

JAN 19 1993

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
"RETARDATION SENSITIVITY ANALYSIS"

On September 15, 1992, DOE transmitted the study plan, "Retardation Sensitivity Analysis" (Study Plan 8.3.1.3.7.1) 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.

Among the references listed for this study plan are a number which have not been provided to the NRC and are not readily available in the public domain. The enclosure lists those "not-readily-available" references that the staff believes are needed at this time. We 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 significant 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. Based on these criteria, we have decided not to proceed with a Detailed Technical Review of this study plan.

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Mr. John P. Roberts

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

Sincerely,

/s/

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

Enclosure: As stated

cc: R. Loux, State of Nevada
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Enclosure

NOT-READILY-AVAILABLE REFERENCES NEEDED BY NRC AT THIS TIME

- Birdsell, K.H., Cambell, K., Eggert, K.G., and Travis, B.J., 1989, Preliminary integrated calculation of radionuclide cation and Anion transport at Yucca Mountain using a geochemical model: Los Alamos National Laboratory Report No. LA-UR-89-3503.
- Cederberg, G.A., Greenwade, L.E., and Travis, B.J., 1987, Geochemical simulation of Yucca Mountain: Modeling the transport of uranium and technetium through the unsaturated tuffs: Los Alamos National Laboratory, TWS-ESS-5/6-86-01.
- Gelhar, L.W., Mantoglou, A., Welty, C., and Rehfeldt, K.R., 1985, A review of field-scale physical solute transport processes in saturated and unsaturated porous media: Electric Power Research Institute, Report No. EA-4190.
- Nuttall, H.E., 1989, Interim report on particulate transport, milestone no. T424: Los Alamos National Laboratory Report.
- Olofsson, U., Allard, B., Anderson, K., and Torstenfelt, B., 1981, Formation and properties of radiocolloids in aqueous solution - a literature survey: Programradet for Radioaktivt Avfall, National Council for Radioactive Waste, Report Proav 4.25, Department of Nuclear Chemistry, Chalmers University of Technology, Gotenborg, Sweden.
- Validation Oversight Group, 1990, A validation methodology for performance assessment models: Department of Energy, Office of Civilian Radioactive Waste Management, Draft report version 0.0.