



Department of Energy

Washington, DC 20585

JUN 23 1994

Mr. Joseph J. Holonich, Director
High-Level Waste and Uranium
Recovery Projects Branch
Division of Waste Management
Office of Nuclear Material Safety
and Safeguards
U. S. Nuclear Regulatory Commission
Washington, DC 20555

Dear Mr. Holonich:

Enclosed with this letter is a controlled copy of Study Plan 8.3.1.2.2.4, Revision 2, "Characterization of the Yucca Mountain Unsaturated Zone in the Exploratory Studies Facility," prepared by the U.S. Department of Energy (DOE) for the Yucca Mountain site. Included in Revision 2 of Study Plan 8.3.1.2.2.4 is Activity 8.3.1.2.2.4.10, "Hydrologic properties of major faults encountered in the Exploratory Studies Facility." The study plan numbers correspond to the same numbers used in the Site Characterization Plan for the Yucca Mountain site.

Study plans are prepared, reviewed, and approved under Yucca Mountain Site Characterization Office (YMSCO) quality assurance procedures. It should be noted that there may be some inconsistencies in the milestone report titles and schedules given in this study plan and those in the Site Characterization Plan. Study plans, in general, represent a further evolution of the study in the areas related to schedules and milestones relative to the Site Characterization Plan and, as such, represent DOE's current plans.

This study plan was submitted to YMSCO for review before the DOE/U.S. Nuclear Regulatory Commission (NRC) study plan agreement became effective. Therefore, DOE has reviewed Revision 2 of the study plan for consistency with the content requirements for study plans, as given in Attachment B to the Summary of the DOE/NRC meeting on the Level-of-Detail for the SCP (May 7-8, 1986). Enclosure 2 is a list of technical procedures that will be used in conjunction with Activity 8.3.1.2.2.4.10.

Activity 8.3.1.2.2.4.10 addresses Site Characterization Analysis Comment 15. This activity will attempt to determine the hydraulic properties of major faults encountered in the Exploratory Studies Facility. As many faults as possible will be tested at as many locations as possible. Fault testing is planned for the PTn hydrologic unit and the Topopah Spring welded hydrologic unit. The hydrologic nature of faults in the unsaturated zone will be determined by incorporating the hydraulic properties of the faults tested into the unsaturated-zone site scale model. The simulations generated by the models will allow for the determination of whether, and under what conditions, faults are barriers or conduits to flow.

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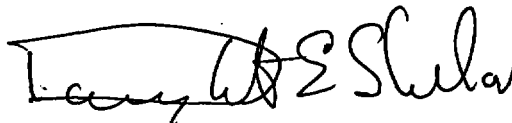
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This study plan is on the critical path for Exploratory Studies Facility construction because it will be used to evaluate the significance of major faults that are encountered by the Tunnel Boring Machine. Consequently, DOE requests that the NRC complete its review of this study plan within the 90 days specified in the DOE/NRC agreement.

The Document Transmittal/Acknowledgement Record for your controlled copy of the study plan should be signed and dated and returned to the Document Control Center in Las Vegas, Nevada.

If you have any questions, please contact Sheila V. Long at (202) 586-1447.

Sincerely,



Dwight E. Shelor
Associate Director for
Systems and Compliance
Office of Civilian Radioactive
Waste Management



Enclosures:

1. Study Plan 8.3.1.2.2.4,
Revision 2
2. Technical Procedures for
Activity 8.3.1.2.2.4.10

cc: w\enclosures
Alice Cortinas, CNWRA, San Antonio, TX

cc: (with Enclosure 2 only)
R. Nelson, YMPO
R. Loux, State of Nevada
W. Offutt, Nye County, NV
T. J. Hickey, Nevada Legislative Committee
D. Bechtel, Las Vegas, NV
Eureka County, NV
Lander County, Battle Mountain, NV
P. Niedzielski-Eichner, Nye County, NV
L. Bradshaw, Nye County, NV
C. Schank, Churchill County, NV
F. Mariani, White Pine County, NV
V. Poe, Mineral County, NV
J. Pitts, Lincoln County, NV
J. Hayes, Esmeralda County, NV
B. Mettam, Inyo County, CA
M. Delligatti, NRC