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Chairman Nunzio J. Palladino
Commissioner Victor Gilinsky
Commissioner Peter A. Bradford
Commissioner John F. Ahearne
Commissioner Thomas M. Roberts
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Re: In the Matter of
PACIFIC GAS AND ELECTRIC COMPANY
(Diablo Canyon Units 1 and 2)
Docket Nos. 50-275 O.L. and 50-323 O.L.

Gentlemen:

This letter responds to the Commission's invitation to comment on the results of the NRC Staff's investigation of: (a) the relationship between Pacific Gas and Electric Company ("PG&E") and R.L. Cloud and Associates, Inc. ("R.L. Cloud"), the consultant retained by the utility to conduct a seismic design reverification program for the Diablo Canyon Nuclear Power Plant ("Diablo Canyon"); and (b) certain statements made by PG&E representatives at a meeting between the NRC Staff and PG&E on November 3, 1981.^{1/} These statements led the NRC Staff to believe that no draft of the R.L. Cloud report^{2/} had been reviewed by PG&E prior to its submission to the NRC, when in fact PG&E had reviewed three separate drafts^{3/} of the Cloud report and forwarded comments to R.L. Cloud prior to his finalizing the report and submitting it to the NRC.

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- ^{1/} Inspection Report of "Preliminary Report, Seismic Reverification Program" at Diablo Canyon Nuclear Power Plant, Units 1 and 2 (NUREG-0862) (cited hereinafter as "Staff Report").
- ^{2/} "Preliminary Report, Seismic Reverification Program," prepared by R.L. Cloud and Associates, Inc.
- ^{3/} The first draft report, dated October 21, 1981; the second, October 26, 1981; and the third, November 6, 1981. Staff Report at 11-12.

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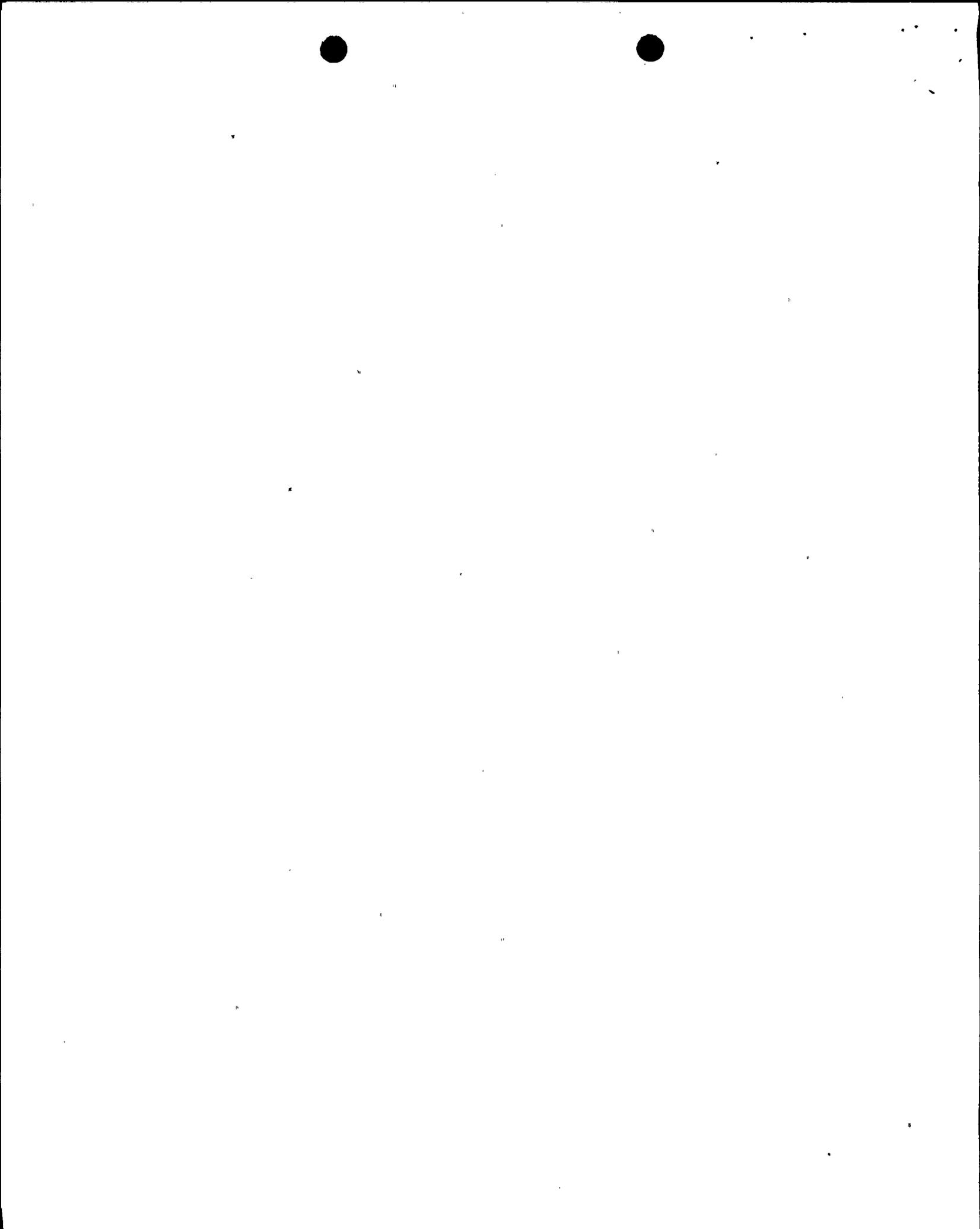
Shortly after PG&E disclosed that the wrong diagram had been used to upgrade the seismic capabilities of certain safety-related features located in the Unit 1 containment annulus, the Joint Intervenors requested an independent audit of the Diablo Canyon safety-related structures, systems and components.^{4/} It was -- and still is -- our view that such an audit is needed to assure that the plant can be operated safely. By "independent auditor," we mean a person (or persons) whose judgment is unfettered and whose loyalty is to the public interest that the NRC represents, and not to any party in this proceeding.^{5/} We believe it is in this sense that the Commission on November 19 ordered PG&E to conduct an independent audit at Diablo Canyon.^{6/}

The information in the Staff's inspection report, taken together with other information in the public record, requires the conclusion that R.L. Cloud is a member of the PG&E "licensing team" and not a totally independent auditor. From the beginning, R.L. Cloud's role was that of a consultant hired to do a job in a manner compatible with the company's licensing objectives. Shortly after discovering the design error affecting the Unit 1 containment annulus, PG&E retained R.L. Cloud. His job was to determine whether the diagram mix-up was an isolated error or whether it indicated a more fundamental breakdown in PG&E's quality assurance program at Diablo Canyon. Since the "diagram error" occurred in the transmission of information between PG&E engineers and URS/Blume, R.L. Cloud's study was to focus on that interface. Staff Report, Appendix E at 5-9. At the same time, PG&E's interest was to assure that any studies fit within the utility's overall objectives -- get the study done as quickly as possible, demonstrate that this was an isolated error, or, if there were others, that they had no safety impact, and get the plant back on the track for fuel load and low power testing.

^{4/} On September 28, 1981, and September 30, 1981, PG&E notified the NRC Staff of the errors in the Unit 1 containment annulus. Staff Report at 5. During the October 9, 1981, meeting between the NRC Staff and PG&E, the Joint Intervenors specifically requested that the NRC Staff recommend an independent audit of the seismic re-analysis. Meeting transcript, October 9, 1981, at 120; Staff Report at 24.

^{5/} In a similar vein Mr. Denton, Director, Office of Nuclear Reactor Regulation, stated at the November 9, 1981 Commission meeting, "I think independence means at the bottom without undue influence...". Meeting transcript, November 9, 1981 at 30.

^{6/} Letter from Harold Denton, Director, Office of Nuclear Reactor Regulation, NRC, to Malcolm Furbush, Vice President-General Counsel, PG&E, dated November 19, 1981.



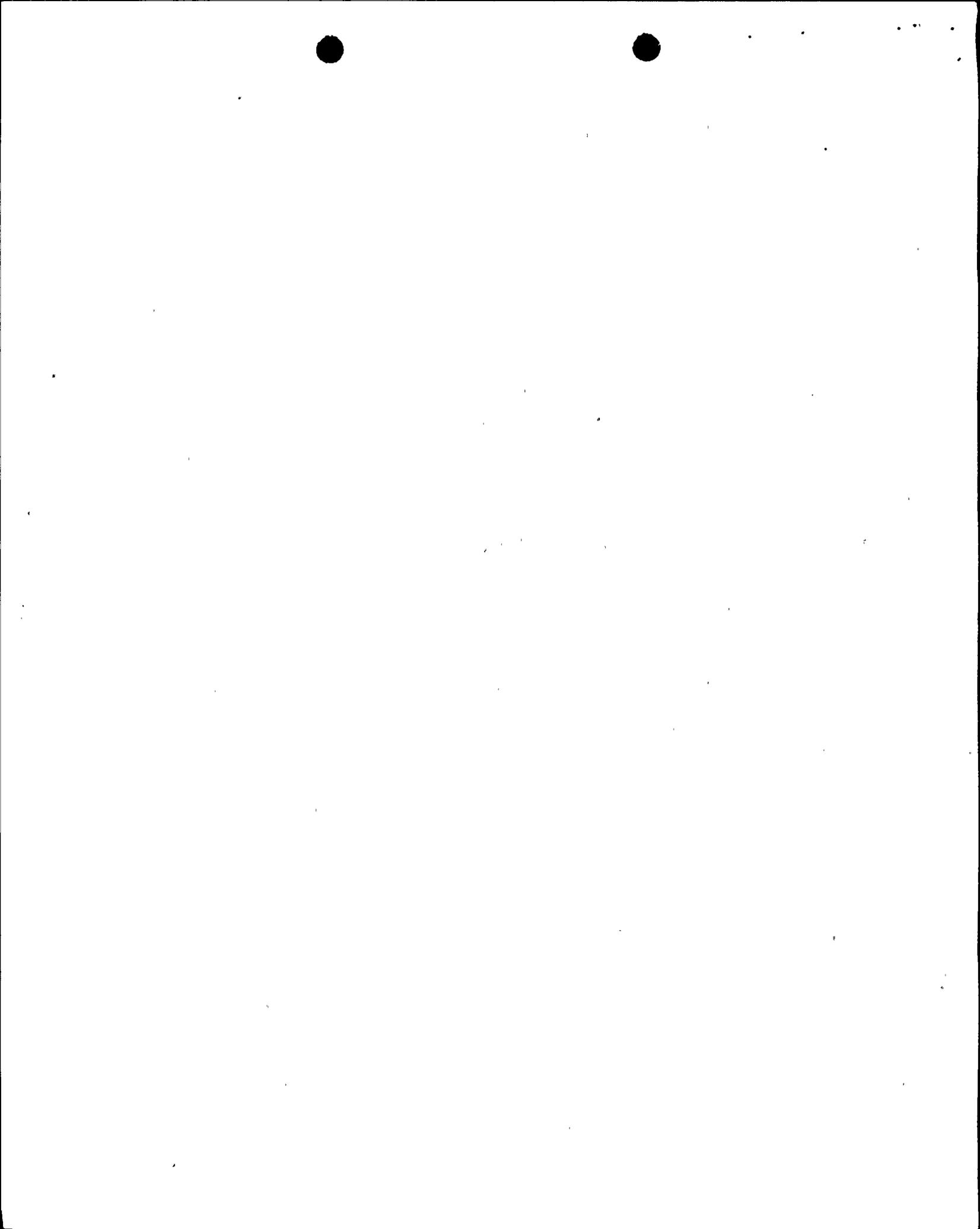
R.L. Cloud adopted these objectives as his own. The consultant became a member of the licensing team and an advocate for his client. Consider the evidence.

1. The scope of R.L. Cloud's reverification program was drawn to be compatible with PG&E's objective of resuming fuel load activities by October 30, 1981, despite the fact that thoroughness argued for a broader and more time-consuming approach.^{7/} As Dr. Cloud relates, "I had to go to get a paper [draft of the "Preliminary Report"] completed in a week, because we were thinking in terms of resuming fuel loading on the 31st." Staff Report, Appendix E at 11 (emphasis added). Thus, R.L. Cloud adopted PG&E's licensing objective as a limiting parameter for the reverification study. Moreover, to meet that schedule, R.L. Cloud almost assured that the quality of its work would suffer from worker exhaustion. As Dr. Cloud explains, his staff worked "literally day and night" to prepare the first draft of the "Preliminary Report" in time for PG&E to meet its October 31st deadline. Staff Report, Appendix E at 11. Errors and omissions are likely to occur where, as here, a small tired staff is required to review and critically analyze volumes of highly technical, unfamiliar information under the pressure of a short deadline. R.L. Cloud assumed that risk because it placed too high a priority on meeting its client's licensing schedule.

2. At the meeting between the NRC Staff and PG&E on November 3, 1981, the following exchange occurred:

Mr. Cloud: . . . What we hoped that we would be able to find was that these errors did not affect the safety of the plant; we hoped that the entire nuclear design process with its margins and its requirements would be enough that any of the errors that one would expect to find in a review of a lot of calculations would not affect safety. And I believe that this is the situation that we find ourselves in now at the moment. I do not find the basic safety of the plant has been compromised, but we have found instances of misapplication of seismic data. Thank you.

^{7/} Governor Brown's expert, Richard B. Hubbard, formerly the head of quality assurance of General Electric Company Nuclear Division, argued previously that the scope of R.L. Cloud's study was too narrow. Events have proven him right. Memorandum from counsel of Governor Brown to Harold Denton at 3-5 (attached to letter from Edmund G. Brown Jr., Governor, State of California to Nunzio Palladino, Chairman, NRC, dated October 30, 1981); Meeting transcript, November 3, 1981, at 242-7.



Mr. DeYoung: May I ask a question? Why did you hope that you wouldn't find large errors that would impose upon safety? Why did you hope that? I could see why the utility would hope that, but as an independent reviewer, why did you hope that?

Mr. Cloud: I'm speaking as a professional engineer.

Mr. DeYoung: Sometimes if you hope for something, you direct your activities toward that hope. It is a strange statement for an independent reviewer.

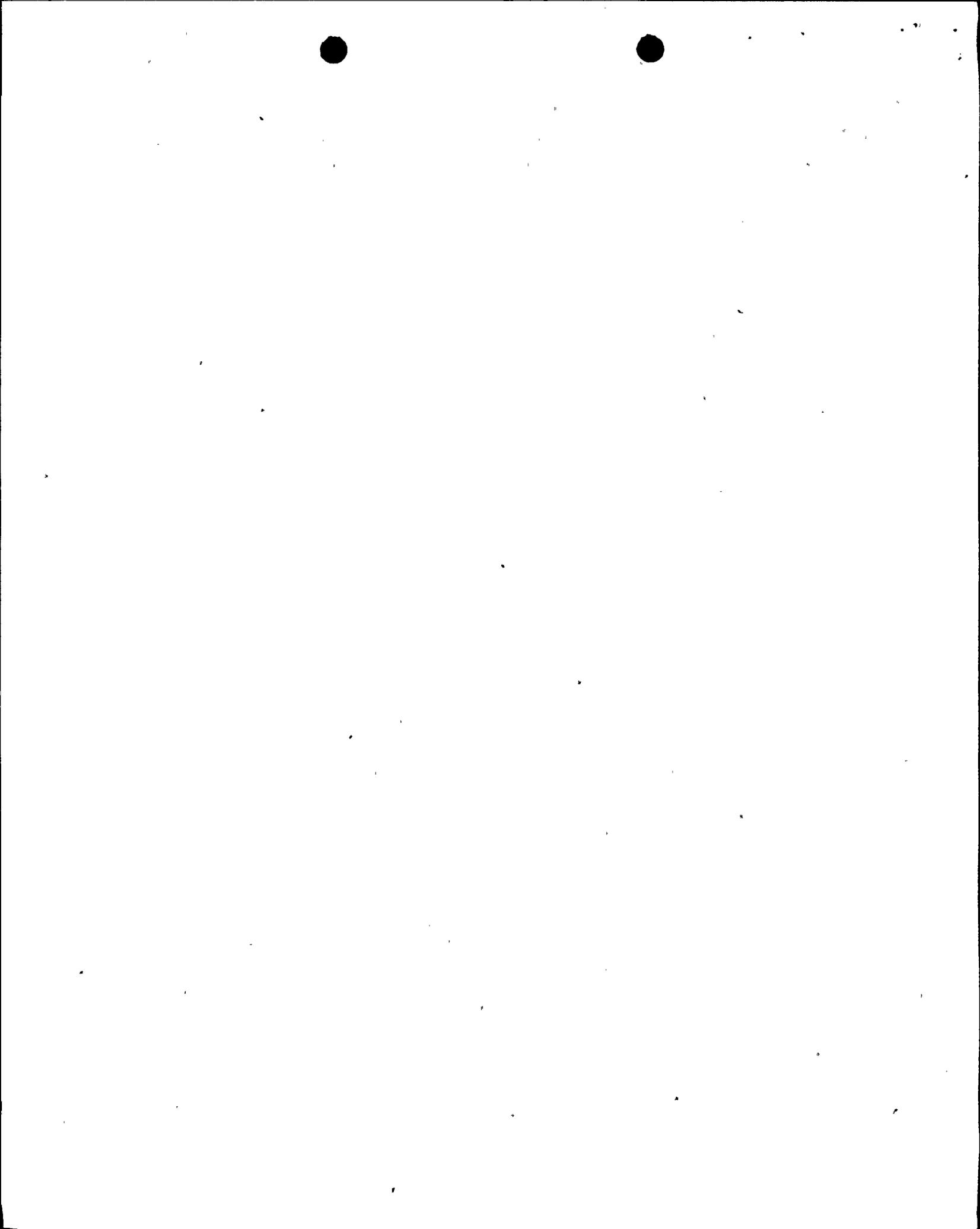
Meeting transcript, November 3, 1981, at 207-8.

As Mr. DeYoung of the NRC Staff points out, Dr. Cloud's language strongly suggests the mindset of a PG&E "licensing team" member, not an independent auditor. Also, note that Dr. Cloud's language referenced in paragraph 1 above, ". . . because we were thinking in terms of resuming the fuel loading on the 31st . . .", also suggests that R.L. Cloud adopted the client's time frame as its own.

3. Dr. Cloud's attendance at multiple PG&E strategy sessions prior to the November 3 meeting is additional evidence that the relationship between R.L. Cloud and PG&E was too cozy to be characterized as truly arms' length and independent. On Saturday, Sunday and Monday prior to the November 3 meeting with the Staff, PG&E's upper level management and lawyers met and prepared their presentations. Dr. Cloud was present at these meetings and "rehearsed" his presentation for his client. Staff Report, Appendix E at 35, 271, 430-31, 467-68.^{8/}

4. R.L. Cloud's willingness to overstate its role in formulating the reverification program in order to allay NRC Staff concerns for independence and head off any additional time-consuming requirements harmful to PG&E's interests, evidences too great a concern to champion his client's cause. At the November 3 meeting, Dr. Cloud stated that the reverification program had been "all my own ideas and I formulated it myself without any help from the people at PG&E." Meeting transcript, November 3, at 215. However, the Staff investigation uncovered the fact that PG&E worked closely with R.L. Cloud to develop the reverification program. Staff Report, Appendix E at 122-3, 338-9,

^{8/} Dr. Cloud: I ... was thinking at the time and in the day or two preceding this meeting when I was rehearsing my -- the presentation that I intended to give ..." Staff Report, Appendix E at 34-35.



362-3. And in fact PG&E engineers were concerned that at the November 3 meeting Dr. Cloud had overstated his role in developing the reverification program. As Mr. Brand, Vice President of Engineering of PG&E, recalled for Staff investigators:

Mr. Brand: . . . I recall Mr. Rocca and I having a discussion during the lunch break. . . . Mr. Rocca was -- shall I characterize it -- upset with Mr. Cloud's earlier statement -- this is all from memory now -- that the verification program had been his idea and his idea alone, because Mr. Rocca related to me during the luncheon that there had been substantial interaction between PG&E and Dr. Cloud and even involving the NRC in what ought to be included in the reverification program. Dr. Cloud's statement was excessive in that it said it was solely his product.

Staff Report, Appendix E at 338-9.

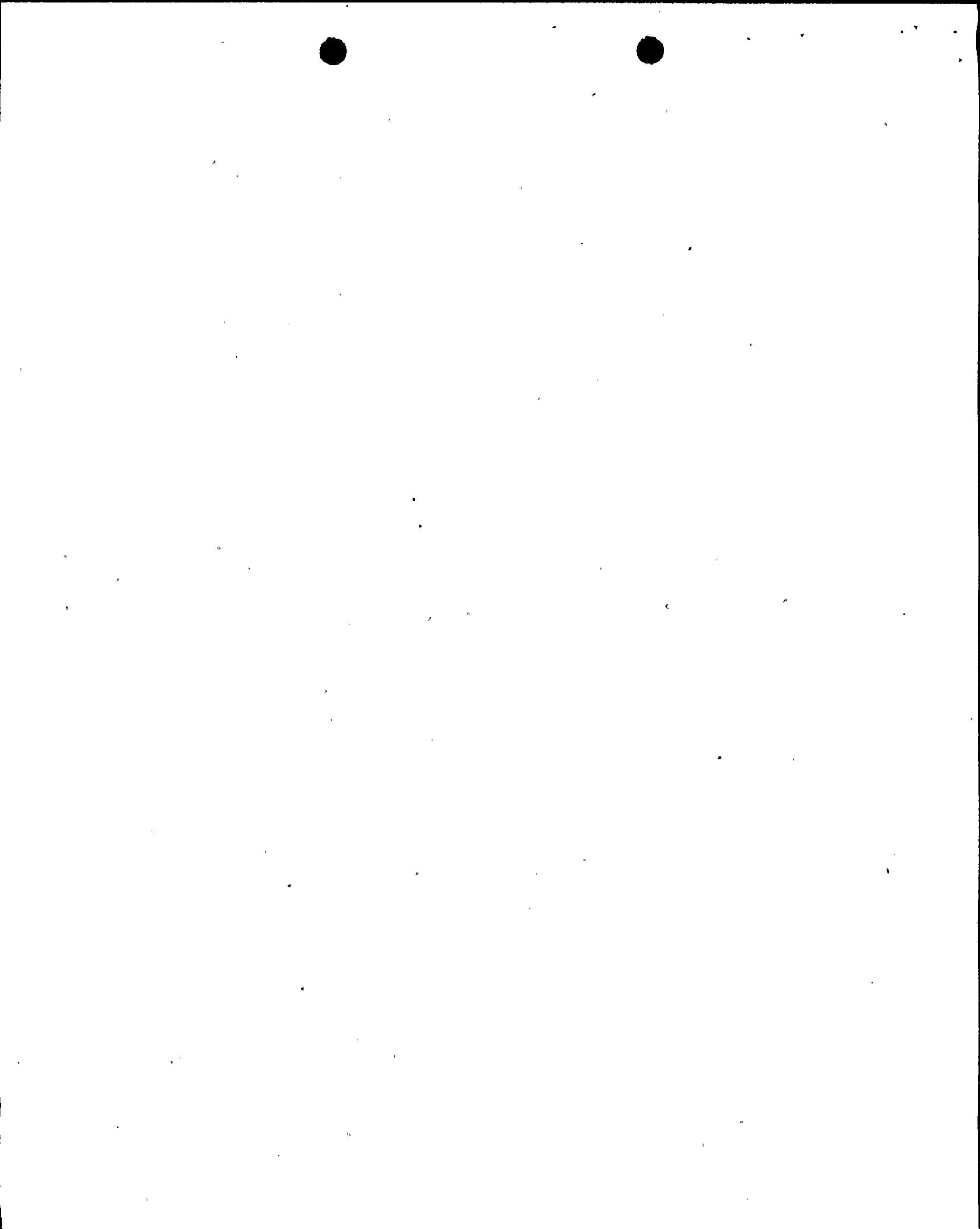
Dr. Cloud's assertion that the reverification program was "all his own idea" followed on the heels of Mr. Denton's inquiry into "the degree of independence of Dr. Cloud." Meeting transcript, November 3, 1981, at 214-15. Dr. Cloud's statement was apparently calculated to put the issue of independence to rest. To accomplish that objective, however, Dr. Cloud misstated the facts.

5. Dr. Cloud's failure to correct Mr. Norton's erroneous and misleading statement that drafts of the Cloud report had neither been received nor reviewed is further evidence that R.L. Cloud's preoccupation with meeting PG&E's licensing objectives took precedence over establishing review procedures that would encourage arms' length, objective review. Because of their significance, we repeat here the statements that apparently misled the Staff.

First, in response to a question from Mr. Eisenhut of the NRC Staff asking when the Staff could expect to see the short term report, Mr. Norton replied: "I might add that we do not have it. It's not a question of reviewing it. We don't have it either. It just hasn't been done yet." Meeting transcript, November 3, 1981, at 217.

The second statement occurred in the following exchange between Mr. Denton and Mr. Norton:

Mr. Denton: Well, this is a particularly sensitive issue, I was wondering how you propose to handle comments on this draft, or are you going to send us the same report he sends you and add your cover letter to it? Or how will you preserve independence?



Mr. Norton: Any suggestions that you have -- if you want the report before we see it, fine. I frankly resent the implication that Dr. Cloud is not an independent reviewer because he is. As Mr. Maneatis just reported to you, we heard this presentation to you yesterday -- in fact, we heard it Sunday for the first time. I assure you that's the case and we came back last night, or we came back yesterday and you heard it this morning. The report itself hasn't been prepared. If you want a copy of it before we get it, fine, or simultaneously. He is an independent consultant, and, you know, I don't know how we can show you that more than to give you the reports when they are prepared. You certainly are welcome to have an auditor, if you will, from the NRC accompany Dr. Cloud and his people in their work. Whatever you want to do. If you want to talk to them directly out of our presence, fine. He is an independent consultant.

Meeting transcript, November 3, 1981. at 217.

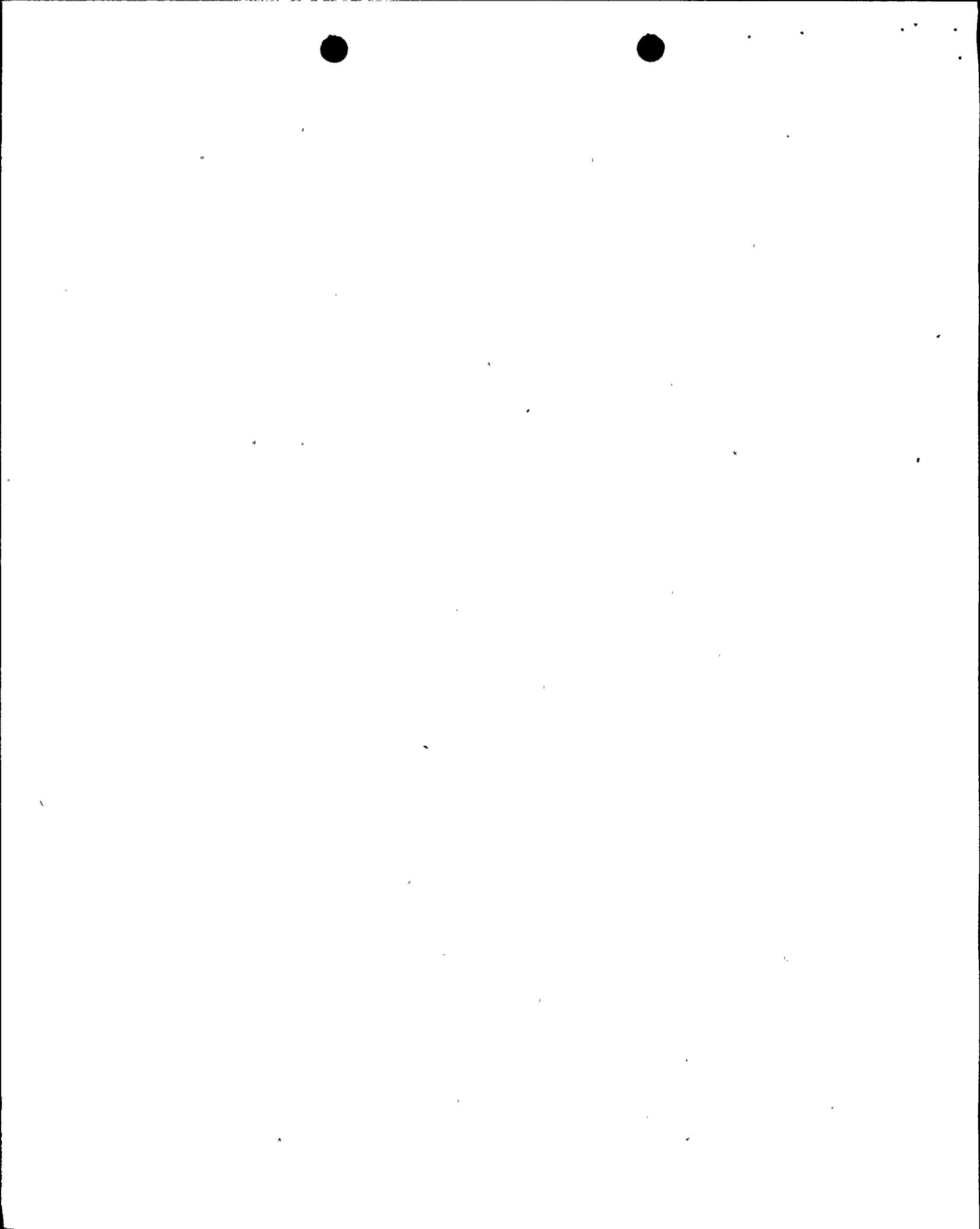
When questioned about these statements by Staff investigators, Dr. Cloud responded that he was preoccupied with the fact that R.L. Cloud had yet to finish the report on the Blume interface and, consequently, he took Mr. Norton's remarks to refer to the final report.

Dr. Cloud: It's exactly as I replied before. The only thing in my mind at that time and at that meeting and in that discussion. The only thing in my mind was the report that we would ultimately be turning in to PG&E.

I knew that report wasn't finished and it was a matter as I mentioned to you, was weighing very heavily on my mind and the only thing I could think of was the report that we would finally be turning in and I understood all of that entire discussion would be related to that.

Staff Report; Appendix E at 37-8.

At the time of the November 3 meeting, completion of the Cloud report was the NRC Staff's requirement for resumption of fuel loading activity. Staff Report at 5 and Appendix E at 8.



R.L. Cloud was the holdup, and it was that fact which apparently consumed Dr. Cloud. Had he more distance from his client's goal -- getting the plant started up -- that discussion would have red flagged an important issue: that no procedures had been established for processing draft reports. As Mr. Furbush, PG&E's General Counsel, who attended the November 3 meeting, but who apparently was not aware that draft copies of the Cloud report had circulated in his organization, observed:

Mr. Furbush: Had I known about those reports I would have said something at the hearing.

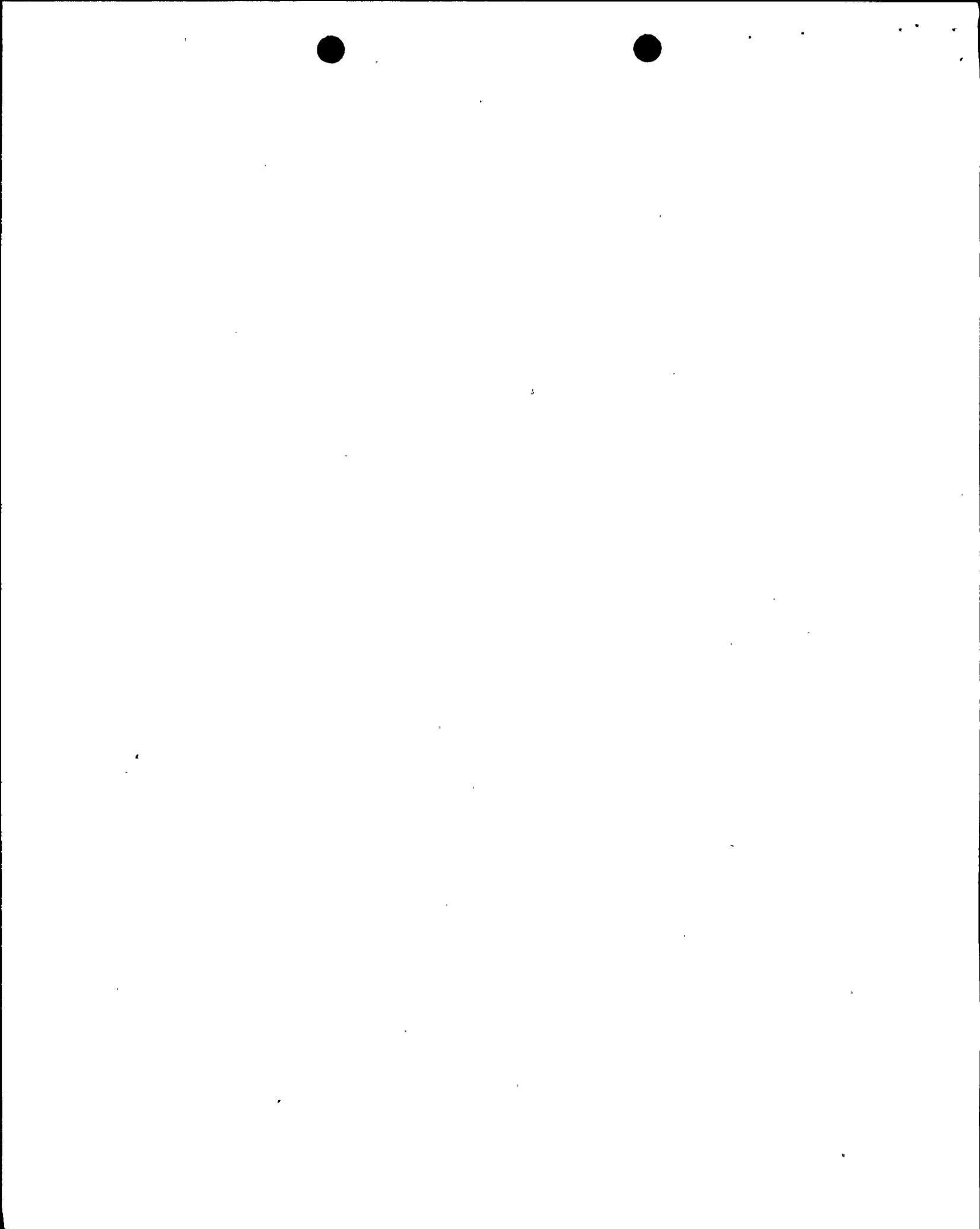
The reason I would have said something about it at the hearing is to avoid any possible misinterpretation that we did not know what Dr. Cloud was doing and, of course, that's out of an abundance of caution because of my training and knowing that people can get the wrong impression.

Staff Report, Appendix E at 437.

Likewise, a consultant sufficiently sensitive to the independence issue would likely have said something. Dr. Cloud said nothing. 9/

9/ Of the six PG&E employees who attended the November 3 meeting and who were aware that R.L. Cloud's draft report had circulated within the utility, two recognized Mr. Norton's statement as erroneous and possibly misleading, Mr. Hoch and Mr. Rocca. Staff Report, Appendix E at 147, 461-3. In fact, Mr. Rocca was sufficiently disturbed to have raised the matter with his supervisor, Mr. Tressler, on the return plane trip to California the evening of November 3. Staff Report, Appendix E at 160-3; 505-7. (Curiously, Dr. Cloud was standing nearby -- Mr. Rocca having taken Dr. Cloud's seat in the plane so that he could speak to Mr. Tressler -- and yet he has only a vague recollection of the "heated conversation" between Messrs. Rocca and Tressler. Staff Report, Appendix E at 67-9.)

In addition, both Mr. Norton, PG&E's outside counsel, and Mr. Furbush, PG&E's General Counsel, agreed that Mr. Norton's statements were clearly erroneous and possibly misleading. Staff Report, Appendix E at 270, 285-6, 430, 433, 437. Of the remaining four PG&E employees who were aware of the circulating draft and attended the November 3 meeting, three viewed the statements as neither misleading nor incorrect because they interpreted Mr. Norton's remarks to apply to the (continued on next page)



6. The R.L. Cloud document submitted to the NRC gives no hint that PG&E had a hand in its writing. R.L. Cloud's failure to disclose that drafts had been circulated and comments obtained from PG&E is inconsistent with the norms of disclosure generally associated with an independent audit.

In addition to those discussed above, additional factors not discussed in the Staff Report but in the public record, militate against R.L. Cloud being an effective independent auditor. First, Dr. Cloud is apparently a long-standing member of the PG&E licensing team. Prior to beginning his present firm, Dr. Cloud worked for Westinghouse from August 1971 to August 1978. He worked on the dynamic analysis of Westinghouse-supplied equipment, including equipment supplied for Diablo Canyon. Meeting transcript, February 3, at 214-15. In fact, Dr. Cloud attended subcommittee meetings of the Advisory Committee on Reactor Safeguards related to the Diablo Canyon licensing application on June 14-15 and 21, 1978, apparently to provide assistance as necessary to PG&E in its presentation before the ACRS. Additionally, Dr. Cloud attended Diablo Canyon seismic licensing hearings in San Luis Obispo, California, in late 1978 or early 1979, presumably to provide support for PG&E's licensing effort.

Further, since R.L. Cloud came into existence in April 1979, it has derived a substantial portion of its total revenues from work for PG&E. This work includes a seismic systems interaction analysis (billings of approximately \$200,000 annually), which Dr. Cloud's firm is still conducting for PG&E. Meeting transcript, February 3, at 212-16.

In the face of all this, the Commission cannot reasonably assert that R.L. Cloud is a truly independent auditor. Plain common sense and everyday experience warns us that the community of interest between the client and his consultant in this matter undermines the foundations of independence. The record confirms that those warnings are well founded.

9/ (Cont'd)

final report, yet to be considered (Brand, Bettinger and Tressler). The other PG&E employee, whose sole function in the process was to review the drafts and coordinate their dissemination within his department (Mr. Ghio), didn't hear Mr. Norton's comments. Staff Report, Appendix E at 207.



That is not to say, however, that R.L. Cloud was not professional or that the relationship between the consultant and PG&E was abnormal. The Staff Report is replete with testimony that the procedures applied to the R.L. Cloud review were standard operating procedures, including the prior editing of the draft report. Staff Report at 14. And, normally the consultant is considered part of the licensing team, retained to assist the utility in obtaining its permit or license. That was the case here.

It is time, however, for the Commission to acknowledge the special circumstances of this case and to tailor procedures for an audit that fit those circumstances. A business-as-usual approach will neither provide the necessary assurance that the plant is safe nor satisfy the public that the Commission is doing its job. It will not do for the Commission to rely on PG&E to select an auditor to report through PG&E. To be independent the auditor must be responsible to and report to the NRC. To be credible, the auditor must be acceptable to all parties in the proceeding.

Furthermore, the Commission cannot permit its decision to be biased by the fact that PG&E has hastened to complete the R.L. Cloud design reverification program. Crediting that work just because it's done rewards PG&E for pursuing a strategy calculated to undermine the procedures established by the Commission to govern the reverification process.

Respectfully submitted,

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