



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555

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MEMORANDUM FOR: Joseph J. Holonich, Director
Repository Licensing and Quality Assurance
Project Directorate
Division of High-Level Waste Management, NMSS

FROM: Ronald L. Ballard, Chief
Geology and Engineering Branch
Division of High-Level Waste Management, NMSS

SUBJECT: PHASE I REVIEW OF STUDY PLAN 8.3.1.17.4.5,
DETACHMENT FAULTS AT OR PROXIMAL TO YUCCA
MOUNTAIN

In accordance with the procedures of the Review Plan for NRC Staff Review of DOE Study Plans, Rev. 1, December 6, 1990, the Geology/Geophysics section has conducted a Phase I review of the subject document. Based on this review it is recommended that this study plan be accepted and that a detailed review of the plan not be conducted. The reasoning for these recommendations is as follows:

1. The content of the Study Plan is substantially consistent with the level of detail required in Appendix A of the Review Plan.
2. The objectives of this Study Plan are consistent with those proposed in the Investigation Plan presented in the SCP and the objectives are technically defensible in the context of the overall site characterization Program. In making this determination special attention was given to information presented on pages 1-1 to 1-5 of the Study Plan which clearly lays out the strategy that DOE plans to use in evaluating detachment faults. Of particular importance is the discussion of the relationship of this study plan to other study plans and how the various study plans interrelate to resolve concerns related to tectonics. While the strategy is clear, it is apparent that there was a misunderstanding by the NRC during review of the SCP as to the scope of this study. As is presented in this study plan and within enclosure 2 to the letter transmitting the study plan to the NRC (Letter from Roberts to Holonich, August 6, 1992), it is not within the scope of this study plan to address NRC SCA comment 68. In accordance with the DOE strategy this comment will be addressed in Study Plan 8.3.1.17.4.12.
3. None of the activities proposed within this study plan will be conducted within the site area, therefore, these

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activities should have no impact on the waste isolation capabilities of the site.

4. The location and timing of the various activities proposed within the study plan will not interfere with other site characterization activities and/or the construction of the ESF such that the ability to obtain information needed for licensing is precluded.
5. The discussion of Quality Assurance requirements is consistent with agreements reached between the NRC and DOE.
6. There is no proposed use of radioactive material.
7. It appears that this study plan, in concert with the other study plans described in the strategy, will allow to DOE to obtain the necessary information for licensing. A final determination of the plans to obtain sufficiency of information to address concerns related to detachment faulting will only be obtained when all study plans referred to within the DOE strategy are available.

In summary, the work proposed within this study plan constitutes a necessary, but not sufficient, program to resolve concerns relating to detachment faulting. The DOE strategy, of which this study plan represents one element, appears to be aimed at obtaining the necessary and sufficient information. This study plan is, in essence, a data gathering activity with modeling and the like being conducted after other data gathering activities - such as geophysical testing - have been completed. The synthesis, integration, and development of tectonic models will be conducted under study plan 8.3.1.17.4.12. Study plan 8.3.1.17.4.12 will most likely require detailed technical review and is intended to resolve the outstanding open items (SCA Comment 68) which the staff had considered would be resolved within this study plan.

It should be noted that the NRC has previously stated concerns related to the technical integration of the DOE program (See, for example, letter from Bernero to Rousso, dated July 31, 1989, transmitting the results of the NRC review of the DOE Site Characterization Plan). This study plan represents a clear attempt by DOE to integrate technical information and to present to NRC how the integration will be accomplished. DOE should be informed that this method of presentation was helpful and appreciated by the staff.

If you have any questions on this review please contact John Trapp (504-2509).

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