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SUBJECT: Response opposing Joint Intervenors' 810706 petition for review of ALAB-644. Intervenors simply disagree w/well-reasoned & well-documented factual determinations by ASLAB. Certificate of Svc encl.

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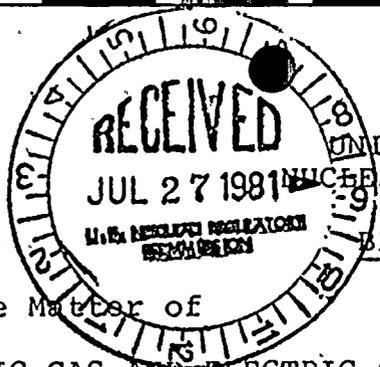
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UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION  
BEFORE THE COMMISSION

In the Matter of )  
PACIFIC GAS AND ELECTRIC COMPANY )  
(Diablo Canyon Nuclear Power )  
Plant, Unit Nos. 1 and 2 )

Docket Nos. 50-275 O.L.  
507323 O.L.

RESPONSE OF APPLICANT PACIFIC GAS AND ELECTRIC COMPANY  
TO PETITION FOR REVIEW OF ALAB-644 FILED BY JOINT INTERVENORS

I

INTRODUCTION

On July 6, 1981, Joint Intervenors filed a Petition for Review of ALAB-644, a decision on the seismic aspect of the safety portion of these licensing proceedings which was issued on June 16, 1981. Joint Intervenors raised five issues for review by this Commission: response spectra, tau effect, damping, operating basis earthquake, and the failure of the Appeal Board to reopen the proceeding to receive testimony on an open file report prepared by USGS subsequent to the hearings held before the Appeal Board. The first three issues raised by Joint Intervenors are strictly factual in nature, were considered in great detail by the Licensing Board and affirmed, after extensive review, by the Appeal Board in ALAB-644. Review of those issues should be denied by the Commission pursuant to 10 C.F.R. §2.786(b)(4)(ii). The last two issues raised by Joint Intervenors are primarily factual in nature but arguably present mixed questions of fact and law and should be denied pursuant to 10 C.F.R. §2.786(b)(4)(i) & (ii).

Joint Intervenors spend a great deal of time attempting to point out the uniqueness of the Diablo Canyon proceedings as a basis

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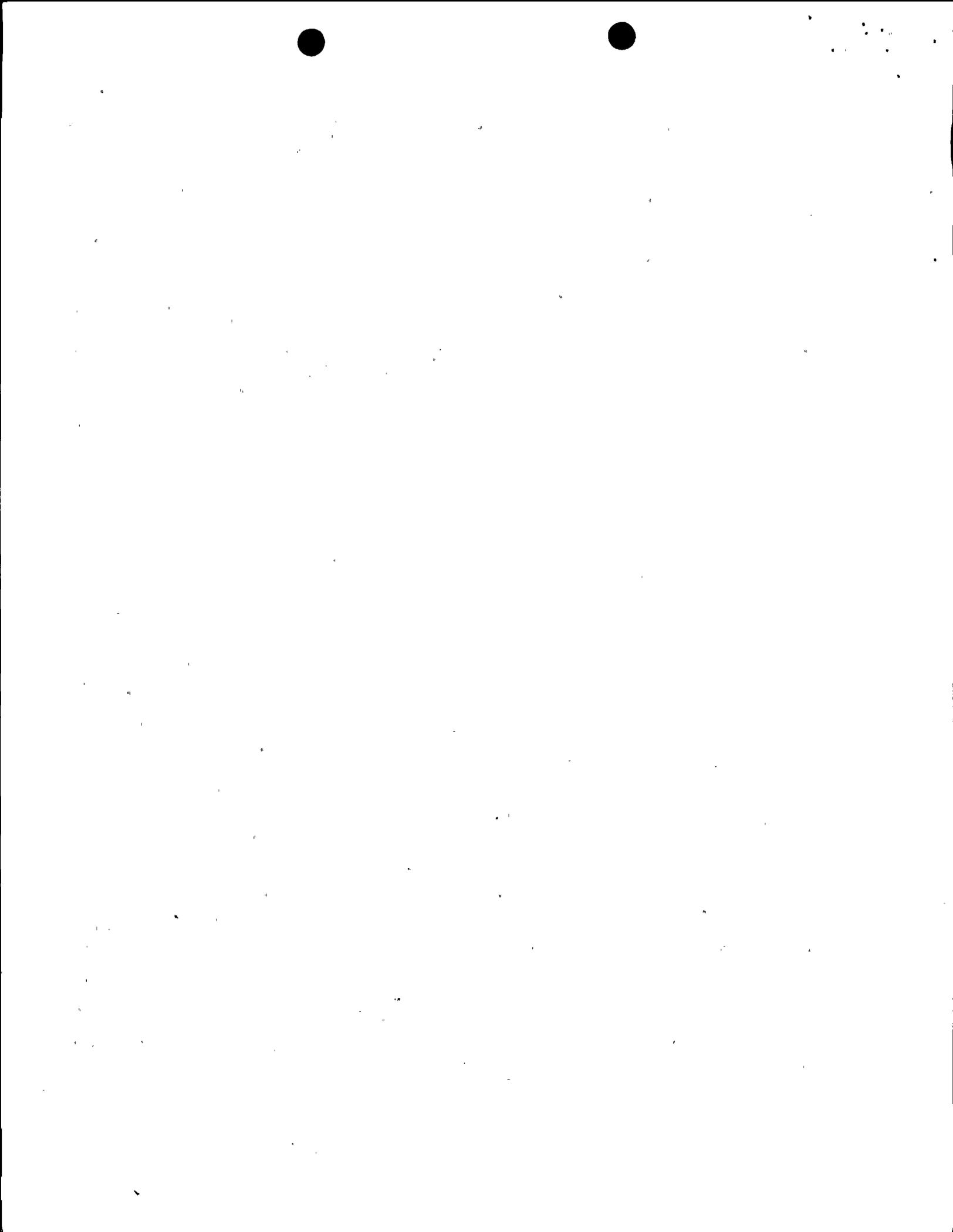


for this Commission's accepting review of their Petition. Unfortunately, in so doing Joint Intervenors misstate and mislead.<sup>1/</sup> As stated in Applicant Pacific Gas and Electric Company's Response to the Petition for Review as filed by Governor Brown, the seismic questions concerning Diablo Canyon have undoubtedly received more attention and man-hours of study than any other single subject in the history of the Nuclear Regulatory Commission and its predecessor, the Atomic Energy Commission, with the possible exception of circumstances surrounding Three Mile Island. The Advisory Committee on

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<sup>1/</sup>For example, Joint Intervenors state that the Diablo Canyon design was "based on assumptions and methodologies contested by knowledgeable scientists, including the Commission's own expert consultants." (J.I. Br. at 3-4.) Then, in a footnote to that quote, the Joint Intervenors state that Dr. Mihailo Trifunac and Dr. Enrique Luco, [were] two engineers retained by ACRS to review the seismic analysis of Diablo Canyon. They go on to state that this is the first, and only licensing proceeding, at which consultants to the ACRS have appeared to present testimony critical of the NRC's Staff and Applicant's position. (J.I. Br. at 4, fn. 5.) Obviously, Dr. Trifunac and Dr. Luco were not "the Commission's own expert consultants." In fact, they were two of nine consultants to the ACRS. The positions of Drs. Trifunac and Luco were minority positions contrary to the seven other ACRS consultants. They were subpoenaed to the Licensing Board hearings by Joint Intervenors to express those minority opinions. The other seven consultants agreed with the finding of the ACRS that the plant was seismically qualified as did eminently qualified seismic design consultants hired by the Staff and Applicant.

In addition, Joint Intervenors list Dr. Brune as a "scientist" who contested the assumptions and methodology used by the Staff and Applicant. In fact, Dr. Brune questioned only whether focusing of energy could occur in an earthquake and stated that he had absolutely no knowledge of design of facilities to withstand earthquakes. (ASLB Tr. at 7989.) In fact, Dr. Brune stated: "I think I can clear you up on my understanding of the topic your aiming at, and that is, as I mentioned in my testimony, one of the arguments against the high accelerations is the fact that the building damage that's been observed has not been as high as the engineers would have predicted for such large accelerations." (ASLB Tr. at 7988.)



Reactor Safeguards (ACRS) spent several years conducting sub-committee and full committee hearings assisted by nine technical consultants before issuing its letter approving Diablo Canyon's seismic safety in 1978. (SER Supp. 8, p. B-3.)<sup>2/</sup> The Licensing Board conducted hearings over a three-month period, December of 1978 through February of 1979, before issuing its Partial Initial Decision also approving the facility's seismic safety. (LBP-79-26, 10 NRC 453, 1979.) The Appeal Board reopened the proceedings following the Imperial Valley earthquake of October 15, 1979, and conducted hearings during October, 1980. The Appeal Board, after hearing and extensive review of the record below, issued ALAB-644 which also reaches the conclusion that the Diablo Canyon plant is seismically safe. The transcript of the Licensing and Appeal Boards' hearings is in excess of 10,000 pages and admitted exhibits make the record, on seismic questions alone, number in the tens of thousands of pages. Incongruously, Joint Intervenors, like Governor Brown, argue that because of, as opposed to despite, the depth of this scrutiny, the Commission must accept this case for review.

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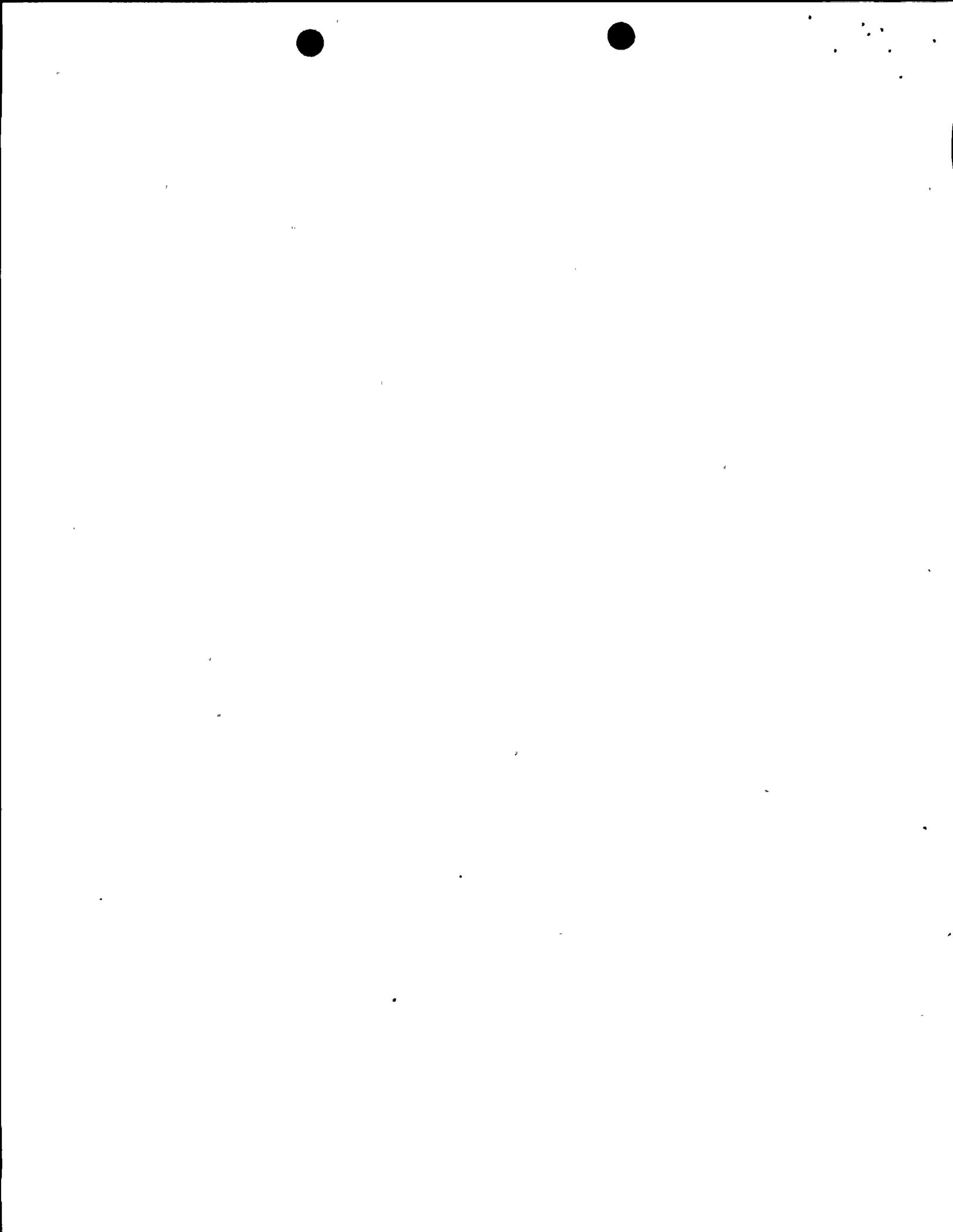
<sup>2/</sup>Joint Intervenors, at footnote 3 of their Brief, state that the ACRS observed "[i]t is evident . . . that the design bases and criteria utilized in the seismic re-evaluation of the Diablo Canyon Station for the postulated Hosgri event are in certain cases less conservative than those that would be used for an original design." Joint Intervenors fail to quote the next sentence and following material of the letter, however, in an apparent attempt to have the Commission reach a conclusion different than that reached by the ACRS. The next sentence states "[t]he Committee believes, however, that there are offsetting factors that lead to acceptance of these bases and criteria for an already completed plant." The ACRS letter then goes on to discuss those factors.



1 2

Joint Intervenors, again like Governor Brown, would have this Commission believe that the Hosgri reanalysis of Diablo Canyon was nothing more than a paper exercise, "less conservative than would be used normally", "developed post hoc to justify plant licensing", and contrary to the opinions of the Commission's own consultants. (J.I. Br. at 3-4.) Again, as in the case of Governor Brown, that characterization is simply unfounded and untrue. Joint Intervenors simply ignore the fact that extensive modifications were made to the Diablo Canyon facility as the result of the reanalysis. (For example, see SER Supp. 8, paragraphs 3.8.5.4.5, 3.8.5.4.7, and 3.9.3.5.) In addition, the reanalysis has shown that the facility is able to withstand, with the modifications, the maximum accelerations to be expected from any credible event on the Hosgri fault. The Joint Intervenors' mischaracterization is not done quite as artfully as was done by the careful selection and distortion of certain phrases and words from the record by Governor Brown, but rather, in great part, by simply making statements with no citations to the record whatsoever. For example, at page 5 of their Brief, the Joint Intervenors simply state that "the new design criteria for the 7.5  $M_s$  Hosgri earthquake are substantially the same as -- and in some instances less strenuous than -- the original criteria developed for a smaller design basis earthquake." No citation to the record for such hyperbole is given.

In essence, the Joint Intervenors are asking this Commission to be the fifth entity within the Nuclear Regulatory Commission to pass on the seismic safety of Diablo Canyon. To date, the Diablo



Canyon facility has been reviewed extensively by the NRC Staff, the ACRS, the Licensing Board, and the Appeal Board. Each review has resulted in the same factual conclusion: Diablo Canyon is indeed seismically safe and able to withstand any credible earthquake which can affect it.

## II

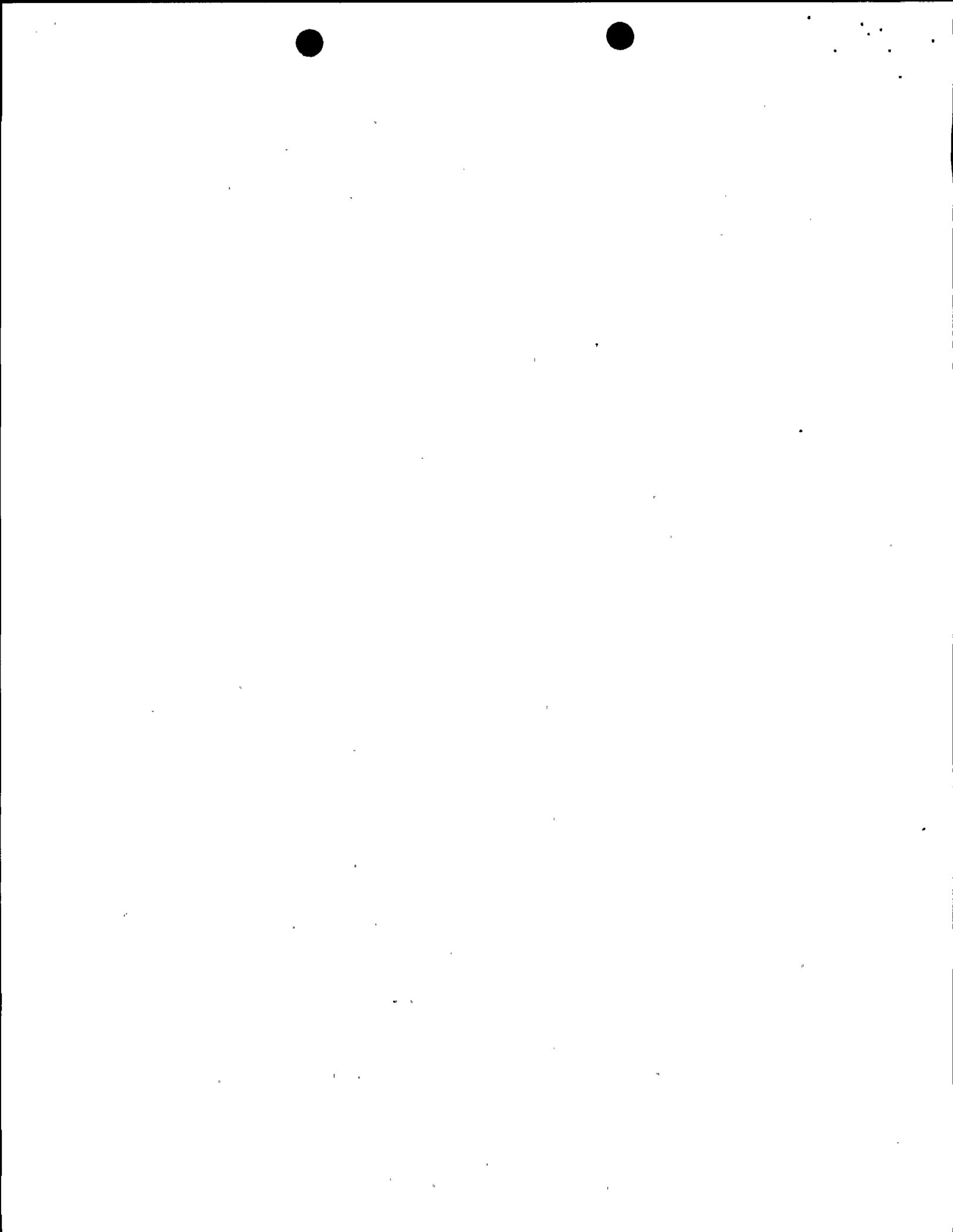
### THIS COMMISSION'S OWN REGULATIONS PRECLUDE GRANTING OF THE PETITION FOR REVIEW

Joint Intervenors' Petition for Review was filed pursuant to 10 C.F.R. §2.786. 10 C.F.R. §2.786(b)(4) sets forth instances in which the Commission will not exercise its discretion for review. This case presents such an instance. The pertinent portions of that regulation are as follows:

2.786(b)(4)(i): A petition for review of matters of law or policy will not ordinarily be granted unless it appears the case involves an important matter that could significantly effect the environment, the public health and safety; . . . or otherwise raises important questions of public policy.

2.786(b)(4)(ii): A petition for review of matters of fact will not be granted unless it appears that the Atomic Safety and Licensing Appeal Board has resolved the factual issues necessary for decision in a clearly erroneous manner contrary to the resolution of that same issue by the Atomic Safety and Licensing Board.

In their Petition for Review, the Joint Intervenors have raised three issues which are clearly factual: response spectra, tau effect, and damping. The last two issues raised by Joint Intervenors, operating basis earthquake and the failure of the Appeal Board to reopen the proceeding are, at best, mixed questions of fact

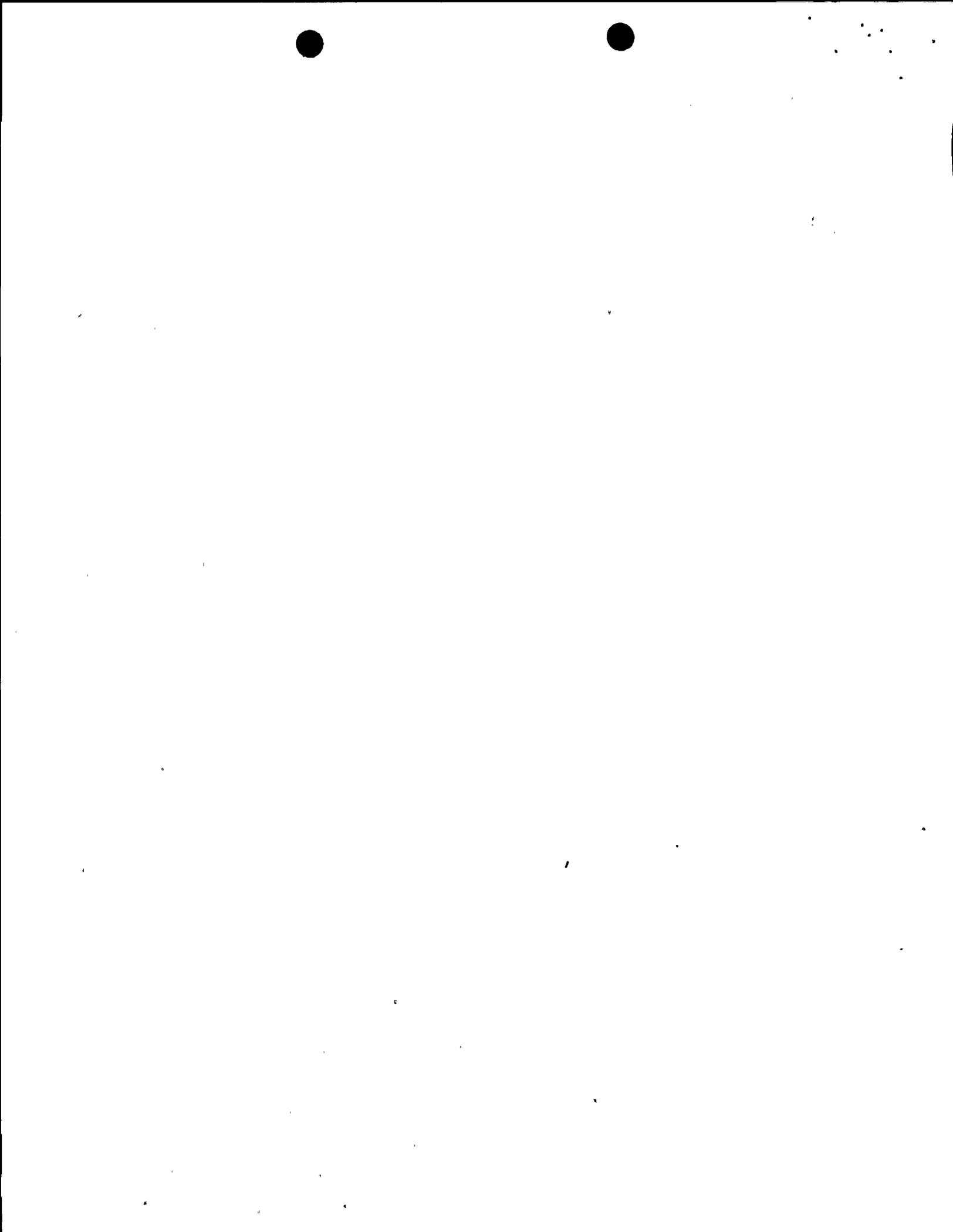


and law. In the first instance, the factual issues cannot be reviewed pursuant to §2.786(b)(4)(ii). In the second instance, the mixed questions of fact and law are precluded by both sections 2.786(b)(4)(i) & (ii). In essence, the Joint Intervenors' Petition for Review is, as was Governor Brown's, a disagreement with the factual determinations of both the Licensing and Appeal Boards which resolved the same issues in the same manner. As such, review cannot be granted by this Commission.

### III

#### RESPONSE SPECTRUM

Joint Intervenors have, throughout the years of these proceedings, continued to confuse the concept of "free-field" and "design" response spectra. They state, at page 5 of their Brief, that "that the Appeal Board erred in ruling that the free-field response spectrum adopted for the Hosgri reanalysis represents the 'maximum vibratory accelerations' likely to occur within 2-1/2 miles of the fault rupture for a  $M_s$  equals 7.5 earthquake." In the Licensing Board decision, a 35% reduction (from 1.15g to 0.75g) of peak instrumental ("free-field") acceleration to "design" acceleration was found appropriately conservative. (LPB-79-26, 10 NRC 453, 490.) In the hearing before the Appeal Board, Dr. Newmark, the Staff's earthquake engineering design consultant, reiterated the conservatism in the seismic design process and the basis for not using bounding instrumental or "free-field" accelerations for seismic design. (ASLAB Tr. 540-42.) Joint Intervenors argue, again with little or no citation to the record, that the Appeal Board was wrong



in affirming the anchoring point of the "Newmark Spectrum" at 0.75g for the Hosgri reanalysis. (J.I. Br. at 6-7.) The Intervenors also, as did Governor Brown, point to USGS Circular 672 which, according to Joint Intervenors, "recommends acceleration values for a  $M_s$  equals 6.5 which are consistent with those reflected in the Newmark Spectrum." (J.I. Br. at 7-8.) Like Governor Brown, their use of USGS Circulars is, at best, misleading. They fail to point out that the USGS specifically recommended the following use of the circular they cite:

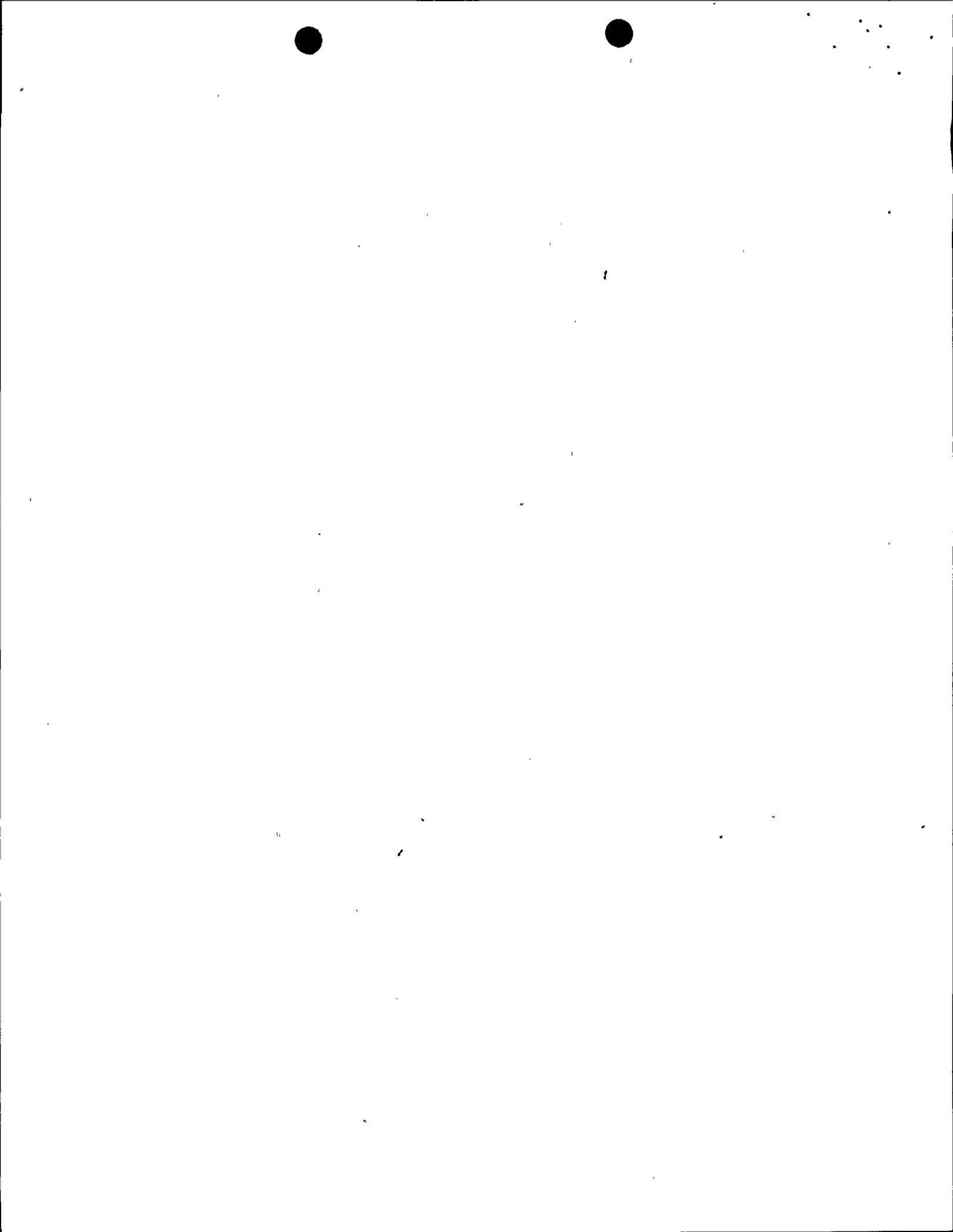
It is our intention that the ground motion values as exemplified by Table 2 'Near-fault horizontal ground motion' of Ref. 4 [i.e., USGS 672] for magnitude 7.5 be used to form the basis of a description of the earthquake postulated to have the potential for occurring on the Hosgri Fault at a point nearest to the Diablo Canyon site subject to the conditions placed on these values in Ref. 4. The earthquake so described should be used in the derivation of an effective engineering acceleration for input into the process leading to the seismic design analyses. (SER Supp. 4 at C-16, emphasis added.)

Joint Intervenors, like Governor Brown, repeatedly refer to "free-field" peak accelerations quoted from various USGS circulars, totally ignoring the concept of deriving an effective engineering acceleration for input into the processes leading to the seismic design analysis. This misleading argument was made before the Licensing Board and rejected, made before the Appeal Board and rejected, and should similarly be rejected by this Commission.

#### IV

#### TAU EFFECT

Joint Intervenors, in two very short paragraphs, simply state that they disagree with the Appeal Board's ruling on tau



reductions. Joint Intervenors, after filing an 18-page petition in contravention of 10 C.F.R. §2.786(b)(2), state that "the page limitation prevents a full discussion of this evidence." (J.I. Br. at 11, fn. 15.) The simple truth of the matter is that Joint Intervenors disagree with the factual conclusion of both the Licensing and Appeal Boards. The Appeal Board treated this complex subject in an extremely thorough manner. (See ALAB-644 at 114-145.)

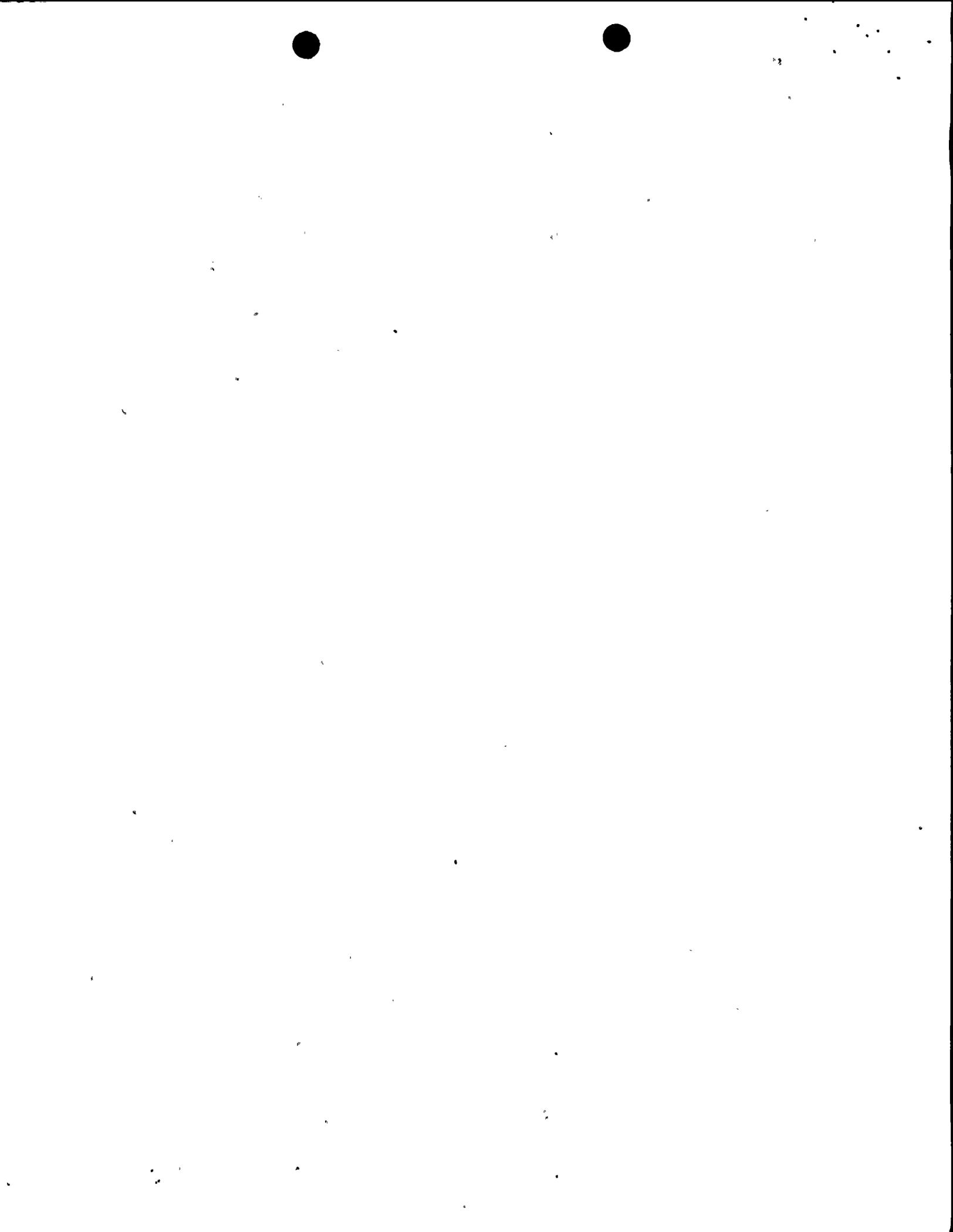
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DAMPING

When Diablo Canyon was originally designed, the Regulatory Guides required use of 5% damping<sup>3/</sup> for seismic analysis. In October of 1973, prior to the Hosgri reanalysis, Regulatory Guide 1.61 was rewritten to state that a 7% damping factor would be appropriate for the purpose of seismic analysis for a facility's bolted steel and reinforced concrete structures, absent documented tests that would support a higher value. In effect, Joint Intervenors challenge Regulatory Guide 1.61 as the 7% value was used in the Hosgri reanalysis of Diablo Canyon as called for by that Guide. While Joint Intervenors give short shrift to the evidence on this matter, the Appeal Board treats the question in detail at pages

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<sup>3/</sup>A vibrating system will slow and eventually cease oscillating because of unavoidable energy losses from friction or analogous phenomena operating to dissipate its original energy. The rate or degree of that energy loss varies with different materials and systems and is usually expressed as a percentage of "critical damping", i.e., that amount of damping at which vibratory motion could not exist. (ALAB-644 at 146.)



146-150 of their Decision. The Licensing Board similarly devoted substantial attention to the question of damping in its Initial Decision. See 10 NRC at 494-96. Again, this is simply a case in which the Joint Intervenors disagree with the factual determinations with both the Licensing and Appeal Boards and, as such, this argument provides no basis for review.

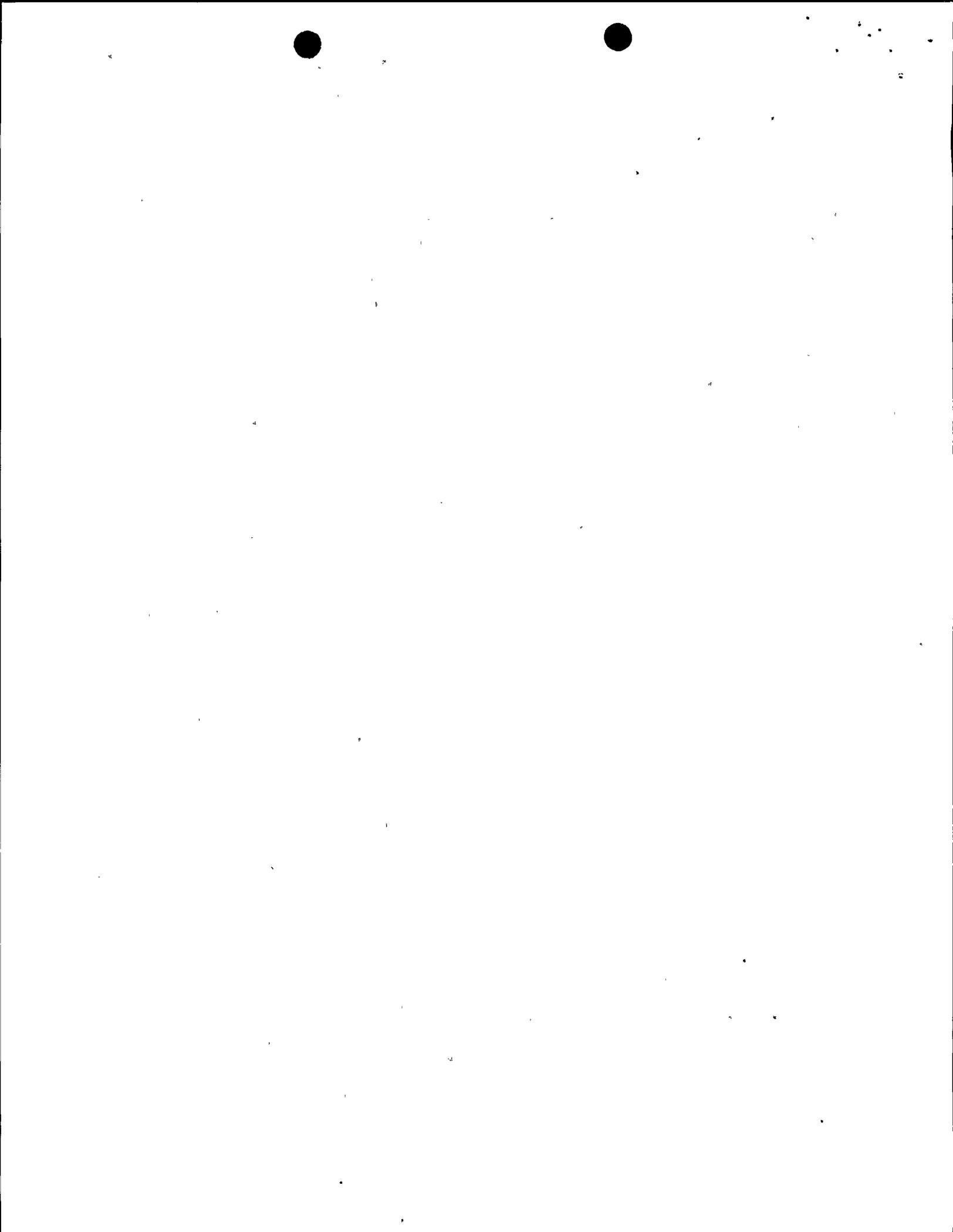
## VI

### OPERATING BASIS EARTHQUAKE

Intervenors point out that the operating basis earthquake (OBE) for Diablo Canyon is 0.20g which is less than one-half of the safe shutdown earthquake (SSE) of 0.75g. Intervenors argue that as such, the OBE is "in violation of §V(a)(2) of Appendix A." Joint Intervenors choose to dwell on one sentence of a regulation while ignoring other pertinent parts of that same regulation. As pointed out by the Appeal Board, §2 of Appendix A to 10 C.F.R. Part 100 expressly provides that:

"if an applicant believes that the particular seismology and geology of a site indicate that some of these criteria, or portions thereof, need not be satisfied, the specific sections of these criteria should be identified in the license application and supporting data to justify clearly such departures should be presented." (ALAB-644 at 169, quoting 10 C.F.R. Part 100, Appendix A, §II, ¶3.)

Intervenors again fail to give cognizance to the extensive review of this subject by the Licensing and Appeal Boards. See ALAB-644, pages 167 through 175. While Joint Intervenors attempt to frame their Petition for Review as respects the OBE as a legal argument, it is, in fact, nothing more than a disagreement with the factual basis upon which the Appeal Board found that an OBE of .20g is permissible under applicable regulations.



VI

REOPENING OF THE RECORD

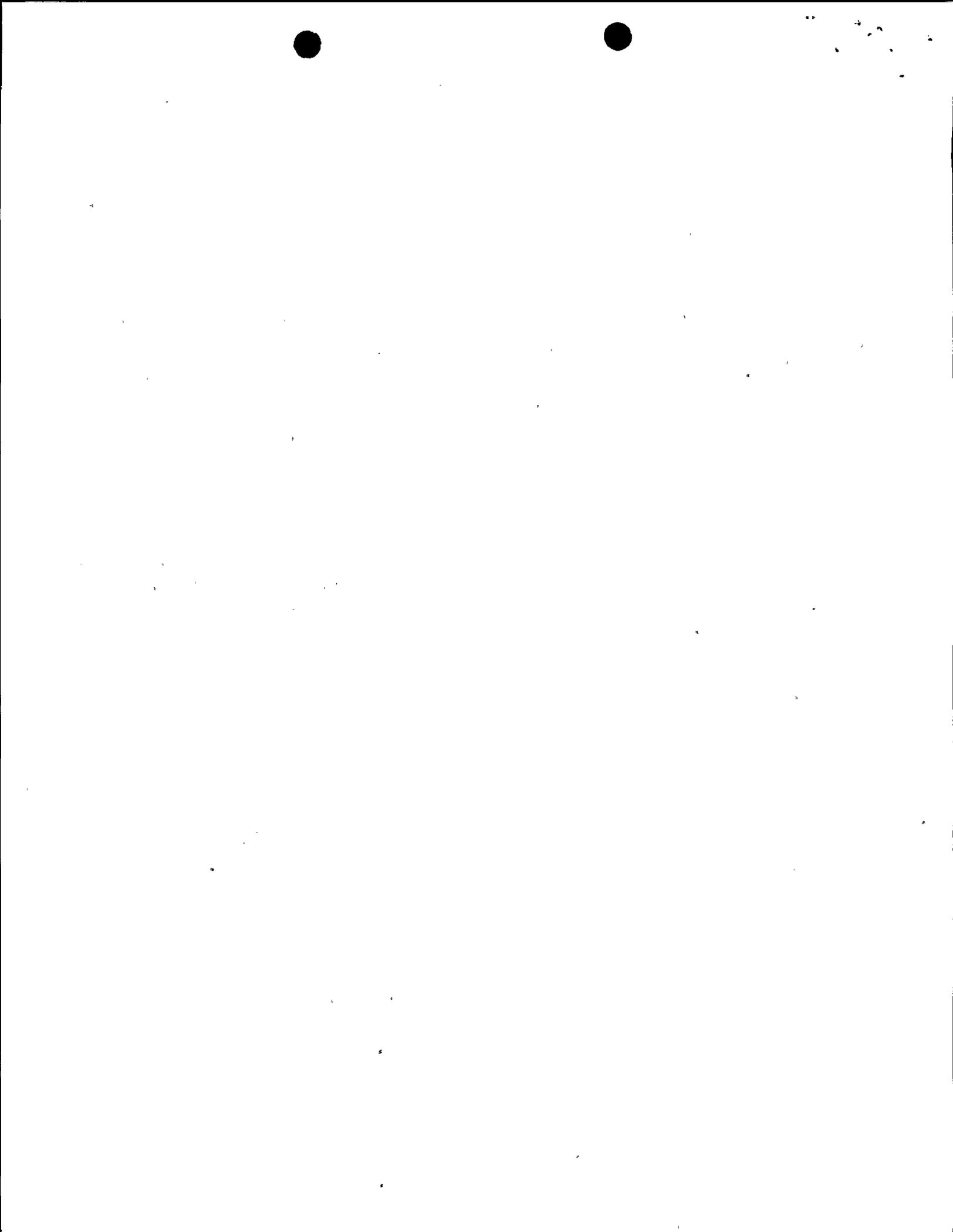
Between Governor Brown and Joint Intervenors, there have been numerous motions to reopen the seismic, environmental, security, and low-power testing proceedings. The tactic was indeed successful following the October 15, 1979 Imperial Valley Earthquake of  $M_s$  equals 6.9. Joint Intervenors argue, as did Governor Brown very briefly, that the USGS "is the NRC Staff's consultant," and that USGS Open File Report 81-365 is the "latest word from USGS on peak accelerations." While Joint Intervenors criticize several of the reasons the Appeal Board gave for not reopening the hearing record, they fail to even address other reasons given. See ALAB-644 at 176 through 178.

As in the case of all previous issues raised by Joint Intervenors, they fail completely to inform this Commission how their argument requires reopening in light of the requirements of 10 C.F.R. §2.786(b)(4)(i) & (ii).

VII

CONCLUSION

The Joints Intervenors, like Governor Brown, are asking this Commission to review the factual bases for the repeated finding that the Diablo Canyon facility is seismically safe. As set forth in this Commission's own regulations, such a review is impermissible under the circumstances of this case. In essence, Joint Intervenors are simply arguing that they disagree with the well-reasoned and well-documented factual determinations of the Appeal Board. It is respectfully requested that the Petition for Review be denied.



Respectfully submitted,

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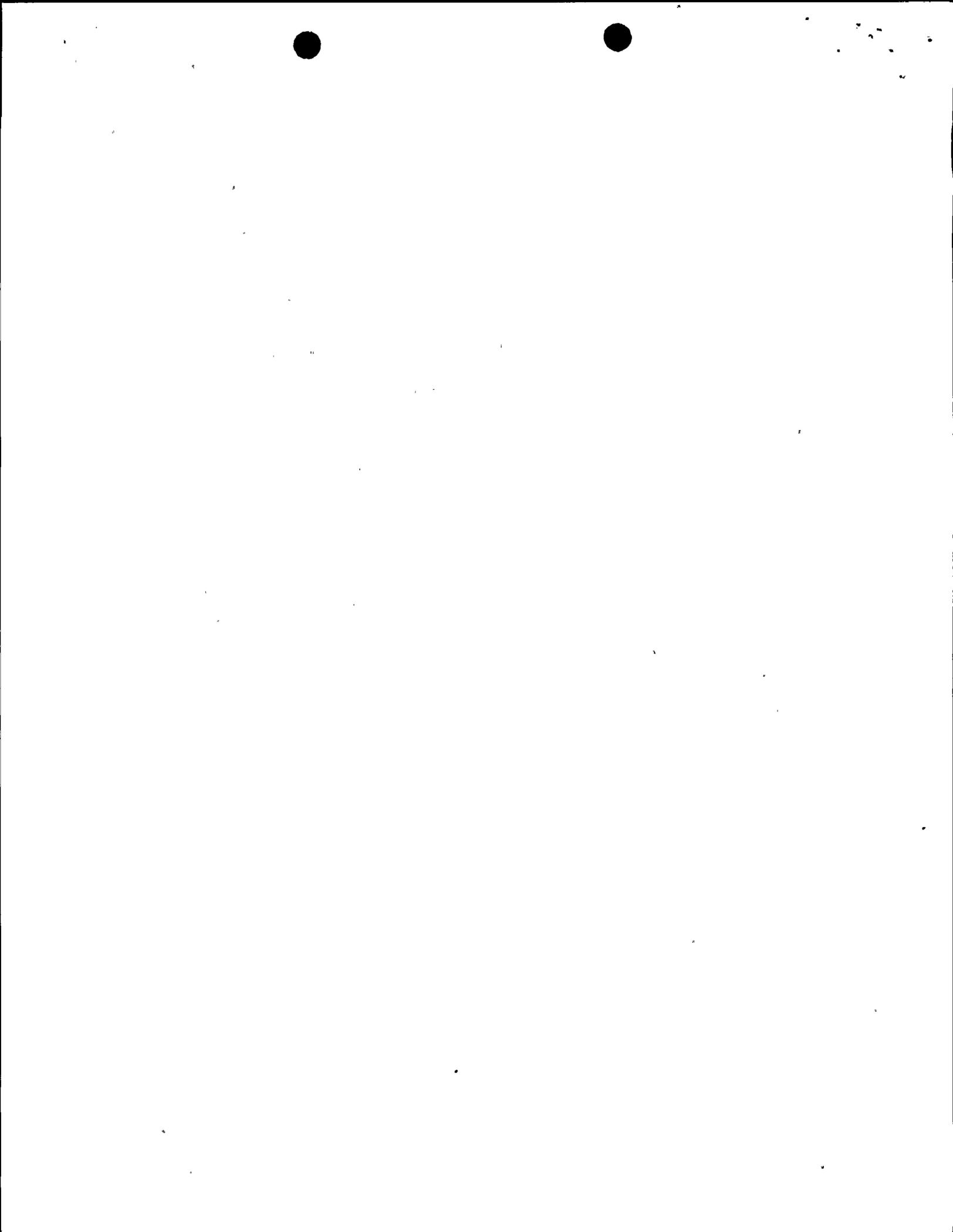
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UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

In the Matter of )  
 )  
PACIFIC GAS AND ELECTRIC COMPANY ) DOCKET NOS. 50-275 O.L.  
 ) 50-323 O.L.  
 )  
(Diablo Canyon Nuclear Power )  
Plant, Units No. 1 and 2) )

I hereby certify that copies of "RESPONSE OF APPLICANT PACIFIC GAS AND ELECTRIC COMPANY TO PETITION FOR REVIEW OF ALAB-644 FILED BY JOINT INTERVENORS", dated July 21, 1981, have been served on the following by delivery to the United States Postal Service, postage prepaid, this 21st day of July, 1981.

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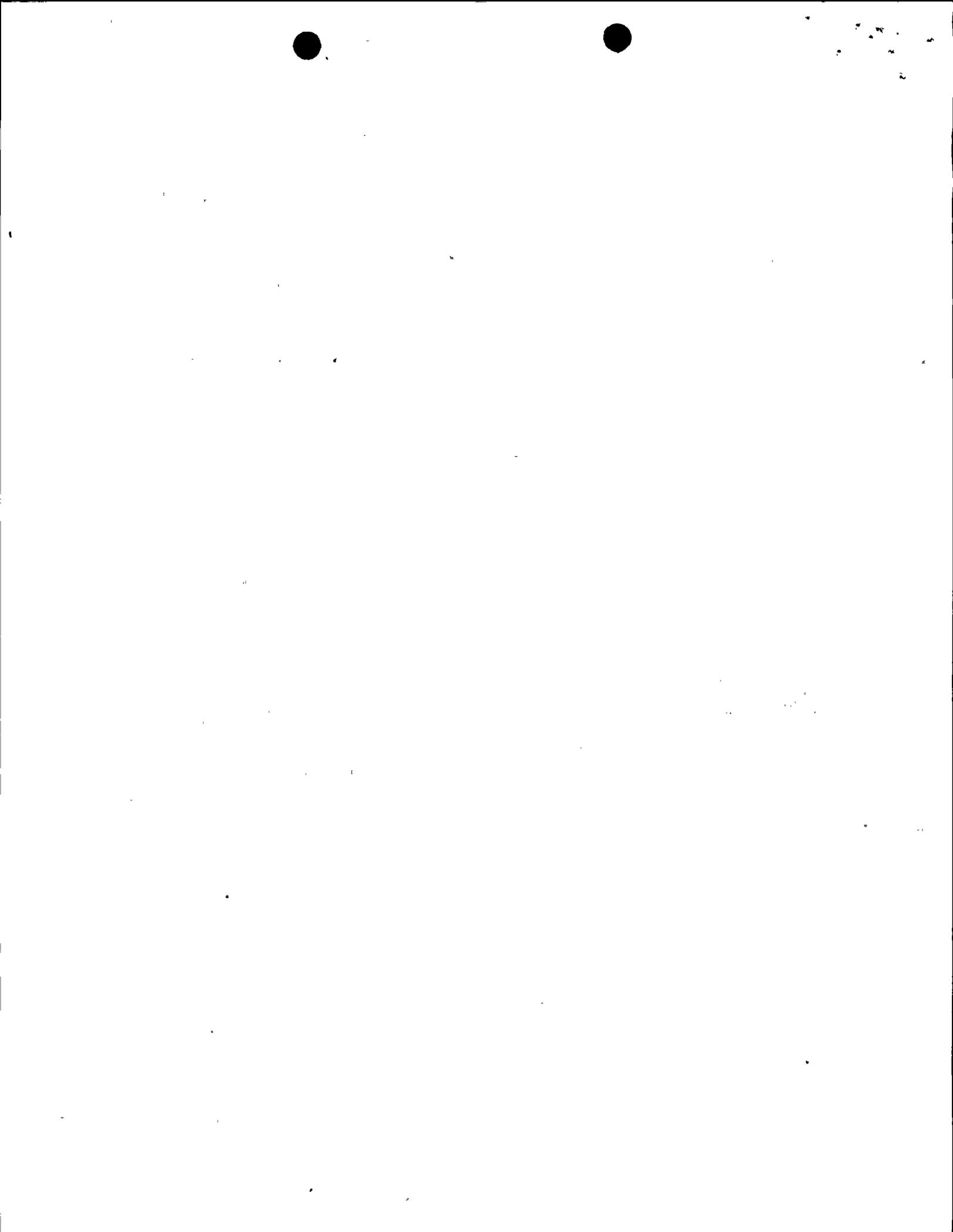
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