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NUCLEAR ENERGY INSTITUTE

March 12, 2014

Mr. Eric J. Leeds
Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Subject: Seismic Risk Evaluations for Plants in the Central and Eastern United States

Project Number: 689

Dear Mr. Leeds:

On March 12, 2012, NRC issued a request for information to power reactor licensees and holders of construction permits in accordance with 10 CFR Part 50, Section 50.54(f) [ML12053A340]. In Enclosure (1) of that letter, NRC requested specific information related to updated seismic hazard estimates and associated risk evaluations. In a letter dated February 15, 2013 [ML12319A074], NRC endorsed the industry guidance for performing those evaluations, *Seismic Evaluation Guidance: Screening, Prioritization, and Implementation Details (SPID) for the Resolution of Fukushima Near-Term Task Force Recommendation 2.1: Seismic*, Electric Power Research Institute (EPRI) Report 1025287 (February 2013). On May 7, 2013 [ML13106A331], NRC endorsed industry guidance for an additional deterministic evaluation, the Expedited Seismic Evaluation described in EPRI Report 3002000704 (May 2013), and agreed with a modified schedule for completing all of the seismic tasks associated with the 50.54(f) letter. In accordance with that schedule, licensees and construction permit holders in the Central and Eastern United States will submit seismic hazard/screening reports to NRC by March 31, 2014.

In a letter dated February 20, 2014 [ML14030A046], NRC provided supplemental information related to the 50.54(f) request for information. NRC noted that since the seismic hazard reevaluations being performed pursuant to the 50.54(f) letter are considered to be distinct from the current design or licensing basis of operating plants, the results of those analyses are generally not expected to call into question the operability or functionality of systems, structures, or components. Therefore, the results are not expected to be reportable pursuant to 10 CFR 50.72, "Immediate notification requirements for operating nuclear power reactors," and 10 CFR 50.73, "Licensee event report system." NRC acknowledged the benefit of the Expedited Seismic Evaluation as a timely method for demonstrating additional seismic margin through near-term evaluations and enhancing safety through potential plant modifications.

In the February 20, 2014 letter, NRC also requested that licensees' seismic hazard/screening reports include an interim evaluation or actions to demonstrate that the plants can cope with the reevaluated hazard while the expedited evaluations and more comprehensive risk evaluations are conducted. In response to that request, Attachment 1 contains a report transmitted from EPRI to NEI on March 11, 2014, *Fleet Seismic Core Damage Frequency Estimates for Central and Eastern U.S. Nuclear Power Plants Using New Site-Specific Seismic Hazard Estimates.* In this study, initial estimates of seismic core damage frequency (SCDF) were calculated using the latest seismic hazard information and compared to earlier estimates of SCDF that had been developed for the Generic Issue 199 Safety/Risk Assessment in 2010. As shown in Attachment 1, the overall distribution of SCDFs for the fleet indicates that the impact of the updated seismic hazard has been to reduce risk for most plants relative to estimates obtained using either the 2008 USGS or the 1994 LLNL hazard assessments, with all plants still falling in the range of 1E-7/year to 1E-4/year. This observation is further supported by the information provided in Attachment 2, *Perspective on the Seismic Capacity of Operating Plants*, which describes how seismic ruggedness is achieved through the design process and has been demonstrated by earthquake experience. Thus, the conclusions reached in 2010 remain valid (i.e., existing operating reactors have margin to withstand potential earthquakes exceeding their original design bases and no concern exists regarding adequate protection), and the course of action proposed in NEI letter dated April 9, 2013 [ML13101A379] remains appropriate.

Please feel free to contact me or Kimberly Keithline (202-739-8121, kak@nei.org), if you have any questions.

Sincerely,

Anthony R. Pietrangelo

Attachments

c: Mr. Nilesh C. Chokshi, NRO/DSEA, NRC