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Docket Nos. 50-275
 and 50-323

JUL 18 1977

Pacific Gas & Electric Company
 ATTN: Mr. John C. Morrissey
 Vice President & General Counsel
 77 Beale Street
 San Francisco, California 94106

Gentlemen:

SUBJECT: COMMENTS ON PROPOSED SEISMIC DESIGN CRITERIA - DIABLO CANYON
 NUCLEAR POWER PLANTS - UNITS 1 AND 2

We have reviewed the draft specifications concerning your proposed criteria for the seismic reevaluation of outdoor storage tanks, piping systems and mechanical and electrical equipment. Our comments, which were previously provided to your personnel by telephone, are provided in the enclosure.

You should provide responses to these comments as soon as practical in order to resolve any items that might later become problems.

Sincerely,

Original Signed by

John F. Stolz

John F. Stolz, Chief
 Light Water Reactors Branch No. 1
 Division of Project Management

Enclosure:

As Stated

cc w/enclosure:

See Page 2

OFFICE	LWR-#1	LWR-#1				
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DATE	7/18/77	7/18/77				

JUL 18 1977

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ENCLOSURE

Comments on PG&E Draft Specifications for Outdoor Storage Tanks and Mechanical and Electrical Equipment.

A. Outdoor Storage Tanks

- (1) Item 1.d indicates that ductility may be allowed in certain cases. If ductility is used specify where and how much.
- (2) Item 1.f indicates that an equivalent method may be used in lieu of a vertical response analysis. If equivalent methods are used, describe the methods and indicate where they are used.
- (3) The specification indicates that you will employ the methods of TID 7024 in tank analysis. We believe these methods give conservative results provided the natural frequencies of the water columns are far from those of the tanks. Indicate how you will handle this concern.
- (4) The specification indicates that you will use the ASME Boiler and Pressure Vessel Code, Section VIII, to develop acceptance criteria for stresses to be employed in the analysis. Compare the requirements of Section VIII to those of Section III, Section ND for Class 3 tanks and describe why you believe Section VIII is preferable.

B. Piping Mechanical and Electrical Equipment

- (1) Item a. on the first page indicates that preliminary spectra will be used in the evaluation. Compare these preliminary spectra to the final spectra and justify the adequacy of your approach.
- (2) Item c on the first page indicates that actual material properties may be used. Describe where actual material properties are used and provide appropriate details to justify the adequacy of this approach.
- (3) Item d. on the first page indicates that earthquake loads will be combined with normal operating loads. Items 1.a, 2.a and 3a also discuss load combinations. Provide specific load combination formulas similar to those normally provided in the Safety Analysis Report.
- (4) The first page indicates that reanalysis may not be used in cases where simpler methods suffice. With regard to the simpler methods mentioned:
 - (a) How will the comparison between the increase in load to the available margin be performed? Some clarification of this item is needed.
 - (b) Define "acceptably high seismic input" in the statement: "Equally acceptable methods include comparison to analyses of similar equipment performed for different plants with acceptably high seismic input." Clarification of this item in a more specific manner is needed.
- (5) Item 1.c indicates that the effect of torsion will be included by augmenting horizontal response spectra in accordance with the criteria to be used for structural evaluations. It is our understanding that, for the structures, you will be calculating the structural stress due to torsion and then adding this to the calculated earthquake stress rather than augmenting spectra. We do not understand how you would be augmenting spectra to account for torsion in the reactor coolant system analysis. Describe the procedure for the reactor coolant system in detail and clarify this point.
- (6) Items 2. and 3. do not indicate that torsion will be accounted for piping other than the reactor coolant loops and for mechanical equipment. Justify this approach.
- (7) Items 1.d, 2.d and 3.c indicate that compressive loads up to 0.9 critical buckling may be allowed (apparently for piping supports). However, the ASME Boiler and Pressure Vessel Code allows only 0.67 critical buckling. Justify your approach.