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COMMENTS ON DON BERNREUTER'S PROGRESS REGARDING DIABLO CANYON NUCLEAR
POWER PLANT

With respect to Carl Stepp's note of April 1, 1976 which transmitted Don Bernreuter's (LLL) draft report regarding Diablo Canyon to the SEB, and your review of Don Bernreuter's efforts transmitted in your memorandum to me of April 1, 1976; we wish to provide the following remarks on your summary of results. Our comments follow the same sequence (1 through 4) which you employed.

1. The fact that there is no strong relation between the ratio u/a and a is not surprising. In "Statistical Studies of Vertical and Horizontal Earthquake Spectra" by N. M. Newmark Consulting Engineering Services, dated January, 1976, prepared for the Division of Systems Safety, USNRC, the same conclusion was made.
2. The comments regarding the relationship between u and a reported by Mr. Bernreuter are also fairly well accepted. Please note that for Diablo Canyon, since a site dependent response spectra was used, we have already taken advantage of the information Mr. Bernreuter is providing. In other words his efforts (so far discussed) confirm what we have been doing, but do not contribute to any modification of our position.
3. The aforementioned reference (see item 1) directly contradicts this finding. Specifically, Dr. Newmark was instructed to search for a dependence between intensity of shaking and spectral shapes. He discovered none. Since Dr. Newmark's work was more comprehensive and detailed, we tend to trust him more. However we would be willing to review this issue again.
4. We find this potentially as the most acceptable manner of showing that the earthquake hazard at Diablo Canyon is not as serious

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as initially envisioned. If it can be shown that because of a fortuitous geological situation (presence of the mudstone layer) that earthquake accelerations at the surface are not likely to be as severe as originally estimated, it may be possible to discount the threat from the HOSGRI fault. However, our discussions with Professor Newmark on Don Bernreuter's work indicated that the mudstone layer properties assigned by Don are not realistic, as 550' of sandstone layer is present on top of the mudstone.

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