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January 21, 1980

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MEMORANDUM FOR: J. F. Stolz, Chief, Light Water Reactors Branch #1, DPM
FROM: R. E. Jackson, Chief, Geosciences Branch, DSS
SUBJECT: RECENT OFFSHORE SEISMIC REFLECTION DATA AND ITS SIGNIFI-
CANCE TO THE DIABLO CANYON NUCLEAR SITE.

The attached memorandum describes information presented in an abstract published in the November 13, 1979 American Geophysical Union Publication, EOS, Vol. No. 46. The abstract summarizes the work of R. B. Lesley, a student at the University of California at Santa Cruz. Mr. Lesley has documented a connection between the San Simeon fault zone and a splay of the Hosgri fault zone, and evidence of post-Wisconsinan displacement (less than 20,000 years old) on an offshore extension of the San Simeon fault zone. A copy of the abstract is attached.

In our direct testimony (Stepp, 1979) we concluded that the Hosgri and San Simeon fault zones belong to the same coastal zone of deformation; and that the style of tectonism within the coastal zone is one of anastomosing and en echelon faults, which is typical of other fault systems within the Coast Range that are subsidiary to the San Andreas. We further concluded that the data available at that time led us to conclude that the San Simeon and Hosgri were not directly linked. We have not had the opportunity to evaluate the new information. However, a possible connection at depth of the Hosgri and San Simeon fault zones had been assumed by the USGS in its analysis of the Hosgri fault, and was part of the basis for its recommendation for the maximum Hosgri earthquake. The NRC staff accepted the USGS recommendation regarding the size of the SSE (magnitude 7.5). Additionally, post-Wisconsinan faulting had previously been documented by the Applicant on an onshore splay of the San Simeon fault zone. We have contacted the U. S. Geological Survey with respect to this information and they indicated that they were aware of this information and had seen the data, although they have not reviewed it in detail. They indicated this new data does not change their conclusion regarding the maximum earthquake that could occur on the Hosgri fault zone. Therefore, we see no reason to modify the current staff position regarding the Safe Shutdown Earthquake (SSE contained in the Safety Evaluation Report (Supplement 4, May, 1976).

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J. F. Stolz

- 2 -

We do, however, recommend that the Diablo Canyon ASLB be made aware of this new information because consideration of the connection of the two faults was discussed during the hearing.

Original Signed by
R. E. Jackson

Robert E. Jackson, Chief
Geosciences Branch
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