



Near-Term Task Force Recommendations 2.1 and 2.3 Status Update for Seismic Issues

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History of Seismic Reevaluations

SEP	Systematic Evaluation Program	1977-1990	Limited seismic reassessment of older NPPs. Resulted from development of seismic building codes in the 1970s, changes in hazard assessment, and other improvements.
USI-A46	Unresolved Safety Issue-A46	1980s	Seismic operability of equipment in older NPPs. Resulted from development of seismic qualification of equipment. SOUC formed by industry. Assessment approaches developed.
IPEEE	Individual Plant Examinations for External Events	1990s	Evaluation at or beyond design loads. Generally qualitative with emphasis on risk insights. Resulted from increased awareness of potential for beyond DBE loads & advances in SPRA.
GI-199	Generic Issue-199	2005-2012	Assess implications of updated seismic hazard estimates in the CEUS. Resulted from ESP applications at co-located NPPs
NTTF R2.1	Near Term Task Force Recommendation 2.1	2012-Ongoing	Reevaluation of seismic and flood hazard and risk as one of many recommendations in the NTTF report published after the Fukushima Daiichi accident.

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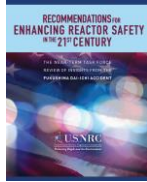
- GI-199
 - Initiated due to ESP hazard results at sites co-located with operating NPPs
 - Safety Risk Assessment Report published in 2010
 - No immediate safety concern identified
 - However, additional assessments were justified
 - A draft request for information letter developed prior to Fukushima accident
 - Folded into NTTF Recommendation 2.1

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Key Documents

- Fukushima accident occurs March 2011
- NTF Report published July 2011
- SECY-11-0124 recommended actions w/o delay - issued September 2011
- SECY-11-0137 establishes prioritization of activities - issued October 2011
- SECY-12-0025 authorizes 50.54(f)
- The 50.54(f) letter
 - Issued March 12, 2012
 - To all operating power reactor licensees
 - Establishes a timeline and actions



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Seismic NTF Overview

Ongoing	2.3	Walkdowns	11/2012 (+outages)	Walkdowns to assure plants are meeting licensing basis and to look for potential seismic issues. Reports due November 2012. Some equipment delayed until outage.
	2.1	Hazard evaluation	9/2013 (CEUS) 3/2015 (WUS)	Hazard evaluation due in 18 months for NPPs within the CEUS SSC model area. 3 years for western US NPPs performing SSHAC level 3 studies. Plant-specific site response.
Near term		Risk evaluation	3 years after hazard	Risk results due 3-4 years after hazard. SMAs only allowed for small exceedance levels. SPRAs allowed for all exceedances, but required for large exceedances.
	Regulatory Actions	Depends on findings	After receiving the information from the SPRA and SMA analyses, the NRC will determine appropriate regulatory actions.	
Long term	2.2	10 year update	Rulemaking timeline	Rulemaking to require a reevaluation every 10 years.

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Recommendation 2.1 & 2.3 Team

- NRR Japan Lessons Learned Directorate
- NRO providing technical support with assistance from other offices & contractors

Nilesh Chokshi – Overall Lead R2.1 & R2.3

Cliff Munson – Seismic Team Lead

Annie Kammerer – R2.3 Technical Lead

Jon Ake – R2.1 Technical Lead



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R2.3 Seismic Walkdowns

- 18-month timeline. Reports completed November 2012. Some inaccessible equipment delayed until outages.
- Industry developed guidance with NRC input during 10+ public meetings over 2 months. Presented to ACRS.
- Resident Inspectors observed walkdowns and performed independent verifications (Temporary Instruction TI-2515/188)
- Identified issues entered into NPP's Corrective Action Program (CAP)



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R2.3 Seismic Walkdowns

- Objective to confirm compliance with license and look for vulnerabilities
- Seismically qualified equipment sampled (approximately 100 items walked down)
- All spent fuel pool equipment that could lead to rapid drain down is walked down
- Area walk-bys performed in rooms with sampled equipment – extends scope

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R2.3 Seismic Walkdowns

- Preliminary results
 - Condition of anchorages
 - Condition of equipment
 - Potential for seismic interaction
 - Other issues such as housekeeping problems, etc.

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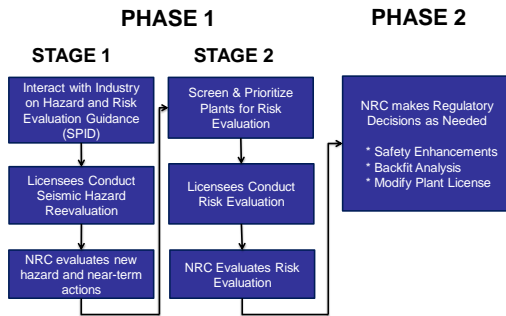
R2.1 Hazard & Risk Reevaluation

- R2.1 divided into 2 phases
 - Phase 1 - perform hazard & risk evaluations
 - Phase 2 - determine regulatory action
- Hazard evaluations based on current practices for new reactors
- Risk evaluations are needed for NPPs whose reevaluated hazard exceeds design

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R2.1 Overall Approach

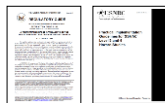


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R2.1 Seismic Hazard Reevaluation

- PSHA develops plant-specific GMRS (RG1.208)
- CEUS licensees (96 units/59 sites)
 - CEUS SSC Source model (NUREG 2115)
 - EPRI Ground Motion model
 - Plant-specific site response analysis
- WUS licensees (8 units/4 sites)
 - Site-specific SSHAC level 3 studies for sources and ground motion (NUREG 2117)
 - Plant-specific site response analysis



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Key Issues

- Many NPPs will need to perform a risk evaluation
 - Limited pool of seismic experts to perform evaluations and reviews
 - Current timeline is challenging
- Industry proposed Augmented Approach
- Industry proposed updated of CEUS ground motion characterization model
- Rulemaking needed for R.2.2 long-term effort