

Docket No: 50-275

FEB 19 1982

APPLICANT: Pacific Gas & Electric Company

FACILITY: Diablo Canyon, Unit 1

SUBJECT: SUMMARY OF MEETING ON FEBRUARY 3, 1982 WITH PACIFIC GAS AND ELECTRIC COMPANY TO DISCUSS THE SEISMIC VERIFICATION PROGRAM (PHASE 1) FOR DIABLO CANYON

A meeting was held on February 3, 1982 at the NRC offices in Bethesda, Maryland. This meeting had been previously scheduled for January 19, 1982. Enclosure 1 is a list of attendees and Enclosure 2 is the meeting agenda.

The NRC staff discussed with representatives of the Pacific Gas & Electric Company (PG&E), R. L. Cloud Associates, Inc. (RLCA), R. F. Reedy, Inc. (subcontractor of RLCA), and Teledyne issues regarding the proposed PG&E plan for the seismic verification program-phase 1. Enclosure 3 is a listing of items that were discussed at the meeting (previously attached to the meeting notice dated January 8, 1982). Enclosure 4 is an NRC letter dated January 28, 1982 to PG&E which contains five additional items discussed at the meeting. A verbatim record of the meeting was kept and is attached as Enclosure 5. This material is relevant to the Diablo Canyon Safety issue on seismic design adequacy which is currently before the Commission for consideration.

Original Signed By:

Hans E. Schierling
Reverification Program
Licensing Branch No. 3
Division of Licensing

Enclosures:
As stated

cc w/enclosures:
See next page

See attached sheet for distribution

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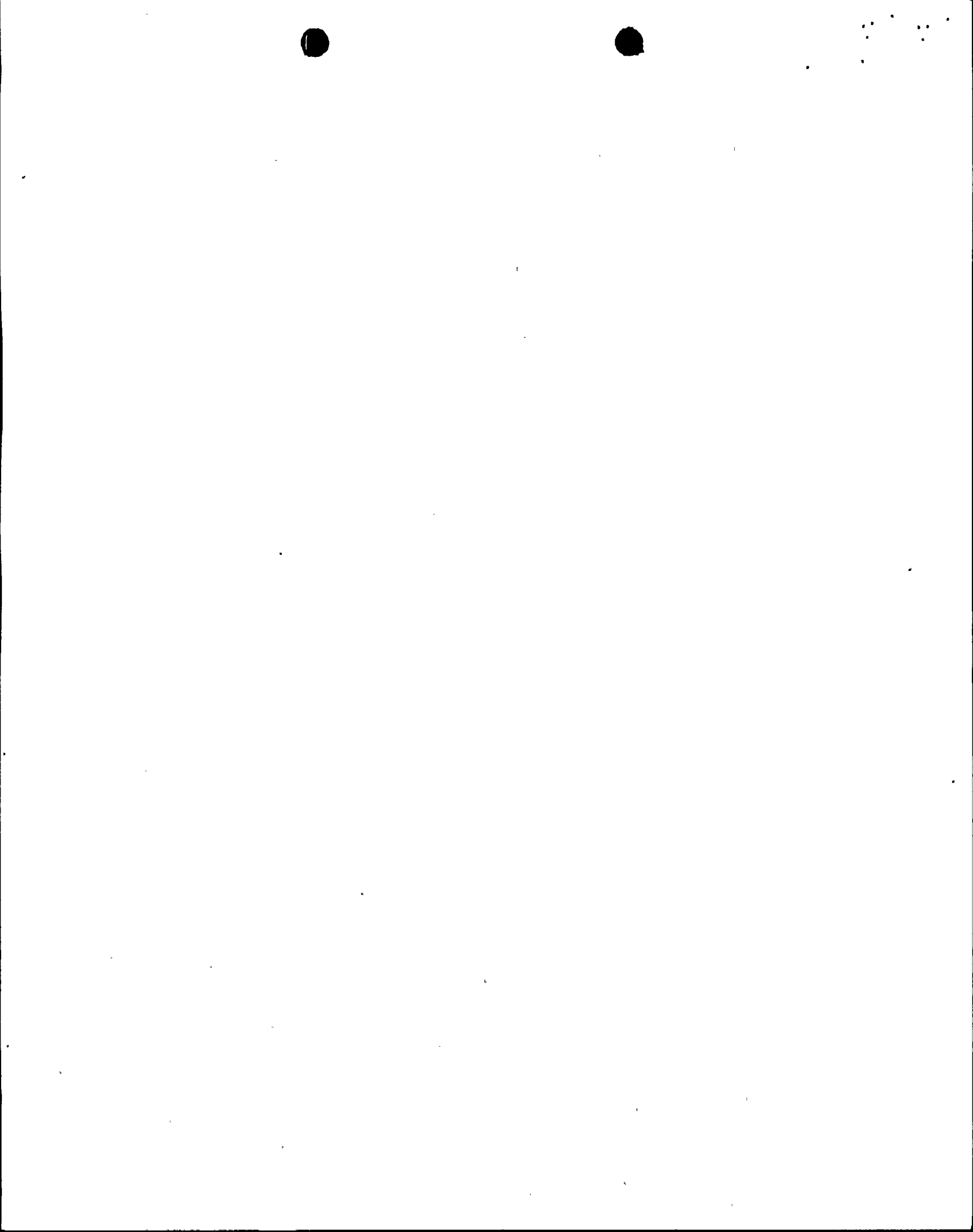
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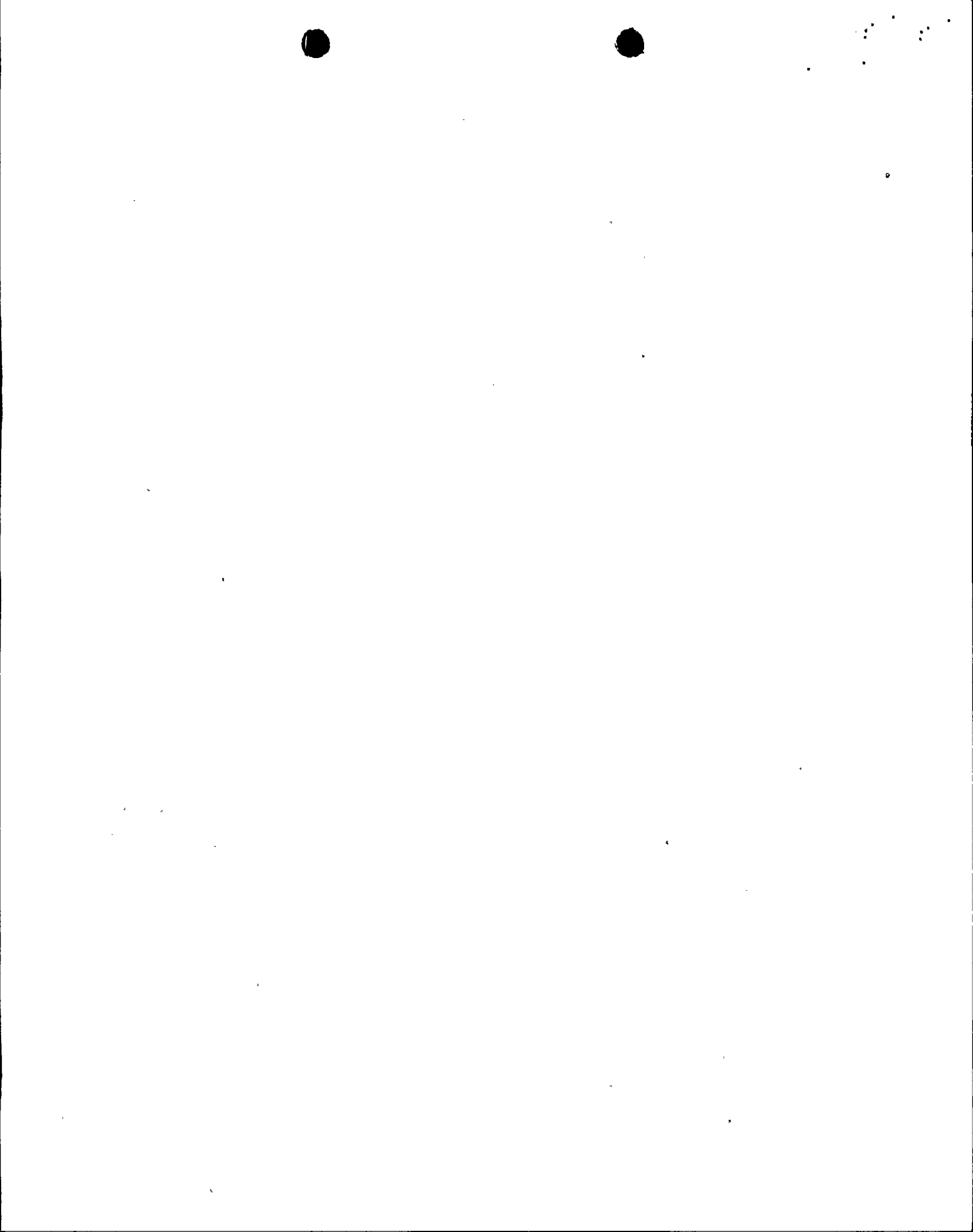
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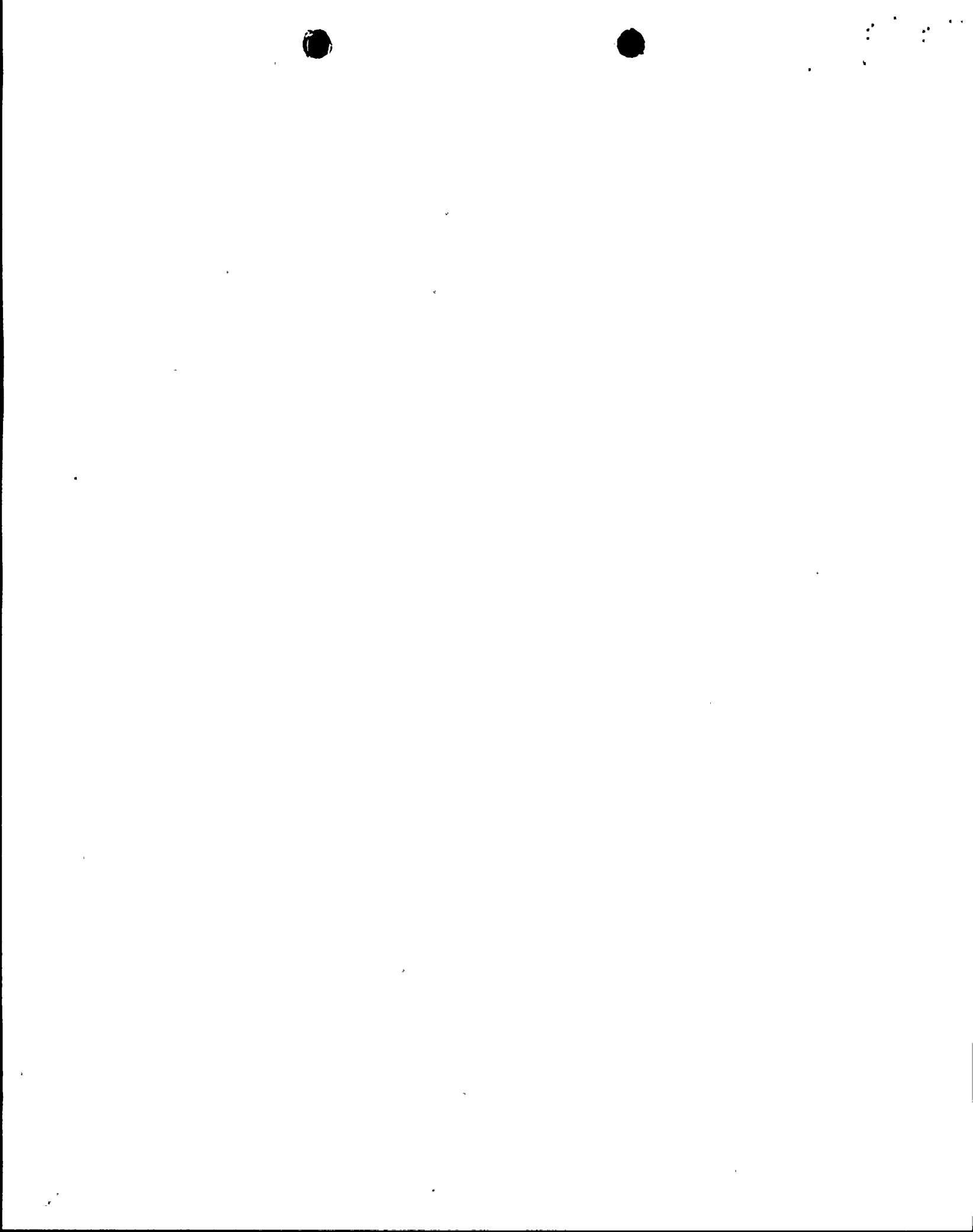
- 3 -

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Diablo Canyon Feb. 3, 1982 MeetingAttendance List

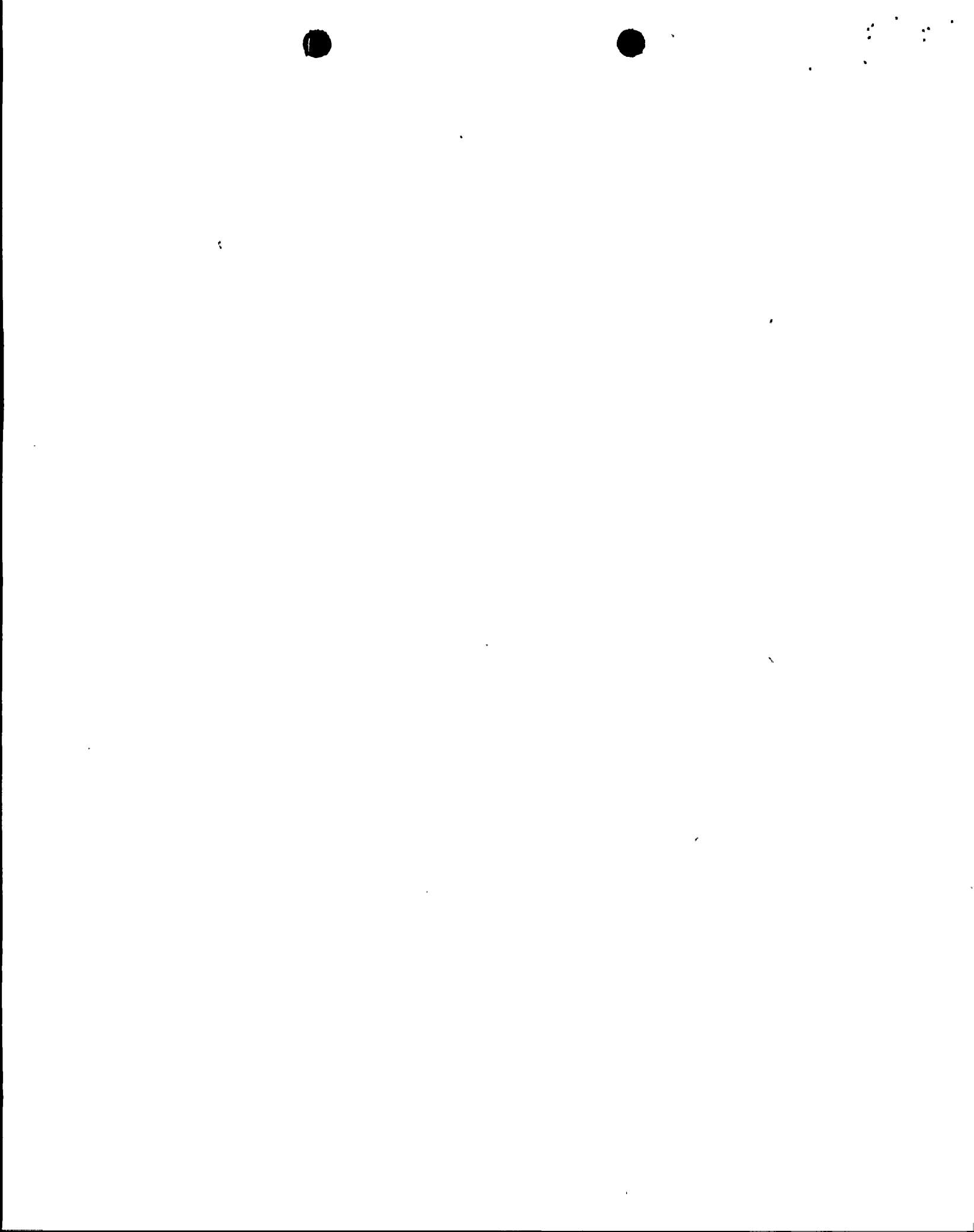
<u>Name</u>	<u>Affiliation</u>
Hans Schierling	NRR
Dick Vollmer	NRR
Dick DeYoung	I&E
Harold Denton	NRR
D. Eisenhut	NRR
B. Jones	ELD
F. Miraglia	NRR
Jesse L. Crews	Region V
Philip J. Morrill	Region V
Bob Bosnak	NRR/DE/MEB
Franz Schauer	NRR/DE/SEB
Goutam Bagchi	NRR/DE/EQB
Ken Herring	NRR/DL
P. T. Kuo	NRR/DE/SEB
J. P. Knight	NRR/DE
J. H. Sniezek	I&E
A. Giambusso	Stone & Webster
R. L. Tedesco	NRR
Stephen S. Skjei	NRR/DE/ET
A. W. Dromerick	I&E/Eng. E/Tech. Supp.
F. C. Cherny	NRR/DE/MEB
Walter P. Haass	NRR/QAB
J. R. Fair	IE:HQ
E. J. Sullivan	NRR/DE
D. Fleischaker	Joint Intervenors
H. Brown	State of California
P. Hubbard	MHS/State of California
Bob Senseney	NRC/International Programs
B. D. Liaw	NRC/QCM



Name.

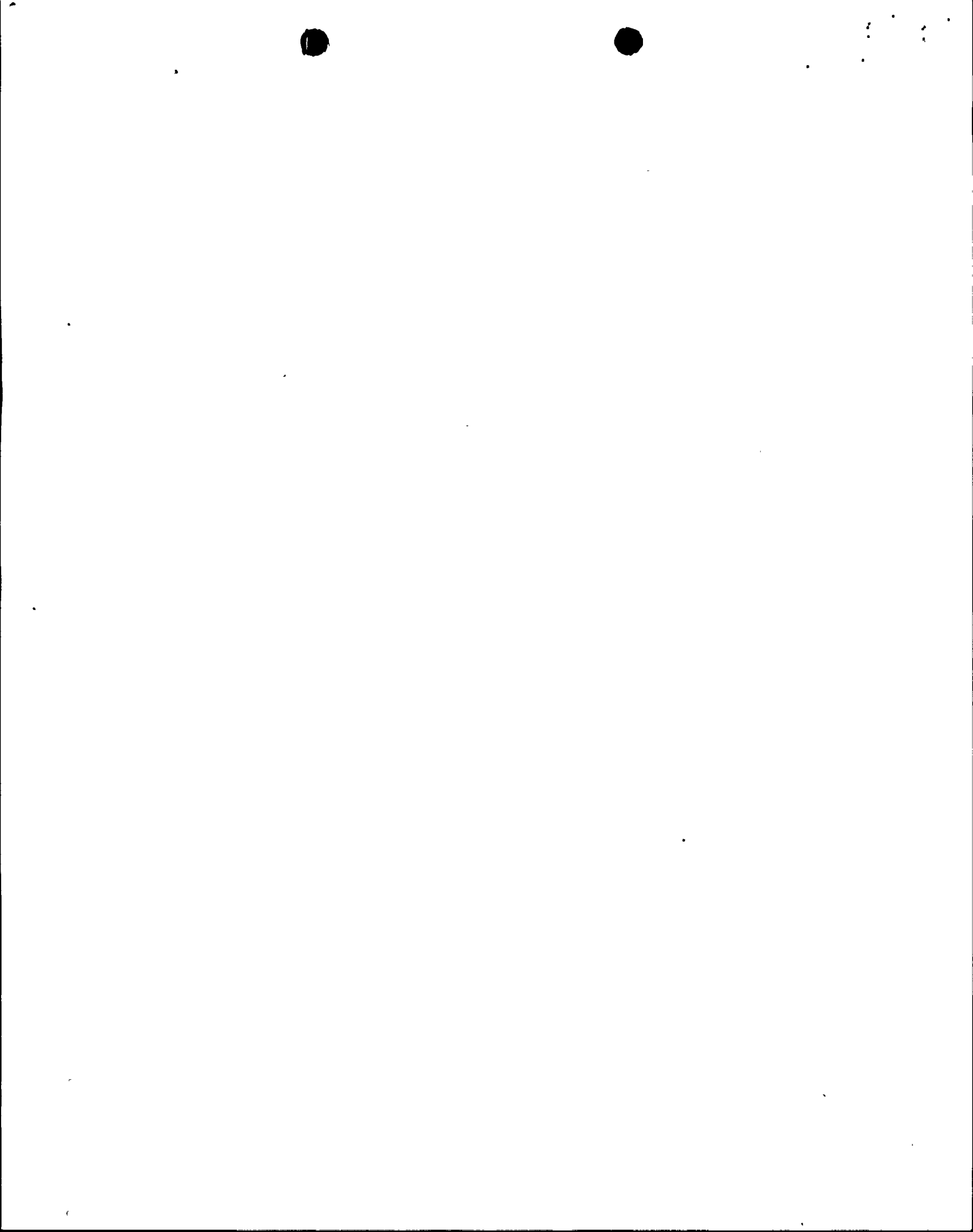
Affiliation

W. C. Gangloff	Westinghouse
M. N. Tramp	NUTECH
John I. Riesland	NNC
Jane H. Bergler	PG&E
William A. Bourassa	SNUPPS/Rockville, Md.
William G. Wendiand	
R. Sanacore	
M. J. Holley, Jr.	Hansen, Holley & Biggs, Inc.
Dick Davin.	PG&E
Frank Sestak, Jr.	Stone & Webster
Carlo Richardson, Jr.	Stone & Webster
Craig Grochmal	Stone & Webster
Edward Denison	Robert L. Cloud Associates
Robert Cloud	Robert L. Cloud Associates
Roger F. Reedy	R. F. Reedy, Inc.
William E. Cooper	Teledyne Engineering Services
James Rocca	PG&E
John B. Hoch	PG&E
Bruce Norton	Norton, Burke, Berry & French, P.C.
D. A. Brand	PG&E
Jim McCracken	PG&E
Roy R. Fray	PG&E
Gary H. Moore	PG&E
Barclay S. Lew	PG&E
Richard F. Locke	PG&E
Warren A. Raymond	PG&E
William J. Olmstead	NRC/OELD



Agenda
Meeting with PG&E
February 3, 1982
Seismic Reverification Program

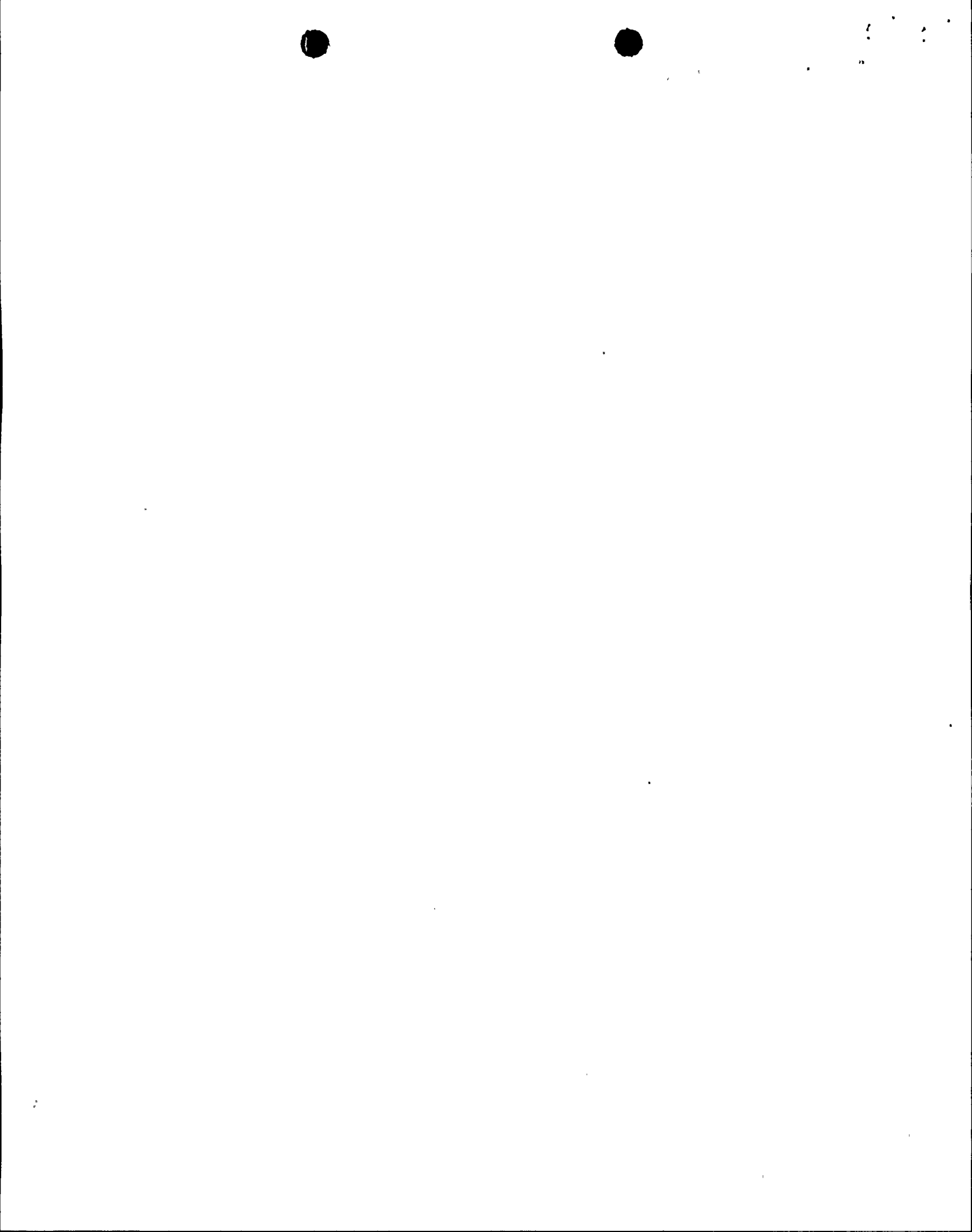
- 0900 - 0910 Opening Comments and Introduction - NRC
- 0915 - 0930 Opening Comments and Introduction - PG&E
- 0930 - 1045 I. Scope and Technical Aspects of Plan
- . Items 1, 2, 3 & 5 of Jan. 28 ltr.
D. G. Eisenhower to M. Furbush
 - . Items I.1-18 appended to Mtg. Notice
Agenda
- 1045 - 1100 Break
- 1100 - 1230 II. Sample Criteria
- . Item 4 of Jan. 28 ltr. D. G. Eisenhower
to M. Furbush
 - . Items II.1-6 appended to Mtg. Notice
Agenda
- 1230 - 1:30 Lunch
- 1:30 - 2:15 III. Benchmarking of Results
- . Item III.1 appended to Mtg. Notice Agenda
- 2:15 - 3:15 IV. QA Audit Methods
- . Items IV.1-4 appended to Mtg. Notice Agenda
- 3:15 - 3:30 Break
- 3:30 - 4:30 V. Size and Technical Qualifications of Review Team
- . Items V.1-4 appended to Mtg. Notice Agenda
- 4:30 - 5:30 VI. Contractual and Financial Qualifications
of Review Team
- . Items VI.1-5 appended to Mtg. Notice Agenda



Attachment

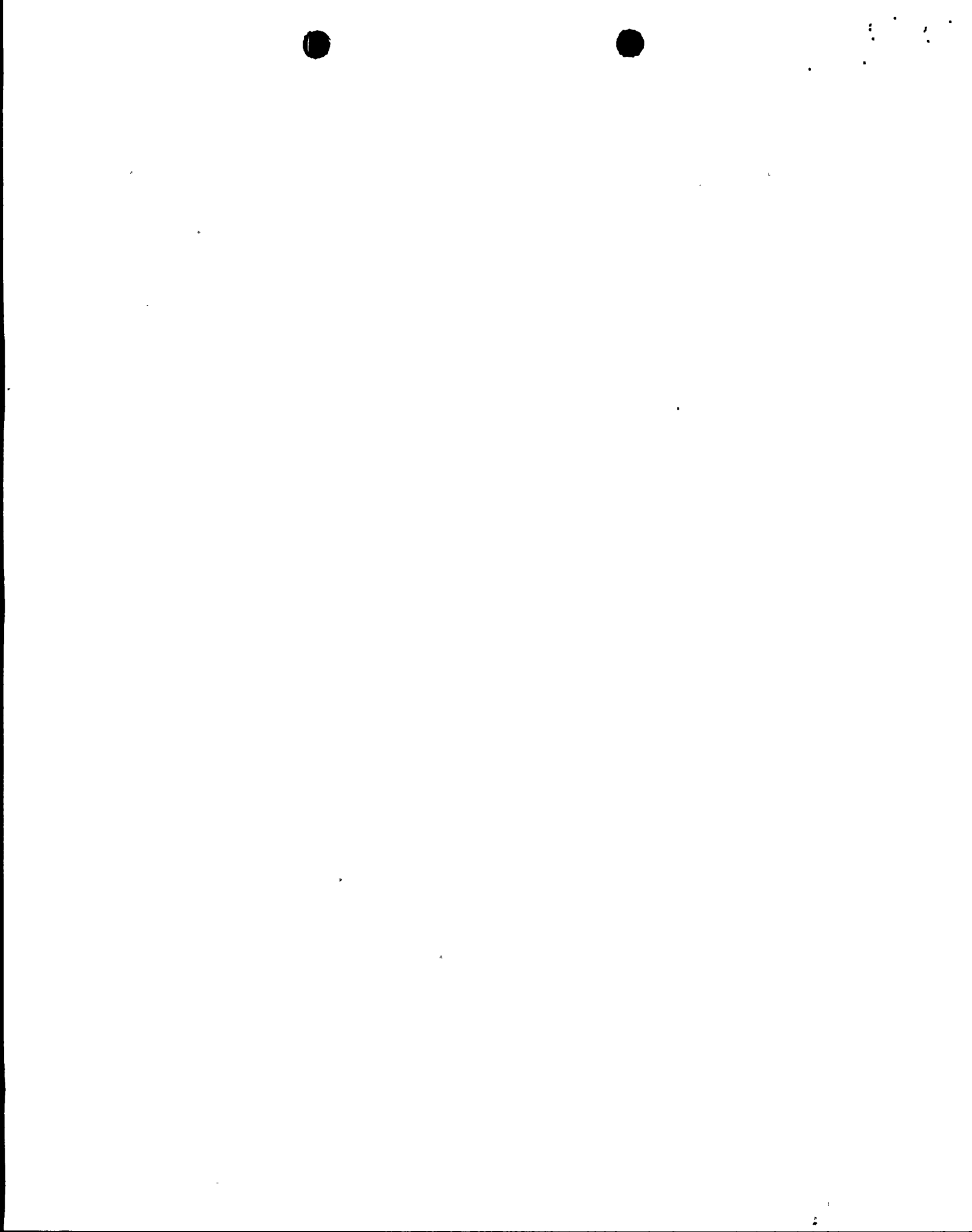
Agenda Items
Meeting with PG&E
January 19, 1982
Seismic Reverification Program

- I. Scope and Technical Aspects of Plan
- II. Sample Criteria
- III. Benchmarking of Results
- IV. QA Audit Methods
- V. Size and Technical Qualifications of Review Team
- VI. Contractual and Financial Qualifications of Review Team



1. Scope and Technical Aspects of Plan

1. Basis for selection of building(s) and structure(s) for seismic requalification
2. Models for piping problems, including isometric drawings based on "as built" conditions
3. Verification of input and seismic loads for piping and support analysis
4. Verification of design specifications, design reports and design documents with respect to "as built" conditions
5. Acceptance and rejection criteria for piping and supports
6. Supports for large components (tanks, heat exchanger, pumps, vessels)
7. Application of Reg. Guide 1.100 (Seismic Qualification of Electric Equipment for Nuclear Power Plants) to conduit and cable tray supports, and equipment
8. Adequacy of seismic input for equipment qualification, interpretation of vertical ground motion, effects of torsion and building response characteristics
9. Equipment procurement and qualification process (contractual obligations, modifications to account for Hosgri earthquake, commitments made during licensing activities)
10. Procedure and basis for determining errors in seismic qualifications
11. Independent development of dynamic model for auxiliary building
12. Criteria for acceptance of fundamental mode frequency, mode shapes and selective floor response spectra
13. Seismic reverification of buried tank and outdoor water storage tank
14. Independent field verification prior to requalification; consideration of IE Bulletin 79-14 in independent field verification



15. Seismic service contract activities within program scope
16. Details for analysis of PG&E internal interfaces
17. Definitions for (a) significant deficiency or error and (b) insignificant deficiency or error
18. Guidelines for determining appropriateness of design methods considering change in "state of the art" technology

II. Sample Criteria

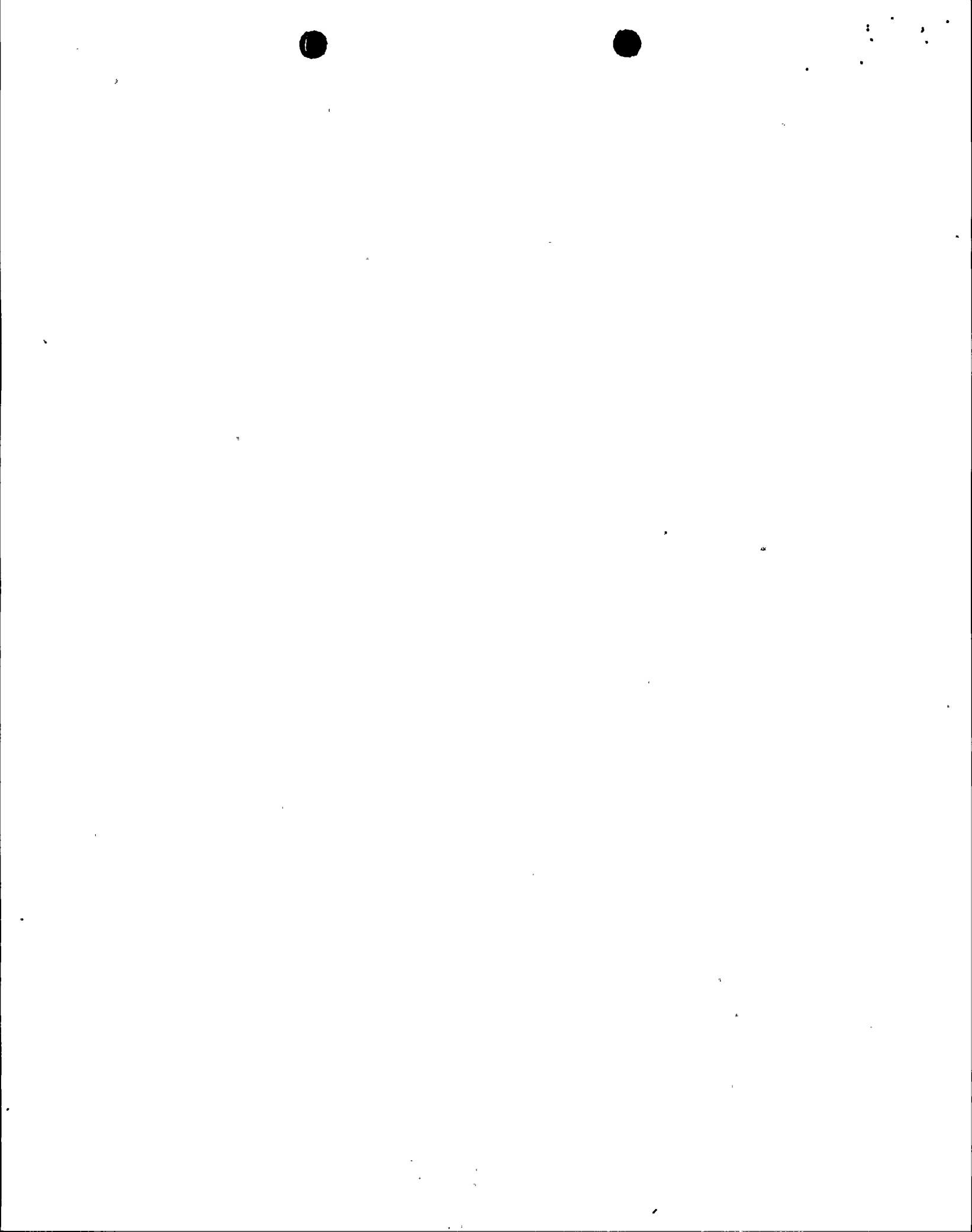
1. Criteria for selection of sample calculation and for expansion of sample size if needed
2. Statistical basis for sample size and procedure in case of failure
3. Equipment sample from safe shutdown and cooldown systems
4. Adequacy of design process and quality assurance; reporting on basis of sample cases
5. Criteria for sample checks and independent calculations
6. Application of current evaluation techniques to independent sample calculations in analysis of structures and components.

III. Benchmarking of Results

1. Benchmarking to NRC problems, of computer code for piping analysis

IV. QA Audit Methods

1. Reporting procedure for R. F. Reedy to R. L. Cloud and PG&E
2. Scope of QA review (procurement documentation control; instructions, procedures and drawings; document control; auditing)
3. Review of operational QA program (post 1978) with respect to implementation of corrective actions
4. Consideration of applicable QA criteria (10 CFR 50 App. B)



V. Size and Technical Qualifications of Review Team

1. Identification and qualifications of individuals performing QA review
2. Expertise of individuals in civil-structural design and analysis
3. Expertise in seismic analysis of structures
4. Assignment of individuals with appropriate expertise to specific tasks

VI. Contractual and Financial Qualifications of Review Team

1. Previous involvement of companies and individuals in Diablo Canyon activities now under their independent review scope.
2. Previous involvement of companies or individuals in Diablo Canyon Seismic design work
3. Previous employment by PG&E of individuals now participating in independent review
4. Ownership or control of PG&E stock by individuals participating in independent review
5. Employment by PG&E of relatives or members of present household of individuals participating in review, and position if appropriate.





JAN 28 1982

Mr. Malcolm H. Furbush
Vice President - General Counsel
Pacific Gas & Electric Company
P. O. Box 7442
San Francisco, California 94120

Dear Mr. Furbush

As a result of our ongoing inspection of the activities currently being implemented by you and your contractors in accordance with your proposed Reverification Program Plan described in your submittal of December 4, 1981, we have determined that additional information is necessary for us to determine the acceptability of the program plan. These additional concerns are described in the Enclosure and relate to your procedures for conducting your proposed Reverification Program. The purpose of this letter is to apprise you of those concerns which we believe warrant your immediate attention. We will arrange a meeting with you in the near future to discuss these concerns, in addition to our questions and concerns, which were provided to you in the form of meeting agenda items on January 8, 1982.

As you know the Commission Order requires the review and approval by the NRC of the Reverification Program Plan and of your contractors participating in the program. Accordingly, you should understand that all work undertaken prior to such approvals are being done at your own risk and may be required to be revised in accordance with the NRC approved Reverification Program Plan and contractors.

In addition to these concerns, you should be prepared to discuss at this meeting, procedural guidelines regarding the transmittal of information between you and your contractors that you would propose to follow to help assure the independence of the reverification efforts.

We will inform you in the near future of the time, date and place of the meeting to discuss these and other questions and concerns about your proposed Reverification Program Plan.

Sincerely,

Darrell G. Eisenhut, Director
Division of Licensing
Office of Nuclear Reactor Regulation

Enclosure:
As stated

cc: See next page.

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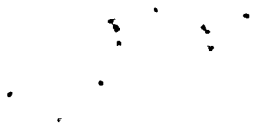


ENCLOSURE

Staff Concerns Re Procedures for Conducting the Reverification Program

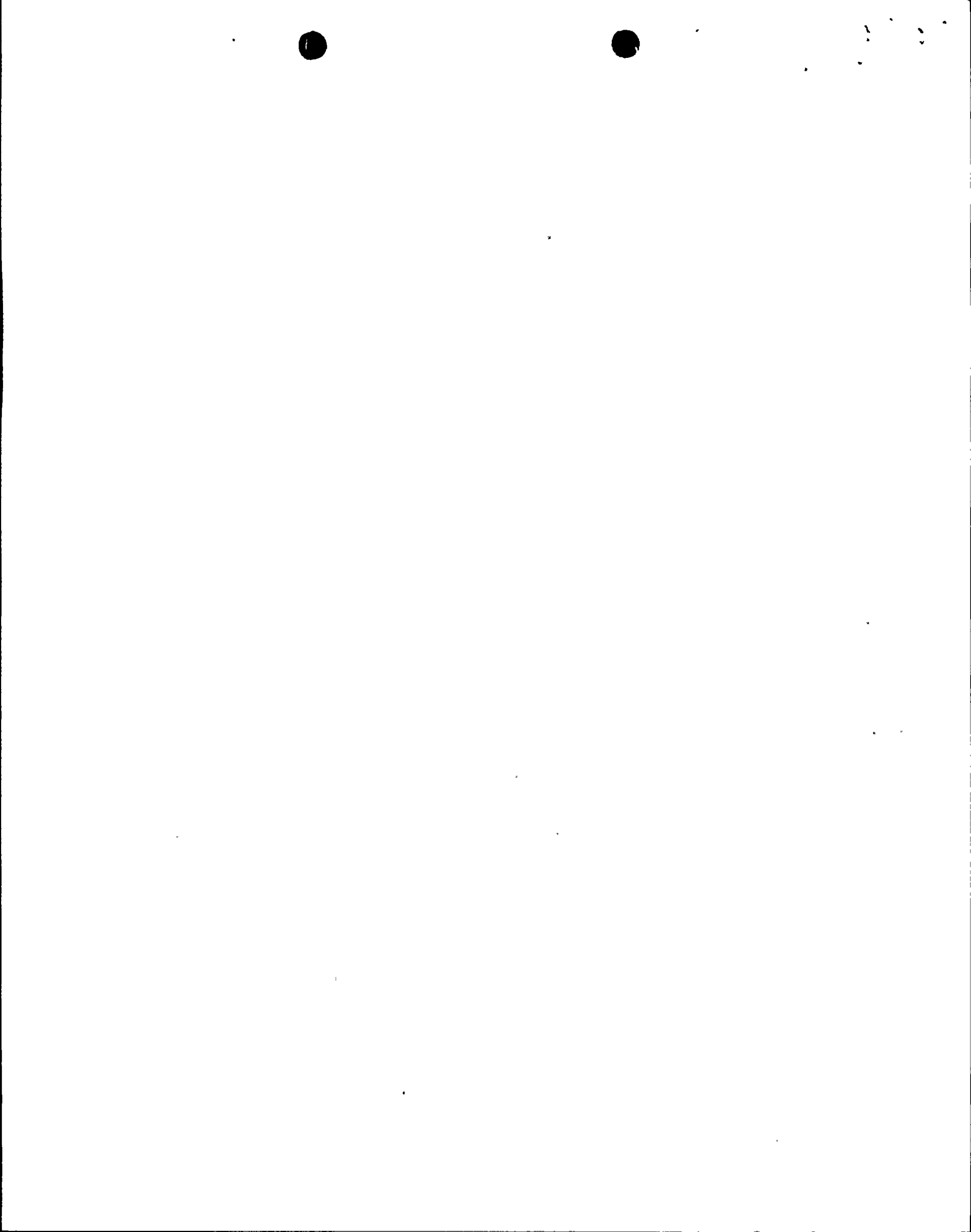
1. Notwithstanding your letter of January 8, 1982 stating that you do not require a reply from the NRC regarding your November 18, 1981 submittal of the Preliminary Report, the report did identify items requiring further follow-up and resolution by PG&E. All of these items do not appear to be included in your Reverification Program Plan. Examples are (1) the Westinghouse application of the correct seismic response spectra (Preliminary Report, page 20) and (2) the adequacy of control room equipment qualification (Preliminary Report, page 33). Please identify all items that were included in the Preliminary Report as requiring further action, explain the actions being taken including a schedule for resolution and describe how the items are included in the Reverification Program Plan.

2. The scope of your proposed Reverification Program Plan does not fully address the requirements of the Commission Order of November 19, 1981. For example (1) your design review does not appear to examine PG&E internal interfaces (Item 1.(a)(3) of the Commission Order) that rely on URS/Blume input for structural element evaluation, and (2) the exclusion of Westinghouse and General Electric from further design review on the basis that you consider the contracts with these companies as not "seismic service-related" (Item 1.(a) of Commission Order) is not adequate. Please identify how these and all other items in the Commission Order are being addressed in the proposed Reverification Program.



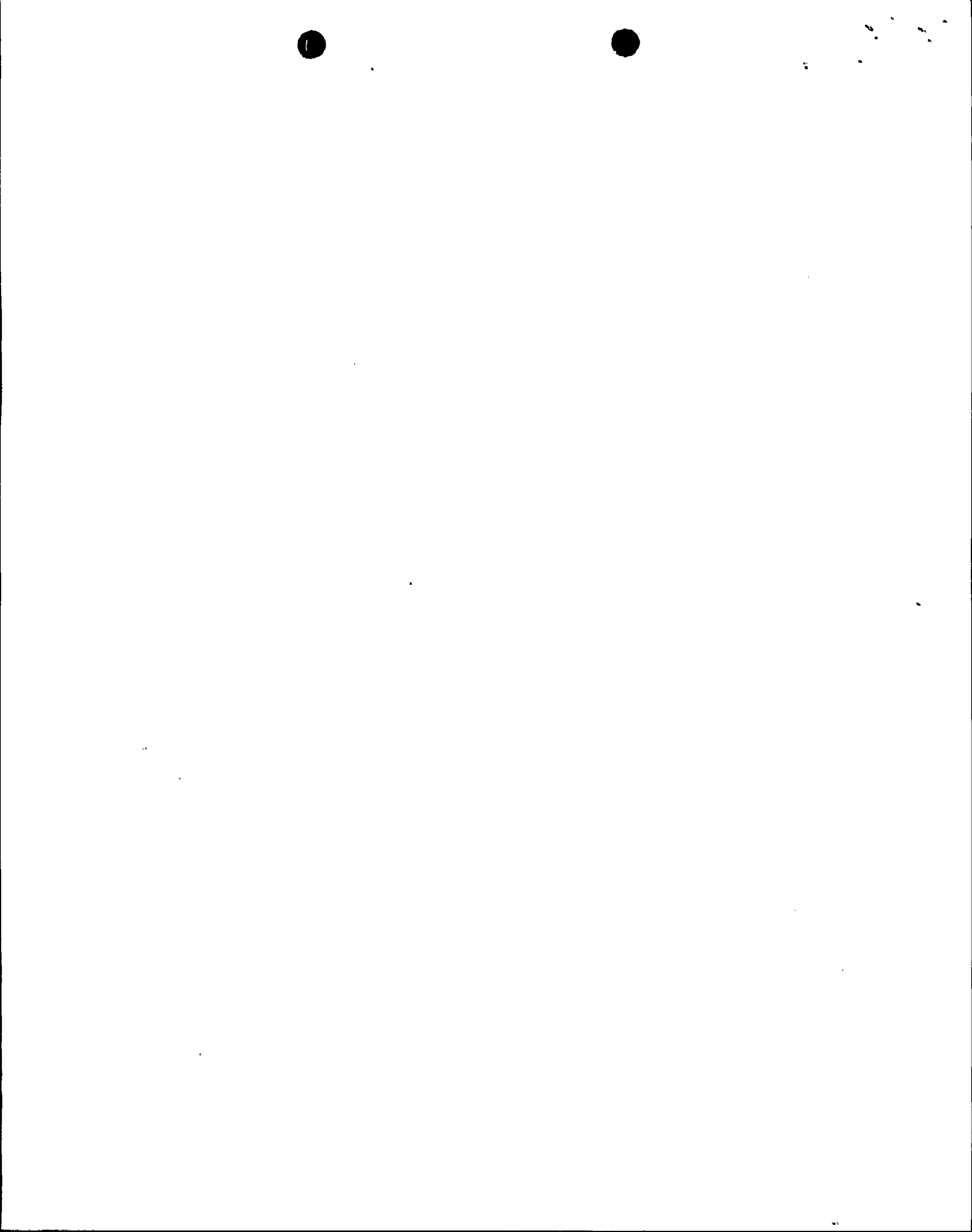
3. It appears that your procedures and threshold for identifying and reporting errors and open items identified during the proposed Reverification Program need improvement. For example, (1) the NRC was not promptly notified of the difference in the auxiliary building seismic responses (Hosgri vs URS/Blume 1979 report) which was identified within PG&E in mid-November 1981, and (2) a similar problem exists with the intake structure seismic responses which was not reported to the NRC until inspectors discussed this with your engineering staff. Please inform the NRC promptly of any error identified by your staff or your contractors during the course of the Reverification Program in conjunction with the biweekly progress reports. In no case should the notification of the NRC be delayed more than two weeks past discovery, whether or not the significance of the error has been evaluated.

In addition to the two items discussed in the preceding paragraph, it appears that URS/Blume performed a structural analysis of the polar crane subsequent to that conducted in the Hosgri reevaluation. This matter was noted in the Preliminary Report by Dr. Cloud. Based on a preliminary review of this later Blume analysis, it appears that the Hosgri reevaluation of the polar crane may not be conservative. These three items lead to a general concern regarding the thoroughness of the technical review conducted by PG&E of URS/Blume seismic inputs in the Hosgri reevaluation; particularly with respect to the review of the final design reports submitted to PG&E by URS/Blume to determine whether the Hosgri reevaluations should be updated or modified.

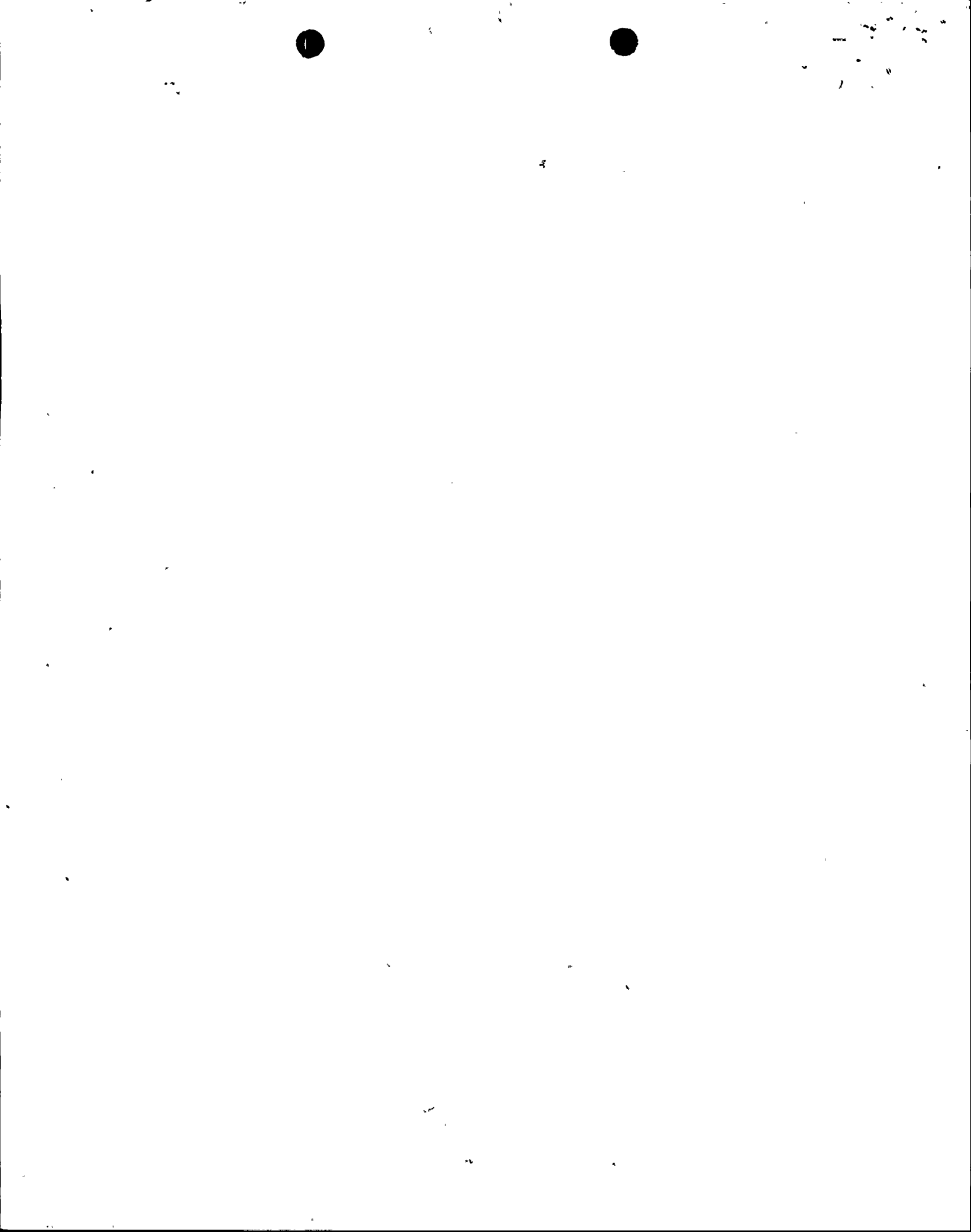


4. The level of reverification, the criteria for determining additional sampling, and the applicable acceptance criteria are not adequately identified, described and updated. Specific examples are as follows:
 - (1) The independent reverification of the auxiliary building structure is simply a check (hand calculations) of building masses and stiffnesses without necessarily any verification by accepted computer codes or an examination of the URS/Blume input and output data files.
 - (2) An error in the seismic model of a fan cooler discovered by R. L. Cloud was determined to be conservative (in this case) and therefore no additional sampling appears to be scheduled.
 - (3) The internal R. L. Cloud document "Criteria and Methodology for Independent Calculations and Criteria for Independent Evaluation", dated January 4, 1982, has not been incorporated into the Reverification Program. Thus, your program as described in the Reverification Program Plan does not provide the bases for initial sampling, the acceptance/rejection criteria and the criteria for expansion of the initial sample.

5. Your biweekly status reports, including the R. L. Cloud progress reports, have not always concisely identified all deviations and errors that were found in the documentation, design, or as-built configuration of systems and structures. The initiation of the "Error and Open Items (EOI)" report by R. L. Cloud, included in your status report of January 8, 1982,



is expected to improve the situation. However, while the Cloud progress report identified differences in the floor response spectra between the Hosgri report and the URS/Blume 1979 report, this item was not included in the EOI report. We therefore request that you develop a tracking system that identifies all deviations and errors discovered by you or your contractors since the initial notification of seismic design errors in September 1981 and during the Reverification Program. The system should indicate when the problem was identified, on what basis it was determined to be a problem, and provide the status of resolution, including any modifications that will be or have been implemented. The system should be updated regularly and be included in your biweekly status reports.



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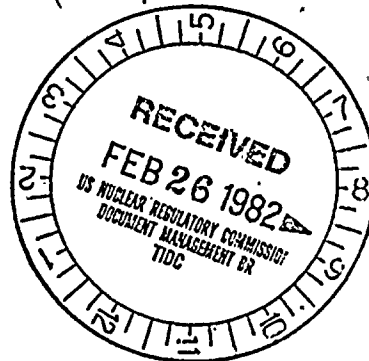
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(Transcript of February 3, 1982 meeting)

Diablo Canyon

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