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APR 27 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, D.C. 20585

Dear Mr. Roberts:

SUBJECT: PHASE I REVIEW OF U.S. DEPARTMENT OF ENERGY (DOE) STUDY PLAN FOR
HYDROCHEMICAL CHARACTERIZATION OF THE UNSATURATED ZONE

On May 8, 1991, DOE transmitted the study plan, "Hydrochemical Characterization of the Unsaturated Zone" (Study Plan 8.3.2.2.7), 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. The NRC staff recognizes that some of the information required in the agreement, especially many of the technical procedures for field and laboratory tests, cannot be provided until the prototype testing described in the study plan is completed. The staff did not consider that the absence of such information compromised its ability to conduct its Phase I Review of the material provided. However, the NRC staff requests that the procedures, methods, and other relevant details be provided to NRC for its review as soon as that information is available.

Among the references listed for this study plan are several which have not been provided to NRC and are not readily available in the public domain. We therefore request that DOE provide the NRC with the documents which are listed in the Enclosure.

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.

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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. We have decided not to proceed with a Detailed Technical Review of this study plan at this time, in part because the technical details required for such a review will not be available until the prototype studies are completed. We suggest that the DOE may wish to schedule periodic technical exchanges as a mechanism for informing the NRC of the progress of prototype testing related to this study plan.

If you have any questions concerning this letter, please contact Charlotte Abrams (FTS 964-3403, 301-504-3403) of my staff.

Sincerely,

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

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*See previous concurrence

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Date:04/21/92	:04/21/92	:04/21/92	:04/21/92	:04/21/92	:

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- Davis, G. S., Marvil, J. D., and Runnells, D. D., 1985, Hydrogeochemical feasibility studies related to subsurface flow on Yucca Mountain, Nevada Test Site. U.S. Geological Survey Contract No. 14-08-0001-10190 Final Report: Boulder, Colorado, Department of Geological Science, University of Colorado, p. 3.8-8.
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ENCLOSURE