

November 18, 1988

The Honorable Barbara Boxer
United States House of Representatives
Washington, D.C. 20515

Dear Congresswoman Boxer:

I am responding to your letter of October 20, 1988, to Chairman Zech, in which you urged the NRC to conscientiously study the recent report submitted by Pacific Gas and Electric Company reevaluating the seismic design basis for the Diablo Canyon Nuclear Power Plant.

The NRC issued operating licenses for Diablo Canyon based, in part, on the finding that the seismic design of the plant was adequate to protect the health and safety of the public. However, it was recognized as early as 1978 (letter dated July 14, 1978, from the NRC Advisory Committee on Reactor Safeguards to the Commission) that the state of knowledge in the fields of geology, seismology, etc., was increasing with time, as new earthquake data and analysis techniques became available. Because new earthquake knowledge was expected, on April 18, 1984, the NRC incorporated in the Diablo Canyon Unit 1 operating license a condition that required PG&E to reevaluate the Diablo Canyon seismic design basis. To meet this license condition (as modified by the full-power license issued on November 2, 1984), PG&E conducted a 3-year, multidisciplinary study that reevaluated all aspects of the seismic design of Diablo Canyon, based on the current state of the art. In compliance with the license condition, on July 31, 1988, PG&E submitted a "Final Report of the Diablo Canyon Long-Term Seismic Program for the Diablo Canyon Power Plant." This report is also available for inspection by the public at the NRC LPDR. The report concluded that "the seismic design and existing seismic margins of Diablo Canyon Power Plant are adequate."

The NRC staff review of the Long-Term Seismic Program (LTSP) final report is under way. Because of the size and scope of the reevaluation program, the NRC review is a major effort, involving a number of technical experts on the NRC staff and a number of independent consultants hired by the NRC. The review is expected to be completed in late 1989. Let me assure you that the NRC staff review of this matter will continue to be conscientious and that any action found necessary as a result of the review will be taken in a time frame commensurate with its safety significance.

On the basis of the review of the LTSP final report that has been completed to date, the NRC staff sees no reason to change its previous conclusion that Diablo Canyon is seismically adequate. I hope that this information is responsive to your concerns.

Sincerely,
Original signed by
Victor Stello, Jr.

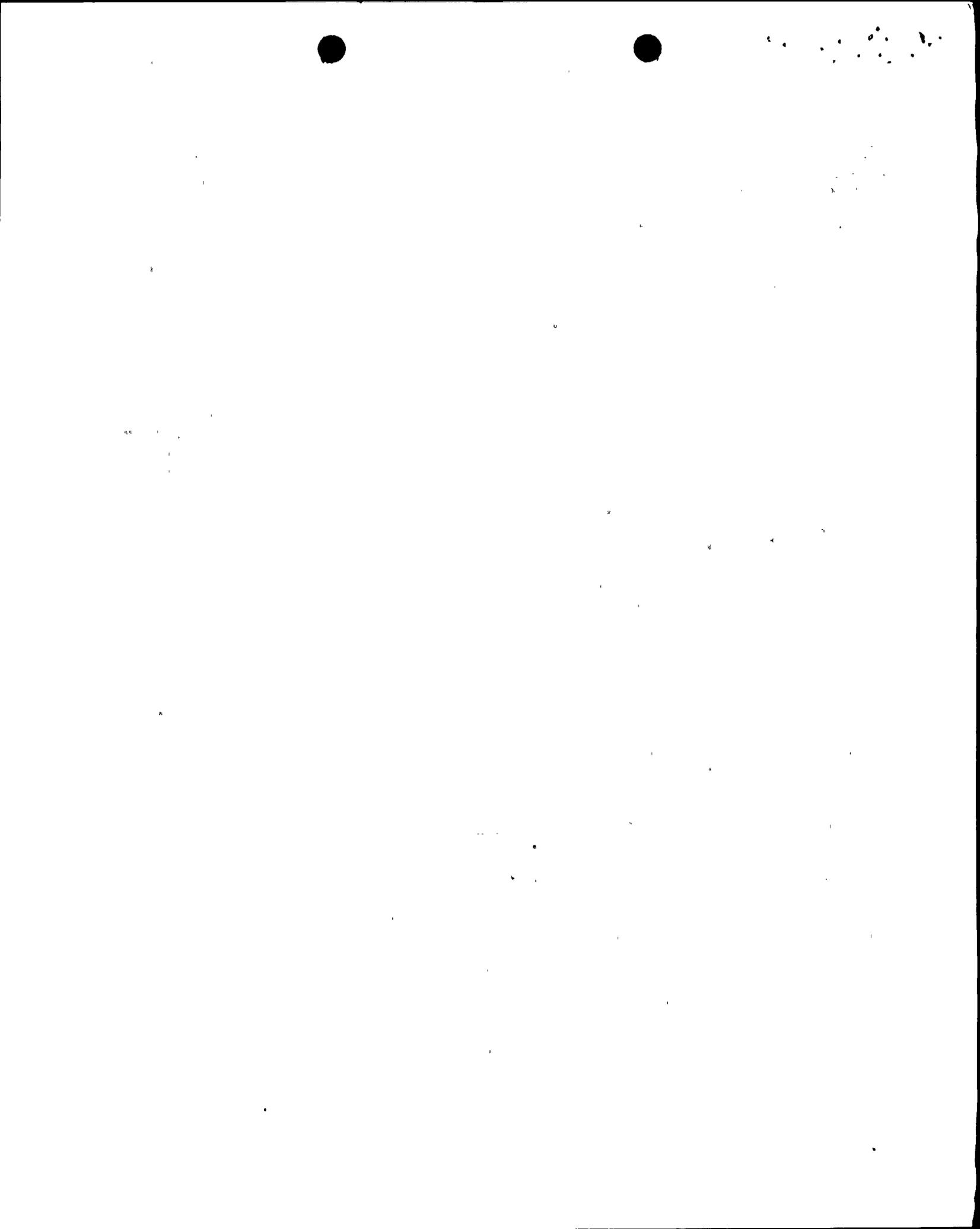
Victor Stello, Jr.
Executive Director
for Operations

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

The Honorable Barbara Boxer
United States House of Representatives
Washington, D.C. 20515

Dear Congresswoman Boxer:

This letter is in response to your letter of October 20, 1988, to Chairman Zech, in which you urged the NRC to conscientiously study the recent report submitted by Pacific Gas and Electric Company reevaluating the seismic design basis for the Diablo Canyon Nuclear Power Plant, and suggested that appropriate steps be taken to insure that a severe nuclear accident will not occur at Diablo Canyon in the event of an earthquake. I am pleased to provide the following information.

1. Seismic Adequacy of Diablo Canyon

The seismic adequacy of the Diablo Canyon Nuclear Power Plant has been studied in detail over the past 20 years by the Diablo Canyon owner, Pacific Gas and Electric Company (PG&E); by the Nuclear Regulatory Commission (NRC) staff; and by NRC's independent Advisory Committee on Reactor Safeguards (ACRS). NRC regulations (Appendix A to Part 100 of Title 10 of the Code of Federal Regulations) require that nuclear power plants be able to safely withstand the maximum seismic vibratory ground motion that reasonably can be expected to occur in the vicinity of the plant. Part 100 specifies that this finding shall be based on an evaluation of the maximum earthquake potential considering the regional and local geology and seismology and specific characteristics of local sub-surface material. The NRC staff's evaluation of this issue is summarized in several supplements to the NRC Safety Evaluation Report on Diablo Canyon. The specific reports that are most relevant to your concerns are SER Supplement 1, dated January 31, 1975; Supplement 4, dated May 11, 1976; Supplement 5, dated September 10, 1976; Supplement 7, dated May 26, 1978; and Supplement 11, dated October 1, 1980.

On the basis of evaluations in these and other reports and the results of extensive public hearings held to litigate seismic issues, the NRC concluded that there is reasonable assurance that the Diablo Canyon Nuclear Power Plant can safely withstand an earthquake that would produce the maximum vibratory ground motion at the plant site. For Diablo Canyon, this is a magnitude 7.5 earthquake occurring on the Hosgri fault, which is about 2½ miles from the plant at its closest approach. Other earthquakes



were evaluated, such as a "great" earthquake (magnitude 8.5) on the San Andreas fault, but an earthquake on the San Andreas fault would result in less severe ground motion at the plant because of its greater distance from the plant (the San Andreas fault is about 48 miles from the plant at the point of closest approach).

In summary, the NRC has concluded that the Diablo Canyon Nuclear Power Plant could withstand the earthquake producing the maximum vibratory ground motion at the plant sites without damage to the essential safety systems required to protect the health and safety of the public. This means that the plant could be safely shut down and maintained in a safe shutdown condition without significant release of radioactivity. On the basis of this conclusion and the finding that the Diablo Canyon plant meets all other applicable Federal safety and environmental regulations, the two-unit nuclear plant at Diablo Canyon was licensed by the NRC to operate at full power on November 2, 1984 (Unit 1) and on August 26, 1985 (Unit 2).

The Code of Federal Regulations, the Diablo Canyon Final Safety Analysis Report prepared by Pacific Gas and Electric Company, the NRC Safety Evaluation Report Supplements referenced herein, hearing transcripts, and the other information about earthquakes used by the NRC in reaching its finding of seismic adequacy at Diablo Canyon are available for public examination at NRC's Local Public Document Room (LPDR) at the California Polytechnic State University Library, Government Documents and Maps Department, San Luis Obispo, California 93407.

2. Recent Seismic Reevaluation of Diablo Canyon

The NRC issued operating licenses for Diablo Canyon based, in part, on the finding that the seismic design of the plant was adequate to protect the health and safety of the public. However, it was recognized as early as 1978 (letter dated July 14, 1978, from the NRC Advisory Committee on Reactor Safeguards to the Commission) that the state of knowledge in the fields of geology, seismology, etc., was increasing with time, as new earthquake data and analysis techniques became available. Because new earthquake knowledge was expected, on April 18, 1984, the NRC incorporated in the Diablo Canyon Unit 1 operating license a condition that required PG&E to reevaluate the Diablo Canyon seismic design basis. To meet this license condition (as modified by the full-power license issued on November 2, 1984), PG&E conducted a 3-year, multidisciplinary study that reevaluated all aspects of the seismic design of Diablo Canyon, based on the current state of the art. In compliance with the license condition, on July 31, 1988, PG&E submitted a "Final Report of the Diablo Canyon Long-Term Seismic Program for the Diablo Canyon Power Plant." This report is also available for inspection by the public at the NRC LPDR. The report concluded that "the seismic design and existing seismic margins of Diablo Canyon Power Plant are adequate."



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Sincerely,

Victor Stello, Jr.
Executive Director
for Operations

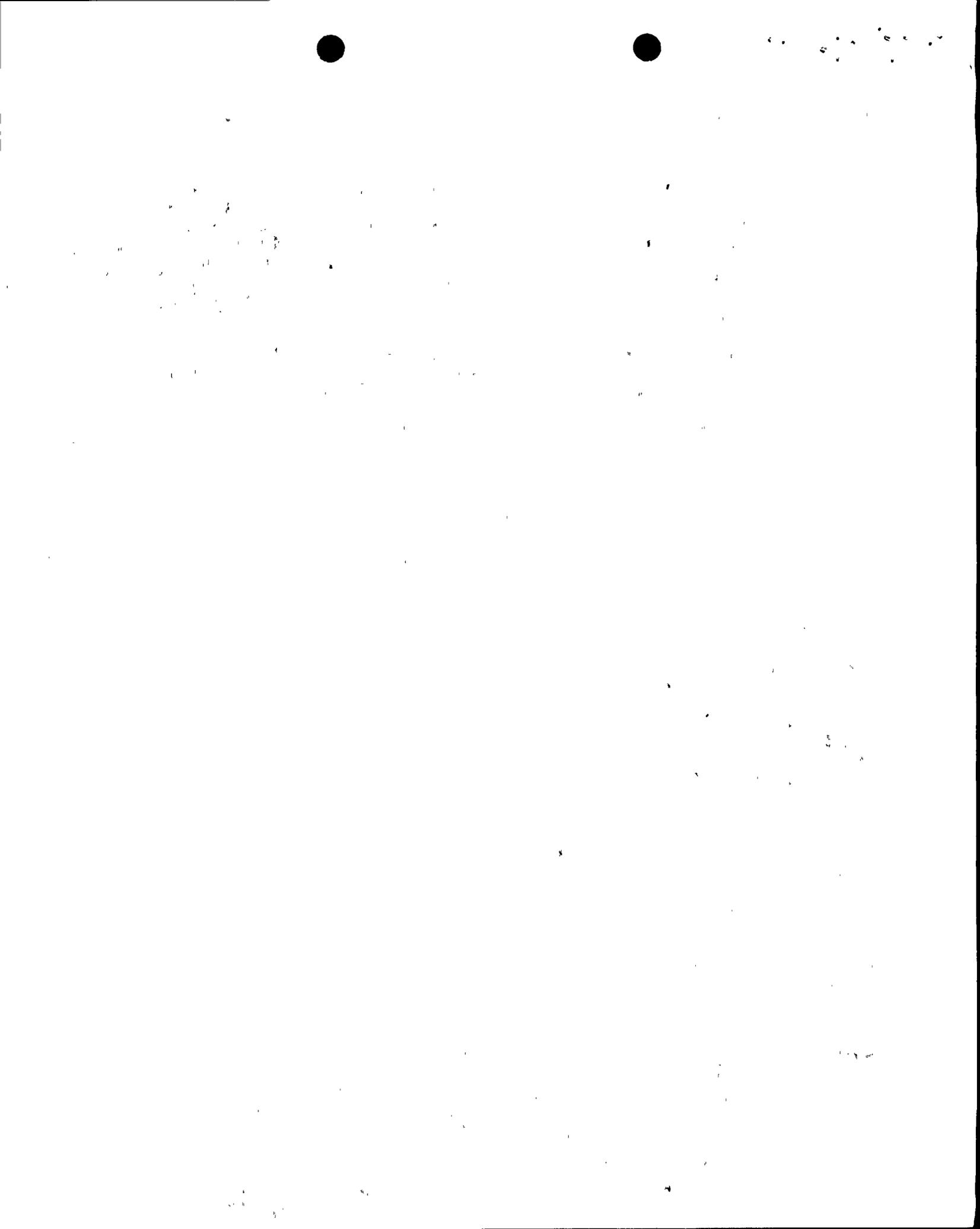
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Thomas E. Murley, Director
Office of Nuclear Reactor Regulation

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

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FROM: DUE: 11/18/88

EDO CONTROL: 0004067
DOC DT: 10/20/88
FINAL REPLY:

Rep. Barbara Boxer

TO:
Chairman Zech

FOR SIGNATURE OF: ** PRI **

CRC NO: 88-0989

Executive Director

DESC: REQUEST STUDY PG&E SEISMOLOGY REPORT WHICH REASSESSSES THE SEISMIC DESIGN BASIS OF THE DIABLO CANON NUCLEAR POWER PLANT AND TAKE APPROPRIATE STEPS TO INSURE AGAINST A DISASTER

ROUTING:
Stello
Taylor
Blaha
JMartin

DATE: 11/03/88

ASSIGNED TO: NRR CONTACT: Murley

H. Rood

SPECIAL INSTRUCTIONS OR REMARKS:

NRR RECEIVED: NOVEMBER 4, 1988
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