



NRC NEWS

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NRC ISSUES DRAFT GUIDANCE FOR EXAMINING PLANT RESPONSE TO UPDATED SEISMIC HAZARDS

The Nuclear Regulatory Commission has issued draft Interim Staff Guidance to U.S. nuclear power plants for evaluating how re-analyzed earthquake hazards could affect plant performance. The re-analyses and evaluations stem from lessons learned from the Fukushima Dai-ichi nuclear accident and information from companies applying for new reactor licenses.

The guidance provides a means for meeting the requirements in a [request for information](#) the staff issued on March 12. The guidance is not mandatory, but should licensees take a different approach, the NRC will review both their methodology and results when they submit their response. The NRC will accept comments on the draft guidance until Oct. 10.

The NRC is requiring all U.S. plants to re-analyze potential earthquake hazards at their sites using the latest available information. Plants in the eastern and central United States will complete these site-specific analyses by late 2013 and plants west of the Rocky Mountains by early 2015, based on the availability of information from the U.S. Geological Survey. The analyses will update potential ground motions across a spectrum, or range of vibration frequencies, and the plants will compare the new spectrum to their existing design basis. If the new ground motion spectrum exceeds that in the plant's original design basis, the plants have two options for analyzing the risks associated with the new information. One involves a broad examination of probable seismic risks. The other is a "seismic margin analysis," determining how the plant's structures and important components would respond to the ground motion. The guidance provides procedures for performing a seismic margin analysis.

The guidance sets several conditions on the margin analysis, including covering at least 72 hours post-quake, or until the plant would safely shut down, whichever would take longer. Other conditions assume the plant loses all power from the transmission grid, account for the possibility of an earthquake "liquefying" the soil around the plant's buildings, incorporate the ways in which high-frequency vibrations could affect electrical systems and smaller mechanical components, and factor in potential non-earthquake system failures and human errors. The guidance is available in [ADAMS](#) under accession number [ML12222A327](#).

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