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MAR 25 1993

Mr. Dwight E. 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: PHASE 1 REVIEW OF U.S. DEPARTMENT OF ENERGY (DOE) STUDY PLAN "BIOLOGICAL SORPTION AND TRANSPORT"

On December 24, 1992, DOE transmitted the study plan, "Biological Sorption and Transport" (Study Plan 8.3.1.3.4.2) 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 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 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.

According to information contained in the "Progress Report on the Scientific Investigation Program for the Nevada Yucca Mountain Site, Number 6" this multi-year study is already in progress. The NRC staff believes there are a number of aspects of the study plan that warrant detailed comments and/or questions. Therefore, we have decided 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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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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NOT-READILY-AVAILABLE REFERENCES FOR STUDY PLAN 8.3.1.3.4.2

Buddemeir, R.W., and Hunt, J.R., 1987, Radionuclides in Nevada Test Site groundwater: transport by clay colloids: Presentation to the Division of Environmental Chemistry, American Chemical Society, Denver, Colorado, April, 1987.

Champ, D. R., Merritt, W.F., Young, J.L., 1980, Potential for the rapid transport of plutonium in groundwater as demonstrated by core column studies: Proceedings of the Fifth International Symposium on the Scientific Basis for Radioactive Waste Management, Berlin, Germany, June 1980.

Christofi, N., West, J.M., and Phillip, J.C., 1985, The geomicrobiology of European mines relevant to radioactive waste disposal: British Geological Survey Report FLPU85-1.

Dreher, K.T., 1981, Removal of uranium and molybdenum from uranium mine wastewaters by algae: Master's Thesis, New Mexico Institute of Mining and Technology, Socorro, New Mexico.

Hersman, L.E., 1986, Biodegradation of drilling fluids: effects on actinide sorption: Nevada Nuclear Waste Storage Investigation Milestone Report, Los Alamos National Laboratory, Los Alamos, New Mexico.

Hersman, L.E., 1987, Biodegradation of drilling fluids: effects on water chemistry: Nevada Nuclear Waste Storage Investigation Milestone Report, Los Alamos National Laboratory, Los Alamos, New Mexico.

Hersman, L.E., 1988a, Transport by microorganisms: chelation: Nevada Nuclear Waste Storage Investigation Milestone Report, Los Alamos National Laboratory, Los Alamos, New Mexico.

Hersman, L.E., 1988b, Transport by microorganisms: colloids: Nevada Nuclear Waste Storage Investigation Milestone Report, Los Alamos National Laboratory, Los Alamos, New Mexico.