

JUN 16 1993

Mr. Dwight Shelor, Associate Director for
Systems and Compliance
Office of Civilian Radioactive Waste Management
U.S. Department of Energy, RW 30
Washington, DC 20585

Dear Mr. Shelor:

SUBJECT: REVIEW OF U.S. DEPARTMENT OF ENERGY (DOE) STUDY PLAN "SITE
SATURATED-ZONE SYSTEM SYNTHESIS AND MODELING"

On January 28, 1993, DOE transmitted the study plan, "Site Saturated-Zone Hydrologic System Synthesis and Modeling" (Study Plan 8.3.1.2.3.3) to the U.S. Nuclear Regulatory Commission for review and comment. NRC has completed its review of this document using the Review Plan for NRC Staff Review of DOE Study Plans, Revision 2 (March 10, 1993). The material submitted in the study plan was considered to be consistent, to the extent possible at this time, with the revised NRC-DOE "Level of Detail Agreement and Review Process for Study Plans" (Shelor to Holonich, March 22, 1993).

A major purpose of the 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 review of this study plan identified no objections with any of the activities proposed.

Among the references listed for this study are several which have not been provided to the 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. Following receipt of the requested references, NRC plans to provide DOE with detailed comments on this study plan. Those comments and/or questions will be transmitted to DOE as a separate package at a later date, following receipt of the requested references.

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Mr. Dwight E. Shelor

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

Sincerely,

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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
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NOT-READILY-AVAILABLE REFERENCES FOR STUDY PLAN 8.3.1.2.3.3

- Endo, H.K., 1984, Mechanical transport in two-dimensional networks of fractures: Ph.D. Thesis, University of California, Berkeley.
- Geldon, A.L., in press, Preliminary hydrogeologic assessment of test wells UE-25C#1, UE-25C#2, and UE-25C#3, Yucca Mountain, Nye County, Nevada, U.S. Geological Survey Water Resources Investigation Report 92-4016, 170 p.
- Lewis, B.D., and Goldstein, F.J., 1982, Evaluation of a predictive groundwater solute-transport model at the Idaho National Engineering Laboratory, Idaho: U.S. Geological Survey Water Resources Investigations Report 82-25, 71 p.
- McDonald, M.G., and Harbaugh, A.W., 1988, A modular three-dimensional finite-difference ground-water flow model: U.S. Geological Survey Techniques of Water Resources Investigations, Book 6, Ch.A1.
- Press, W.H., Flannery, B.P., Teukolsky, S.A., and Vetterling, W.T., 1986, Numerical recipes: The art of scientific computing: Cambridge, England, Cambridge University Press, P. 326-334.
- Robinson, P.C., 1984, Connectivity, flow and transport in network models of fractured media: Ph.D. Thesis, Oxford University, England, AERE, TP.1072.