

MAY 21 1990

NOTE TO: Pauline Brooks, Systems Performance Analyst
Geosciences & Systems Performance Branch

FROM: John Linehan, Director
Repository Licensing & Quality Assurance
Project Directorate

SUBJECT: ACCELERATED REVIEW OF SANDIA DRAFT REPORT FROM SUBTASK 3.2

Pursuant to Mr. Browning's request of May 4, 1990, my staff has reviewed the subject report on "Techniques for Determining Probabilities of Events and Processes Affecting the Performance of Geologic Repositories, Volume II -- Suggested Approaches." Inasmuch as this was an accelerated review, our comments are somewhat limited by the time allotted for review of this document. Ken Kalman, the Project Manager for this area has already discussed these comments with you. Our comments are listed below:

1. Page 1-1, line 24 noted that the first volume of this report reviewed the literature on techniques for predicting the occurrence of events and processes in five areas, including seismic hazard assessment and volcanology. However, in this draft report, these two areas were omitted. In view of the evidence of faulting and volcanism near Yucca Mountain, we are not sure that it was appropriate to omit these two areas from discussion. If the purpose of this report is to cover all of the work that is necessary to construct a probability distribution of cumulative release, it is necessary to know the probability of each occurrence. Without having considered seismic hazard assessment and volcanology, this report may not be complete. We therefore believe that these two areas should be included in the discussions in Volume II. If there is a logical reason for their omission, then the reason should be stated on this page.
2. Page 5-1, line 26 states that "most of the significant faults in the vicinity of the proposed repository have been identified and mapped." However, on Page 5-2 the report notes that "the ability to relate earthquakes to specific faults and identification of the type of faulting involved in earthquake generation is in a very primitive stage of understanding" and that "regional seismic records of earthquakes are sparse." In view of the "primitive understanding" and "sparse records", my staff is concerned about the accuracy of the statement that "most of the significant faults... have been identified and mapped." We recommend some additional qualification of this statement or presentation of evidence that all significant faults have indeed been identified and mapped.

Please contact Ken Kalman (X-20428) of my staff if you have any questions about these comments.

John J. Linehan, Director
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Project Directorate

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