



Department of Energy

Washington, DC 20585

MAY 22 1989

John Linehan, Director
Repository Licensing and Quality
Assurance Project Directorate
Division of High-Level Waste Management
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Linehan:

In your letter dated March 27, 1989, you correctly noted that the study plan for "Characterization of Structural Features", did not contain descriptions of two activities which will be performed as part of that study. You further stated that your review of the Site Characterization Plan (SCP) to date suggested that the Nuclear Regulatory Commission (NRC) staff would need those materials in order to complete their review of the study plan. The purpose of this letter is to present the rationale for not including detailed descriptions of those two activities in the current revision of the study plan and to inform you of the Department of Energy (DOE) approach for meeting our commitments to NRC with respect to submission of study plans for NRC review.

Study Plan 8.3.1.4.2.2 contains a total of five related activities which will produce site data regarding the characteristics of structural features at Yucca Mountain that are needed to address performance and design issues defined in the SCP. The activities are related in terms of their information output (and therefore, their location in the SCP), but differ in the types of tests and methods they utilize to collect the required information. In addition, individual activities are planned for different geographic locations and different time periods. Only one of the five activities (8.3.1.4.2.2.4, "Geologic Mapping of the Exploratory Shaft and Drifts") will be conducted during the construction phase of the Exploratory Shaft Facility (ESF). Descriptions of activities 8.3.1.4.2.2.1, "Geologic Mapping of Zonal Features in the Paintbrush Tuff at a Scale of 1:12,000", and 8.3.1.4.2.2.2, "Surface Fracture Network Studies", have been included in this revision of the study plan because they are ongoing activities which DOE considers to be of a high priority.

Although it may not have been clear from the text contained in Revision 0 of the subject study plan, the two activities which you identified will not be conducted during the construction phase of the exploratory shaft. Activity 8.3.1.4.2.2.3, "Borehole Evaluation of Fractures and Faults", will be performed in boreholes drilled as part of the surface based site characterization program. Activity 8.3.1.4.2.2.5, "Seismic Tomography and Vertical Seismic Profiling", will be performed, in part, in the ESF, but not during the construction phase.

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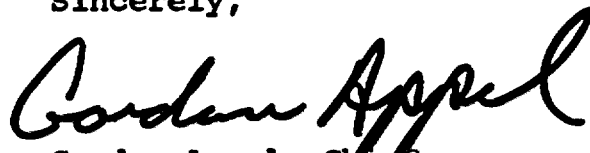
is needed in reviewing Study Plan 8.3.1.4.2.2. Because the details of the final plans are dependent on the results of prototype testing (particularly in the case of the seismic profiling work), DOE believes it would be inappropriate to attempt to develop more detailed descriptions in a study plan at this time.

As you are aware, the May 7-8, 1986, DOE/NRC agreement on the level of detail in the SCP and Study Plans recognized that the planning and conduct of the scientific activities described in the SCP would occur over the entire period of site characterization. The agreement stated, in Attachment B, ".... In some cases, tests and analyses may be planned for later stages in the study Under these circumstances, it will not be possible to provide the same level of detail for all test and analyses at the time the study plan is first issued." The descriptions currently contained in the SCP are at a level of detail which is sufficient to describe the information needed and provided by the planned tests, and the general approaches which will be employed to acquire that data. Because of our commitment to provide study plans for ongoing and shaft related activities and because, as noted above, the current plans for the two activities in question are immature, we did not believe that it would be appropriate to delay submission of the study plan to the NRC pending completion of these plans. We believe that this approach is consistent with the Level of Detail Agreement.

The DOE fully recognizes the need to provide study plans sufficiently in advance of the start of the activities for NRC review (normally six months). We intend to meet this commitment by submitting a revision of this study plan, containing the detailed descriptions of these two activities, as soon as the plans are complete and approved by DOE. This revision will be submitted to NRC, prior to initiation of these activities, in time for your review.

We look forward to continuing interactions with NRC regarding the review of the study plans for site characterization at Yucca Mountain. If there are any questions regarding this topic, please contact Stephan Brocoum (FTS 896-9247) or myself (FTS 896-1462).

Sincerely,

A handwritten signature in cursive script, reading "Gordon Appel".

Gordon Appel, Chief
Licensing Branch
Office of Civilian Radioactive
Waste Management

cc: K. Stablein, NRC
J. Youngblood, NRC
R. Loux, State of Nevada
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