



CCU.20060703.0002

**Department of Energy**

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QA: N/A  
Project No. WM-00011

JUN 30 2006

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**DATE: 07/03/2006**

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COMMENTS ON DRAFT INTERIM STAFF GUIDANCE (ISG) DOCUMENT  
HLWRS-ISG-01, "REVIEW METHODOLOGY FOR SEISMICALLY INITIATED  
EVENT SEQUENCES"

In response to the U.S. Nuclear Regulatory Commission's (NRC) request for comment in the Federal Register Notice (71 FR 29369), dated May 22, 2006, the U.S. Department of Energy (DOE) is providing the enclosed Comments on Draft Interim Staff Guidance Document HLWRS-ISG-01, "Review Methodology for Seismically Initiated Event Sequences."

The DOE appreciates the effort undertaken by the NRC staff to develop the draft ISG related to the review methodology for seismically initiated event sequences and the opportunity to provide comments on that draft ISG. The DOE finds the draft ISG to be useful in developing its methodology for demonstrating compliance with 10 CFR Part 63 with respect to seismically initiated event sequences.

As discussed at the June 7, 2006, Technical Exchange and Management Meeting on Preclosure Seismic Design Methodology and Performance Demonstration, DOE is proposing a methodology that will include the development of individual mean fragility curves for structures important to safety in specific cases. These fragility curves will be employed together with the site-specific mean seismic hazard curve as part of the quantification of the probability of single event sequences to satisfy the performance objectives for Category 2 event sequences, as defined in §63.111(b)(2) and §63.111(c). This will result in a determination of the probability of seismic performance for structures, systems and components (SSC) required to perform a safety function during and after a seismic event.

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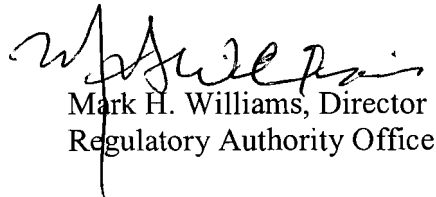
Mahendra J. Shah

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The methodology proposed by DOE differs from those specifically mentioned in the ISG in several respects. Most importantly, the proposed methodology will utilize, in many instances, the Conservative Deterministic Failure Margin methodology to determine the one percent probability of failure on the fragility curves, together with an estimate of the composite logarithmic standard deviation to develop the fragility curve for SSCs. The DOE's proposed method captures appropriate variability and uncertainty in parameters used to estimate the capacity of SSCs that are important to safety in seismic events. As indicated at the June 7, 2006, Technical Exchange and Management Meeting, DOE will document its proposed methodology in a revision to the seismic topical report, "Preclosure Seismic Design Methodology for a Geologic Repository at Yucca Mountain" in the near future and provide the report to the NRC for review and comment in fall 2006.

DOE believes that this method is consistent with the requirements of Part 63 and requests that the ISG be revised to endorse this methodology in the ISG. Detailed comments are enclosed including specific suggested changes to address this issue, all of which would result in an appropriate demonstration of safety.

There are no new regulatory commitments in this letter or its enclosure. Please contact Carol L. Hanlon at (702) 794-1324 or e-mail [carol\\_hanlon@ymp.gov](mailto:carol_hanlon@ymp.gov), or contact Jon P. Ake at (702) 794-5526 or e-mail [jon\\_ake@ymp.gov](mailto:jon_ake@ymp.gov) for any additional information required.

  
Mark H. Williams, Director  
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RAO:CLH-1168

Enclosure:  
Comments on Draft Interim Staff Guidance,  
Document HLWRS-ISG-01, "Review  
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