



**Department of Energy**  
Office of Civilian Radioactive Waste Management  
Yucca Mountain Site Characterization Office  
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**JUN 06 1996**

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U.S. Nuclear Regulatory Commission  
Washington, DC 20555

**TRANSMITTAL OF APPROVED YUCCA MOUNTAIN STUDY PLAN 8.3.1.17.3.1,  
"RELEVANT EARTHQUAKE SOURCES," REVISION 1 (SCPB: 8.3.1.17.3.1)**

Enclosed is a controlled copy of Study Plan 8.3.1.17.3.1, Revision 1, prepared by the U.S. Department of Energy (DOE) for the Yucca Mountain, Nevada, site. The study plan numbers correspond to the same numbers used in the Site Characterization Plan (SCP) for the Yucca Mountain, Nevada, site.

Study plans are prepared, reviewed, and approved under Yucca Mountain Site Characterization Office quality assurance procedures. It should be noted that there may be some inconsistencies in the milestone report titles and schedules given in this study plan and those in the SCP. Study plans, in general, represent a further evolution of the study in the areas related to schedules and milestones relative to the SCP and, as such, represent DOE's current plans.

DOE has reviewed the study plan for consistency with the content requirements for study plans as given in Attachment 1 to the 1993 DOE/U.S. Nuclear Regulatory Commission (NRC) Level of Detail agreement and review process for study plans. This revision updates this study plan to be consistent with the DOE Topical Report, *Methodology to Assess Fault Displacement and Vibratory Ground Motion Hazards at Yucca Mountain*. SCA Comments 48 and 66 are associated with this study plan, but closure of those open comments will require completion of the probabilistic seismic hazard analysis project scheduled for FY 1997. This study plan also takes into account NRC guidance on fault identification (McConnell and others, 1992). In particular, it drops the concept of a 10,000-year cumulative slip earthquake and evaluates the maximum magnitude for identified seismic sources based on estimates of the physical dimension of future fault rupture, and addresses the concept of probabilistic seismic hazard analysis to assess seismic hazards at Yucca Mountain, Nevada.

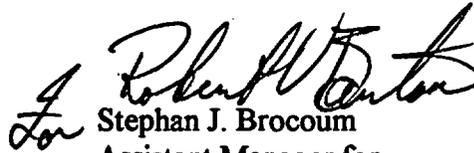
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The Document Transmittal/Acknowledgment Record for your controlled copy of the study plan should be signed, dated, and returned to the Document Control Center in Las Vegas, Nevada.

If you have any questions, please contact Juliana M. Herrington at (702) 794-1312.

  
Stephan J. Brocoum  
Assistant Manager for  
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Study Plan 8.3.1.17.3.1, Revision 1

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