarding the treatment of natural phenomena events. The draft generic letter was issued on August 8, 2014, for a 90-day public comment period (ADAMS Accession No. ML13157A158). The staff expects to issue the generic letter before the end of April 2015.

The NRC staff has completed its evaluation of each type of facility or licensee and identified actions needed. NRC staff held a category 3 public meeting on March 13, 2015, to solicit stakeholder input to the staff's evaluation. Once stakeholder comments are reviewed and incorporated, as appropriate, the evaluation will be reviewed with the JLD steering committee during an upcoming meeting. NRC staff will provide the results of these evaluations to the Commission after steering committee feedback is incorporated.

National Academy of Sciences Study on Fukushima

On July 24, 2014, the National Academy of Sciences (NAS) published a preliminary report sponsored by the NRC titled, "Lessons Learned from the Fukushima Nuclear Accident for Improving Safety and Security of U.S. Nuclear Plants." On July 31, 2014, the Chair and Vice-Chair of the study committee participated in a Commission meeting and presented a high-level overview of the report. The final report was published in October 2014. The NAS report documents nine findings and 10 recommendations. The findings and recommendations, along with staff's comments and conclusions, are attached to this paper as Enclosure 6. Overall, the staff concluded that NAS's recommendations have been addressed adequately by ongoing NRC and industry activities. However, NRC staff and the industry will consider NAS's insights in future and ongoing actions.

NAS has stated that because of unforeseen delays, the original charter for the study was separated into two phases. The first phase has been completed, as noted above, and addressed the topics of the charter related to Fukushima lessons learned. The staff is working with NAS on the second phase of their study, which involves a reevaluation of previous NAS conclusions related to the safety and security of spent fuel. NAS held its first meeting of the second phase of the study on January 29, 2015. NRC staff presented on various topics, including previous spent fuel pool safety studies, the recent COMSECY on expedited transfer of spent fuel, mitigating strategies, and spent fuel security. NAS held the second series of meetings in March 2015, which consisted of a combination of open and closed meetings at their Washington D.C. office to support Phase 2 of their study of the Fukushima Dai-ichi accident. NRC staff gave presentations to NAS on various topics, including spent fuel security, research initiatives related to security, and safety enhancements implemented after September 11 terrorist attacks and the Fukushima Dai-ichi accident. External stakeholders also gave presentations. NAS will hold more meetings in the coming months and plans to complete Phase 2 of the study by September 2015. The staff will continue to support NAS in its completion of the study and will update the Commission as necessary.

Support of International Activities

The NRC staff continues to be actively engaged in various international activities related to the evaluation and response to lessons learned from the Fukushima Dai-ichi accident. The staff is participating in several working groups within the International Atomic Energy Agency (IAEA) and the Nuclear Energy Agency (NEA) on efforts to better understand the accident and develop appropriate changes in nuclear power plants to improve their ability to cope with severe natural events. Bilateral exchanges have continued to include Fukushima lessons learned as a topic of discussion.

In October 2014, NRC staff participated in the second consultancy meeting to update and review IAEA Safety Guide NS-G-2.15, "Severe Accident Management Programmes for Nuclear Power Plants." The working group completed the evaluation of the Safety Guide and will verify the recommendations were incorporated into the final version that will be submitted to the member states for comment. A follow up meeting was held in February 2015. The goal is to submit the final version to the IAEA full committee in June 2015.

In October 2014, NRC participated in the development of an IAEA technical document (TECDOC) that details actions needed to cope with an extended loss of offsite and onsite

alternating current power systems. NRC staff has offered key input on post-Fukushima actions and authored major portions of the document. Follow up meetings are planned for spring 2015.

In November 2014, NRC staff participated in the IAEA second consultancy meeting for the revision of Safety Guide NS-G-1.10, "Design of Reactor Containment Systems for Nuclear Power Plants." A third consultancy meeting will be held later in 2015.

In December 2014, at the request of the Embassy of Japan, a delegation from the Japanese Ministry of Justice visited NRC Headquarters to discuss nuclear safety, reactor licensing, litigation, emergency preparedness, and post-Fukushima safety implementation in the U.S.

In December 2014, NRC staff traveled to Japan to engage with counterparts in the Government of Japan on Fukushima Dai-ichi Nuclear Power Plant safeguards technical support.

In December 2014, NRC staff participated in the second consultancy meeting to develop a draft IAEA TECDOC for equipment survivability assessments for severe accident conditions. The next meeting is planned for summer 2015 and a technical meeting with IAEA members in fall 2015. A final draft of the TECDOC will be available for the technical meeting, where stakeholders can offer comments.

From January 30, 2015, through February 8, 2015, NRC staff participated in an Organisation for Economic Co-operation and Development/Nuclear Energy Agency workshop in Pavia, Italy. The workshop covered techniques for advance probabilistic seismic hazard assessment.

In March 2015, during the 27th annual Regulatory Information Conference, NRC staff interacted with a delegation from the Japan Nuclear Regulation Authority (NRA). The interactions include a technical exchange session between NRC and NRA staff. NRC staff hosted a visit to the Palo Verde Nuclear Generating Station (Palo Verde). The NRA delegation was able to see first hand the equipment and one licensee's plans related to mitigating strategies. While in Arizona, the NRA delegation was taken on a tour of the National SAFER Response Center in Phoenix, Arizona.

Communications Activities

NRC staff held over 15 public meetings from September 2014 to February 2015 related to lessons learned from the Fukushima Dai-ichi accident. Most of these meetings enabled wider public participation through webinars, webcasting, and teleconferencing. Many of these meetings centered on guidance development or implementation issues related to Tier 1 actions. Also, the NRC's Japan Lessons-Learned Steering Committee has continued to meet publicly with the industry's steering committee to discuss and resolve issues related to lessons learned activities.

In the last six months, the Japan Lessons-learned Strategic Communications Team has evaluated and put tools in place for enhancing stakeholder understanding of lessons learned activities. The communications team will continue examining communication needs and developing relevant tools, with a focus on upcoming events and milestones.