



# **Status of Lessons-Learned from the Fukushima Dai-ichi Accident**

**Joint Steering Committee Meeting  
August 25, 2016**



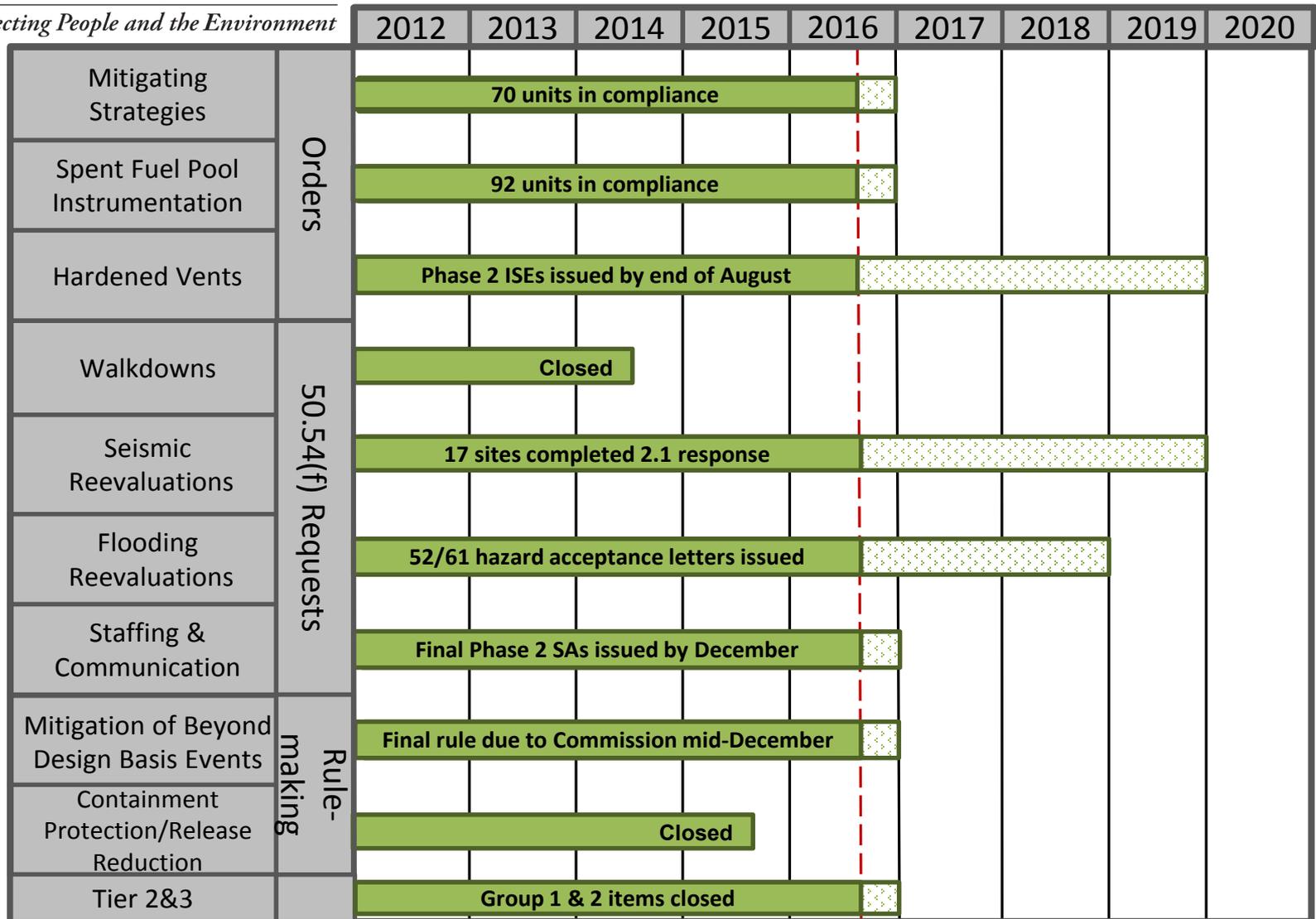
# Agenda

- Overall Implementation Status
  - Mitigating Strategies
  - Hazard Reevaluations
  - Hardened Vents
- Mitigation of Beyond Design Basis Events
- Rulemaking
- Tier 2&3 Recommendations
- Credit for FLEX in Other Applications
- Future Joint Steering Committee Interactions
- Public Comments and Questions





# Implementation Progress



Today

*\*For illustrative purposes only*



# Mitigating Strategies

- All audits complete and continued progress in issuing safety evaluations
- Temporary Instruction-191 inspections underway (8/61 complete)
- Ongoing initiatives to ensure consistency:
  - Routine engagement between JLD and regions
  - Direct JLD support for inspections
  - Cross-regional panels on inspection results
- Lessons learned and knowledge management activities ongoing



# Hazard Reevaluations

- **Flooding**
  - Hazard acceptance letters issued for most sites
  - Phase 1 guidance issued in July
- **Seismic**
  - 17 sites completed Recommendation 2.1 response
  - Staff assessments for western U.S. sites issued by end of year
- **Guidance for Phase 2 decision-making:**
  - Leverages existing agency processes
  - Two-step process – senior management panel for screening/formal backfit evaluation
  - Ensures appropriate rigor and documentation



# Hardened Vents

- All Phase 2 interim staff evaluations to be issued by end of August
- Streamlined approach developed by staff:
  - Expedites process for closure of open items
  - Enables development of safety evaluation ahead of compliance
- Post-compliance inspections:
  - Scheduled earlier, based on streamlined process
  - Procedure development to begin this Fall
  - Considering use of core inspection team



# MBDBE Rulemaking

- Resolving comments and developing final rule
- Continuing engagement with ACRS:
  - Comment resolution meeting on August 17 (complete)
  - Future interactions planned on guidance and final rule
- Reassessing flexible implementation schedule
  - Plan to discuss during upcoming public meeting
- Final rule due in mid-December



# Seismic Path 5

- Guidance for Paths 1-4 has been endorsed
- Used for plants required to complete seismic risk assessment
- Guidance for seismic Path 5:
  - May include deterministic or probabilistic approach
  - Guidance expected by end of August
  - Public meeting in early September
- Rulemaking schedule challenge



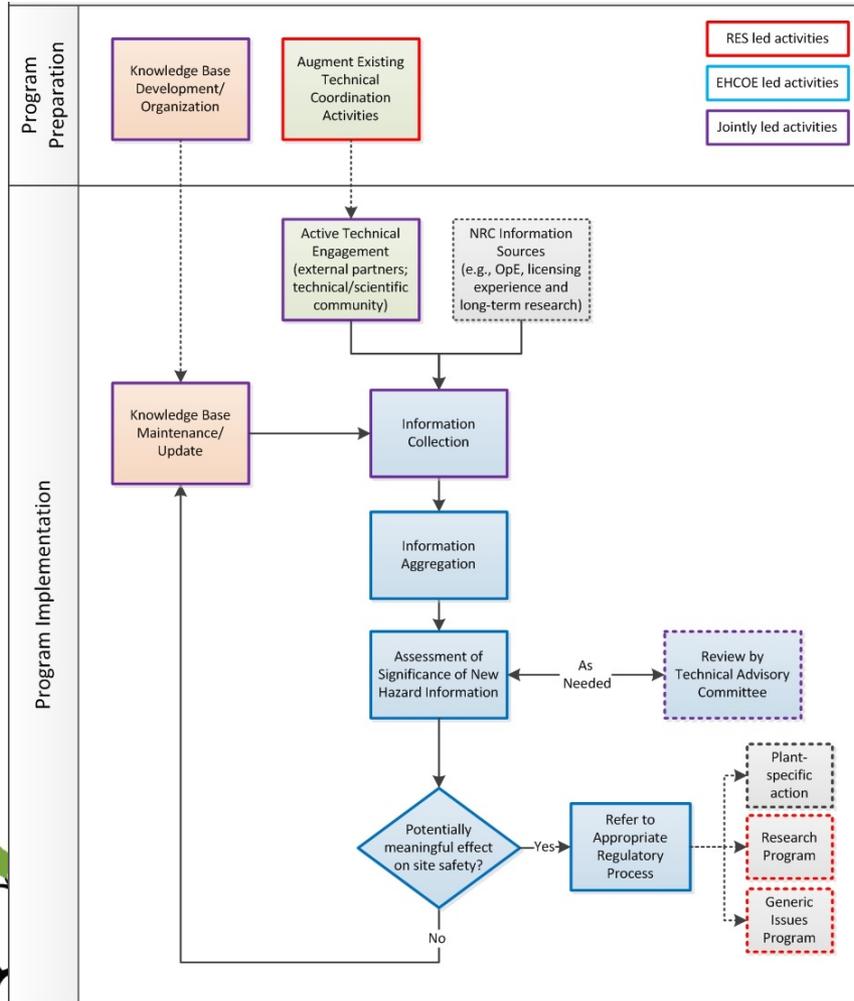
# Tier 2&3

## Recommendations

- Group 1&2 items have been resolved
- Group 3 resolution approaches in progress
- Recommendation 11.3 – Real-Time Radiation Monitoring
  - Several public interactions completed
  - Staff nearing completion of assessment
- Evaluation of Other Natural Hazards
  - Initial screening provided to Commission in May
  - Focus on snow loads and high winds
  - Several stakeholder interactions scheduled



# Recommendation 2.2: Periodic Confirmation



## Knowledge Base Activities

- Compiles and organizes existing info/tools (e.g., from R2.1 and new reactor reviews)
- Incorporates new info/tools (e.g., from R2.2 or other regulatory activities)

## Active Technical Engagement and Coordination

- Periodic engagement with external organizations (e.g., federal partners, industry, international counterparts) as well as scientific and technical communities
- RES and COE coordinate to identify key focus areas and reflect in RES Plans

## Assessment Activities

- Collects and integrates new information
- Assesses whether new/aggregated information has a meaningful effect on site hazard
- [If needed] Refers the issue and associated analyses to appropriate regulatory process
  - Transfer to program office for action
  - Transfer (well-defined) issue to GI Program
  - Additional study via hazard-specific User Needs to RES

# Tier 2&3 Next Steps

- Group 3 resolution recommendations due to Commission by the end of the year
- Current status
  - Draft of SECY paper is under development
  - Internal alignment activities are underway
- Next steps
  - Public meeting regarding R2.2 (September)
  - ACRS meetings (October/December)
  - Issue SECY paper (December)



# Credit for FLEX in Other Regulatory Applications

- Dec 2015 – NEI submitted two white papers
  - Qualitative credit
  - Streamlined approach (semi-quantitative)
- Mar 2016 – Public meeting to discuss comments
- May 2016 – NEI submitted revised white papers
- Aug 2016 – NRR response letter
  - Acknowledging use of the white papers
- NRC is working on application specific guidance updates





United States Nuclear Regulatory Commission

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# Credit for FLEX in Other Regulatory Applications

Crediting Mitigating Strategies (MS) in Risk-Informed Decision Making (RIDM)							
Priority	Topic	NRC Guidance	Deliverable	Responsible Individual	Target Draft Deliverable	Completion Date	Resource Estimate
High			Direct Reports Briefing/ DEDO One Pager	Matt Humberstone/ Mike Montecalvo		Ongoing	NRR - 80hrs
High	Incident Investigation Program (MD 8.3)	RASP Manual MD 8.3					NRR - 200hrs RES - 40 hrs Region - 80 hrs
High	Significance Determination Process (SDP)	RASP Manual IMC-0609 IMC-0308 RIS 2008-15*					
Medium	Accident Sequence Precursor (ASP) Program	RASP Manual					
High	Maintenance Rule a(4) (10CFR 50.65)	RG 1.160 NUMARC 93-01 IP 71111.13					
High	Notices of Enforcement Discretion (NOED)	IMC-0410	Inspector Newsletter	Matt Humberstone	December-16	January-17	NRR - 40 hrs
High			NOED Process Owner Training			December-16	NRR - 20 hrs
High			NRR/DRA Tech Guidelines		December-16	February-17	NRR - 100hrs
High	Risk-Informed License Amendment Requests (LARs) (Qualitative Credit)	RG 1.200 RG 1.174 RG 1.177 LIC-101 RIS 2008-15	NRR/DRA Tech Guidelines	CJ Fong / Mike Levine	November-16	December-16	NRR - 80hrs
High	Risk-Informed License Amendment Requests (LARs) (Quantitative Credit)	RG 1.200 RG 1.174 RG 1.177 LIC-101 RIS 2008-15	No need to develop application specific guidance	CJ Fong / Mike Levine			
Low	Mitigating Systems Performance Index (MSPI)	RG 1.200 IP 71151	No need to develop application specific guidance	Matt Humberstone			
Medium	Security	RG 5.81	No need to develop application specific guidance	Michael Maley / David Diec			
Low	Regulatory Analysis	NUREG/BR-0058					
Low	Issue Resolution	LIC-504					
Low	Generic Issue Resolution	MD 6.4					

# Future JSC Interactions

- Substantial implementation progress to date
- Activities requiring continued Steering Committee oversight:
  - MBDBE rule completion
  - Resolution of Group 3 Tier 2&3
- Additional focus areas:
  - Integration of Fukushima initiatives into the ROP
  - Credit for FLEX in other regulatory applications
  - Knowledge management and transfer
- Anticipate sunseting of NRC Steering Committee in early 2017



# Closing Remarks

- Significant progress has been achieved
  - Majority of safety benefit from lessons-learned initiatives will be in place by end of this year
- NRC has benefited from engagement with many stakeholders in resolving complex issues
- Important work remains and continued focus and engagement is needed in several key areas



# Additional Industry Comments



# Public Comments

