



U.S. NRC

UNITED STATES NUCLEAR REGULATORY COMMISSION

Protecting People and the Environment

NTTF Recommendation 2.1

Seismic

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Office of Nuclear Reactor Regulation
Office of New Reactors



Today's Agenda

NRC

- Discussion of SPRA for Groups 3 and 2
- Development of Guidance for Proposed Rulemaking Related to Mitigation Strategies
- Public Questions or Comments

NEI

- Spent Fuel Pool Evaluation Development
- High Frequency Guidance Updates
- Public Questions or Comments

NRC

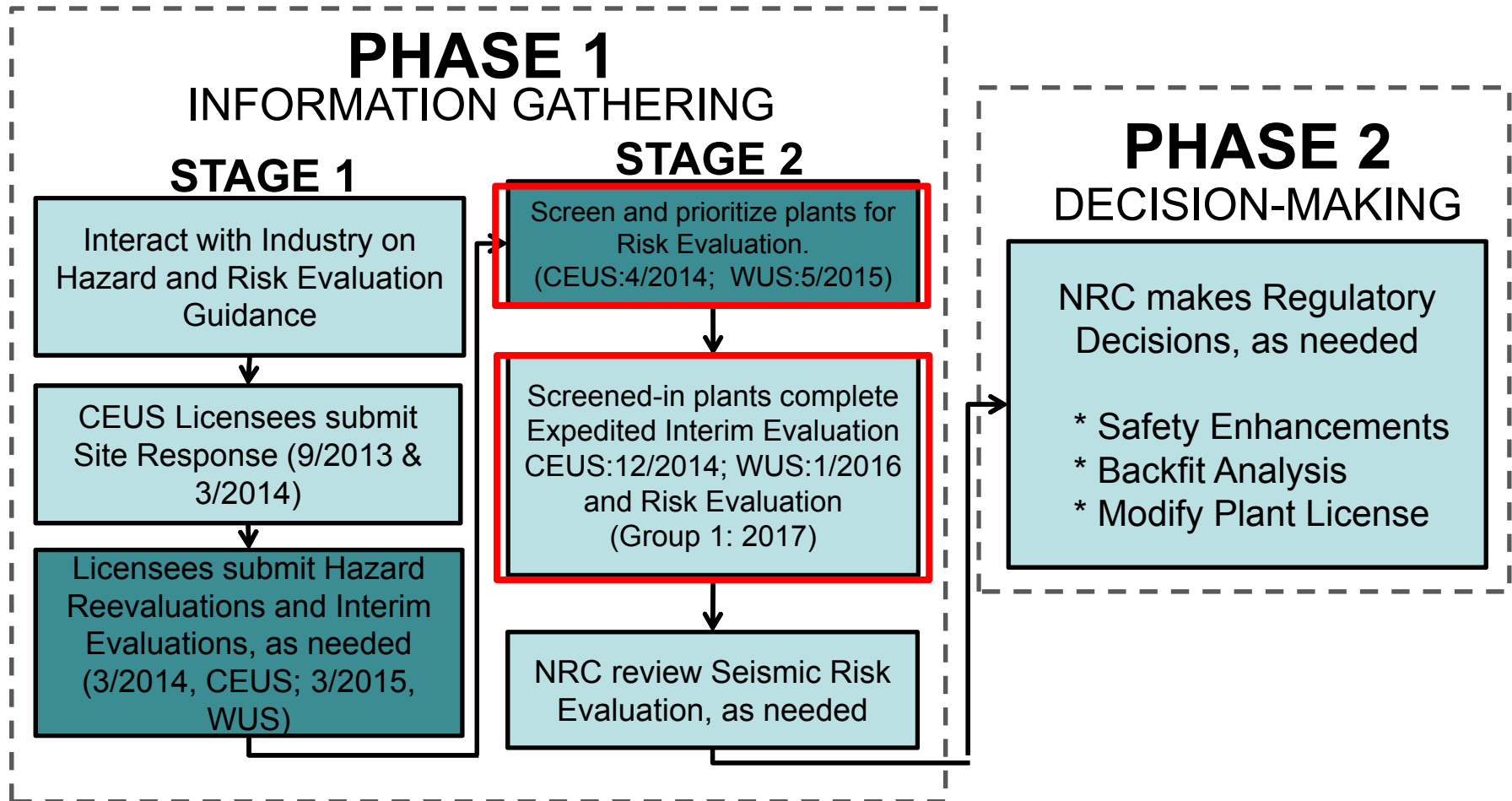
- Key Messages / Actions



Assessment of SPRAs for Group 3 and Group 2 plants

Diane Jackson

Seismic 2.1 Process Ensures Clarity, Consistency, and Risk-Informed Regulatory Decisions





R2.1 Seismic Information Needs for Regulatory Decisions

- 50.54(f) letter gathers information to support regulatory decision to modify, revoke or suspend license
- SPRA are an important tool to identify safety enhancements and assess plant capacity
- May 9, 2014, letter discussed that SPRAs for some Group 3 plants with limited exceedances may not be needed to make regulatory 50.54(f) decision
- Presently the staff is evaluating 50.54(f) responses and available information to support potential SPRA relief for some Group 3 and a limited number of Group 2 plants



Available Information Supporting Limited SPRA Relief

- R2.1 seismic reevaluated hazard / interim actions
- R2.3 walkdown reviews and inspections
- GI-199, CEUS seismic hazard insights
- IPEEE seismic plant capacity insights
- Expedited Approach Evaluations



Evaluation Approach for SPRA Relief

- Considered exceedance above SSE, hazard peak, area between curves between 1 to 10 Hz, and reactor design
- Staff built on GI-199, IPEEE, and reevaluated hazard risk insights for its review
- Assessed if SPRA safety insights would likely identified plant specific enhances



SPRA Relief Letter and Target Timeline

- Engagement of stakeholder planned today and as part of next R2.1 Seismic public meeting
- May – June 2015 - Staff is continuing to develop inputs and assess decisions
- Late Summer – Letter Issuance
 - Documents staff decision providing SPRA relief for potential Group 3 and a limited number of Group 2 plants
 - Limited Scope Evaluations are expected from licensees provided SPRA relief



NRC Guidance Development for Proposed Rule on Mitigation of Beyond- Design-Basis Events (MBDBE) Incorporating Reevaluated Seismic Hazard

Mohamed Shams



Overview of Topics for Discussion

- Background on propose of MBDBE rule and guidance
- Scope of proposed rule
- Reasonable Protection
- Deployment and interactions
- Use of existing engineering insights



Guidance Development

- Agency priority to support MBDBE proposed rulemaking (i.e. proposed 10 CFR 50.155)
- Proposed rulemaking extends Mitigation Strategies to meet the reevaluated hazard level
- Draft Regulatory Guide DG-1301 under development to support issuance for public comment by early August
- Guidance to address scope and performance requirements
- Draft DG 1301 – ADAMS No. ML15072A171.



Proposed Rule Scope

- All phases of FLEX equipment, including portable and installed
- FLEX equipment must perform its intended function
- Reasonable protection of equipment and strategies against the reevaluated hazard



Reasonable Protection – Equipment

- **Equipment must remain functional**
 - Components retain coolant or fuel
 - Structures allow access for deployment
 - Supporting equipment remains functional
- **Evaluation of equipment for robustness at the reevaluated seismic hazard**
 - Analysis, testing, earthquake experience, and generic test data



Reasonable Protection – Buildings

- Reasonable protection of equipment and strategies against the reevaluated hazard
 - Inelastic deformation is permitted so long as strategy can be implemented
 - Deformation limit commensurate with intended function



Deployment and Interactions

- Secure and protect, equipment and strategies from seismic interactions
- Seismically induced flooding
- Feasible deployment routes
 - Potential soil liquefaction or non-safety building failures
 - Confirm access through robust structures



Existing Engineering Framework

- IPEEE A-46, capacity and risk insights
- R2.1 Seismic ESEP interim evaluation – capacity insights
- Seismic probabilistic risk assessment – capacities and risk insights
- Industry codes and standards (e.g. ASCE 43-05)

ESEP – Expedited Seismic Evaluation Process
ASCE – American Society of Civil Engineers



Opportunity for Public Questions or Comments

Additional Questions? Please ask us at:

JLD_PublicResource@nrc.gov



Key Messages and Next Steps



NTTF 2.1 Seismic Next Steps

- Discussion of dates for next meeting (late June)
- Interaction on guidance for proposed rulemaking (June - August 2015)
- Discuss and finalize SPRA decision for Groups 3 and 2 (August 2015)
- Finalize high-frequency evaluation implementing guidance (June/July 2015)
- Spent fuel pool evaluation implementing Guidance (Summer/Fall 2015)



Opportunity for Public Questions or Comments

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Backup Slides