

Process Overview for Seismic Reevaluations

Summary:

The NRC is reviewing plant-specific seismic hazard reevaluations to verify that U.S. nuclear power plants are adequately protected against seismic hazards.

Background:

- NRC's 10 CFR 50.54(f) letter, dated March 12, 2012 (ADAMS Accession No. [ML12053A340](#)), requested every U.S. nuclear power plant reevaluate its seismic hazard using present day information and guidance.
- The NRC worked with stakeholders to establish guidance for screening, prioritization, and implementation details (SPID) ([EPRI Report 1025287](#)).
- The NRC staff is reviewing Central and Eastern U.S. seismic hazards reports; Western U.S. plants will submit their reevaluations in March 2015:
 - The NRC staff issued letters with screening and prioritization results to licensees.
 - In cases where a licensee's reevaluated hazard exceeds the design basis, more detailed evaluations and actions are required.
- The NRC issued guidance for the additional seismic evaluations that would be required if the reevaluated hazard exceeds the design basis:
 - Expedited approach for seismic reevaluations ([EPRI Draft Report 3002000704](#)).
 - Seismic margin assessment ([JLD-ISG-2012-04](#)).
 - Seismic Probabilistic Risk Assessment (SPRA) (see Table 6-1 of the SPID).

Process Overview:

- U.S. nuclear power plants develop a new ground motion response spectrum, or "hazard curve," for NRC staff review.
- Plants compare the new hazard curve to their safe shutdown earthquake (SSE):
 - If the new hazard exceeds the SSE, additional actions may be required. These actions can include an expedited approach assessment, interim actions assessment, high or low frequency motion evaluations, spent fuel pool seismic evaluations, or a detailed seismic risk evaluation.
 - The NRC staff uses these comparisons to prioritize the order in which seismic risk evaluations will be reviewed.
- Expedited approach evaluations determine if key plant safety systems require enhancements while the more detailed risk evaluation is done.
- The spent fuel pool and high or low frequency evaluations cover limited areas of a plant.
- The NRC expects U.S. plants to propose any needed corrective actions (and plans to implement them) identified by the detailed seismic risk evaluations.
- The NRC staff will evaluate the detailed evaluations and determine the need for further regulatory actions.

References:

Additional information about the seismic reevaluations can be found on the "[Implementation Status](#)" page under the Japan Lessons Learned section of the NRC public Web site.