



SPECIAL INVESTIGATION
 BY
 U. S. NUCLEAR REGULATORY COMMISSION
 REGION V

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50-323/82-03

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Licensee: Pacific Gas and Electric Company
P. O. Box 7442
San Francisco, California 94120

Facility Name: Diablo Canyon Units 1 and 2

Investigation at: Pacific Gas and Electric Company (PG&E)
and R. L. Cloud Associates, Inc.

Investigation conducted: December 16, 1981 through January 6, 1982

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I. Summary

In a memorandum dated December 17, 1981, as shown in Appendix A of this report, Mr. William J. Dircks, Executive Director for Operations of the NRC, informed the Commission he had directed an investigation be conducted into the circumstances surrounding the development of the "Preliminary Report, Seismic Reverification Program" prepared by R. L. Cloud Associates, Inc. (R. L. Cloud), for PG&E. This memorandum notes that statements made at a meeting on November 3, 1981 between representatives from PG&E and the NRC led the NRC to believe that no circulation of the results of the Diablo Canyon seismic reverification study by R. L. Cloud had taken place preliminary to the draft report submitted to the NRC on November 18, 1981.

In late November and early December, 1981, the NRC received information that draft reports of the results of the R. L. Cloud reverification study were circulated within PG&E prior to submittal to the NRC. The NRC was not informed as to the total number of draft reports in existence, by PG&E, until during the course of the NRC investigation.

NRC Region V initiated a special investigation on December 16, 1981, to obtain all pertinent facts related to: (1) the statements made at the November 3, 1981 meeting, and (2) PG&E's reviews and comments on draft reports of the results of the R. L. Cloud study prior to a draft report being submitted to the NRC on November 18, 1981.

This investigation is being done in two phases. With this report the NRC is presenting the results of Phase 1 of its investigation covering all pertinent facts relating to the statements made at the November 3, 1981 meeting, and the circumstances surrounding R. L. Cloud's submitting draft reports of the results of their study to PG&E, for comment and review, prior to the results being submitted to the NRC on November 18, 1981, in a draft report dated November 12, 1981.

The second phase of the investigation will involve determining whether the oral and written comments PG&E provided to R. L. Cloud on the results of the R. L. Cloud study resulted in any unjustified changes in the findings as contained in the R. L. Cloud report submitted to the NRC on November 18, 1981. The NRC Region V report covering phase two is scheduled for completion in early February, 1982.

This first phase of the investigation by NRC Region V consisted of obtaining sworn testimony from twenty-five persons and conducting a review of transcripts of the PG&E/NRC meetings on October 9 and November 3, 1981.

The statements made by Mr. A. Bruce Norton, outside counsel, Mr. George A. Maneatis, Senior Vice President, Facilities Development, PG&E, and Dr. Robert L. Cloud, President, R. L. Cloud Associates, Inc., as contained on pages 215 through 217 of the transcript of the November 3 meeting (see Section V of this report), are those that led the NRC to believe that draft reports of the results of the R. L. Cloud study had not been circulated prior to submittal to the NRC. Twenty-six PG&E employees attended this meeting, six of whom stated in sworn testimony they were aware that R. L. Cloud draft reports had been submitted to PG&E prior to November 3, 1981. Of these six employees, four (Donald A. Brand, Vice President-Engineering, Richard V. Bettinger, Chief, Civil Engineering, Vincent J. Ghio, Senior Civil Engineer, and Michael R. Tresler, Diablo Canyon Supervising Piping Coordinator) stated that they did not recognize the statements made by Mr. Norton, Mr. Maneatis, or Dr. Cloud to be misleading (see Appendix D, Issue Number 10 for their explanations). Two employees (James V. Rocca, Chief, Mechanical and Nuclear Engineering, PG&E, who was the person that had been designated responsibility for administering the R. L. Cloud contract, and John B. Hoch, Manager, Nuclear Projects, PG&E) stated they did recognize the statements as misleading but each had an explanation, as shown in Appendix E of this report, for not informing their supervisors or the NRC. See Appendix E, pages 147 through 150 for Mr. Rocca's explanation. See Appendix E, pages 461 through 466 for Mr. Hoch's explanation.

Mr. Norton, in his sworn testimony, in regard to the statements he made at the November 3 meeting, said he did not become aware until December 14, 1981, that draft reports of the R. L. Cloud study had been submitted to PG&E prior to submittal to the NRC. However, Mr. Norton said that with his current knowledge of the existence of draft reports having been submitted to PG&E prior to their submittal to the NRC, he considers the statements he made at the November 3 meeting to be inaccurate and possibly misleading.

Mr. Maneatis, in his sworn testimony, did not consider the statement he made at the November 3 meeting to be misleading. Mr. Maneatis stated his statement at the November 3 meeting applied to the oral report Dr. Cloud gave to the NRC on that day. He further stated he was not made aware of the existence of the draft reports in question until about December 10, 1981. Dr. Cloud, who was aware of the existence of draft reports, stated that the statements he made at the meeting were directed toward the final draft report which, at the time of the meeting, he was in the process of preparing for PG&E's submittal to the NRC.

Three separate draft reports, containing the results of the R. L. Cloud reverification study were prepared and submitted to PG&E by R. L. Cloud prior to the November 12, 1981 draft report submittal to the NRC on November 18, 1981. All three of these draft reports were reviewed by PG&E personnel and comments on the content of the reports were returned to R. L. Cloud.

Sworn testimony from eight PG&E employees, several of whom actually reviewed and commented on the R. L. Cloud draft reports, stated that PG&E's purpose and intent for reviewing the R. L. Cloud draft reports and returning their comments to R. L. Cloud, were to assure accuracy and completeness of the R. L. Cloud work. However, as stated in sworn testimony by Mr. Motiwalla, a previous employee of R. L. Cloud, and as indicated by a review of the comments certain PG&E employees had entered on the draft reports, some of the comments were of an editorial nature and if accepted would have made the draft reports less critical of PG&E.

Two PG&E employees who provided R. L. Cloud with such editorial type comments were interviewed. One employee, Mr. Steinhardt, stated: "...I was interested not in removing adverse comments, but in removing inaccurate comments, and if they happened to be inaccurate adverse comments, of course I was interested in having them removed from the record. Merely because of the inaccuracy, not because of the adverseness." The other employee, Mr. Kahler, in his testimony provided similar reasons. For example, on pages 374 and 375 of Appendix E of this report he states: "For example on page 23 of the report, paragraph 3.3.2.3, they're discussing the intake structure and they get into -- the title of the paragraph is Design information from PG&E to equipment suppliers and qualifiers. Conclusion is no information was found to be given to equipment suppliers. However, on the next page they state that the only structure in the containment that is Class 1 is the auxiliary saltwater pump and it was qualified by PG&E. Therefore, there wouldn't have been any transmittals. That's the type of thing that I was talking about, something that could be easily taken out of context just as a paragraph. There's a paragraph from the report. It looks very damaging when in fact it's supported some place else as being of no value."

All five R. L. Cloud employees who were involved in the preparation and revision of the draft reports stated in their sworn testimony they were not under pressure to accept the comments provided to them from PG&E.

Senior Managers at PG&E and at R. L. Cloud stated in sworn testimony that it has been standard practice for a number of

years at both PG&E and R. L. Cloud to submit draft reports for review and comment prior to placement of the work in final draft or final report form. Senior management at both PG&E and R. L. Cloud stated they believe this process is necessary to assure accuracy and completeness of the work being done. Even though independency was a topic of discussion at the November 3 meeting, as discussed in Section VI of this report, essentially no direction or guidance was provided by PG&E, or the NRC to R. L. Cloud, regarding how the findings of the R. L. Cloud work should be handled prior to submittal to the NRC. As a result, R. L. Cloud followed its standard practice in submitting the draft reports to PG&E for review and comment prior to placement of its findings in final draft form.

II. Background

On September 28, 1981, and September 30, 1981, PG&E submitted letters to the NRC stating the "diagrams" used to locate the vertical seismic floor response spectra in the Diablo Canyon Unit 1 containment annulus area were in error. On or about these same dates, PG&E verbally requested Dr. Cloud of R. L. Cloud Associates, Inc. (R. L. Cloud) to conduct a seismic design review of Diablo Canyon Unit 1 to determine if other errors had been made in the seismic design of Diablo Canyon Unit 1.

On October 9, 1981, a meeting between the NRC staff and representatives of PG&E was held at Bethesda, Maryland, to discuss the adequacy of the seismic design of Diablo Canyon Unit 1. At this meeting, Dr. Cloud described a reverification program entitled "Independent Assessment of Safety-Related Design Issues" which he had formulated to assist PG&E to search for additional sources of error in the seismic design. Also, at this meeting Mr. Harold R. Denton, Director, Office of Nuclear Reactor Regulation, NRC, stated that prior to start of fuel loading at Diablo Canyon Unit 1, PG&E should furnish the NRC with certain information including an interim report of the results of the R. L. Cloud review of seismic design work performed by URS/Blume under their contract with PG&E.

During the period of October 14-23, 1981, a special inspection by NRC Region V personnel was conducted at the PG&E and URS/Blume offices in San Francisco, California, to evaluate: the quality assurance programs and other management control systems in effect at PG&E and at URS/Blume during the period from 1970 to present; the extent to which these quality assurance programs and management control systems were implemented as they relate to the development, transmittal, and use of safety-related design information; and, how the identified seismic problems involving the Diablo Canyon containment building annulus areas

were caused and subsequently discovered. The results of this special inspection indicated, among other things, that: 10 CFR 50 Appendix B controls were not imposed upon PG&E's safety-related, service type contractors, until late 1977 or early 1978; and, many of the work activities performed by PG&E with regard to the URS/Blume contract were performed in an informal manner. (See NRC Inspection Report Nos. 50-275/81-29 and 50-323/81-18 dated November 6, 1981).

On November 3, 1981, a second meeting between the NRC staff and representatives of PG&E was held at Bethesda, Maryland. This was considered to be a continuation of the meeting of October 9, 1981, and was called by the NRC to discuss other seismic design problems that had been identified, primarily through the NRC's special inspection conducted during the period of October 14-23, 1981. During this meeting, Dr. Cloud stated that the interim report requested by the NRC in the October 9, 1981 meeting was essentially complete and should be received by the NRC within one or two weeks. Also, during this meeting senior management representatives of PG&E stated that PG&E had not received the R. L. Cloud interim report. At the conclusion of this meeting, Mr. Denton informed PG&E that the information required by the NRC, prior to start of the fuel loading at Diablo Canyon Unit 1 and operation of Diablo Canyon Unit 1 above five percent power, would have to be expanded beyond that defined at the October 9, 1981 meeting. In this regard, Mr. Denton gave PG&E and other parties at the meeting a document which defined the thrust of the requirements being proposed by the NRC. A review of the transcript of November 3 shows that draft reports, per se, were not discussed or mentioned.

On November 18, 1981, a draft interim report, dated November 12, 1981, containing the results of the R. L. Cloud design review and reverification of work activities performed under the URS/Blume-PG&E contract, was submitted to the NRC by PG&E.

On November 19, 1981, an order (CLI-81-30) was issued by the Commission which suspended License No. DPR-76. DPR-76 had been issued on September 22, 1981, and had authorized fuel loading and the conduct of tests at up to five percent of rated power at Diablo Canyon Unit 1. This order, in conjunction with a letter signed by Mr. H. R. Denton, defined what would be required from PG&E prior to start of fuel loading and prior to power operation above five percent power at Diablo Canyon Unit 1. These requirements superceded those proposed by Mr. H. R. Denton at the November 3, 1981 meeting.

In late November 1981, Congressman Udall informed the NRC that there existed a draft report, other than that which was submitted

to the NRC on November 18, 1981, containing the results of the R. L. Cloud design review and reverification of work activities performed under the URS/Blume-PG&E contract. On December 1, 1981, NRC Region V contacted both PG&E and Dr. Cloud and obtained from PG&E a copy of the draft report in question. This draft report was later identified to be copy number 1 of the October 21 draft report ("first" draft).

On December 10, 1981, Congressman Panetta informed the NRC that the draft report obtained on December 1, 1981, had been submitted to PG&E by R. L. Cloud and that PG&E personnel had reviewed and made comments on the material contained within the draft report. On December 10, 1981, the NRC Region V office contacted PG&E and Dr. Cloud and obtained from Dr. Cloud three copies of the draft report ("first" draft) that had been returned to R. L. Cloud from PG&E with handwritten comments by PG&E personnel contained within each of the three copies of the draft report. These copies of the draft report were later identified to be copy numbers 3, 4, and 5 of the October 21 draft report ("first" draft).

As a result of the December 10, 1981 finding that the results of the R. L. Cloud work had been reviewed and commented on by PG&E prior to submittal to the NRC, a special NRC investigation consisting of two phases was initiated on December 16, 1981. Phase I of this investigation was performed by NRC Region V to obtain the facts relating to PG&E's review of the results of R. L. Cloud's work and the various statements made by PG&E representatives to the NRC at the November 3, 1981 meeting. The results of Phase I of this special investigation are contained within this investigation report.

The second phase of the investigation will involve determining whether the oral and written comments PG&E provided to R. L. Cloud on the findings of the R. L. Cloud study resulted in any unjustified changes to these findings as finally submitted to the NRC on November 18, 1981. The NRC Region V investigative report covering phase two is scheduled for completion in early February, 1982.

During the planning stage of this investigation, the Regional Administrator, Region V, requested of the Director of the Office of Inspection and Enforcement and the NRC Executive Director of Operations that a peer review group be appointed to evaluate the scope and findings of the investigative effort and provide recommendations to assure that it was sufficiently thorough and complete, and that the findings were accurately presented in the reports. Subsequently, the following individuals were appointed to form such a group:

- E. Kevin Cornell - Deputy Executive Director for Operations
- Edson G. Case - Deputy Director, Office of Nuclear Reactor Regulation
- James H. Sniezek - Deputy Director, Office of Inspection and Enforcement
- James Lieberman - Acting Director, Enforcement Staff, Office of Inspection and Enforcement
- Roger A. Fortuna - Chief, Investigation Branch, Division of Fuel Facilities, Materials and Safeguards Division, Office of Inspection and Enforcement
- Frank J. Miraglia - Chief, Licensing Branch 3, Division of Licensing, Office of Nuclear Reactor Regulation

On December 29, 1981, the peer review group met with the Regional Administrator and his staff to discuss the progress of the investigation and provided recommendations relating to the scope and depth of the investigation. Subsequently, the recommendations of the group were implemented. The group again met with the Region V Administrator and his staff on January 12, 1982, and reviewed the findings of the investigation as contained in the first draft report. The group's substantive comments and recommendations relating to detail and format of the report were accepted and incorporated into this report.

III. Performance of Interviews and Obtaining Sworn Testimony

This special investigation involved obtaining sworn testimony from twenty-five persons. The full names, titles, and company affiliations of these persons are set forth in Appendix E of this report. Nineteen of the persons interviewed were PG&E employees and six were employees or former employees of R. L. Cloud. With the exception of Mr. Motiwalla, all persons were interviewed at either the PG&E offices in San Francisco, California, or the R. L. Cloud offices in Berkeley, California. A complete transcript of the sworn testimony of each person's interview is contained in Appendix E.

PG&E representatives in attendance at the November 3, 1981 meeting with the NRC at Bethesda, Maryland, were: B. Shackelford, M. Furbush, G. Maneatis, D. Brand, R. Bettinger, J. Herrera, J. Rocca, W. Raymond, J. Hoch, R. Locke, B. Lew, M. Tresler, V. Ghio, R. Cloud, B. Norton; W. Gangloff, D. Popp, and L. Benson, employees of Westinghouse Corporation; L. Wight, and D. Davis, employees of Terra Corporation; J. Blume and D. Lang, employees of URS/Blume Associates; C. Piper, R. Davin, and D. Haynes, Public Relations Employees of PG&E; and L. Stanchina, a secretary employed with PG&E.

All PG&E employees that attended the November 3, 1981 meeting were interviewed as part of this special investigation, with the exception of L. Stanchina (secretary) and C. Piper, R. Davin, and D. Haynes (Public Relations employees). Also, R. Cloud and B. Norton, who were in attendance at the November 3, 1981 meeting as representatives of PG&E, were interviewed.

All employees of R. L. Cloud Associates, Inc., who were involved in either the preparation or the revision of any of the R. L. Cloud draft reports, were interviewed. The persons involved were R. L. Cloud, P. H. Anderson, E. T. Denison, H. K. Loey, P. Chen, and S. Motiwalla. Mr. Motiwalla terminated his employment with R. L. Cloud in December 1981 and moved to Schenectady, New York. As a result, an investigator from the NRC Region I office interviewed Mr. Motiwalla in Schenectady, New York.

During the performance of this special investigation, sixteen issues were identified as pertinent to the investigation. These issues are:

- Issue 1 - What was the knowledge or understanding as to how the R. L. Cloud findings should be handled prior to submittal to the NRC?
- Issue 2 - What has been the practice/custom at PG&E regarding the review of the results of a consultant's findings prior to these findings being placed in a final draft or final report form?
- Issue 3 - What were the instructions that had been provided to PG&E personnel on how to review and comment on the R. L. Cloud findings as contained within the draft reports?
- Issue 4 - What were PG&E's purpose and intent of providing comments on Dr. Cloud's findings as contained within the draft reports?
- Issue 5 - What were the instructions provided to the R. L. Cloud staff regarding the drafting of reports and the handling of comments received from PG&E?
- Issue 6 - Were employees of R. L. Cloud under any pressure to accept PG&E's comments that were provided as a result of PG&E's review of the draft reports?
- Issue 7 - Did Dr. Cloud mislead the NRC in statements he made at the meeting with the NRC on November 3, 1981? If he did, was this done knowingly?

- Issue 8 - Did PG&E representatives mislead the NRC in statements they made at the meeting with the NRC on November 3, 1981? If they did, was this done knowingly?
- Issue 9 - What explanation was given by Mr. Norton, Mr. Maneatis, and Dr. Cloud (the speakers at the November 3, 1981 meeting) for the statements they made that the R. L. Cloud report had not been received by PG&E?
- Issue 10 - What are the explanations given by people attending the November 3, 1981 meeting, who knew of the existence of the draft reports, for not bringing the existence of the R. L. Cloud reports to the NRC's attention after statements made by Mr. Norton, Mr. Maneatis, and Dr. Cloud?
- Issue 11 - Was the existence of the R. L. Cloud draft reports discussed by PG&E representatives at the November 3, 1981, PG&E pre-meetings, at the lunch break on November 3, or after the meeting?
- Issue 12 - What is the basis for the NRC expectation that the R. L. Cloud work and findings should be independent?
- Issue 13 - Are there any policies or procedures within PG&E, written or otherwise, of not providing information to the NRC unless specifically asked for by persons from the NRC?
- Issue 14 - What is the relationship of certain contract terms, as contained in the December 1, 1981 contract with R. L. Cloud, on the performance of R. L. Cloud as an independent contractor?
- Issue 15 - Did any PG&E oral or written comments on the R. L. Cloud draft reports result in any unjustified changes in findings as contained in the November 12, 1981 draft report submitted to the NRC?
- Issue 16 - What were the bases for all of the substantive changes made in the R. L. Cloud draft reports?

Issues 1 through 14 were addressed in the interviews that were conducted throughout the course of this investigation. Summaries of the sworn testimony, as contained in Appendix E of this report, and as it relates to each of the fourteen issues, have been made and are provided in Appendix D of this report. Issues 15 and 16 will be addressed in Phase II of this investigation as explained in Section VII of this report.

IV. Draft Reports

On November 18, 1981 a draft copy of the "Preliminary Report, Seismic Reverification Program", dated November 12, 1981, was submitted to the NRC by PG&E. This draft report contains the results of the Diablo Canyon seismic reverification study program performed by R. L. Cloud for PG&E. This study program had been described to the NRC, by Dr. Cloud, at the October 9, 1981 PG&E/NRC meeting at Bethesda, Maryland.

Through this special investigation the NRC has determined that three separate draft reports, containing the results of the Diablo Canyon seismic reverification study program by R. L. Cloud for PG&E, were prepared and submitted to PG&E by R. L. Cloud prior to submittal of the November 12, 1981 draft report submittal to the NRC on November 18, 1981.

The "first" draft report was dated October 1981 and was submitted to Mr. Rocca of PG&E from R. L. Cloud on October 21, 1981. Upon receipt within PG&E, five copies of this draft report were made and numbered #1, #2, #3, #4, and #5. Copy #1 was retained within Mr. Rocca's office as a control copy. Copy #2 was submitted to Mr. Brand of PG&E from Mr. Rocca on October 21, 1981 with a request that he review and comment on the draft report and return his comments to Mr. McCracken of PG&E on October 22, 1981. Copy #3 was submitted to Mr. Bettinger of PG&E from Mr. Rocca on October 21, 1981 with a request that he review and comment on the draft report and return his comments to Mr. McCracken on October 22, 1981. Copy #4 was retained by Mr. Rocca for his review and comment. Copy #5 was given to Mr. McCracken for his review and comment.

A number of people within PG&E reviewed and commented on the "first" draft report of October 21, 1981. As stated above, copy #1 was retained as a control copy and was not subjected to review and comment. Although copy #2 was sent to Mr. Brand for review and comment he stated in his sworn testimony, as shown on page 299, lines 4 through 25 of Appendix E of the report, that he did not read the October 21, 1981 draft report. Therefore, no comments were made on copy #2. Copies #3, #4, and #5 were reviewed and commented on by several persons within PG&E including Messrs. Bettinger, Rocca, McCracken, Ghio, Wollak, Hanusiak, Li, Lee, and Tresler.

Most or all of the comments generated by the above named persons were returned to R. L. Cloud. The comments consisted of handwritten comments contained within copies #3, #4, and #5 of the draft report and a copy of the marked up sections 3.3.7.1-Piping Systems and 3.3.7.2-Valves.

The "second" draft report was dated October 1981 and was submitted to Mr. Rocca from R. L. Cloud on October 26, 1981. This draft report was a revision of the "first" draft report of October 21, 1981. This "second" draft report was, upon receipt by PG&E, distributed within PG&E for review and comment. Only a few comments were returned to R. L. Cloud on this "second" draft report. They consisted of handwritten comments contained within one copy of the draft report. The comments returned to R. L. Cloud concerning this draft report were from various people within the Civil Engineering Department including Messrs. Ghio, Hanusiak, Li, Sokoloff, Lee, Rocha, Lenfestey, Steinhardt, and Wollak.

The "third" draft report was dated November 5, 1981 and was submitted to Mr. Rocca from R. L. Cloud on November 6, 1981. This draft report was a revision of the "second" draft report of October 26, 1981. Also, on November 6, 1981, under separate cover, Dr. Cloud submitted to PG&E five pages of material identified as pages 68-72. These pages were submitted to PG&E with instructions that they be used to replace pages 68-72 contained within the "third" draft report. As with the other draft reports, this "third" draft report was distributed within PG&E for review and comment. Only a few comments were returned to R. L. Cloud on this "third" draft report. They consisted of handwritten comments contained within two copies of the draft report plus approximately nine other comments that were provided via telephone to R. L. Cloud, and that were documented in a handwritten paper submitted to J. V. Rocca (PG&E) from W. Vahlstrom (PG&E), dated November 10, 1981. The comments returned to R. L. Cloud concerning this draft report were from various persons including Messrs. Wollak, Kahler and Vahlstrom.

On November 18, 1981 a draft report dated November 12, 1981 was submitted to the NRC from PG&E. This has been termed the "fourth" draft report and it is a revision of the "third" draft report dated November 6, 1981. The "fourth" draft report is the same draft report as that identified above as the "Preliminary Report, Seismic Reverification Program".

For purposes of assuring that the NRC, in its special investigation, had access to all pertinent material related to the "fourth" draft report, the Regional Administrator, NRC Region V, submitted a letter, attached as Appendix B, to PG&E requesting they provide, to the extent not already provided, copies of all writings (memorandums, notes, letters, instructions, etc.) in any way reasonably related to the draft report. PG&E's response to this request indicates that all information pertinent to this investigation as related to PG&E's review

and commenting on the R. L. Cloud draft reports has been received by the NRC and identified above, in Section IV of this report, with the exception of the following handwritten notes taken by Mr. Bettinger at various staff meetings. These staff notes tend to support Mr. Brand's testimony, as summarized in Appendix D, Issue Number 3, that he had issued instructions not to edit or wordsmith the R. L. Cloud draft reports.

11/5/81 - "Item 1. Pretty much a description of Cloud's report. We will see it today. We cannot edit in any way. However, if he mis-stated something, we can call that to his attention. Plan is to get comments by Tuesday 11/10 so that final can go to NRC by Friday 11/13."

11/6/81 - "Evaluate Cloud's capability to do exp."

11/6/81 - "Have 2nd draft of interim report from Cloud. Comments due by 11/10. Review by Senior people. Only response is accuracy of statements not editorial comment."

11/13/81 - "Met on 11/6 to discuss Cloud review of all seismic related work before fuel load."

11/13/81 - "Discuss memo on Cloud Review."

11/13/81 - "Check Cloud report and statement that some conduit supports not installed."

Issues 1 through 6 as defined in Section III of this report are applicable to the R. L. Cloud draft reports discussed above, PG&E's review of these draft reports, PG&E's submittal of their comments to R. L. Cloud, and R. L. Cloud's subsequent revision of the "first", "second" and "third" draft reports. These issues and the NRC findings as related to these issues are as follows.

Issue 1 - What was the knowledge or understanding as to how the R. L. Cloud findings should be handled prior to submittal to the NRC?

NRC Finding:

Essentially no direction or guidance was provided by PG&E, the NRC, or Dr. Cloud as to how the findings of the work performed by R. L. Cloud should be handled prior to submittal to the NRC.

At the November 3 meeting, Mr. Denton of the NRC stated, as shown on page 262, of the transcript of the

meeting, that his view of independence would mean as a minimum that you are not reviewing the work with which you are associated. PG&E representatives, specifically Mr. Norton and Mr. Maneatis, stated they considered the criteria for independence to be the same as that stated by Mr. Denton. Mr. Maneatis stated that at the November 3 meeting Mr. Norton volunteered PG&E to follow any method the NRC wished in submitting Dr. Cloud's reports, but the NRC did not give PG&E any specific directions.

Dr. Cloud stated he had not been advised by PG&E or the NRC as to how to handle his reports.

Issue 2 - What has been the practice/custom at PG&E regarding the review of the results of a consultant's findings prior to these findings being placed in a final draft or final report form?

NRC Finding:

Eight persons were interviewed regarding the issue and all stated it has been standard practice at PG&E to review and comment on the results of a consultant's work prior to the results being placed in final draft or final report form. Some of the persons interviewed stated that this approach is necessary if there is to be any assurance that a consultant's work is accurate and complete.

Dr. Cloud stated it is routine practice for his company, and he believes for other engineering consulting companies, to provide to their clients draft reports for review and comment, prior to formulating a final draft or final report.

Mr. Brand stated he believes it is common practice throughout industry and government to provide draft copies of reports for review and comment prior to publishing a final draft or final report. Mr. Brand incorporated into his transcript as exhibits two U.S. Government publications to support his belief.

Issue 3 - What were the instructions that had been provided to PG&E personnel for how to review and comment on the R. L. Cloud findings as contained within the draft reports?

NRC Finding:

No written instructions were provided to PG&E employees as to how they should review and comment on the R. L. Cloud

findings, as contained within the draft reports. Mr. Brand, Vice President of Engineering, issued verbal instructions to some, or possibly all, of the Chief Engineers reporting directly to him. Mr. Brand, in his sworn testimony, as shown on pages 303 and 304 of Appendix E of this report, stated these instructions were that the R. L. Cloud findings should not be reviewed for editing or wordsmithing purposes but to call Dr. Cloud's attention to any additional information he should see.

It is unclear as to whether or not Mr. Brand's verbal instructions were in turn given to the engineers who actually reviewed the draft reports. However, most PG&E engineers who were interviewed and had reviewed and commented on the R. L. Cloud work, stated they did so only to assure the R. L. Cloud work was accurate and complete.

Issue 4 - What were PG&E's purpose and intent of providing comments on Dr. Cloud's findings as contained within the draft reports?

NRC Finding:

Sworn testimony from eight PG&E employees, seven of whom actually reviewed and commented on the R. L. Cloud draft reports, show that PG&E's purpose and intent for reviewing the R. L. Cloud findings and submitting comments on the October 21, October 26, and November 6, 1981 draft reports were to assure accuracy and completeness of the R. L. Cloud work (See Appendix D, Issue Number 10, of this report).

However, as obtained from the sworn testimony of Mr. Motiwalla, as shown on page 608 of Appendix E of this report, and from a review of the handwritten comments made by PG&E personnel on the draft reports, some of the comments made by PG&E personnel and submitted to R. L. Cloud were of an editorial nature and were intended to make particular statements in the draft reports less critical of PG&E.

Mr. Kahler, who made some of the editorial type comments stated, in his sworn testimony, as shown on pages 373 through 375 of Appendix E of this report, that his editorial type comments were made because he felt the draft report was awkwardly written and unpolished. His example for justification for one of his editorial comments is contained on pages 374 and 375 of Appendix E

in which Mr. Kahler states: "For example on page 23 of the report, paragraph 3.3.2.3, they're discussing the intake structure and they get in -- the title of the paragraph is Design Information from PG&E to Equipment Suppliers and Qualifiers. Conclusion is no information was found to be given to equipment suppliers. However, on the next page they state that the only structure in the containment that is Class 1 is the auxiliary salt-water pump and it was qualified by PG&E. Therefore, there wouldn't have been any transmittals. That's the type of thing that I was talking about, something that could be easily taken out of context just as a paragraph. There's a paragraph from the report. It looks very damaging when in fact it's supported some place else as being of no value."

Mr. Steinhardt, who also provided some editorial type comments to R. L. Cloud, stated in his sworn testimony, as shown on page 245 of Appendix E, that: "I feel that the remark I made to Dr. Cloud was at the time a factual statement. I was expressing my feelings about the way the report had been drafted in that section, and I said just a moment ago, I was interested not in removing adverse comments, but in removing inaccurate comments, and if they happened to be inaccurate adverse comments, of course I was interested in having them removed from the record. Merely because of the inaccuracy, not because of the adverseness."

Issue 5 - What were the instructions provided to the R. L. Cloud staff regarding the drafting of reports and the handling of comments received from PG&E?

NRC Finding:

Five employees, plus Dr. Cloud of R. L. Cloud were involved in the preparation and revision of the October 21, October 26, November 6, and November 12, 1981 draft reports. The five employees (E. Denison, P. Anderson, H. Loey, P. Chen, and S. Motiwalla) were questioned to determine if directives or instructions had been provided by Dr. Cloud or anyone else with regard to how to prepare the draft reports and how to handle the comments received from PG&E.

H. Loey, P. Chen, and S. Motiwalla stated they had been provided no specific or rigid instructions on how to prepare the drafts or make revisions to the drafts.

E. Denison stated he was instructed that if the comment received from PG&E was reasonable and correct to make the change. If it was not reasonable and correct, then do not make a change. If the comment alluded to additional information, he was instructed to obtain the additional information.

P. Anderson stated that in the development of the October 21 draft they attempted to stay away from any personal conclusions or conclusions as told to them by PG&E engineers.

Issue 6 - Were employees of R. L. Cloud under any pressure to accept PG&E's comments that were provided as a result of PG&E's review of the draft reports?

NRC Finding:

Sworn testimony from all five employees of R. L. Cloud, who were involved in the preparation and revision of the draft reports dated October 21, October 26, and November 6, 1981, indicates they were not under pressure from anyone to accept the comments provided to them from PG&E. Mr. Motiwalla, in his sworn testimony, as shown on pages 607 through 610 of Appendix E of this report, states that some of the comments received from PG&E were in the form of requests for changes to be made. However, Mr. Motiwalla states that none of his findings were influenced in any way by the comments made by PG&E personnel.

V. NRC/PG&E November 3, 1981 Meeting

On November 3, 1981 a meeting was held at Bethesda, Maryland, involving representatives from PG&E and the NRC. This was considered to be a continuation of the meeting of October 9, 1981, and was called by the NRC to discuss other seismic design problems that had been identified since October 9, 1981. A transcript of the complete proceedings of this meeting was prepared by the Alderson Reporting Company, 400 Virginia Ave., S. W., Washington, D.C. 20024. The transcript is entitled "Diablo Canyon Seismic Review," and is dated November 3, 1981. Copies of this transcript are available at the NRC Public Document Rooms.

As stated in Appendix A of this report, statements made at the November 3 meeting led the NRC to believe that no circulation of the results of the R. L. Cloud seismic reverification study had taken place preliminary to the draft report submitted to

the NRC on November 18, 1981. The statements of concern, made at the November 3 meeting, are contained on pages 215 through 217 of the transcript of the meeting.

One statement of concern was the statement made by Mr. Maneatis of PG&E in response to Mr. Denton's (NRC) question of: "Do we (the NRC) get the same reports that he (R. L. Cloud) gives you?" Mr. Maneatis' response, as shown on page 215, lines 20-22 of the transcript of the meeting, was: "You just got it. And I have to say, Mr. Denton, that some of these things have just been disclosed to me, so you got it almost the same time I did."

Two statements of concern, as made by Mr. Norton, are contained on pages 216 and 217 of the transcript at the meeting. The first statement, as contained on page 216, is in response to a question from Mr. Eisenhut (NRC) asking when the NRC could expect to see the short-term report. The statement made by Mr. Norton was: "I might add 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." The second statement is contained on page 217 and was made in response to a statement by Mr. Denton in which he said: "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's statement was: "Any suggestions 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."

A statement of concern, as made by Dr. Cloud, and as contained on page 216 of the transcript of the meeting, was also in response to Mr. Eisenhut's question of when the NRC could expect see the short term report. Dr. Cloud's statement was: "I believe it's -- we will be turning it in either this week or next, so you should have it shortly thereafter."

Twenty-six PG&E employees attended the November 3 meeting, six of whom stated in sworn testimony that they were aware, at the time of the meeting, that draft reports of the results at the R. L. Cloud seismic reverification study had been submitted to PG&E by R. L. Cloud. Also, Dr. Cloud was in attendance at the meeting and he was also knowledgeable, at the time of the meeting, that draft reports of his work had been submitted to PG&E.

PG&E, in preparation for the November 3 meeting, held at least three separate meetings. These meetings were held on October 31, November 1, and November 2, 1981. In attendance at these meetings were Dr. Cloud, Mr. Norton, and various PG&E employees including Messrs. Furbush, Raymond, Locke, Koch, Lew, Tresler, and Herrera. At these meetings discussions were held regarding the material that would be presented at the November 3 meeting. Also, at one of the meetings, Mr. Norton, in his sworn testimony, as shown on page 272 of Appendix E, stated: "I specifically asked the question, is the report done or do we have the report yet, meaning the report going to the NRC. I did not say, do we have a preliminary report, do we have a draft report but I said it the same way I said it on pages 216 and 217 without any modifiers. You know do we have a report yet and the answer was no and then my question was well, when will the report be ready and the answer was, you know, in a week or two. Again, I cannot specifically say that that was Dr. Cloud that answered that question. I don't remember but I do remember asking the question and I believe it was to Dr. Cloud."

Issues 7 through 11, as defined in Section III of this report, are applicable to the November 3 meeting; the statements made at the meeting by Mr. Maneatis, Mr. Norton, and Dr. Cloud; and, the meetings held by PG&E in preparation for the November 3 meeting. These issues and the NRC findings as related to these issues are as follows:

Issue 7 - Did Dr. Cloud mislead the NRC in the statement he made at the meeting with the NRC on November 3, 1981? If he did, was this done knowingly?

NRC Finding:

Of the six PG&E employees who attended the November 3 meeting and who knew that R. L. Cloud had submitted draft reports to PG&E for review and comment prior to November 3, five stated in their sworn testimony they did not consider Dr. Cloud's statement, as contained on page 216 of the transcript of the meeting, to be misleading or erroneous. A specific question was not asked the other employee regarding Dr. Cloud's statement; thus, it is not known

whether he considered the statement to be misleading or erroneous. Mr. Rocca, who recognized Mr. Norton's statements on pages 216 and 217 of the transcript to be misleading, in his sworn testimony as shown on page 150 of Appendix E of this report, stated he did not see any inaccuracy in Dr. Cloud's statement. Mr. Rocca said in his own mind Dr. Cloud was talking about the final draft that was to be submitted to the NRC but had not yet been completed.

Dr. Cloud, in his sworn testimony, as shown on pages 37 and 38 of Appendix E of this report, indicated he did not knowingly mislead the NRC. He said that when he made the statement at the November 3 meeting, his thoughts and words were directed toward the final draft report or final report that he was under pressure to complete for PG&E for their submittal to the NRC (see Appendix D, Issue Number 7).

Issue 8 - Did PG&E representatives mislead the NRC in statements they made at the meeting with the NRC on November 3, 1981? If they did, was this done knowingly?

NRC Finding:

When asked whether he had questions concerning the possibility that he may have provided misleading information to the NRC at the November 3, 1981 meeting, Mr. Norton, in his sworn testimony, as shown on page 270, lines 8-11 of Appendix E of this report, stated: "Well, obviously when you take the statement I made on pages 216 and 217, it's factually incorrect. Indeed, PG&E had received a report, so, yes." As shown, on page 281, lines 16-25 of Appendix E of this report, Mr. Norton stated: "I honestly did not have any meaning to that. If I had known the report of October 21st had been received by PG&E, I would not have said what I said because when I used the term report, I was encompassing any report whether it be preliminary, interim, final, whatever and it was --because I'd asked the question where is the report on the previous day or two and was told it would be prepared in a week or two, I guess I assumed whoever was answering my questions was using the same definition of report I was. In all probability, they weren't."

Also, both Mr. Hoch and Mr. Rocca, of PG&E, who were in attendance at the meeting, and who knew of the existence of the draft reports, recognized the statements made by

Mr. Norton, on pages 216 and 217 of the transcript of the meeting, to be misleading and erroneous (see Appendix D, Issue Number 10).

Throughout his sworn testimony, as shown on pages 280 through 286, of Appendix E of this report, Mr. Norton stated there was no attempt on his or anyone else's part to mislead the NRC. Also, as shown on page 267, lines 23-25 of Appendix E of this report, Mr. Norton did not become aware of the draft reports until December 14, 1981.

Mr. Maneatis, in his sworn testimony, as shown on pages 289 and 290 of Appendix E of this report, and as corrected by Mr. Maneatis on the errata sheet covering his testimony, said his statement at the November 3 meeting was in reference to Dr. Cloud's oral report that was presented to the NRC during the November 3 meeting.

If Mr. Maneatis' statement at the November 3 meeting was misleading it was not erroneous and it was not done knowingly. Mr. Maneatis stated in his sworn testimony, as shown on page 386 of Appendix E of this report, that he was not aware of the existence of the draft reports until Mr. Crews of the NRC called him on December 10, 1981.

Issue 9 - What explanation was given by Mr. Norton, Mr. Maneatis, and Dr. Cloud (the speakers at the November 3, 1981 meeting) for the statements they made that the R. L. Cloud report had not been received by PG&E?

NRC Finding:

Three persons (G. Maneatis, B. Norton, and R. Cloud) made statements at the November 3, 1981 meeting with the NRC, at Bethesda, Maryland, that could be considered by the NRC to be either erroneous or misleading. The statements under question are recorded on pages 215 through 217 of the transcript of the meeting.

Mr. Maneatis considered his statement on page 215, lines 20-22, of the November 3 meeting transcript to apply to the oral report being given by Dr. Cloud at the November 3

meeting. He was not aware until December 10, 1981, that draft reports of Dr. Cloud's work had been submitted to PG&E prior to the November 3 meeting.

Mr. Norton did not become aware until December 14, 1981 that draft reports of Dr. Cloud's work had been submitted to PG&E prior to submittal to the NRC. Mr. Norton considered the statements made by him, as recorded on pages 216-217 of the November 3 transcript, to be the case at the time.

Dr. Cloud considered his statement as recorded on page 216, lines 2-4, of the November 3 meeting transcript, to be directed toward the final draft report and not toward any of the previous draft reports, which he considered to be working papers. Dr. Cloud stated that just prior to and during the November 3 meeting his thoughts were directed toward getting "the report", the final draft report, prepared for submittal to the NRC and thus he related the conversations at the November 3 meeting to be directed toward "the report".

Issue 10 - What are the explanations given by people attending the November 3, 1981 meeting, who knew of the existence of draft reports, for not bringing the existence of the R. L. Cloud reports to the NRC's attention after statements made by Mr. Norton, Mr. Maneatis, and Dr. Cloud?

NRC Finding:

Six persons from PG&E, plus Dr. Cloud, were aware of the existence of the draft reports while they were in attendance at the November 3, 1981 meeting with the NRC at Bethesda, Maryland. In this meeting Mr. Norton, Mr. Maneatis, and Dr. Cloud made statements that either stated or that can be interpreted to imply that a report of Dr. Cloud's findings had not been submitted to PG&E prior to November 3, 1981.

Four persons (D. Brand, R. Bettinger, V. Ghio, and M. Tresler) either did not hear the statements made by Mr. Norton, Mr. Maneatis, and Dr. Cloud, or did not consider the statements to be misleading or erroneous.

Two persons (J. Rocca and J. Hoch) heard the statements when they were made and considered some of them to be erroneous or misleading.

Mr. Rocca said that immediately after he heard Mr. Norton's statement that PG&E did not have the report, Mr. Norton

made another statement offering to provide the NRC with the results of the R. L. Cloud study prior to their being submitted to PG&E. Mr. Rocca said Mr. Norton's latter statement upset him and he tended to forget Mr. Norton's previous statement. However, Mr. Rocca did bring the subject up, regarding Mr. Norton's statement that PG&E did not have the R. L. Cloud report, with Mr. Tresler on the airplane ride home from the November 3 meeting. During that conversation Mr. Tresler told Mr. Rocca that he did not believe Mr. Norton's statement mislead the NRC. Mr. Rocca testified that after his discussion with Mr. Tresler he did not discuss the subject with anyone else.

Mr. Hoch stated that he had not read the draft reports, that he was a peripheral participant at the meeting, and that he assumed that someone else would correct the statements if they were wrong. After the meeting broke up, he said he tended to forget about Mr. Norton's statement. As shown on pages 462 and 463, of Appendix E of this report Mr. Hoch stated: "Well, I really can't other than what I've said about being a peripheral participant rather than being at the table. So really not feeling that I had the opportunity as this dialogue was going on. To speak up and say, hey, there is a report in house you gentlemen may or may not be aware of that certainly could be interpreted as being the interim report that's being discussed here. And it's being discussed as if it doesn't exist as yet when in fact it's my impression that it is in house and it is being reviewed by PG&E. I guess I'm trying to explain that because of my role or lack of it in the meeting, I didn't speak up in the meeting. At the conclusion of the meeting, people broke up and went their separate ways, and I -- I guess the only excuse I have is that it didn't enter my mind again to make any comments to anybody about the potential confusion or misleading nature of the statements that were made."

Issue 11 - Was the existence of the R. L. Cloud draft reports discussed by PG&E representatives at the November 3, 1981, PG&E pre-meetings, at the lunch break on November 3, or after the meeting?

NRC Finding:

Ten persons who attended the pre-meetings and who were at the lunch break gave sworn testimony they did not hear at the pre-meetings or during the lunch break any discussion regarding the existence of R. L. Cloud draft reports. These persons were Messrs. Norton, Hoch, Tresler, Furbush,

Locke, Lew, Rocca, Herrera, Brand, and Maneatis. The only discussion anyone heard that related to R. L. Cloud draft reports, was a question by Mr. Norton asking: "Is the report done or do we have the report yet meaning the report that was going to the NRC?" Someone in turn answered that it would be ready in a week or two.

Mr. Rocca, of PG&E, discussed with Mr. Tresler, of PG&E, on the airplane flight home from the November 3 meeting, Mr. Norton's statement that PG&E did not have Dr. Cloud's report. Both Mr. Rocca and Mr. Tresler, prior to the November 3 meeting, were aware that PG&E had received draft reports of Dr. Cloud's work. Mr. Tresler said he told Mr. Rocca, during the conversation on the airplane flight home, that he did not feel Mr. Norton's statement was misleading to the NRC. Mr. Rocca stated that after his conversation with Mr. Tresler he did not have further conversations with anyone regarding Mr. Norton's statement that PG&E did not have Dr. Cloud's report.

VI. Independency and Other Concerns

A review of the transcript of the October 9, 1981 meeting that was held at Bethesda, Maryland, between representatives from PG&E and the NRC, shows that independency, as related to the R. L. Cloud seismic reverification review for Diablo Canyon, or as related to anything else, was not a point of discussion between PG&E and the NRC. In the discussions that transpired between PG&E and the NRC, at this meeting, the word independent was spoken only once and was used by Dr. Cloud when he stated the title of one of his presentation slides, "Independent Assessment of Safety-Related Design Issues" (See page 78 of the transcript of the meeting).

The term independent audit was first used at the October 9, 1981 meeting in the discussions that occurred between the NRC and Mr. David Fleischaker, Attorney for the Intervenor, as shown on page 120 of the transcript of the meeting, when Mr. Fleischaker stated: "I would like to request that the staff recommend an independent audit of the seismic reanalysis." In response to Mr. Fleischaker's statement, Mr. Denton of the NRC stated: "I think we are getting an independent audit. I assume we are getting an independent audit through the work that Dr. Cloud is doing. That is one reason I wanted the reverification program plan submitted, so we can look at it in advance to see if we think it is really adequate. And I would certainly welcome any comments you might have on that plan after we have had a chance to see it from the company. And we will have our own look at these same areas, of course."

The independency issue as related to the R. L. Cloud seismic reverification work was addressed at the November 3, 1981 meeting in the discussions that occurred between PG&E and NRC representatives. These discussions start on page 208 of the transcript of the meeting and continue on pages 214, 215, 216, 236, 237, 253, 254, 255, 256, 257, and 262. On page 215, Mr. Maneatis states that Dr. Cloud has been retained by PG&E to do an independent and in-depth reverification program. On page 216, Mr. Norton states that he is a little bit concerned that suddenly questions are being raised about the independence of the review. He said there is no reason to believe the review is not independent.

The term "independent" was not defined at the November 3 meeting other than by the statements made by Mr. Denton. On page 254, of the transcript of the meeting, Mr. Denton states: "One meaning of the word independent for me is independent of the people who did the original work...". On page 262, Mr. Denton again addresses the meaning of independent and states: "I guess just to reiterate, my view of independence would mean as a minimum, you are not reviewing the work with which you are associated."

Dr. Cloud in his sworn testimony, as shown in Appendix E, page 18, lines 12-18, and page 23, line 14 through page 24, line 9, of this report, said he had not been advised by the NRC or PG&E as to how to handle his reports. He does not believe the issue of independency reached a high degree of importance until the November 3, 1981 meeting.

PG&E representatives, particularly Mr. Maneatis and Mr. Norton, in their sworn testimony, stated they believe the acceptance criteria for independency to be as stated by Mr. Denton. Mr. Maneatis stated that at the November 3 meeting Mr. Norton volunteered to follow any method the NRC wished in submitting Dr. Cloud's reports, but PG&E was never given any specific directions.

As stated by Dr. Cloud in his sworn testimony, as contained on pages 6 and 7 of Appendix E of this report, R. L. Cloud was retained by PG&E in late September 1981, under an oral contract, to perform initial studies relating to seismic design errors identified at Diablo Canyon. On December 1, 1981, a written contract was submitted to Dr. Cloud from PG&E requesting his consulting services in connection with assisting PG&E in a seismic reverification study for Diablo Canyon. Attached to the cover letter of this contract were various documents including a listing of miscellaneous requirements. Upon first glance of these miscellaneous requirements, it appears that

certain ones, specifically subsections 1.3, 1.9, and 1.12, could address the independency of R. L. Cloud as a contractor. However, this investigation determined that the written contract between PG&E and R. L. Cloud, dated December 1, 1981, does not address the independence of the contractor (R. L. Cloud) in any sense of the meaning that is of concern in this special investigation. In sworn testimony, both Mr. Maneatis and Mr. Brand stated that the various miscellaneous requirements as contained within the contract are nothing more than standard boilerplate conditions. Mr. Maneatis said that subsection 1.3 which reads: "Consultant shall disclose no information to third parties concerning the services performed under this Request for Services without written permission from PG&E," is a standard term used in many contracts. He stated further, it merely precludes our contractors or consultants from disclosing information to third parties without our authorization that might have commercial value, that they may want to use as testimonials without our consent, that they may want to write technical papers on without our consent. It in no way would preclude the disclosure of information to the Nuclear Regulatory Commission or to any other regulatory bodies. I have never heard of this particular provision precluding any disclosure of information to regulatory bodies.

Mr. Maneatis said that subsection 1.9 which reads: "Consultant is an independent Contractor and not an employee of PG&E in any respect whatever," is also a standard term and is used to define the consultant as a non-PG&E employee for purposes of workmen's compensation.

With regard to subsection 1.12, which refers to subsection 3.3 of an appendix to the contract entitled, "Specification for Consultants Quality Assurance Program," Mr. Maneatis stated that this item is intended to cover cases where consultants may have flaws in their QA program that require corrective actions and allows PG&E to review the corrective actions for adequacy.

During the course of this investigation, a concern arose within the NRC regarding possible policies or procedures that might exist within PG&E that would inhibit or restrict the free flow of information between PG&E and the NRC. This concern was addressed throughout the course of this investigation and was incorporated into the interviews of various PG&E personnel as shown on pages 24 to 26 of Appendix D of this report.

Issues 12 through 14, as defined in Section III of this report, are applicable to the discussions at the October 9 and November 3, 1981 meetings that focused on the independency matter; the contract document of December 1, 1981, requesting R. L. Cloud to perform work for PG&E; and possible policies or procedures within PG&E that could restrict the free flow of information between PG&E and the NRC. These issues and the NRC findings as related to the issues are as follows:

Issue 12 - What is the basis for the NRC expectation that the R. L. Cloud work and findings should be independent?

NRC Finding:

Statements made by PG&E representatives at the November 3 meeting, as shown in the transcript of the meeting, specifically the statement made by Mr. Maneatis on page 215, lines 1-4, and lines 6-10, and the statements made by Mr. Norton on pages 216 through 218, show that PG&E told the NRC that Dr. Cloud was performing an independent investigation or review. On page 215, Mr. Maneatis states that Dr. Cloud has been retained by PG&E to do an independent and in-depth reverification program. On page 216, Mr. Norton states that there is no reason for the NRC to believe that Dr. Cloud's review is not independent.

As discussed earlier, in Section VI of this report, independency was not defined at the November 3 meeting, except for the statements made by Mr. Denton of the NRC. Also, as discussed earlier in Section VI of this report, independency was not a subject of discussion between PG&E and the NRC at the October 9, 1981 meeting, and did not become a subject of discussion until November 3, 1981.

Issue 13 - Are there any policies within PG&E, written or otherwise, regarding not providing information to the NRC unless specifically asked for by persons from the NRC?

NRC Finding:

Eight employees of PG&E were asked if there are any policies or procedures, written or otherwise, within PG&E, of not providing information to the NRC unless the specific information is so requested by the NRC. All eight employees, including four senior level management personnel, stated there are no such policies or procedures in existence within PG&E.

Issue 14 - What is the relationship of certain contract terms as contained in the December 1, 1981 contract with R. L. Cloud on the performance of R. L. Cloud as an independent contractor?

NRC Finding:

The written contract between PG&E and R. L. Cloud, dated December 1, 1981, does not address the independence of the contractor (R. L. Cloud) in the sense of meaning that is of concern in this special investigation. In sworn testimony, both Mr. Maneatis and Mr. Brand stated that miscellaneous requirements 1.3, 1.9, and 1.12, as contained in the contract are standard boilerplate conditions that are included in most consultant contracts. Dr. Cloud understood the independency statement to mean that he was not an employee of PG&E.

VII. Phase 2 of the Investigation

During the course of the investigation, sixteen issues of concern were identified, as discussed in Section III of this report. Two of these issues (numbers 15 and 16) related specifically to the changes that were made to the R. L. Cloud reports as a result of PG&E comments. These issues are repeated here:

15. Did any PG&E comments, either oral or written, result in any unjustified changes in the R. L. Cloud findings contained in the November 12, 1981, draft report submitted to the NRC?
16. What were the bases for substantive changes, if any, made in the R. L. Cloud earlier draft reports?

Preliminary investigation into these issues indicate that a substantial amount of additional review by three parties (the NRC, PG&E, and R. L. Cloud) is required to adequately investigate the issues. It was, therefore, decided that these issues would be handled in a separate phase of the investigation (Phase 2).

On December 30, 1981, the NRC Region V Regional Administrator directed PG&E and R. L. Cloud (through PG&E) to provide additional information under oath or affirmation. This additional information was to identify: all written and known oral comments made by PG&E; the individual who made the comment; whether or not the comment resulted in a revision; and the explanation of why

each change was made, with reference to substantiating documentation. The additional information was to be submitted to the NRC by January 15, 1982. The above action was documented in a letter to PG&E, dated December 30, 1981, enclosed as Appendix C to this report.

Completion of the NRC investigation into issues 15 and 16 will follow receipt and analysis of the additional PG&E and R. L. Cloud information, and will be documented in a separate report.