

MAY 12 1992

Mr. John P. Roberts, Acting Associate Director
for Systems and Compliance
Office of Civilian Radioactive Waste Management
U.S. Department of Energy
1000 Independence Avenue, SW
Washington, DC 20585

Dear Mr. Roberts:

SUBJECT: PHASE I REVIEW OF U.S. DEPARTMENT OF ENERGY (DOE) STUDY PLAN,
RELEVANT EARTHQUAKE SOURCES

On January 16, 1992, DOE transmitted the study plan, "Relevant Earthquake Sources" (Study Plan 8.3.1.17.3.1), to the U.S. Nuclear Regulatory Commission for review and comment. NRC has completed its Phase I Review of this document using the Review Plan for NRC Staff Review of DOE Study Plans, Revision 1 (December 6, 1990).

The material submitted in the study plan was considered to be consistent, to the extent possible at this time, with the NRC-DOE agreement on content of study plans made at the May 7-8, 1986, meeting on Level of Detail for Site Characterization Plans and Study Plans.

A major purpose of the Phase I Review is to identify concerns with studies, tests, or analyses that, if started, could cause significant and irreparable adverse effects on the site, the site characterization program, or the eventual usability of the data for licensing. Such concerns would constitute objections, as that term has been used in earlier NRC staff reviews of DOE's documents related to site characterization (Consultation Draft Site Characterization Plan and the Site Characterization Plan for the Yucca Mountain Site). It does not appear that the conduct of the activities described in this study plan will have adverse impacts on repository performance and the Phase I Review of this study plan identified no objections with any of the activities proposed.

After completion of the Phase I Review, selected study plans are to receive a second level of review, called a Detailed Technical Review, based on the relationship of a given study plan to key site-specific issues or NRC open items, or its reliance on unique, state-of-the-art test or analysis methods. During the Phase I Review, the NRC staff observed that SCA open items (Comments 48 and 66) are related to this study plan. In Comment 48 the staff expressed a concern with the use of fault slip rates to determine the level of hazard to repository facilities; in Comment 66 the staff noted a concern with the use of the 10,000 year cumulative slip earthquake (CSE) concept. The aspects of the SCP that motivated the staff to generate those comments are reiterated in this study plan. The NRC staff wishes to call DOE's attention to these open items which have not been addressed in this study plan. Although we have decided

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not to proceed with a Detailed Technical Review because the NRC staff considers that such a review would only serve to restate the concerns already expressed in the SCA, we believe that the relationship between the CSE and the maximum-magnitude earthquake needs clarification, specifically, whether or not the design of facilities important to safety will be based on the maximum-magnitude earthquake or the CSE.

If you have any questions concerning this letter, please contact Charlotte Abrams, of my staff, on (301) 504-3403.

Sincerely,

JS
Joseph U. Holonich, Director
Repository Licensing and Quality
Assurance Project Directorate
Division of High-Level Waste Management
Office of Nuclear Material Safety
and Safeguards.

Enclosure: As stated

- cc: C. Gertz, DOE/NV
- R. Loux, State of Nevada
- S. Bradhurst, Nye County, NV
- P. Niedzielski-Eichner, Nye County, NV
- C. Thistlethwaite, Inyo County, CA
- M. Baughman, Lincoln County, NV
- D. Bechtel, Clark County, NV
- D. Weigel, GAO
- V. Poe, Mineral County, NV
- D. Sperry, White Pine County, NV
- R. Williams, Lander County, NV
- P. Goicoechea, Eureka County, NV
- L. Vaughan II, Esmeralda County, NV
- C. Schank, Churchill County, NV
- T. J. Hickey, Nevada Legislative Committee

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On-Site Reps			

* See previous concurrence

OFC :HLPD	:HLGE*	:HLGE*	:HLGE*	:HLPD
NAME:CAbrams/jh	:A-BIbrahim	:KMcConnell	:RBallard	:JHolonich
Date:05/11/92	:05/08/92	:05/08/92	:05/08/92	:05/12/92

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NAME:CAbrams/jh	:A-Bibrahim	:KMcConnell	:RBallard	:JHolonich
Date:05/8/92	:05/8/92	:05/06/92	:05/8/92	:05/ /92 :