

Status of Fukushima Lessons Learned Actions

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**Joint Steering Committee Meeting
May 18, 2012**

Agenda

- **NRC Welcome and Opening Remarks**
- **Industry Opening Remarks**
- **NRC Presentation**
- **Discussion with Industry**
 - **Mitigating Strategies**
 - **Vents and Filtration**
 - **Spent Fuel Pool Instrumentation**
 - **Seismic Walkdowns and Reevaluations**
 - **Flooding Walkdowns and Reevaluations**
 - **Emergency Preparedness Staffing and Communications**
- **Public Comments**

Purpose

Today's Joint Steering Committee Meeting to:

- **Discuss Tier 1 Issues and Status; Agree on Shared View of List of Issues, and Identify Any Significant Differences**
- **Discuss Path Forward on Resolution of Issues**
- **Review Tier 2 and Tier 3 Recommendations**

Brief History

- **July 2011**
 - **Near-Term Task Force (NTTF) report issued**
- **September/October 2011**
 - **NTTF recommendations prioritized**
- **March 2012**
 - **Tier 1 orders and requests for information issued on March 12, 2012**

Schedule Overview – Orders

Milestone	Operating Reactors	Combined License Holders	Construction Permit Holders
Guidance Issued	August 31, 2012	August 31, 2012	August 31, 2012
1st Update	October 31, 2012	October 31, 2012	October 31, 2012
Plan Submitted	February 28, 2013	August 31, 2013	August 31, 2013
Periodic Updates	Every six months	Every six months	Every six months
Latest Completion	December 31, 2016	Prior to initial fuel load	Prior to receipt of operating license

Order for Mitigating Strategies for Beyond-Design-Basis External Events

- **Issues for further discussion**
 - **Augmented/Consensus Standards**
 - **Backup power for hydrogen igniters**
 - **Use of reactor analysis codes**
- **Next public meeting May 30**
- **Plan to issue proposed interim staff guidance (ISG) for comment by end of May**

Order for Reliable Hardened BWR Vents

- **Public meeting held May 2**
 - **General alignment on ISG**
 - **Await BWROG input on ISG (mid-May)**
 - **No major issues**
- **Next public meeting May 23**
- **Plan to issue proposed ISG for comment by end of May**

Filtered Vent Issue

- **NRC staff action:**
 - **Assessing issue technically**
 - **Reviewing insights from recent research efforts**
 - **Reviewed available filter designs and capabilities**
 - **Engaged international counterparts**
 - **Plan to provide recommendation to Commission in July 2012**

Order for Reliable Spent Fuel Pool Instrumentation

- **No major issues**
- **May 11 - Industry submitted NEI 12-02**
- **June 1 - Staff plans to issue draft ISG for comment**
- **June 21 - Public meeting to receive stakeholder comments on draft ISG**

Schedule Overview – Guidance for Requests for Information

50.54(f) Request	Guidance Issued or Endorsed
Flooding Reevaluation Prioritization Letter	May 11, 2012 (Complete)
Seismic/Flooding Walkdowns	May 31, 2012
Seismic/Flooding Reevaluations (Integrated/Risk Assessment Guidance)	November 30, 2012
Emergency Preparedness – Communications and Staffing	May 14, 2012 (Complete)

Seismic Walkdown and Reevaluation

- **Walkdown Guidance Development**
 - No major issues
 - Goal to endorse by May 31, 2012
- **Reevaluation Screening and Prioritization Guidance**
 - Guidance development underway
 - Significant work remains to address specifics

Flooding Walkdowns and Reevaluations

- **Plan to issue or endorse guidance for walkdowns by end of May**
- **Prioritization list issued May 11**
- **Issues resolved since last meeting**
 - **“Cliff-edge” effects will be recorded as “available physical margin” and retained onsite for inspection/audit**
- **Next public meeting June 13-14**

Emergency Preparedness – Staffing and Communications

- **No outstanding issues remain**
 - “No site access” definition: NRC has agreed 6 hour minimum with a discussion of how the staff will access the site
 - Issues with the link to Rec. 4.2 are resolved
- **NEI 12-01 endorsed by NRC**
 - Endorsement letter sent May 14
- **60-day responses: alternative schedules proposed by many licensees**

Rulemaking Activities

- **Station Blackout Rule**
 - Advance Notice of Proposed Rulemaking (ANPR) issued on March 20
 - Public meeting held on April 25
 - Comment period closed May 4; staff reviewing feedback
- **Integration of EOPs, SAMGs, and EDMGs**
 - ANPR issued on April 18
 - Next public meeting planned for May 23
 - Comment period closes June 18
- **Recommendation 1 – Regulatory Framework**
 - Public meeting to be held summer 2012

Tier 2 Update

- **Spent fuel pool makeup capability (Recommendations 7.2 – 7.5)**
 - Plan remains consistent with description in SECY-11-0137
 - Initiate rulemaking that is informed by insights gained from Tier 1 Recommendations (namely, Rec. 2.1, 4.1, and 4.2)
- **Emergency preparedness (EP) regulatory actions (Rec. 9.3b)**
 - Plan to issue ANPR that addresses this item and several Tier 3 EP items (namely, Rec. 9.1 – 9.4, 10, and 11)
- **Evaluation of external hazards other than seismic and flooding**
 - Added as Tier 2 in SECY-12-0025 as result of ACRS comments and Congressional legislation
 - Expect to prepare request for information after gaining insights from seismic and flooding walkdowns and reevaluations

Tier 3 Plans

- **Recommendations to Commission in July**
 - Public meetings held on May 3, 7, 14
 - ACRS meetings planned May 22-23 and June 6
- **Some plans may require longer-term study**
 - Decision for regulatory action based on results
- **Some are dependent on Tier 1 completion**
- **Each Tier 3 is being addressed by a lead technical organization within NRC**

Steering Committee Successes and Challenges

- **Made considerable progress towards achieving established milestones**
- **Communication with all stakeholders has been beneficial**
- **Need to maintain our focus on resolving outstanding issues**



BACKUP SLIDES

Tier 1 Activities

Orders

- EA-12-049 – Mitigating strategies beyond design basis events**
- EA-12-050 – Hardened vents for Mark I and II containments**
- EA-12-051 – Spent fuel pool instrumentation**

Request for Information under 50.54(f)

- Seismic and flooding walkdowns**
- Seismic and flooding reevaluations**
- Enhanced EP staffing and communications**

Rulemakings

- Station blackout (SBO)**
- Integration of emergency procedures**

Tier 2 Recommendations

- **Spent fuel pool makeup capability – Order licensees to:**
 - Provide safety-related AC electrical power for SFP makeup
 - Revise TS to require one train of onsite emergency electrical power be operable for SFP makeup and SFP instrumentation whenever irradiated fuel is in the SFP
 - Have an installed means to spray water into the SFP, including an easily accessible connection to supply the water.
- **Emergency preparedness – Require licensees to:**
 - Have guidance for multiunit dose assessment capability
 - Hold training and exercises for multi unit and prolonged SBO scenarios
 - Practice the identification and acquisition of offsite resources
 - Ensure that sufficient EP equipment and facilities exist to deal with multiunit and prolonged SBO scenarios,
- **Reevaluation of other external hazards**
 - Request licensees reevaluate external hazards (other than seismic and flooding)

Tier 3 Recommendations

- 2.2 Ten-year confirmation of seismic and flooding hazards**
 - 3 Potential enhancements to the capability to prevent or mitigate seismically induced fires and floods**
- 5.2 Reliable hardened vents for other containment designs**
 - 6 Hydrogen control and mitigation inside containment or in other buildings**
- 9.1/9.2 Emergency preparedness (EP) enhancements for prolonged SBO and multiunit events**
 - 9.3 ERDS capability**
 - 10 Additional EP topics for prolonged SBO and multiunit events**
 - 11 EP topics for decision-making, radiation monitoring, and public education**
- 12.1 Reactor Oversight Process modifications to reflect the recommended defense-in-depth framework**
- 12.2 Staff training on severe accidents and resident inspector training on SAMGs**
 - Basis of Emergency Planning Zone Size (Additional Issue)**
 - Prestaging of potassium iodide beyond 10 mile (Additional Issue)**
 - Transfer of spent fuel to dry cask storage (Additional Issue)**
 - Reactor and Containment Instrumentation (Additional Issue)**

Schedule Overview – 50.54(f) Letter Seismic/Flooding Reevaluations

Milestone	Operating Reactors and Construction Permit Holders
Guidance Issued	November 30, 2012
Initial Response	January 30, 2013
Licensee Seismic Hazard Evaluations Due	September 9, 2013 (CEUS) / March 9, 2015 (WUS)
Licensee Flooding Hazard Evaluations Due	March 9, 2013 – March 9, 2015 (based on prioritization)
Future Steps	Pending NRC evaluation and prioritization, with completion of evaluations for all facilities between October 2016 and April 2019

Schedule Overview – 50.54(f) Letter Seismic/Flooding Walkdowns

Milestone	Operating Reactors
Guidance Issued or Endorsed	May 2012
Licensees Identify Walkdown Procedures To Be Used	June 11, 2012 (flooding) / July 9, 2012 (seismic)
Licensees Provide Results of Walkdowns	180 days after NRC endorsement of the walkdown procedure (~December 2012)

Schedule Overview – 50.54(f) Letter E.P. – Staffing and Communications

Milestone	Operating Reactors, Combined License Holders, and Construction Permit Holders
Mitigating Strategies Order	August 31, 2012
– Guidance Issued or Endorsed	
Licensee Responses	June 8, 2012 (communications)
	June 8, 2012 (staffing items 3 through 6)
	October 31, 2012 (staffing items 1 and 2)*

* 60 days after issuance of guidance associated with mitigating strategies order