

Proposed Resolution Plan for Tier 3 Recommendation 12.1

Reactor Oversight Process Modifications to Reflect Defense-in-Depth Framework

Background

Near-Term Task Force Recommendation 12.1 recommended that the U.S. Nuclear Regulatory Commission (NRC) expand the scope of the annual Reactor Oversight Process (ROP) self-assessment and biennial ROP realignment to more fully include defense-in-depth considerations. In SECY-11-0137, "Prioritization of Recommended Actions to Be Taken in Response to Fukushima Lessons Learned," dated October 5, 2011 (Agencywide Document Access and Management System (ADAMS) Accession No. ML11272A111), Recommendation 12.1 was prioritized as a Tier 3 activity because of its dependency on the resolution of Recommendation 1 to establish a regulatory framework that balances defense-in-depth and risk considerations. The initial project plan for Recommendation 12.1 in SECY-12-0095, "Tier 3 Program Plans and 6 Month Status Update in Response to Lessons Learned from Japan's March 11, 2011, Great Tohoku Earthquake and Subsequent Tsunami," dated July 13, 2012 (ADAMS Accession No. ML12208A210), deferred work on Recommendation 12.1 until Commission direction was received on Recommendation 1.

In the staff requirements memorandum to SECY-13-0132, "U.S. Nuclear Regulatory Commission Staff Recommendation for the Disposition of Recommendation 1 of the Near-Term Task Force Report," dated May 19, 2014 (ADAMS Accession No. ML14139A104), the Commission directed the staff to close Recommendation 1 and to reevaluate defense-in-depth in the context of the Commission direction on a longer-term Risk Management Regulatory Framework (RMRF) project. The work on RMRF is ongoing and its completion will depend on future Commission direction.

Current Status

Besides the ongoing work on RMRF, the staff has been using existing agency processes to enhance the ROP. As part of the Baseline Inspection Procedure Enhancement project, the NRC staff is working to identify and evaluate improvements to the ROP based on insights from Fukushima-related lessons-learned, reviews, and inspection activities. For example, the NRC staff has identified and implemented improvements to the ROP inspection program from post-Fukushima inspections of licensee walkdowns of flood protection features. Specifically, in December 2014, the NRC staff completed proposed changes to Inspection Procedure (IP) 71111.01, "Adverse Weather Protection," to incorporate lessons learned from these walkdowns. The revised procedure has been approved and will be available for the upcoming inspection cycle.

In 2014, the NRC staff issued Temporary Instruction (TI)-2515/191, "Inspection of the Implementation of Mitigation Strategies and Spent Fuel Pool Instrumentation Orders and Emergency Preparedness Communication/Staffing/Multi-Unit Dose Assessment Plans," dated October 6, 2014, to verify licensees' compliance with Order EA-12-049, "Issuance of Order to Modify Licenses with Regard to Requirements for Mitigation Strategies For Beyond-Design-Basis External Events," dated March 12, 2012 (ADAMS Accession No. ML12054A735), and other Tier 1 items, such as Order EA-12-051, "Order Modifying Licenses with Regard to Reliable Spent Fuel Pool Instrumentation," dated March 12, 2012 (ADAMS Accession No.

ML12056A044), and implementation of enhancements to emergency preparedness staffing and communication plans and multiunit dose assessment capabilities completed in response to Recommendation 9.3. The first compliance inspection associated with these two orders and Recommendation 9.3 was completed in March 2015 at Watts Bar Nuclear Plant, Units 1 and 2. Feedback from the pilot inspection has been collected, is under evaluation, and will be used to enhance TI-2515/191. Additional TI-2515/191 inspections will be completed as reactor sites come into compliance with Orders EA-12-049 and EA-12-051. The staff plans to periodically evaluate the information gathered from implementing TI-2515/191 to update the temporary instruction procedure using Inspection Manual Chapter (IMC) 0040, "Preparing, Revising, and Issuing Documents for the NRC Inspection Manual."

Using existing processes, the staff will assess best practices for documenting and evaluating inspection feedback from TI-2515/191 and other Fukushima lessons-learned activities. IMC 0801, "Reactor Oversight Process Feedback Program," will be used to collect feedback from the TI-2515/191 inspections. The ROP Feedback Program is used by the staff to identify issues that need program-level attention, and to suggest changes to improve the effectiveness of the ROP. Besides the work on TI-2515/191 and the enhancements to IP 71111.01, information obtained from other Fukushima lessons-learned activities is also being assessed commensurate with NRC prioritization, rulemaking, and licensee implementation schedules. Efforts to enhance the ROP will also help to keep track of any identified needed improvement.

Discussion

Dependency on the RMRF

The staff is currently developing a SECY paper with a proposed path forward on the RMRF to obtain Commission direction on the use of defense-in-depth in the NRC's regulatory program. The SECY paper on RMRF is due to the Commission by December 2015. As such, insights on the use of defense-in-depth based on Commission direction on that paper may not be available in time to support the timely resolution of Recommendation 12.1. For this reason, the staff proposes that the resolution of Recommendation 12.1 not be considered dependent on the RMRF project. Any ROP enhancements necessary as a result of Commission direction on RMRF would also be addressed outside the scope of Fukushima lessons-learned activities.

Path Forward on ROP Enhancements

As discussed above, work is ongoing to obtain insights from the completed and planned TI-2515/191 inspections and to incorporate these insights into the ROP. These inspections are being scheduled based on licensees' compliance dates for the associated requirements, with the majority of the TI-2515/191 inspections scheduled for completion in 2016 and 2017. In addition to verifying that Orders EA-12-049 and EA-12-051 and activities associated with Recommendation 9.3 are appropriately implemented, these inspections are expected to provide the staff with a better understanding of the inspection and oversight of post-Fukushima regulatory requirements associated with the protection and mitigation of beyond-design-basis events, and as such, will be used to inform longer-term ROP enhancements.

To evaluate potential future ROP enhancements, the staff plans to:

- Use the existing ROP Feedback Program, described in IMC 0801, to incorporate insights from TI-2515/191 inspections into the ROP.
- Ensure that future ROP enhancements from other Fukushima lessons-learned activities, such as seismic and flooding walkdowns and containment vent requirements, are appropriately considered.
- Assess and implement additional ROP enhancements in response to the Fukushima rulemaking activities (e.g., through development of a program to explicitly provide periodic oversight of industry's implementation of the severe accident management guidelines (SAMGs), as directed by the Commission in the staff requirements memorandum to SECY-15-0065 (ADAMS Accession No. ML15239A767)).
- Ensure effective communication with the NRC's regional offices and other stakeholders is maintained on issues of interest, such as the regulatory treatment of reevaluated hazards, maintenance rule impacts of mitigating strategies, and the development of significance determination processes.

Summary

Because of the closure of Recommendation 1 to the RMRF initiative, which will be the subject of future Commission direction, the staff proposes to close Recommendation 12.1. Potential future ROP enhancements, such as those stemming from ongoing Fukushima-related inspection activities, will be implemented using existing agency processes outside the scope of Recommendation 12.1.

Stakeholder Interaction

The NRC staff provided the Fukushima subcommittee of the Advisory Committee on Reactor Safeguards (ACRS) an overview of the staff's plans to resolving the open Tier 2 and 3 recommendations during a meeting held on October 6, 2015. A similar meeting is planned with the ACRS full committee on November 5, 2015. In addition, the staff provided an overview of its proposed resolution plans for all the open Tier 2 and 3 recommendations during a Category 2 public meeting held on October 20, 2015.

The staff does not plan to meet with ACRS or conduct additional stakeholder interactions specific to this recommendation, although such interactions may take place on future ROP enhancements outside the scope of this recommendation, if appropriate.

Conclusion and Recommendation

Based on the closure of Recommendation 1 and progress made to date in incorporating Fukushima lessons learned into the ROP, the staff proposes to close Recommendation 12.1. The staff's plans to use well-established processes to make any necessary future enhancements.

Resources

There are no resource implications associated with closure of this recommendation.