



BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of
PACIFIC GAS & ELECTRIC CO. }
Units 1 and 2
Diablo Canyon Site

AEC Dockets 50-275-01,
50-323-01

MOTION OF SAN LUIS OBISPO MOTHERS FOR PEACE
FOR IMPOSITION OF A STOP WORK ORDER

In accordance with the provisions of 10 CFR 2.730, San Luis Obispo Mothers For Peace (MFP) hereby moves for the imposition of a stop work order on Pacific Gas and Electric and its contractors, and applying to the nuclear power plant, units 1 and 2 and related facilities at and around Diablo Canyon, as well as well as the transmission lines extending from the plants.

A. ARGUMENT

1. Although the most overriding and dominating basis supporting the motion is the disorderly and precarious treatment, on the part of P.G. and E., of the effects of a deficiently explored and poorly understood seismic environment, on the Diablo nuclear central station and spent fuel storage complexes, other bases will also be presented. We feel that the sum total of these bases is of profound concern to those interested in the public health and safety.

2. We are referring to, inter alia, the existence of the giant 90-mile Hosgri Fault Zone (called Hoskins-Griffiths Fault in earlier literature) oriented approximately parallel to the central California coastline and located within 2 to 4 miles offshore from the Diablo complex at its point of nearest approach.

3. Those structures, systems, and components of the nuclear plant which are



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important to nuclear safety, i.e., failure of which might increase the severity of a loss-of-coolant accident or result in the release of excessive amounts of radioactivity, are termed Class I. Included in this group are structures, systems, and components whose absolute integrity are essential to the safe shutdown of the reactor and/or essential to the safe maintenance of a shutdown condition. It is obvious that the design of Class I structures for seismic loading is one of the most profound aspects of nuclear reactor safety.

4. The Pacific Gas and Electric Co., by application dated January 16, 1967, requested a license to construct and operate unit 1, a PWR at the Diablo Canyon Site. An alleged technical safety study of the proposed plant was contained in the applicant's Preliminary Safety Analysis Report (PSAR) and the nine subsequent amendments, all of which were contained in the application.

5. The applicant, prior to submitting the January 16, 1967 application allegedly made a limited study of the seismic history of the Diablo Canyon area and, according to the PSAR determined the maximum earthquake relative to the then known faults in the general area. On the basis of this "study", the applicant concluded, and apparently still holds, that there are four possible types of earthquakes that would result in maximum accelerations at the site.

6. Of the four possible types of earthquakes, "Earthquake C" is described (PSAR, p. 2.5-13) as "Possible large earthquakes occurring on offshore fault systems that may need to be considered for the generation of seismic sea waves..." and three fault systems are identified whose respective offshore distances to the site are listed as 50, 420, and 420 miles. We would like to



emphasize that the offshore seismicity was, in January 1967, considered to be of significance only with respect to tsunami generation and was dismissed as a source of ground acceleration at the site in a flippant and apparently compulsive manner.

7. The above dismissal coupled with P.G. and E.'s celebrated but tragic and aborted efforts to site nuclear stations at Bodega Head as well as at Point Arena may account for the utter lack of confidence the public has in P.G. and E.'s geology consultants.

8. In any case, P.G. & E.'s quick review of the "four possible types of earthquakes" coupled with the outdated methods cited in References 12 and 26, pages 2.5-80 and 2.5-81, respectively, of the FSAR, lead to untenable quantification of ground accelerations and response spectra at the site.

The response spectra for the 0.15 g ground acceleration earthquake ("B Modified") and those for the 0.20 g ground acceleration earthquake ("D") were presented in the application. Together, these response spectra constitute the design basis earthquake. A larger 0.40 g ground acceleration earthquake (double design basis) response spectrum was also included in the application, and was alleged to be the result of what could be caused by the maximum potential earthquake.

9. The above seismic engineering studies, done in a discipline where the state of the art was not highly advanced, were completed four or five years before the San Fernando earthquake of 1971. Seismic studies, resulting from this quake, had substantial impact on the state of the art; in particular the accelerograph record of Pacoima Dam should have been incorporated into



studies to determine maximum credible ground accelerations at the Diablo site.

10. As one looks through the Diablo FSAR plus its 17 amendments, one looks in vain for a mention of the 1971 San Fernando quake, and application of Pacoima Dam studies to Diablo structural criteria. The complete and categorical exclusion of San Fernando data is sinister at best and ruthless at worst.

With respect to these proceedings, the exclusion of San Fernando data makes a mockery of the concept of a sound and complete record.

Furthermore, in looking over the entire transcript (construction permit, environmental, and operating license) of these proceedings, it is seen that P.G. and E. lawyers have deliberately prevented the development of a sound record by, inter alia, demanding the complete rejection of any testimony by experts in the field of structural engineering who were not on the P.G. and E. payroll. We deplore the fact that, up to this time, the presiding Atomic Safety and Licensing Board, has not seen fit to help, assist, or at the least, encourage, the intervening parties to introduce expert structural engineering testimony despite its entreaties on the necessity of developing a sound record.

11. We do note, however, the P.G. and E. has made some offshore seismic studies over the past eight months or so. The fact that these twelfth-hour studies are being made now, fully 7 or 8 years after the adoption of the 0.40 g acceleration criterion, must be considered highly disorderly and demonstrates that P.G. and E. has a cynical attitude toward the public's health and safety.

12. Over the past year, the Pacific-Arctic Branch of Marine Geology of the



U. S. Geological Survey has conducted studies of the marine geology between Cape San Martin and Pt. Sal, South-central California Offshore, and has published a Preliminary Report dated August, 1974 (Open File Report 74-252). These state of the art and on-going studies were made producing high energy-deep penetration as well as high resolution records.

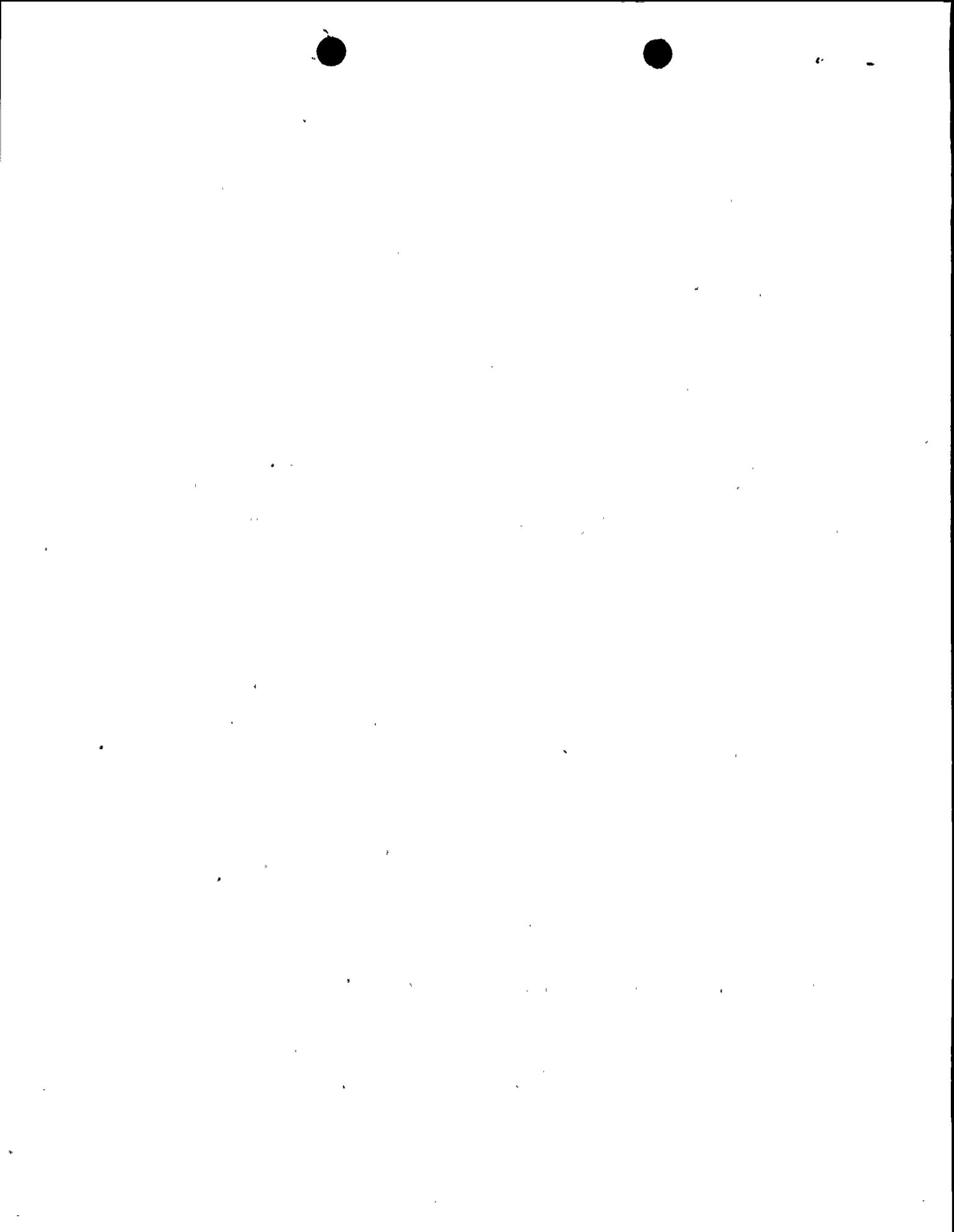
13. These records have been analyzed by the U.S.G.S. and confirm and elaborate upon, the existence and nature of the giant Hosgri Fault Zone. We quote from p. 16 of the above-referred-to report: "All data taken together suggest that activity along the Hosgri zone and other offshore faults has taken place, at least locally, in Post-Wisconsinan time in the area studied. The additional seismic reflection data that became available in July, 1974, will be interpreted, evaluated and compared with the results shown in this report."

The significance of the above quotation is that the sum of all data available, at the present time, suggests that there exists, within 2 to 6 miles offshore from the Diablo power and storage facility, an immense active and "capable" fault zone at least 90 miles in length.

The offshore earthquake of Richter magnitude 2.9 widely reported in the press several weeks ago further testified to the activity of the Hosgri Zone.

Since the very existence of the Hosgri Zone was first publicly alluded to by Hoskins and Griffiths in a 1971 petroleum journal it was obviously a hidden variable at the time the 0.40 g criterion was finalized in 1966-1967.

14. Unless one postulates the existence of a symbiotic collusion between the utilities and the AEC it becomes impossible to understand why there exists such



a paucity of material on seismic data and the effects of potential quakes on the plant facilities. It is easy to see the AEC caught with another North Anna seismic problem in their hands, at a time when public confidence in the AEC has fallen deeper than ever.

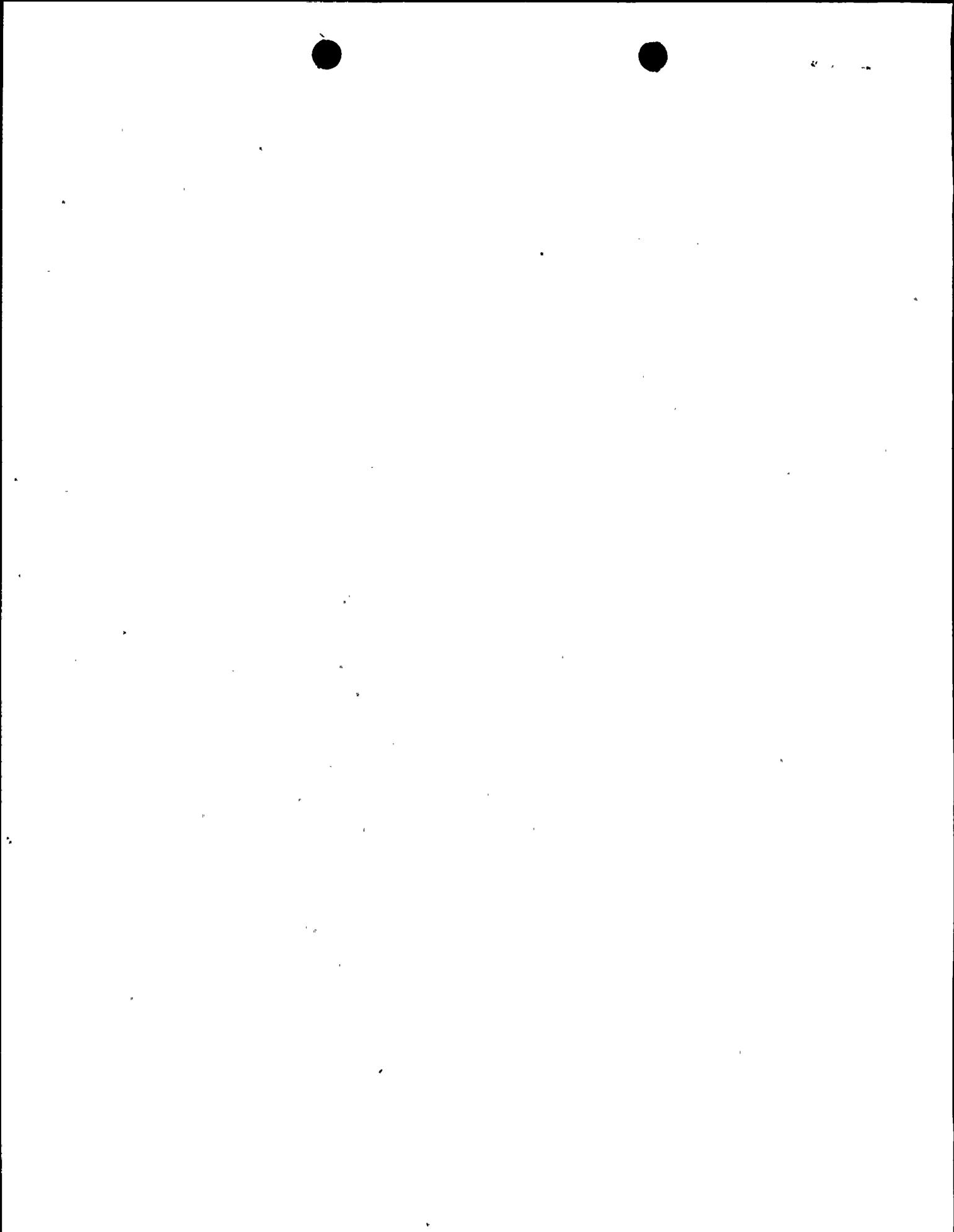
15. Projected figures for the State of California indicate that a very large number of reactors (perhaps an order of magnitude greater than six) will be sited, on the coast, in San Luis Obispo County, and, therefore, on a line parallel to the giant offshore earthquake zones. Thus the seismic issue is one of immense proportions.

B. CONCLUSION

16. The Diablo seismic exploration deficiencies cannot be explained away as the product of extreme complexity, intractable subject matter, or unruly struggles between irreconcilable engineering philosophies. The failures in this instance are in the nature of inattention and indifference.

17. For the above reasons, San Luis Obispo Mothers For Peace submits that in view of the extremely wide powers accorded Licensing Boards, and in view of the alleged regulatory obligations of Licensing Boards, that the Presiding Board exercise its authority to issue a stop work order as defined on page one of this motion. Such order should remain in effect until geologists can speak knowledgeably and in agreement about the seismic field around Diablo and of the potential effects of the seismic field on Diablo Class I structures.

It is hoped that this motion will be processed with expeditiousness so that it will not become a moot question.



The motion presented herein is made by Elizabeth E. Apfelberg and Sandra A. Silver acting as individual parties and as representatives of San Luis Obispo Mothers For Peace.

Respectfully submitted,

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Dated: October 14, 1974
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