



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

April 26, 1990

Docket Nos. 50-275
and 50-323

Mr. J. D. Shiffer, Vice President
Nuclear Power Generation
c/o Nuclear Power Generation, Licensing
Pacific Gas and Electric Company
77 Beale Street, Room 1451
San Francisco, California 94106

Dear Mr. Shiffer:

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION RELATING TO NRC STAFF REVIEW OF
DIABLO CANYON LONG TERM SEISMIC PROGRAM (LTSP)
(TAC NOS. 55305 AND 68049)

In Chapter 7 of the LTSP Final Report issued on July 31, 1988, you attempted to show that the plant structures and components have adequate seismic margins over the demands (plant responses) resulting from the 84th percentile ground motions due to the maximum magnitude earthquake. In doing so you have back-calculated high confidence of low probability of failure (HCLPF) seismic capacities from the full fragility curves used in the seismic probabilistic risk assessment (PRA) studies. These HCLPF capacities are defined in terms of average spectral accelerations for a specified range of frequencies, e.g., 3 Hz to 8.5 Hz.

We generally agree with this methodology, but believe that the scope of the deterministic evaluations reported in the LTSP final report should be expanded. In Chapter 7 of the LTSP final report, you compared, at selected locations in the major structures, the in-structure response spectra resulting from the LTSP site-specific ground motion with the in-structure response spectra for the plant seismic qualification basis (i.e., the Hosgri re-evaluation earthquake). The location where such comparisons have been made appear to have been largely dictated by the location of the PRA-based structural elements and components. We request that you augment the LTSP deterministic evaluations to include the following additional items:

1. Compare the Hosgri-estimated structural response parameters such as base shear, overturning moment, and floor response spectra (including but not limited to the operating floor level) with similar, consistent, LTSP response parameters for all Category I structures.
2. Compare the LTSP deterministic capacities with those predicted by the Hosgri analyses for selected structural elements and components. For example, this comparison should be made for some of the structural elements and components identified as "weak links" during the Hosgri re-evaluation, such as the pipe-way structure, certain block walls and bolted connections in the Turbine Building, and the buried diesel fuel tanks.

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- 3. For some selected items discussed in Questions 1 and 2, above, provide alternate (code-based) capacity calculations to compare with the capacity calculations made using the Conservative Deterministic Failure Margin (CDFM) method. In responding, we request that you use the CDFM methodology described in Electric Power Research Institute Final Report No. NP-6064, "A Methodology for Assessment of Nuclear Power Plant Seismic Margin", dated October 1988. Also, these capacities should be expressed in terms of specific capacities such as base shear capacity, etc., rather than in terms of the acceleration levels (g's).

After the site-specific ground motion meeting scheduled for April 30 - May 1, 1990, I suggest that we discuss the scope and methodology of deterministic evaluations. The objective of these discussions would be to reach agreement on the selection of structural elements and components for which deterministic calculations are to be performed in response to this request, and on a submittal date for your response. If you have any questions regarding this request, please contact me.

Sincerely,


original signed by Harry Rood
 Harry Rood, Senior Project Manager
 Project Directorate V
 Division of Reactor Projects - III,
 IV, V and Special Projects
 Office of Nuclear Reactor Regulation

Enclosures: as stated

cc w/encl: See next page

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Sincerely,



Harry Rood, Senior Project Manager
Project Directorate V
Division of Reactor Projects - III,
IV, V and Special Projects
Office of Nuclear Reactor Regulation

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Mr. J. D. Shiffer
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Diablo Canyon

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