

Status Update on Implementation of the NTTF Recommendations

January 13, 2012

Meeting Purpose

Present the staff's proposal to modify our approach from SECY-11-0137 and accelerate the issuance of the Tier 1 Orders and 50.54(f) letters

Background - Schedule

- SECY-11-0137 provided the staff's original proposed approach and schedule for issuing Tier 1 Orders and 50.54(f) letters within 6 to 8 months of Commission approval
- SRM-SECY-11-0137 approved the staff's paper without significant schedule modification except in accordance with direction as provided in SRM-SECY-11-0124:
 - 24-30 months for SBO rulemaking with an ANPR
 - Strive to complete and implement lessons learned within 5 years – 2016
- Recent events have caused the staff to reconsider its proposed approach and schedule for Orders and 50.54(f) letters:
 - House and Senate Hearings
 - Language in the NRC's Appropriations Bill
 - ACRS letters dated October 13, 2011 and November 8, 2011
 - NEI letter dated December 16, 2011
 - Resolution of the 6 additional issues from SECY-11-0137
- The staff is modifying our approach and is accelerating the schedule to issue the Tier 1 Orders and 50.54(f) letters

NRC 2012 Appropriations

- Section 402 - All hazards:

The Nuclear Regulatory Commission shall require reactor licensees to re-evaluate the seismic, tsunami, flooding, and other external hazards at their sites against current applicable Commission requirements and guidance for such licensees as expeditiously as possible, and thereafter when appropriate, as determined by the Commission, and require each licensee to respond to the Commission that the design basis for each reactor meets the requirements of its license, current applicable requirements and guidance for such license. Based upon the evaluations conducted pursuant to this section and other information it deems relevant, the Commission shall require licensees to update the design basis for each reactor, if necessary.

- Accelerated Schedule:

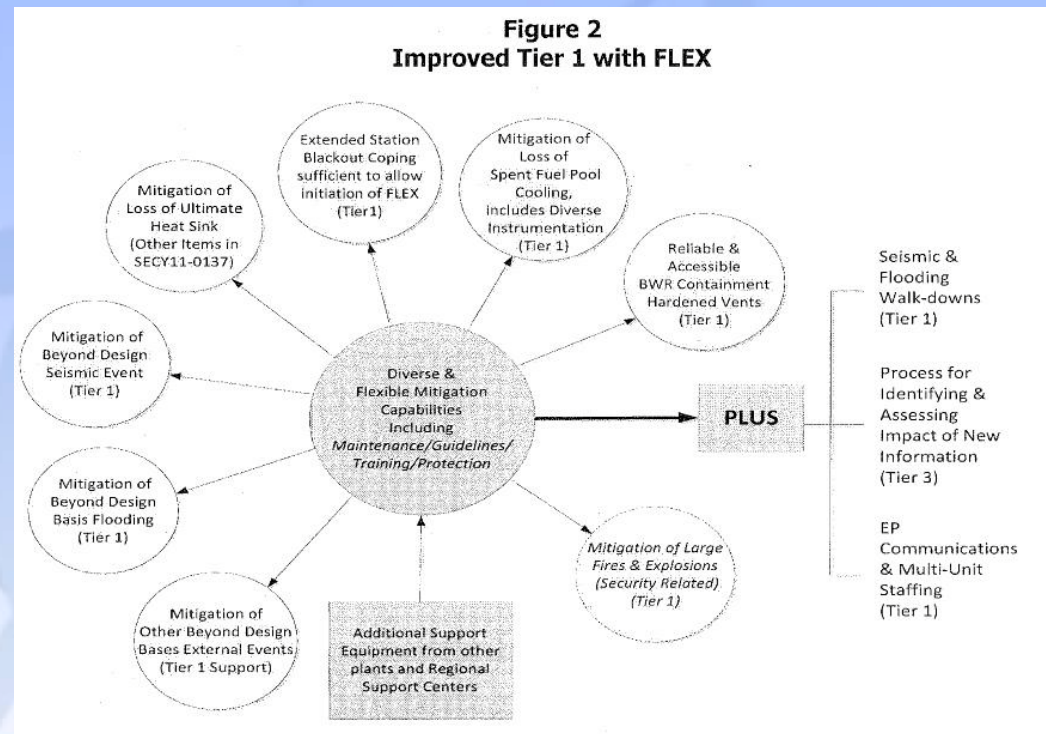
...The conferees direct the Commission to implement these [Tier 1] recommendations consistent with, or more expeditiously than, the schedules and milestones " proposed by NRC staff on October 3, 2011. The conferees direct the Commission to maintain an implementation schedule such that the remaining recommendations (not identified as Tier I priorities) will be evaluated and acted upon as expeditiously as practicable. The conferees request that the Commission provide a written status report to the House and Senate Committees on Appropriations on its implementation of the Task Force recommendations on the one year anniversary of the Fukushima disaster.

ACRS Recommendations

- ACRS provided its recommendations to the Commission and staff in letters dated October 13 and November 8, 2011
- The staff has developed a screening process for assessing stakeholder recommendations:
 - Purpose – Ensure disciplined approach to issues identified as lessons-learned from Fukushima
 - Stage 1 – Senior Level Advisors from NRR and RES review each recommendation for validity and nexus to Fukushima
 - Stage 2 – If found to satisfy Stage 1 criteria, recommendations are forwarded to Steering Committee for potential prioritization.
 - All ACRS recommendations have been screened and, if appropriate, prioritized as part of pilot process
 - Tier 1, 2, and 3 activities have been enhanced by the ACRS recommendations
- The staff is preparing a letter to the ACRS documenting the results of review
- The staff plans to publish the screening and prioritization of the ACRS Recommendations on the NRC's public web-site in February

Staff Assessment of FLEX

- December 16 – NEI provided a letter outlining the industry's proposed diverse and flexible approach (FLEX) for mitigating the effects of severe natural phenomenon
- The staff believes FLEX may provide an acceptable methodology for developing enhancements in accordance with the NTF recommendations for beyond design basis events
- However, the staff believes that the specific enhancements must demonstrate both strengthened and flexible approaches that are inspectable and enforceable



Six Additional Issues – SECY-11-0137

- Staff experts have reviewed the 6 additional issues in SECY-11-0137 and made recommendations to the Steering Committee
- Steering Committee has reviewed and prioritized each of the issues:
 - Filtration of Containment Vents
 - Preamble to Orders will identify filters as an issue under consideration
 - Policy issue will be presented in a Commission Paper in the near-term
 - Instrumentation for Seismic Monitoring
 - Addressed by NRR action outside of the Fukushima lessons learned process
 - Basis of Emergency Planning Zone Size
 - Tier 3 – Current approach is adequate, validate with Level 3 PRA effort results
 - Prestaging of Potassium Iodide Beyond 10-Miles
 - Tier 3 – Current approach is adequate, validate with Japanese radiological studies
 - Transfer of Spent Fuel to Dry Cask Storage
 - Tier 3 – Current approach is adequate, validate by SFP scoping study
 - Loss of Ultimate Heat Sink
 - Tier 1 – Consider interruption of loss of ultimate heat sink (mechanical)
 - Tier 2 – Consider loss of ultimate heat sink water source

Enhanced Tier 1

- Tier 1 Recommendations per SECY-11-0137:
 - 2.1 – Seismic and flooding reevaluation 50.54(f) letters
 - Expanded by Appropriations Bill and ACRS recommendations to include “other external hazards”
 - 2.3 – Seismic and flooding walkdown 50.54 (f) letters
 - Consistent with Appropriations Bill and ACRS recommendations, “other external hazards” to be addressed by flooding walkdowns
 - 4.1 – Station blackout rulemaking
 - Enhanced by SRM-SECY-11-0124 and ACRS recommendations to include an ANPR
 - 4.2 – Mitigating strategies for beyond design basis events Order
 - Informed by Industry’s FLEX paper, loss of ultimate heat sink additional issue, and ACRS recommendations
 - 5.1 – Reliable hardened vent Order for Mark I and II containments
 - Expanded by SRM-SECY-11-0137 to include consideration of filters
 - 7.1 – Spent fuel pool instrumentation Order
 - Enhanced by ACRS recommendations
 - 8.0 – Integration of emergency procedures rulemaking
 - 9.3 – Enhanced EP staffing and communications 50.54(f) letter

Tier 1 Implementation

- Implementation Goals:
 - Issue Orders and 50.54(f) letters by the March 11th anniversary date of the Japan events
 - Focus early implementation on Recommendations with highest safety benefit (Recommendations 2.3 and 4.2)
 - Prepare for evaluation of licensee responses and NRC inspections
- Major Milestones:
 - January 13: Industry/NRC Joint SC Public Meeting
 - January 17-19: Round of Public Meetings
 - February 17: Notation Vote Paper
 - March 2: Commission SRM
 - March 9: Issue Orders and 50.54(f) Letters

Stakeholder Meeting Expectations

- Obtain additional stakeholder input for Tier 1 Recommendations:
 - Obtain more details on industry proposals
 - Enhance alignment on path forward
 - Discuss resource estimates
 - Discuss estimated completion dates
- Written comments will be accepted following the stakeholder meetings until January 27, 2012
 - JLD_Public.Resource@nrc.gov

Stakeholder Meetings

- Recommendation 5.1 – Reliable Hardened BWR Vents
 - Tuesday, January 17, 2012, 9:00 AM – 12:00 PM
- Recommendations 2.1 and 2.3 – Seismic and Flooding Reevaluations and Walkdowns
 - Wednesday, January 18, 2012, 9:00 AM – 4:00 PM
- Recommendation 4.2 – Mitigating Strategies for Beyond Design Basis Events
 - Wednesday, January 18, 2012, 9:00 AM – 12:00 PM
- Recommendation 9.3 – EP Staffing and Communications
 - Thursday, January 19, 2012, 9:00 AM – 12:00 PM
- Recommendation 7.1 – Spent Fuel Pool Instrumentation
 - Thursday, January 19, 2012, 1:00 PM – 4:00 PM

Recommendation 2.1

- **Seismic and Flooding Reevaluation:**
 - **Justification for 50.54(f) Letter:**
 - Fukushima demonstrated the importance of selecting an appropriate design basis for external hazards and the significant consequences of not adequately protecting against those hazards
 - **Request:**
 - Licensee's will be requested to reevaluate the seismic, flooding, and other external hazards at their site using present day methods and guidance. The results will determine whether additional regulatory actions are necessary (e.g., ordering plant modifications)
 - **Timeline:**
 - Implementation guidance within 180 days following issuance of 50.54(f) letter
 - Site responses will be prioritized, however, all responses will be expected by:
 - Seismic – 3 years
 - Flooding – 2 years
 - Other External Hazards – 2 years

Recommendation 2.3

- **Seismic and Flooding Walkdowns:**
 - **Justification for 50.54(f) Letter:**
 - Fukushima demonstrated the importance of protecting against external hazards
 - **Request:**
 - Licensee's will be requested to develop a methodology and acceptance criteria to perform walkdowns. They will then implement the walkdowns. We would expect any performance deficiencies identified would be addressed by the site's corrective action program. The walkdowns will incorporate an integrated approach, including procedures, training, and staffing; along with the underlying strategy to address the hazard
 - **Timeline:**
 - Licensees will be asked to propose a methodology within 90 days, and then submit the walkdown results within 180 days of the NRC's endorsement of that methodology

Recommendation 4.2

- Mitigating Strategies for Beyond Design Basis Events:
 - Basis for Order:
 - Uncertainties for events greater than previously considered
 - Need for additional defense-in-depth measures
 - Requirement:
 - Develop, implement, and maintain strategies and equipment to mitigate the effects of beyond design basis challenges to core, containment, and spent fuel pool cooling functions
 - Timeline:
 - Implementation guidance within 90 days following issuance of Order
 - Full implementation within 2 years from the issuance of guidance

Recommendation 5.1

- **Reliable Hardened BWR Vents:**
 - **Basis for Order:**
 - Smaller relative containment volume of BWR Mark I and Mark II containment designs, and limited time to potential containment failure following a severe accident
 - **Requirement:**
 - Enhanced reliability during prolonged station blackout (SBO) conditions
 - **Timeline:**
 - If implementation guidance is required, it will be available 90 days following issuance of Order
 - Full implementation within 3 years from the issuance of guidance
 - **Additional Issue:**
 - Preamble to Orders will identify filters as an issue under consideration

Recommendation 7.1

- **Reliable Spent Fuel Pool Instrumentation:**
 - **Basis for Order:**
 - Uncertainties evident during events in Japan highlighted need for enhanced spent fuel pool (SFP) instrumentation to support protection from off-site radiation releases and prioritization of mitigations and recovery actions
 - **Requirement:**
 - For beyond design basis events
 - Instrumentation must support maintaining SFP inventory for safety functions
 - Instrumentation must support adequate prioritization of event mitigation or recovery
 - **Timeline:**
 - If implementation guidance is required, it will be available 90 days following issuance of Order
 - Full implementation within 2 years from the issuance of guidance

Recommendation 9.3

- Enhanced EP Staffing and Communications:
 - Justification for 50.54(f) Letter:
 - Fukushima highlights the need to enhance existing EP programs to address prolonged station blackout (SBO) and multiunit events
 - Request:
 - Request information about communications equipment power during multiunit emergency events with prolonged SBOs (>72 hours)
 - Request information about staffing necessary for response to multiunit events with a prolonged SBO
 - Timeline:
 - Written responses expected within 90 days

Recommendations 4.1 and 8

- Station Blackout Rulemaking:
 - Path Forward:
 - SRM-SECY-11-0124 directed the staff to “initiate the rulemaking as an advance notice of proposed rulemaking (ANPR) rather than a proposed rule”
 - Staff has formed a working group and is working to issue an ANPR expeditiously
 - Timeline:
 - Commission directed that SBO rulemaking be completed within 24-30 months
- Emergency Procedures Integration Rulemaking:
 - Path Forward:
 - Staff will initiate an ANPR and hold a public meeting during comment period
 - Results of ANPR will be incorporated into a regulatory basis and proposed rulemaking activities
 - Timeline:
 - Rulemaking will follow the timeline contained in SECY-11-0137

Planned Notation Vote Paper

- Contents :
 - Cover memorandum
 - Planned enclosures
 - Proposed Orders (policy)
 - Proposed 50.54(f) letters (information)
 - Resolution of Additional Issues (information)
 - Resolution of ACRS Additional Recommendations (information)
 - PRA methodology for Recommendation 3 (information)
- This paper will also serve as the staff's 6-month update in accordance with SRM-SECY-11-0137
- The staff plans to provide a notation vote paper on filtered vents and the Tier 3 Recommendations this summer

Next Steps

- Week of January 16th – Engage stakeholders at public meetings on the Tier 1 Recommendations
- By January 27th – Receive any written public comments regarding Tier 1 Recommendations at JLD_Public.Resource@nrc.gov
- On February 17th – Provide Commission with a notation vote paper on issuance of Orders and 50.54(f) letters
- By March 9th – Issue Orders and 50.54(f) letters, with Commission approval
- After March 9th – Continue stakeholder interaction in support of any necessary guidance development

Background - Stakeholder Meetings

- Public Meeting: NTTF Review of NRC Processes and Regulations – July 28, 2011
- Public Meeting: Obtain Feedback on NTTF Recommendations – Aug. 31, 2011
- Public Meeting: NTTF Report – Short Term Actions – Sept. 14, 2011
- Public Meeting: NTTF Report – Prioritization of Recommendations – Oct. 11, 2011
- INPO Steering Committee Meeting – Nov. 18, 2011
- Commission Meeting with ACRS – Nov. 29, 2011
- Public Meeting: Implementation of NTTF Recommendations – Dec. 1, 2011
- Industry/NRC Joint Steering Committee Meeting #1 – Dec. 1, 2011
- Public Meeting: Fukushima Impact on EPR Design (AREVA) – Dec. 7, 2011
- Public Meeting: NTTF Recommendation 9.3 Implementation – Dec. 12, 2011
- Public Meeting: NTTF Recommendations 2.1 & 2.3 Implementation – Dec. 14, 2011
- Public Meeting: NTTF Recommendation 5.1 Implementation – Dec. 15, 2011
- Public Meeting: NTTF Recommendation 7.1 Implementation – Dec. 15, 2011
- Public Meeting – NTTF Recommendation 9.3 – Jan. 9, 2012
- Industry/NRC Joint Steering Committee Meeting #2 – Jan. 13, 2012