

NUCLEAR REGULATORY COMMISSION

COMMISSION MEETING

In the Matter of: PUBLIC MEETING

BRIEFING ON RECENT SEISMIC DESIGN
ERRORS AT DIABLO CANYON UNIT 1

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AT: Washington, D. C.

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BRIEFING ON RECENT SEISMIC DESIGN ERRORS
AT DIABLO CANYON UNIT 1

PUBLIC MEETING

Nuclear Regulatory Commission
Room 1130
1717 H Street, N. W.
Washington, D. C.

Monday, November 9, 1981

The Commission met, pursuant to notice, at
10:40 a.m.

BEFORE:

NUNZIO PALLADINO, Chairman of the Commission
VICTOR GILINSKY, Commissioner
PETER BRADFORD, Commissioner
JOHN AHEARNE, Commissioner
THOMAS ROBERTS, Commissioner

STAFF PRESENT:

S. CHILK
L. BICKWIT
R. ENGELKEN
R. DeYOUNG
H. DENTON
W. DIRCKS
F. REMICK
F. MIRAGLIA
E. CASE
D. EISENHUT
B. FALKENBERRY
J. KNIGHT

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1 P R O C E E D I N G S

2 CHAIRMAN PALLADINO: The meeting will please come
3 to order.

4 The Commission meeting this morning is to receive
5 a briefing from the staff on seismic design errors at Diablo
6 Canyon, Unit No. 1.

7 In late September the Pacific Gas and Electric
8 Company notified the Commission of its discovery of design
9 errors involving the seismic design of Unit 1. It also
10 announced that fuel loading, which was authorized under the
11 recently issued low-power license, would be indefinitely
12 deferred.

13 Since that time the NRC staff has held several
14 public meetings with the applicant, PG&E, and has conducted
15 a number of technical inspection and audit activities. The
16 applicant has also been active in its reanalysis and
17 reverification of seismic matters at Unit No. 1.

18 Today the NRC staff is prepared to brief the
19 Commission on the errors that have been detected to date and
20 give the staff's understanding of the causes of these
21 errors. The NRC staff also intends to cover in some detail
22 its proposed reverification program for Diablo Canyon and to
23 outline for the Commission the additional actions it
24 intends to take.

25 I should note for the benefit of the people here

1 that the Commission intends today to hear only from its
2 staff. We will not be asking the other parties to the
3 Diablo Canyon licensing proceedings to present their views
4 at this time. I would now ask the staff to proceed with its
5 briefing.

6 COMMISSIONER GILINSKY: Before we do that, I
7 wonder if the General Counsel could explain to us the
8 relationship of what is going on here today to the licensing
9 proceedings?

10 MR. BICKWIT: The issues that are being discussed
11 today, as I understand them, are not issues which are in
12 contest in the proceeding. There was an issue in contest
13 that had a close relationship to what is being discussed
14 today, but that issue was not appealed and therefore is not
15 a live issue in the matter.

16 As a result, I think the Commission and the staff
17 should feel free to discuss these issues in whatever depth
18 they choose and need not worry about ex parte constraints.

19 COMMISSIONER GILINSKY: What about discussions
20 with other persons?

21 MR. BICKWIT: Discussions with other persons would
22 also be permissible under the ex parte rule.

23 COMMISSIONER GILINSKY: Thank you.

24 COMMISSIONER AHEARNE: So there are essentially no
25 constraints?

1 MR. BICKWIT: That is right.

2 CHAIRMAN PALLADINO: However, we have not
3 indicated in our published agenda that we were receiving
4 comments from others.

5 MR. BICKWIT: That is right. I simply meant to
6 indicate that there wouldn't be a legal bar to doing so.

7 CHAIRMAN PALLADINO: But it would take a
8 Commission decision, I believe, for us to depart from what
9 our plans were?

10 MR. BICKWIT: That is right.

11 CHAIRMAN PALLADINO: Any other comments?

12 (No response.)

13 CHAIRMAN PALLADINO: Then I will turn the meeting
14 over to Mr. Dircks to lead us through the discussion.

15 MR. DIRCKS: Mr. Chairman, we transmitted on
16 November 5th a proposed summary of the actions that we would
17 like the Commission to consider. We have today the
18 intention of going through the background of the situation
19 up to date. We have people here from Inspection and
20 Enforcement, Mr. DeYoung and Mr. Engelken, who is the
21 Director of Region V. They will proceed to go through the
22 background and a summary of the situation and then Mr.
23 Denton will provide the Commission with a summary of the
24 steps that the staff is recommending to the Commission to
25 take in the proposed 50.54E letter that we have before you.

1 Mr. DeYoung, would you start?

2 MR. DeYOUNG: Yes, I will.

3 I have a brief rundown of how we came upon the
4 problem and how we divided the work. Then we will turn it
5 over to Harold who will lead us through his part and we will
6 be prepared to talk about potential enforcement that we are
7 considering in a closed session.

8 MR. DIRCKS: I might add that we have another part
9 to the briefing that we would like to discuss with the
10 Commission and that is an enforcement action.

11 CHAIRMAN PALLADINO: If the Commission wishes to
12 hear the enforcement action, I think then we will have to
13 close the meeting.

14 Why don't we proceed without that until we develop
15 enough background to decide how to deal with that.

16 MR. DeYOUNG: That was our plan.

17 I think the problem began to arise on the 21st of
18 September when a PG&E engineer began questioning the diagram
19 that has become so famous. About that same date the
20 Commission was briefed on the licensing of Diablo Canyon,
21 the low-power licensing action. The next day on the
22 September the 22nd NRR issued the low-power license.

23 On September the 25th the lowest level, the second
24 level PG&E management was advised of the potential error
25 that had been found by the engineer.

1 CHAIRMAN PALLADINO: What date was that, the 25th?

2 MR. DeYOUNG: September the 25th.

3 On September the 27th at about 4:30 in the
4 afternoon we were informed, our resident inspector was
5 informed of the potential mistake that had been made. That
6 was on a Sunday, a Sunday afternoon. He informed the
7 regional people that same day.

8 The next day, Monday, the 28th of September, the
9 licensee officially notified the NRC of the apparent
10 mistake.

11 The next day we met, our people met. We have a
12 rather formal arrangement when a potential problem of this
13 type comes up. Who is responsible? We don't want to do
14 redundant work. So we have a group within NRR and I&E that
15 get together to try to define the problem to make a
16 distribution of the work and so on. It is a rather formal
17 group. Darrel Eisenhut for NRR, for example, will sign the
18 agreement of distribution of work on any problem of this
19 type with Ed Jordan of I&E.

20 They met, they talked it over all day and they
21 agreed and signed on September 29th an agreement of how we
22 would proceed with this problem. They divided the work up
23 and they proceeded to follow that.

24 CHAIRMAN PALLADINO: This was an internal
25 agreement?

1 MR. DeYOUNG: Internal agreement of how to address
2 the problem. We had limited resources and we wanted to get
3 the best resources we have various aspects of the problem.
4 On each major problem of this type that goes across office
5 lines we try to make sure we don't waste the resources we
6 have. We get the best resources possible to focus on the
7 problem.

8 They made the agreement on a Tuesday and they
9 began to work on that agreement. Part of it was for a joint
10 inspection, a special inspection that involved meetings with
11 the I&E people and the NRR people and they began to follow
12 that procedure.

13 COMMISSIONER BRADFORD: About how large a group do
14 we actually have working on Diablo Canyon matters at the
15 moment?

16 MR. ENGELKEN: Out of Region V we had four people
17 engaged in the investigation work at the PG&E offices on a
18 full-time basis for a couple of weeks. NRR had a group of I
19 think five or six people working concurrently for a shorter
20 period of time, approximately a week I believe.

21 MR. DeYOUNG: Is that sufficient?

22 I think we have gotten to the point we are now.
23 We have it in three phases. We have the technical
24 requirements to satisfy the staff, the program that we need
25 to follow to convince the staff that the plant is ready to

1 proceed with licensing and to load the fuel and so on. That
2 is one big aspect of it. Harold Denton is going to make the
3 presentation on that.

4 I&E, as I said before, has as one part of it
5 looked at the potential enforcement that we might take.
6 That is a separate issue and we are prepared to talk about
7 that after Harold gets through with his presentation if the
8 Commission wishes.

9 Then there is the matter of the State of
10 California. They have proposals in to the Commission for
11 their consideration. We have not addressed that.

12 One of the reasons the Regional Administrator from
13 Region V is here is that he is closest to the meeting out
14 there and he is closest to what he thinks is the feeling in
15 the State and he might give you some views as to what he
16 hears and he feels in that realm. So you might take that
17 into consideration when you are making your decision on what
18 to do with the proposal from the Governor of California.

19 With that I was going to let Harold begin his
20 presentation on the first part of what we have done.

21 COMMISSIONER AHEARNE: Dick, I think you lost me.
22 You were talking about three phases.

23 MR. DeYOUNG: Three items, the technical
24 requirements to get the plant to proceed to licensing, the
25 enforcement and the Governor's letter.

1 Harold.

2 (Slide presentation.)

3 MR. DENTON: If we could have slide No. 2.

4 I will talk about what we have learned in the two
5 meetings that we have had with the company to date and what
6 we learned from the results of the inspections and meetings
7 which have been held with the applicant.

8 We will talk about what the company had proposed
9 to do last week, what we are recommending in the 50.54F
10 letter as an extension of that program and mention what is
11 known today about the company's schedule.

12 COMMISSIONER GILINSKY: Can I just ask you about a
13 detail. Bill kept referring to 50.54E. Was that intended
14 to be "F"?

15 MR. DENTON: It is "F" I believe.

16 MR. DeYOUNG: "F".

17 MR. DENTON: May I have slide 3, please.

18 At the conclusion of that meeting, which was our
19 first introduction to the scope of the problem, we had asked
20 the company for three items. We asked them for a technical
21 report providing the results of their reanalysis of the
22 containment annulus area and a description of the proposed
23 modifications and the analytical bases for those changes.
24 We also asked them for a reverification of the seismic
25 design of all safety related systems and we asked that a

1 priority reverification involving the URS/Blume matters be
2 done first. That set the stage for the October 9th meeting.

3 Then following that time the company was going
4 down this path and making these types of studies. We were
5 meeting with them, as shown on the slide.

6 I now want to turn to slide No. 4 and talk about
7 the errors which have been detected to date. I think these
8 errors are well summarized in the most recent letter from
9 Governor Brown. There is an attachment to that letter that
10 identifies the same ones.

11 COMMISSIONER AHEARNE: Do you agree with that
12 summary?

13 MR. DENTON: Yes.

14 The first three were the ones about the mirror
15 image problem of the frames in the annulus that we discussed
16 with you before and the incorrect distribution within the
17 company of some of the spectra that were generated by
18 Blume. We may have mentioned that there was a Blume
19 analysis done in May and then corrected in June and the
20 company had used the May analysis originally and did not
21 follow up on the new design model. Then there were errors
22 made in the assumed weight and distribution of the
23 components in that area.

24 Then there were a number of other errors which
25 have been detected so far unrelated to these three but

1 related to the same general topic of seismic design. Then
2 also a number of errors have been detected during their
3 reverification program by their consultant who is doing the
4 seismic reverification program. These have all been
5 described in the transcript that was provided to you and was
6 provided to all the parties.

7 COMMISSIONER AHEARNE: Could you give a short
8 summary of what kinds of errors those others are? You said
9 they were unrelated.

10 MR. DENTON: Unrelated to the above three errors.

11 COMMISSIONER AHEARNE: What kinds?

12 MR. DENTON: If I could go to back-up slide No.
13 4A. This is a summary of five specific errors that have
14 been found to date. By unrelated, they are not related to
15 the seismic one. They continue to indicate to me a lack of
16 engineering controls during this period, but they are not
17 related to the annulus weights.

18 CHAIRMAN PALLADINO: Do we have a copy of that
19 slide in our package?

20 MR. DENTON: No. I would be happy to provide it.

21 CHAIRMAN PALLADINO: Thank you.

22 MR. DENTON: Slide 4B, I believe it is, shows the
23 errors which have been found by the reverification program
24 to date. This is as a result of a reverification analysis
25 that we have asked for in the original meeting.

1 So all in all they are finding a number of
2 instances of a lack of formality in their controls and
3 follow-up in the areas relating especially to seismic design.

4 If I could go to page 5. I had mentioned that
5 earlier, the first bullet, which we had asked the company to
6 do during the first meeting which was a complete
7 reverificatin of the seismic design. PG&E proposed at the
8 most recent meeting to continue that effort and do a review
9 by themselves of all service related contracts looking
10 mainly for verification whether QA controls were in place
11 but not looking behind the paper necessarily unless they
12 found that there were deficiencies in the controls.

13 COMMISSIONER GILINSKY: Well, let's see, is that
14 what the reverification program meant then?

15 MR. DENTON: That is what the company's proposed
16 reverification program was last week, to do the three tests
17 that we had asked for originally and to expand it.
18 According to this bottom bullet they would do an internal
19 review of all pre-'78 service contracts and if they found
20 deficiencies in that they would look further. Now we didn't
21 adopt that proposal.

22 CHAIRMAN PALLADINO: Did you reject it?

23 MR. DENTON: Well, I recommend that you reject it,
24 yes.

25 The next page then, item 6, is a summary of the

1 staff conclusions based on everything that we have heard so
2 far and learned so far.

3 COMMISSIONER GILINSKY: Could you just go back a
4 minute. What is it that you are not recommending as
5 presumably not sufficient?

6 MR. DENTON: The last bullet, that they would
7 review themselves ---

8 COMMISSIONER GILINSKY: And what do you find
9 deficient in that?

10 MR. DENTON: I think it needs to look beyond the
11 existence of paperwork. I want to see the numbers on the
12 paper are accurate. I think they were proposing more to
13 look for documentation of a QA -- (Simultaneous
14 Conversations - Inaudible).

15 COMMISSIONER GILINSKY: That checks had been made
16 and so on?

17 MR. DENTON: That may have been made but did not
18 propose, if they found examples of documentation, they were
19 not going to go under the documentation to see if the
20 assumptions and numbers were correct.

21 COMMISSIONER GILINSKY: But in the items under the
22 first bullet the company was planning to go behind whatever
23 QA documentation there was or wasn't and actually examine
24 the calculations?

25 MR. DENTON: Yes, that is right. In that one we

1 had asked for a complete reverification of the analyses and
2 calculations that went into that particular activity.

3 COMMISSIONER BRADFORD: Does the first one apply
4 only to post-78 activities, or would that be pre and post?

5 MR. DENTON: Since we didn't adopt it, I don't
6 want to dwell too much on this one, but that is the
7 reverification of the activities in the '77 time frame when
8 they were using Dr. Blume's service for analysis of seismic
9 details.

10 COMMISSIONER AHEARNE: I am having difficulty
11 tracking what is then different between one and two. No. 1
12 is working on the seismic design of safety related
13 structures and No. 2 is also the seismic design of safety
14 related structures.

15 MR. DENTON: Let me ask Dick or Bob if they recall
16 what the company specifically had in mind.

17 COMMISSIONER GILINSKY: This slide represents the
18 company's proposal; is that right?

19 MR. DENTON: Yes.

20 Can anyone help us out?

21 COMMISSIONER AHEARNE: I assume you are going to
22 discuss in more detail what you are recommending?

23 MR. DENTON: Yes. I just wanted to give you a
24 preview of it. They were not proposing to expand beyond
25 what had been agreed to at the October 9th meeting with the

1 exception of the last bullet. They were going to do some
2 more internal checking for documentation.

3 COMMISSIONER GILINSKY: I must say I am a little
4 confused, too, because on top you say "Complete
5 reverification of seismic design of safety related
6 structures, systems and components. . . ." You know,
7 complete reverification is pretty extensive.

8 COMMISSIONER AHEARNE: I am glad someone shared my
9 confusion.

10 COMMISSIONER GILINSKY: Now you can hardly do more
11 than have a complete reverification.

12 MR. DENTON: Well, let's stop here and see if we
13 can straight it out. I don't remember what the company had
14 proposed for that specifically.

15 MR. EISENHUT: It has been a few days back. Let
16 me try to go back. The first item was they referred to as a
17 Cloud reverification program. They were using an
18 independent consultant, Bob Cloud. That was the first
19 distinction ---

20 COMMISSIONER GILINSKY: Well, that is on a
21 sampling basis.

22 MR. EISENHUT: The first program was looking at
23 John Blume interfaces and it was looking pre-1978 and it was
24 using an independent consultant. Those were really the
25 three elements.

1 COMMISSIONER AHEARNE: Was it strictly focused
2 then on the work done by Blume or the PG&E/Blume interface?

3 MR. EISENHUT: It was that service related
4 contract that they had with Blume and it was looking both
5 internal in PG&E and in Blume.

6 COMMISSIONER AHEARNE: It was focused on that one
7 service contract?

8 MR. EISENHUT: Yes, it was. That is the
9 distinction.

10 MR. DENTON: Then there are other seismic design
11 facets that were not done by Blume and were done
12 internally. That is why they were proposing an audit with
13 their own resources for adequate documentation.

14 Slide No. 6 summarizes what I think we consider
15 the shortcomings in their QA program in that time period. I
16 have characterized there is a lack of rigor and formality in
17 their engineering controls and have attempted to identify at
18 least the three characteristics where we found weaknesses in
19 their system.

20 The person who had responsibility for the contract
21 with URS/Blume did not have a formal way of communicating
22 input data. Apparently it took place by telephone by
23 various levels in management and he did not sign every memo
24 that went to Dr. Blume. Neither did he follow-up formally
25 in the results that came back from Dr. Blume. So it seems

1 to be that informal interface between the company and
2 URS/Blume in that time period that led to these difficulties.

3 CHAIRMAN PALLADINO: Were the communications
4 clearly identified as related even to Diablo Canyon Unit 1
5 in every case? In other words, you say they weren't signed,
6 but my impression was that some of them were not even
7 clearly identified as being appropriate for -- (Simultaneous
8 Conversations - Inaudible).

9 MR. DENTON: That is right, and they weren't all
10 written down. It appeared to be a very informal use of a
11 consultant.

12 COMMISSIONER GILINSKY: Well, that key diagram, as
13 I recall, wasn't labeled at all.

14 MR. DENTON: That is right. They just had not
15 applied to their service contract with Dr. Blume the type of
16 QA controls which you would have expected to have been in
17 place at that time. There are a number of our criteria that
18 go to a QA program that were not followed in this time frame.

19 COMMISSIONER AHEARNE: You say this time frame.

20 MR. DENTON: I am talking about the '77 period
21 where most of our effort has focused. Now they did change
22 the nature of their contracts with service consultants after
23 this time frame and I will come to that part later.

24 MR. DeYOUNG: There might be a point as to why it
25 was so informal. The PG&E and Blume homes are so close

1 together they can walk to each other and work together as
2 staffs. It is not that they have to write letters to each
3 other but they are very close together. They have had a
4 long relationship together and they know each other. So
5 they have formed some habits perhaps that were not as formal
6 as they might be otherwise.

7 COMMISSIONER GILINSKY: Well, that was mentioned
8 at the meeting the other day and I wondered about it,
9 because the degree of informality was greater than you would
10 expect between two departments in the same company.

11 MR. DeYOUNG: We are not sure of that, and that is
12 why we are looking within PG&E.

13 COMMISSIONER AHEARNE: I would agree with Vic. I
14 think your point, Dick, is that you are not sure whether
15 even within the company that informality is there, but I
16 would certainly agree with Vic's point.

17 COMMISSIONER GILINSKY: My impression was at least
18 in other areas that things were handled differently in
19 different subject areas within the company.

20 MR. DeYOUNG: Within the company.

21 COMMISSIONER GILINSKY: Although I would certainly
22 like to hear about that.

23 MR. DeYOUNG: That is what part of the
24 verification program is going to do.

25 COMMISSIONER GILINSKY: But I must say that those

1 diagrams and the manner in which they were transferred
2 surprised me and it would have surprised me even if it had
3 happened between two adjoining offices within the company.

4 CHAIRMAN PALLADINO: I would be personally
5 surprised if I had kept my own notes that poorly because I
6 am not sure that I could later verify what was intended by
7 these notes. I think they represent more than informality.
8 I think they actually represent what I would call poor
9 practice.

10 MR. DeYOUNG: I understand.

11 MR. DENTON: It appears that when they bought
12 materials such as steel pipe that they had a formal QA
13 program in place. The proposal on steel pipe had long,
14 detailed specifications attached to the contract. Their
15 department would pour through the specifications and a QA
16 program formality existed in the procurement of materials
17 and in the procurement of instruction activities where you
18 would expect the kind of controls we are talking about to
19 exist.

20 It appears that when they went out for analytical
21 services during this period the contracts were extremely
22 brief. They were one-page or two-page contacts and that
23 they sort of deferred perhaps to the prestige of their
24 consultants and they gave him very informally the
25 information he needed to do the review and they treated the

1 result that came back in an informal fashion.

2 MR. ENGELKEN: I would like to just add to that.

3 The relationship with Blume began I believe back in the
4 '66-'67 time frame before there were any formal NRC/AEC
5 quality assurance requirements. It was a small contract.
6 It grew through the years into a much more substantial
7 contract. Initially I believe it was very small and there
8 were essentially no quality assurance requirements of the
9 AEC at that time. So it began on a very informal basis and
10 it was just continued on that basis apparently as it grew
11 through the years.

12 COMMISSIONER AHEARNE: I am rather surprised at
13 the, and I am not sure you can call it informal or bad
14 practice, but it just wasn't certainly the type of practice
15 that I am familiar with coming out of military systems,
16 weapons analysis and so forth, in which this kind of keeping
17 track of information which you use is critical and you have
18 to keep track of it very carefully.

19 Is it your sense that in general in the nuclear
20 power field or in the large-scale power production, facility
21 development, large coal plants and so forth, that this is
22 standard practice, this what I would have called looseness?

23 MR. ENGELKEN: Well, I think there is far more
24 formality. For instance, there was far more formality
25 within the company on their own internal matters. It is

1 their interface relationship with these service contractors
2 where the system broke down. I think the problem with
3 vendors and the interface between the owner and the builder
4 and his vendors is a perennial problem that we have been
5 dealing with and find to be a continuous source of trouble.

6 COMMISSIONER AHEARNE: Your answer sounds like it
7 is broader than just the relationship in this company.

8 MR. ENGELKEN: I think generally it is.

9 MR. DENTON: With regard to the service related
10 contracts, apparently they had a total of 12 such service
11 related contracts at the time and these lack of formal
12 interfaces and controls seemed to exist on all 12 and about
13 8 of the 12 were seismic related. The other four were other
14 safety related issues.

15 COMMISSIONER GILINSKY: Had you touched on the
16 second item? I was particularly interested in whether this
17 was a widespread practice or one limited to, let's say, the
18 lack of adequate control of design information.

19 MR. DENTON: Well, design and use I would say of
20 the design information.

21 COMMISSIONER GILINSKY: Are you limiting that
22 observation to the contracts that we are talking about?

23 MR. DENTON: Yes, that is right. It was drawn
24 from the errors reported to date.

25 COMMISSIONER GILINSKY: Was there a different

1 practice followed on designs generated internally when they
2 had to be transferred from one department to another?

3 MR. DENTON: Let me defer to Bob.

4 MR. ENGELKEN: I am only aware of one problem that
5 we found in that particular area and that was the failure to
6 transmit the design information to the electrical group.
7 The information came from Blume and it was distributed to
8 the other groups within PG&E that were supposed to get the
9 information but there was a failure to distribute it to the
10 electrical group. I know of only one problem that was found
11 in that area.

12 MR. DENTON: Now as to how to remedy this
13 situation, let's go to slide 7. This slide 7, the program
14 that is outlined here is predicated on the assumption that
15 the weaknesses in the program are focused in the service
16 contract area and that it is not a universal breakdown
17 throughout the company.

18 COMMISSIONER GILINSKY: Well, that is what I
19 wanted to pin down earlier.

20 MR. DENTON: Although it is designed to sample
21 these other areas and it is open ended, but if in sampling
22 those you do find similar weaknesses that can be broadened.
23 But it starts out with a big focus on service related
24 contracts and a sampling of other areas. Then based on the
25 results of that sampling it could be expanded.

1 CHAIRMAN PALLADINO: Did you investigate to see
2 whether or not this was limited to the interface problem
3 between Blume and PG&E?

4 MR. DENTON: It is ongoing.

5 MR. ENGELKEN: We looked at other service
6 contracts as well, three or four others, and found similar
7 problems there. I think the situation with Blume was the
8 worst case that we found.

9 CHAIRMAN PALLADINO: Did you investigate to see
10 whether there were problems other than interface problems
11 with anybody? In other words, did you check to see if there
12 were problems within PG&E with regard to its own work?

13 MR. DENTON: The focus so far as been on the other
14 and it has only been 30 days. Bob has been sampling this
15 other area for ten years I guess.

16 MR. ENGELKEN: Generally we had found the QA
17 within the PG&E organization quite good. After this problem
18 came up we did find that one case where they failed to
19 disseminate the Blume design information to the electrical
20 group, but other than that the design reviews and the design
21 verifications within the company we found to be adequate.
22 Generally in inspecting the on-site construction effort at
23 the Diablo site through the years it has been at least
24 average and probably better than average.

25 COMMISSIONER AHEARNE: Have you had in the past in

1 your inspection history of Diablo Canyon during
2 construction, have there been previous findings and
3 enforcement actions taken in this area of quality assurance?

4 MR. ENGELKEN: Our program does not really include
5 very much inspection in that particular area. That is a gap
6 that has existed in our program. Initially back in 1970
7 when the Appendix B criteria came out and were imposed on
8 construction efforts we inspected at that time to make sure
9 that the company did have a system for design review. We
10 established at that time that there was a design review
11 system and that it had been implemented. That was what the
12 program required of us at that time and we have fulfilled
13 that requirement.

14 Through the years we have had some inspection
15 effort in that area, but rather limited compared with our
16 on-site construction inspection work. So it has been one of
17 the weaker parts of our inspection program, the general
18 inspection of design review requirements.

19 COMMISSIONER AHEARNE: Well, given that then,
20 Harold, did you say that you are going to do a sampling?

21 MR. DENTON: Yes.

22 COMMISSIONER AHEARNE: What will you use to
23 determine whether or not the sample has led you to go
24 farther, any problem or some number of problems?

25 MR. DENTON: Let's go to slide 7 and I will try to

1 answer that.

2 COMMISSIONER GILINSKY: Well, let's see, I wonder
3 if that is the right order to take things in, John.

4 COMMISSIONER AHEARNE: I thought he was on this
5 slide.

6 MR. DENTON: I am.

7 CHAIRMAN PALLADINO: You are done on this slide?

8 COMMISSIONER AHEARNE: No, he is on the slide.
9 This is the slide he is talking to.

10 CHAIRMAN PALLADINO: Is this slide 7?

11 MR. DENTON: Yes. I was going to deal with what
12 we ought to do in the known areas first and then go to what
13 to do in the areas we are going to sample.

14 CHAIRMAN PALLADINO: Let's proceed then.

15 COMMISSIONER GILINSKY: Assuming you are going to
16 start in on this slide, could you say a word or two about
17 what the significance of a 50.54F letter is as opposed to
18 any other action we might take. For one thing you have
19 obviously decided not to withdraw the license or recommend
20 that. In any case, where does this fit in our inspection of
21 regulatory tools?

22 MR. DENTON: It is a vehicle we often use to
23 solicit information from a licensee to determine whether or
24 not a license should be suspended, revoked or modified.

25 COMMISSIONER AHEARNE: It is to require

1 information.

2 MR. DENTON: It is to require information from the
3 applicant to make that determination. So it is not an
4 order. It stops short of ordering it, but it does require
5 information to enable us to make a decision of whether an
6 order would be appropriate.

7 COMMISSIONER GILINSKY: To what extent is the
8 licensee constrained, not that I expect them to rush ahead
9 or anything, but what are the legal constraints on moving
10 forward and, for example, loading fuel?

11 MR. DENTON: At the moment we have not issued any
12 orders modifying the existing license, but he has committed
13 not to proceed with fuel loading and that would be
14 reiterated in our letter to him until he had our approval
15 and we had this information and had reviewed it.

16 COMMISSIONER GILINSKY: This is what, a written
17 commitment?

18 MR. DENTON: Perhaps I should ask our counsel.

19 MR. ENGELKEN: The licensee in his initial
20 notification to us had a statement that fuel would not be
21 loaded until the NRC gives concurrence.

22 COMMISSIONER GILINSKY: Does that impose a legal
23 obligation?

24 MR. ENGELKEN: In my view it does. I am not a
25 lawyer.

1 MR. BICKWIT: No. I wouldn't say it imposes a
2 legal obligation, no.

3 MR. DENTON: There is no doubt in my mind that it
4 is an effective obligation.

5 COMMISSIONER GILINSKY: No, I don't expect them to
6 load fuel but I am just trying to understand how we are
7 going about doing our business.

8 MR. BICKWIT: It is not a legal obligation in the
9 sense that to violate it would not bring forth the sanctions
10 that the Commission is capable of using against violators.

11 MR. MIRAGLIA: I think we also have to keep in
12 mind that they have technical specifications as part of
13 their low-power license. These technical specifications
14 define operability and inoperability of systems. Since some
15 of the key systems are in doubt with respect to the errors,
16 they cannot declare them operable and would be prohibited
17 under the existing tech specs to operate unless they can
18 clearly show that these systems that are required by the
19 tech specs are indeed operable.

20 COMMISSIONER GILINSKY: Well, it does seem a
21 round-around way of communicating.

22 CHAIRMAN PALLADINO: Frank, would you identify
23 yourself for the record.

24 MR. MIRAGLIA: Yes. I am sorry, sir. Frank
25 Miraglia, NRC staff.

1 COMMISSIONER BRADFORD: Let's see, they are also
2 required to give you 30 days notice and to provide certain
3 information 30 days before loading fuel. So as a practical
4 matter with this letter in their hand I take it they
5 couldn't go ahead and load fuel if they hadn't given you
6 that information.

7 MR. DENTON: That would be the practical effect.

8 COMMISSIONER AHEARNE: I don't think anybody
9 expects them to load fuel.

10 MR. ENGELKEN: Their initial report to us dated
11 September 28th signed by Philip Crane of Pacific Gas and
12 Electric Company says: "Fuel loading will be delayed until
13 a resolution of those items necessary for fuel loading are
14 completed and concurrence is obtained from the NRC. We will
15 keep you informed of progress during the review."

16 MR. DENTON: I think the action we take depends on
17 the situation. Since they had not loaded fuel and they have
18 agreed not to load fuel until it is resolved to our
19 satisfaction I didn't see the need for anything more than
20 what we were proposing.

21 CHAIRMAN PALLADINO: But this letter in effect
22 though tells them that they have got to provide information
23 before they can load fuel.

24 MR. DENTON: Yes.

25 CHAIRMAN PALLADINO: I gather also that the NRC

1 must accept the information.

2 MR. DENTON: Yes, and approve it. If they went
3 ahead and loaded fuel, then in spite our admonition we would
4 issue an order.

5 COMMISSIONER GILINSKY: Let's see, does it say we
6 have to approve what we have received?

7 MR. DENTON: Yes.

8 COMMISSIONER AHEARNE: Why don't we wait until he
9 describes the program.

10 MR. DENTON: What we need is a program to restore
11 confidence in the adequacy of their design. That would
12 somehow re-establish the proper engineering controls in the
13 areas that we found deficient. So our program starts by
14 requiring an independent complete reverification of all the
15 safety related activities performed by URS/Blume.

16 COMMISSIONER AHEARNE: You used a key word in
17 there which I think has become very important in much of the
18 correspondence. You said independent.

19 MR. DENTON: Yes.

20 COMMISSIONER AHEARNE: Would you describe what you
21 mean by independent because I think there are a number of
22 different opinions on that.

23 MR. DENTON: That is right. My view of
24 independent would be that the company or the individuals
25 doing the reverification in order to be independent must

1 demonstrate integrity, competence and not have been involved
2 in the activities which they are reviewing.

3 Now the Governor's letter that you received this
4 morning would go further than that and also say it must be
5 someone who has not been employed by the company and that
6 they would like a hand in selecting that person. But the
7 three that I mention are the criteria that I would look for.

8 COMMISSIONER AHEARNE: I have just a comment that
9 we have received a number of letters and they aren't all
10 from the Governor that raise the question of independence.

11 MR. DENTON: I think independence means at the
12 bottom without undue influence from the activity. I think
13 integrity and competence are what we are looking for. Then
14 there are tougher issues of credibility and public reception
15 that we will have to take into account.

16 CHAIRMAN PALLADINO: It is my impression also in
17 your letter that you want to review the qualifications of
18 the independent reviewers.

19 MR. DENTON: That is right.

20 The main errors that have been found have been in
21 the seismic area. So the first element in our proposal is a
22 complete reverification of all the safety related activities
23 proposed by Blume, analysis of the impact of all of errors
24 on the safety of the plant and that the modifications to
25 correct those errors be submitted and be approved by us and

1 that we have adequate time to review and concur in those
2 changes prior to any fuel loading. That would be the first
3 element.

4 COMMISSIONER AHEARNE: Could you go a little bit
5 further into what you mean by a safety related activity?
6 Are these all the calculations that were done and would this
7 be tracking the calculations from looking to see whether the
8 PG&E material was transmitted accurately to Blume and
9 whether the Blume Company did the calculations using
10 techniques that you agree with and then whether that
11 information was then transmitted back into the PG&E system
12 accurately and then used accurately?

13 MR. DENTON: Yes, all of those. That would be
14 spelled out in our letter to them. It would be the
15 development, transmittal and use of results.

16 COMMISSIONER BRADFORD: If I have understood
17 correctly, first of all, that isn't limited to the '77-'78
18 period. That would cover the life of the contracts dating
19 back to '66?

20 MR. DENTON: I don't know about '66. Remember the
21 plant was redesigned after the original design to
22 accommodate the Hosgri information. So it would focus on
23 the redesign done in order to comply with the new Hosgri
24 criteria.

25 COMMISSIONER AHEARNE: This tracks with No. 1 then

1 on page 3 of the paper; is that correct?

2 MR. DENTON: Yes.

3 COMMISSIONER AHEARNE: So it is the Hosgri Fault
4 reanalysis?

5 MR. DENTON: Yes.

6 COMMISSIONER BRADFORD: When does that mean that
7 it would tend to begin in time? The Hosgri Fault was found
8 in, what, '72? When was the actual redesign undertaken?

9 MR. ENGELKEN: I believe '76.

10 COMMISSIONER BRADFORD: So the bulk of this work
11 is from '76 onwards?

12 MR. DENTON: Yes.

13 COMMISSIONER BRADFORD: Does complete
14 reverification mean doing it all over again in fact?

15 MR. DENTON: Well, not necessarily. I don't think
16 there is any finding to date that the way it was used within
17 Blume's purview was incorrect. It is really the development
18 of information that went to their consultant and then it is
19 used later.

20 COMMISSIONER GILINSKY: Has anyone checked that?

21 MR. DENTON: Let me ask Bob. That is part of the
22 reverification program.

23 CHAIRMAN PALLADINO: You mean whether or not Blume
24 used the right procedures will be part of the reverification
25 program?

1 MR. DENTON: To date the errors which have been
2 found have not been in that area.

3 MR. DeYOUNG: I would like to ask Bobby
4 Falkenberry to answer that question.

5 MR. FALKENBERRY: Bob Falkenberry. We looked at
6 the Blume site and it looked like their program was much
7 more formally handled than the PG&E site.

8 COMMISSIONER BRADFORD: You mean within Blume?

9 MR. FALKENBERRY: That is correct.

10 COMMISSIONER BRADFORD: And not at the point at
11 which they received documents from PG&E obviously.

12 MR. FALKENBERRY: That is correct. Now they did
13 not have a full Appendix B program in effect at that time.
14 It was probably not until about the 1976-77 time frame was
15 that in effect.

16 COMMISSIONER BRADFORD: Let's see, Blume would
17 have had a full Appendix B program in effect after '76?

18 MR. FALKENBERRY: They were committed to having a
19 full Appendix B program in effect about 1977. That is when
20 PG&E communicated to them formally and committed them to a
21 full Appendix B program. That was in '77.

22 COMMISSIONER BRADFORD: So that they, too, should
23 have had a program in effect that would have prevented work
24 being done on the basis of a document such as the ---

25 MR. FALKENBERRY: Every indication that we had in

1 looking at the materials over at Blume and in talking to
2 people was that it appeared they had a design calculation
3 review program in effect for all work done for PG&E.
4 However, they admit that any of the information that was
5 transmitted to them from PG&E was not included in this
6 design verification of theirs. So things like the diagram
7 would not have been picked up in their design review program.

8 COMMISSIONER BRADFORD: Is that an adequate
9 program then?

10 MR. FALKENBERRY: I don't think we would consider
11 it an adequate program as of today, no.

12 MR. DENTON: Let's talk about what else needs to
13 be done besides fixing the known errors. This goes to the
14 second bullet then.

15 COMMISSIONER BRADFORD: Before you go on, Harold,
16 I am still not clear on what reverification actually means.
17 Is it that in fact they will have to do over the
18 calculations that Blume or are they just going to be
19 checking in effect the interface?

20 MR. DENTON: It is not redoing the Blume
21 calculations over. It is to reverify the development,
22 accuracy, transmittal and use of information and not rerun
23 the computer runs.

24 COMMISSIONER BRADFORD: They really aren't
25 reverifying the activities themselves then?

1 MR. DENTON: That is right.

2 COMMISSIONER AHEARNE: Well, I assume that that
3 means so long as they find the information transferred at
4 the interface of PG&E/Blume is information unlike that
5 diagram. If they find other cases where the information
6 transmitted is incorrect they do have to then redo the
7 calculations.

8 MR. DENTON: Sure. What they have done is they
9 have outlined, and it is attached to the last transcript, an
10 identification of the types of information that were
11 developed and the interfaces that did exist in their plan to
12 look and in fact it is in their looking that they have
13 identified five errors so far in this area of transmittal of
14 information.

15 So I think it is a very logical approach to
16 reverify, but it does not mean recalculating all the numbers
17 all over again. It means a hard engineering look at beyond
18 just the existence of paper to document it. It is to look
19 to see if there is an adequate technical basis underlying
20 the values used.

21 CHAIRMAN PALLADINO: Are you going to check to see
22 if the information that was transmitted was the information
23 that was used in the calculations?

24 MR. DENTON: Yes. When we you "we," we tend to
25 have the applicant do that and we check him.

1 COMMISSIONER BRADFORD: Does complete
2 reverification mean the sampling techniques or will they
3 really look at everything that flowed from PG&E to Blume
4 during the period of concern?

5 MR. DENTON: For this particular one, which is
6 where we found the errors to date, it is my intent to really
7 be complete and look at all the information that was
8 transferred. I think we found enough errors there to
9 require complete re-examination as opposed to a sampling
10 re-examination.

11 Now, as I mentioned earlier, of these service
12 related contracts in that period, eight of them related to
13 seismic design and four did not. I am not able to tell that
14 there was any organizational or procedural controls in place
15 for these other four that would separate them out from the
16 other eight. So I think these other service related
17 contracts should be subject to the same kind of design
18 review and reverification program. All this is pre-'78.

19 COMMISSIONER AHEARNE: Now you have lost me. As I
20 understand there were 12 contracts here. Four are not
21 seismic and you just addressed those. Blume is one of the
22 seismic.

23 MR. DENTON: Correct.

24 COMMISSIONER AHEARNE: What about the other seven?

25 MR. DENTON: They will all be done as part of the

1 reverification, in other words, all the seismic related
2 service contracts will be re-examined completely.

3 CHAIRMAN PALLADINO: How about the other four that
4 are not seismic.

5 MR. DENTON: They will do those, too. That is the
6 first item under the second bullet.

7 COMMISSIONER AHEARNE: But your first item in your
8 letter at least speaks to specifically the Blume contract?

9 MR. DENTON: I would go to the letter --
10 (Simultaneous Conversations - Inaudible).

11 COMMISSIONER AHEARNE: That is what I am talking
12 about. I am reading the letter.

13 MR. DENTON: Well, maybe it is not clear.

14 Frank, do you want to expand on what we meant
15 there?

16 CHAIRMAN PALLADINO: What page are you on?

17 COMMISSIONER AHEARNE: I was on page 3.

18 MR. MIRAGLIA: I think the key in that bullet is
19 all other pre-June 1978 service related contracts. So Blume
20 is the first one, and that was done on the priority basis,
21 and then prior to going above five percent all other
22 pre-June 1978 service related contracts. The "other" means
23 other than Blume.

24 COMMISSIONER GILINSKY: Let me understand. You
25 would follow these calculations into the plant design

1 wherever they were used and see that they were correctly
2 applied?

3 MR. DENTON: That is correct.

4 COMMISSIONER GILINSKY: So you are going beyond
5 then what PG&E proposed or Mr. Cloud proposed at the meeting
6 the other day which clearly involved sampling.

7 MR. DENTON: I don't think we are going beyond
8 with regard to the Blume issues. We are going beyond in the
9 other areas.

10 CHAIRMAN PALLADINO: You are not going beyond in
11 where?

12 MR. DENTON: For the Blume related analysis.

13 CHAIRMAN PALLADINO: You are not going beyond what
14 the applicant had recommended or Blume. Is that right? I
15 don't want to put words in your mouth. I would just like to
16 understand what you are saying.

17 MR. DENTON: On the Blume related activities it
18 was our intent that the complete reverification would flow
19 all the way back into the company to be sure that the
20 company used those numbers correctly in their analysis of
21 their analysis of the full response spectra and equipment
22 modifications. That would be a complete reverification
23 activity of the numbers that went to Blume and the numbers
24 that came back from Blume.

25 COMMISSIONER GILINSKY: And you are extending that

1 to other seismic related service contracts?

2 MR. DENTON: That is right, if I am unable to
3 distinguish whether they had any better controls on any of
4 those service contracts than they did on Blume, although for
5 some reason Blume seems to be the most egregious example.

6 COMMISSIONER GILINSKY: At the bullet there you
7 say prior to fuel load and operation up to five percent
8 power. Do you mean prior to fuel load or are some of them
9 prior to five percent power?

10 MR. DENTON: Well, in the first bullet prior to
11 fuel load, unless there were something that we were to agree
12 with to be done later. To the extent that they find errors
13 through the reverification that they make the modifications
14 and restore the plant to the condition that it is
15 represented to be or justify why they didn't.

16 COMMISSIONER GILINSKY: Because in your letter you
17 break it up into two categories, one prior to fuel load and
18 one prior to five percent power. Are you now lumping them
19 all in together?

20 MR. DENTON: In the first bullet I would lump all
21 before fuel load. Then since we don't have examples of
22 errors in these other areas I would permit them to do that
23 during the fuel load and low-power testing provided they
24 don't turn up big issues.

25 COMMISSIONER AHEARNE: In his letter that

1 particular thing is low-power spectra.

2 COMMISSIONER GILINSKY: There are three items
3 under that bullet. Which of those would have to be done
4 before a fuel load?

5 MR. DENTON: Under the first bullet all three. Do
6 the reverification, analyze the impacts of the errors and
7 make the modifications that are required in the plant design.

8 COMMISSIONER AHEARNE: I don't think that is what
9 your letter says.

10 MR. DENTON: It was intended to.

11 COMMISSIONER AHEARNE: I think your letter says at
12 least 30 days prior to the date you plan to proceed with
13 fuel loading and operations up to five percent power provide
14 the following information. The first is the results of an
15 independent complete design review and verification program.

16 MR. DENTON: We can correct that. It was prior to
17 fuel loading.

18 CHAIRMAN PALLADINO: Yes, I think it would clarify
19 it. I had that same problem.

20 COMMISSIONER BRADFORD: Harold, do you have any
21 sense of the dollar volume of these contracts? I am
22 wondering how big a job this actually turns out to be?

23 MR. DENTON: Just the first bullet or more?

24 COMMISSIONER BRADFORD: No, all of the service
25 contracts.

1 MR. DENTON: I think we in the meeting we expanded
2 the scope of their review by a factor of two or three or so
3 because we moved beyond just the seismic.

4 Let me just explain the rest of this and then we
5 will answer the dollar costs.

6 The other parts that we need to get the
7 independent look into are these other service related
8 contracts, and that is under the second bullet, and then we
9 need to audit PG&E's own internal design process to see if
10 it had any of these same weaknesses. Then we need to check
11 the validity of the post-'78 service contracts. In other
12 words, by that time the company did get QA into all its
13 contracts and you would not expect to find these errors.

14 So the program that we have laid on them that
15 expands what they have proposed would be to do all service
16 related contracts, sample PG&E's own design process and
17 sample the accuracy of information used post-'78 and supply
18 us with all the modifications for our approval that would
19 flow from that. Also, provide us a program plan for doing
20 it which would indicate the basis for their statistical
21 sampling and how many errors they would have to find before
22 it would grow and a description of the qualifications of
23 people doing their work.

24 Having gotten out the entire program, let me come
25 back and ask if anyone knows what the dollar cost to the

1 company in any phase of this would be.

2 MR. DIRCKS: The dollar volume of the total
3 contract.

4 COMMISSIONER BRADFORD: It wasn't so much the
5 dollar cost to the company of this that I was interested
6 in. I wanted some sense of how much work was done under
7 those 12 contracts.

8 MR. DENTON: Oh, under those 12. Well, they did I
9 guess the analytical part of their reanalysis to accommodate
10 the Hosgri earthquake which was fairly substantial from a
11 safety standpoint. There were eight of them for the
12 upgrading of the plant from a seismic standpoint. Then the
13 other four dealt with things like containment penetration
14 design. All eight were important safety related contracts.

15 COMMISSIONER BRADFORD: But we don't have a feel
16 at this point for the total volume of work it is that is
17 going to have to be reviewed as part of the satisfaction of
18 the requirements you are proposing?

19 MR. DENTON: I guess I don't know how to define
20 volume. I know the activities they encompassed, but I don't
21 know the volume.

22 Does someone want to volunteer?

23 (No response.)

24 COMMISSIONER GILINSKY: I hate to belabor this
25 point, but could I ask you again, when you talk about

1 service related contracts down below are you talking about
2 the non-seismic contracts or are those the remaining seismic
3 contracts?

4 MR. EISENHUT: Non-Blume. It is all the remaining.

5 COMMISSIONER GILINSKY: Seismic contracts?

6 MR. EISENHUT: No.

7 COMMISSIONER GILINSKY: You are not distinguishing
8 between seismic and non-seismic?

9 MR. EISENHUT: To put it another way, the first
10 one is just Blume.

11 COMMISSIONER GILINSKY: I see, all of that is just
12 Blume.

13 MR. EISENHUT: And the bottom one is the other
14 11. If you look actually at the letter, the second item,
15 and it might help to add the word "all" if you look at the
16 top of page 4. The item at the bottom is they have to do
17 PG&E's service related contractors, work that was done prior
18 to 1978. We didn't say all non-seismic Blume and all
19 others, but it is just all service related contracts other
20 than Blume in the first one.

21 MR. DENTON: I think Commissioner Gilinsky is
22 correct. It was my understanding that the present activity
23 going on encompasses all seismic related with Blume just
24 having priority and we wanted a reverification of all
25 seismic related which would encompass the eight contractors

1 to the extent they did anything on seismic. Now if they did
2 activities in other areas I would defer that to the second
3 bullet.

4 COMMISSIONER GILINSKY: So the first category is
5 then all seismic contracts.

6 MR. DENTON: Let me modify it here at the table to
7 say all seismic related activities.

8 COMMISSIONER GILINSKY: With Blume's analysis
9 having priority in the reverification program.

10 MR. DENTON: Yes, that is correct, with that one
11 having the priority.

12 COMMISSIONER AHEARNE: Are you also modifying the
13 way that it is written on the slide? The first is something
14 that has to be done prior to operation up to five percent
15 power.

16 MR. DENTON: Before fuel loading.

17 COMMISSIONER AHEARNE: The second is prior to
18 exceeding five percent. So at least on the slide there are
19 two different ways of saying approximately the same thing.
20 Are you saying that the first really is just prior to fuel
21 load?

22 MR. EISENHUT: No.

23 CHAIRMAN PALLADINO: It says so.

24 MR. EISENHUT: The different piece there is true,
25 the first item is prior to fuel load, but the other piece

1 that is meant is that is all that would be required prior to
2 going up to five percent. Hence, that is why both the items
3 are there. Maybe it is not very clear.

4 COMMISSIONER AHEARNE: But, Darrell, if the first
5 group is what is required prior to going up to five percent;
6 in other words, you can go up to five percent?

7 MR. EISENHUT: You must complete that work before
8 you can load fuel and you must also have completed it before
9 you can go up -- (Simultaneous Conversations - Inaudible).

10 COMMISSIONER AHEARNE: But you must have completed
11 it before you load fuel.

12 MR. DENTON: I think it is an undue complication.

13 COMMISSIONER GILINSKY: Can we just drop all of
14 those.

15 MR. DENTON: Yes. It was intended before loading
16 fuel they would have a reverification of all seismic related
17 activities with service contractors. Maybe we got too fancy
18 with the words here. However, the second part was intended
19 to apply in those areas where to date we have not found
20 errors of the type that have been described that we would
21 permit this reverification program to be ongoing during the
22 low-power phase. When you actually make the decision to
23 permit fuel load we would have at that time the results of
24 these other audit programs to see if they were turning up
25 similar problems or not.

1 COMMISSIONER GILINSKY: The first batch.

2 MR. DENTON: Yes. I think the wording can be
3 improved and would do that in any correspondence.

4 COMMISSIONER AHEARNE: Would you look at page 5 of
5 your letter. This speaks to the information to be provided
6 as a result of the design review and this is the other 11
7 service contracts I believe. Is that correct?

8 MR. DENTON: Yes.

9 COMMISSIONER AHEARNE: One of the things to be
10 provided: "The criteria for the selection of a sample of
11 safety-related structures, systems and components for
12 reverifying the design process."

13 I had thought that you were doing a complete
14 reverification of everything that went through the service
15 related contracts. What is the sample that you are now
16 speaking of?

17 MR. DENTON: The sample would apply to the PG&E
18 internal design activities and the post-'78 service
19 contracts.

20 COMMISSIONER GILINSKY: I wonder if there is a
21 distinction drawn between reverifying the manner in which
22 things were handled and actually recalculating.

23 MR. CASE: We tried to word it so that you would
24 look at the way things were handled and reverify a sample,
25 and even though correctly handled to reverify some in that

1 group.

2 COMMISSIONER GILINSKY: Well, it is a
3 reverification program but you are not reverifying every
4 item. Is that what you are suggesting?

5 MR. CASE: That is what Frank and I had in mind.

6 COMMISSIONER GILINSKY: What then is a complete
7 reverification?

8 MR. CASE: The complete means everything in that
9 area, seismic or Blume or whatever.

10 CHAIRMAN PALLADINO: If we are having this much
11 trouble interpreting what the word means -- (Simultaneous
12 Conversations - Inaudible).

13 COMMISSIONER AHEARNE: Let me ask the question a
14 different way.

15 CHAIRMAN PALLADINO: All right. If we, at least
16 for myself, if I have this much difficulty understanding
17 what your letter means, how am I going to understand whether
18 the results that you get back meets with what the letter
19 requests.

20 COMMISSIONER GILINSKY: The letter hasn't gone out
21 yet and presumably we are going to clarify the letter.

22 MR. DENTON: I have indicated that this in which
23 we wanted to move and we sent this down last week so it
24 would be available and I would expect to polish it up based
25 on the comments we got.

1 COMMISSIONER AHEARNE: Ed has just pointed out
2 that the reverification is the sampling, correct?

3 MR. CASE: (Nodding affirmatively.)

4 COMMISSIONER AHEARNE: That is why one speaks
5 about the criteria for the section of a sample for
6 reverifying. But the description at the beginning talks
7 about doing a complete verification.

8 MR. CASE: I have to distinguish that one from the
9 sampling ones of the internal PG&E where you don't have to
10 look at all the procedures.

11 COMMISSIONER GILINSKY: Sure. We understand that
12 part.

13 COMMISSIONER AHEARNE: What you describe I think I
14 probably don't have any problem with. I would argue that
15 the letter doesn't really come across the same way.

16 MR. DENTON: I think that is why it takes a long
17 time to get letters out.

18 (Laughter.)

19 MR. DENTON: This one was generated I guess just a
20 day after the meeting with the company so we would have
21 --(Simultaneous Conversations - Inaudible).

22 COMMISSIONER GILINSKY: I understand you are
23 trying to give us a job here so we would have something to
24 do.

25 (Laughter.)

1 COMMISSIONER AHEARNE: So if I can understand,
2 what you are saying, it is that you are going to try to
3 check every item of information that crosses the boundary
4 between the PG&E organization and the service contractors
5 and then the service contractors back into the PG&E
6 organization, and that you are going to do a sample of
7 actually tracking the complete calculation along that chain
8 as well as do a sample of the calculations internal to PG&E;
9 is that correct?

10 MR. DENTON: That sounds like what I had in mind.
11 Let me ask the people who wrote the letter.

12 (Laughter.)

13 CHAIRMAN PALLADINO: I think it would be worth
14 spending a little time in clarifying this point.

15 MR. DENTON: All right.

16 Slide 8. In order to be clear on some of these
17 points the same letter had asked that the company provide
18 its program plan as it had for the earlier effort so that we
19 could agree that the scope of program is what we had in mind
20 and to describe the qualifications of the people they had
21 selected to do these tasks so that we could make our own
22 judgment.

23 CHAIRMAN PALLADINO: Is there a statement in the
24 letter that says that you would comment on or approve the
25 qualification of personnel of the contractor to perform an

1 independent design verification program?

2 MR. DENTON: At the top of page 9, item B in the
3 proposed letter, does ask for this information and it would
4 give us the opportunity to object if we didn't agree with it.

5 CHAIRMAN PALLADINO: It doesn't explicitly state
6 that, does it?

7 MR. DENTON: No.

8 COMMISSIONER AHEARNE: Do you have a problem with
9 saying that?

10 MR. DENTON: No. It certainly can be explicit. I
11 think it is usually understood.

12 COMMISSIONER AHEARNE: Well, given particularly
13 the great interest in having an independent review and
14 recognizing that many people don't use your definition of
15 independence, that is they would accept the integrity, the
16 competence and not previously involved, but they would go
17 one step farther, not employed by the company.

18 MR. DENTON: Yes.

19 CHAIRMAN PALLADINO: I think the implication that
20 NRC would rule on the competency and the adequacy of these
21 consultants, I think it would be well to put that explicitly.

22 MR. DENTON: If you do want to go beyond the three
23 I have stated now is probably the time to decide so that the
24 program could get moving in that way.

25 COMMISSIONER GILINSKY: This means in effect that

1 you would review Dr. Cloud's effort to see whether it met
2 these criteria?

3 MR. DENTON: Well, it brings up some practical
4 problems. The Cloud effort will be over by mid-November. I
5 mean that effort has been going on since early October.

6 COMMISSIONER AHEARNE: This is almost mid-November.

7 (Laughter.)

8 MR. DENTON: Well, it should be. We should have
9 his technical report.

10 COMMISSIONER GILINSKY: His entire effort? I
11 thought he laid out a fairly ambitious program.

12 MR. DENTON: Well, let me restate that. I think
13 we will have some initial review of the Blume interface by
14 about mid-November and his conclusions in that area. So
15 that effort has been kicked off and is going. Now, the
16 expanded effort, particular with regard to other service
17 contracts, with regard to PG&E itself and post-'78, I don't
18 know that the company has selected a contractor to do that.

19 COMMISSIONER GILINSKY: I see.

20 MR. DENTON: You could either redo all the Cloud
21 by someone or we could write the criteria to be followed for
22 the next part.

23 COMMISSIONER AHEARNE: Currently how do you expect
24 to have the NRR or NRR and I&E review of this reanalysis or
25 reverification done?

1 MR. DENTON: Let's go to slide 9.

2 COMMISSIONER AHEARNE: It somewhat gets to how
3 much reliance you are placing upon independence.

4 MR. DENTON: Depending upon the scope of the
5 effort that we decide is appropriate, it would be a joint
6 NRR/I&E effort. I think we both would anticipate four to
7 six man-months of effort of your staff and the use of
8 Brookhaven for maybe the total of a man-year in doing some
9 detailed analytical reverification.

10 COMMISSIONER GILINSKY: Would we actually check
11 calculations?

12 MR. DENTON: Brookhaven would for us. The staffs
13 would be involved in the review of the methodology and
14 assumptions and Brookhaven would rerun certain selected
15 calculations.

16 COMMISSIONER BRADFORD: I am sorry, Harold, but
17 how much of a staff effort were you talking about? Did you
18 say half a man-year?

19 MR. DENTON: I would say perhaps a man-year total
20 from the staff over the next few months in this effort. So
21 maybe I&E might have four people essentially full time and
22 we might have the same number full time plus our consultants.

23 CHAIRMAN PALLADINO: Over how long a period?

24 MR. DENTON: A several month period.

25 CHAIRMAN PALLADINO: It sounds like a little more

1 than a staff-year.

2 COMMISSIONER GILINSKY: I have to say I was a
3 little surprised in listening to the presentation the other
4 day that Dr. Cloud was retained through the engineering
5 department, as I remember. So I presume it was the same
6 department that was responsible for the problems in the
7 first place. I would have expected it to have been handled
8 at some higher level in the company.

9 MR. DENTON: So would I. That is why I asked him
10 who he reported to. I had assumed that he would report
11 rather high up in the organization.

12 COMMISSIONER AHEARNE: To whom is he reporting?

13 MR. DENTON: I think he reports ---

14 COMMISSIONER GILINSKY: I think it was an
15 engineering vice president. To be fair to him, he made the
16 point of saying he doesn't report to any of them but he is
17 retained by them.

18 COMMISSIONER AHEARNE: No, there is a
19 distinction. Where the actual contractual money comes out
20 of is separate, but to whom is he reporting?

21 MR. DENTON: It is like the vice president for
22 engineering. Maybe it is the Vice President for
23 Engineering; is that right?

24 MR. ENGELKEN: Senior Vice President I believe.

25 COMMISSIONER GILINSKY: Well, maybe my concerns

1 were misplaced, but I got the impression it was the same
2 area of responsibility ---

3 COMMISSIONER AHEARNE: Well, I am not sure it is.
4 That still may not be high enough. I am not disagreeing
5 with you.

6 MR. DENTON: I think he should report very high
7 up. Having gotten the answer we did at the meeting, I have
8 not pursued it further to see how many levels there are
9 above the person he is reporting to.

10 Well, if we can go to the last slide. I can't say
11 a lot about it.

12 MR. FALKENBERRY: If I can clarify that. I
13 believe Cloud reports to a senior vice president who is over
14 the Vice President of the Engineering Department.

15 COMMISSIONER AHEARNE: I see.

16 MR. DENTON: Now looking at the schedule, a lot of
17 the schedule has not been developed but the program plan,
18 for example, for the reverification effort I think has been
19 submitted to the staff in draft and to the parties and the
20 boards and we are looking at the scope of the program plan.

21 I think the reverification of the Blume PG&E
22 interfaces is due to be completed, as I said, about the
23 middle of November and a report supplied there. It is my
24 understanding that the technical report which would
25 reanalyze the errors found in the interfaces and provide a

1 basis for modifications is expected around the end of the
2 year.

3 CHAIRMAN PALLADINO: What is this technical report
4 again?

5 MR. DENTON: This would be for those errors found
6 in the containment annulus and the weights and the spectra.
7 The technical report would contain a reanalysis of that
8 annulus, the development of new spectra, proper weights and
9 new floor input and list the pipe supports and hangers and
10 changes that had to be made in the plant and the basis for
11 those changes. So that would be an engineering document.

12 COMMISSIONER AHEARNE: And it is on that that you
13 currently would expect to ask Brookhaven to rerun some sets
14 of calculations?

15 MR. DENTON: Yes. Now no schedule has yet been
16 developed for the expanded reverification effort that we
17 have described today and that is covered by the last three
18 bullets and it is my understanding that no contractor is
19 selected either for it.

20 COMMISSIONER GILINSKY: Does Brookhaven have a
21 group of seismic engineering?

22 MR. DENTON: We have used them in the five-plant
23 shutdown. That was original use of them and they have
24 developed an expertise in seismic analysis of piping
25 especially.

1 CHAIRMAN PALLADINO: Forrest.

2 MR. REMICK: Harold, in the Cloud proposed
3 reverification program there is one aspect that I don't
4 think has been referred to yet and I would be curious if the
5 staff has taken a position.

6 He talks about an independent qualification, and I
7 add the word to that of calculations, as I read what he
8 means, in which he truly proposes that you not only check
9 calculations that others have done but that you start over
10 basically from the basic information and independently do
11 the calculations on the sampling plan. I realize that that
12 is just a proposal, but what I was wondering is has the
13 staff taken any position on that aspect of the Cloud
14 proposed expanded verification program?

15 MR. DENTON: The plan for the scope of that
16 reverification program has been submitted to the staff for
17 review and my staff and Dick's staff have looked at it and
18 we are on the verge of responding to that.

19 Let me see if anyone can speak to the issue you
20 raised.

21 (No response.)

22 MR. DENTON: Apparently it is still under
23 development and we have not yet commented back to the
24 company on that proposal of their consultant.

25 MR. REMICK: We would have some comments on that,

1 on this multiple sampling, from the standpoint of defining
2 what are the confidence levels desired and what are the
3 desired acceptable results. What results are you looking
4 for, what percentage of failures or acceptances.

5 COMMISSIONER AHEARNE: I would be very interested
6 in that. That is what I was trying to get at earlier.
7 Acceptance criteria basically.

8 MR. REMICK: Yes, both on a confidence level and
9 the acceptance of what.

10 COMMISSIONER AHEARNE: On a related point to that,
11 do you have some comments you could make on the level of
12 accuracy that you are looking for throughout this process?
13 My experience in the past had been that the whole area of
14 seismic engineering was one in which large factors of
15 uncertainty were normally found.

16 Another way of asking the question is if you find
17 a calculation is off or a recalculation changes the number by
18 ten percent, in your mind is that significant or not?

19 MR. DENTON: We would like the plant to be
20 restored to the conventional margins that exist in our
21 criteria. Now if you ask a different kind of question as to
22 how important is the probability of failure of a piece of
23 equipment to stresses within ten percent, we think there is
24 a lot of margin in our normal requirements. But our
25 approach here is to re-establish the margins that did exist.

1 There is a big dispute, as you know, between
2 ourselves and industry about whether margins are excessive
3 or not and I would not propose in this case to modify that.

4 COMMISSIONER AHEARNE: Having lived through that
5 five-plant shutdown and gone through all of those sets of
6 calculations, my conclusion is that unless there has been
7 some great breakthroughs in the last two years in the area
8 of seismic analysis that it is still one where differences
9 of 10 or 15 percent are well within the reliability of the
10 calculation.

11 MR. DENTON: Let me ask our engineering department
12 if they would like to comment on that. This is Jim Knight
13 from our Division of Engineering.

14 MR. KNIGHT: Jim Knight from the staff. I think
15 you have characterized it very well, Commissioner Ahearne.
16 Actually levels of 10 or 15 percent are nominal and to be
17 expected. Typically in any other review, be it a licensing
18 case or a special problem, where we do an independent piping
19 analysis such as we intend to do here, you would very
20 rarely, even using the same codes and the same basic input,
21 get exactly the same number.

22 For engineering purposes as long as you meet
23 basically the code criteria, then both the technical and the
24 legal, if you will, requirements are met.

25 MR. DENTON: This concludes our planned

1 presentation. As you mention, there are a number of letters
2 and correspondence that you have received from other parties.

3 COMMISSIONER AHEARNE: Let me ask one other minor
4 technical question. In the things that are being redone and
5 looking over some of the notes, et cetera, that have come
6 in, it led me to conclude that one of the issues was to redo
7 the horizontal floor spectra at least at the floor level.
8 Is that one of the items that is being done?

9 MR. DENTON: There are so many spectra that it is
10 hard to ---

11 COMMISSIONER AHEARNE: I know, but from the
12 response spectra I gathered it wasn't being redone. Then
13 you look at the building response spectra and there is one
14 particular error that seemed to have been found. You have
15 got the wrong spectra being used, but then you have got the
16 weights that are different.

17 Now since you have got the weights redesigned then
18 the response spectra for that floor I would expect would
19 also have to be redone. True or false?

20 MR. DENTON: I have got to get it in the right
21 framework. Does anyone know that issue? Obviously they are
22 going to reanalyze the entire annulus area. Now, you
23 remember when we were out there we did find a case of an
24 incorrect spectra being applied and that is being picked up.

25 MR. KNIGHT: As you stated, the original problem

1 of course was the vertical spectra. We haven't seen yet the
2 revised, if you will, or updated weights and weight
3 distributions.

4 COMMISSIONER AHEARNE: So you are not sure how
5 significant it might be?

6 MR. KNIGHT: Without reservation, if in fact there
7 is a large-scale redistribution, that is an area that will
8 certainly have to be looked at and there will have to be a
9 very sound basis for not proceeding.

10 COMMISSIONER BRADFORD: Let me ask a separate
11 question that also arises out of the weights problem. As I
12 understood it, that problem has two different levels to it.
13 One is that the informal diagram used weights that no one
14 could verify and that I take it is something that would be
15 picked up in the kind of review that is being proposed.

16 The other though is that the plant as built in any
17 case had weights that were different from those in the
18 diagram and therefore those that we used in the seismic
19 design.

20 What is there about the reviews that are being
21 proposed now that catch that problem, that is the plant
22 actually being built differently from the assumptions and
23 calculations that we used to design it?

24 MR. FALKENBERRY: Actually what PG&E is doing is
25 that they have given the new weights to Blume. They will

1 take those new weights and then develop new response spectra.

2 COMMISSIONER BRADFORD: And that corrects it as to
3 this particular problem, but is the overall review QA/QC
4 practices in itself going to pick up other instances in
5 which the plant itself was built differently from the
6 assumptions used in putting the design together?

7 That is, apparently there should have been a loop
8 which fed the different weights back over to Blume and then
9 Blume would have done a recalculation or someone else would
10 have done a recalculation that would have indicated any
11 other changes that flowed from the different weights. But
12 that didn't happen at all. There isn't going to be a piece
13 of paper that doesn't look right. There is just going to be
14 a failure to feed information at all and I am not sure that
15 shows up in the kind of review that you are proposing here.

16 MR. FALKENBERRY: I think the problem is that no
17 one really knows how the weights were developed that were
18 put on those diagrams. So they really don't know if they
19 use the as-built drawings ---

20 COMMISSIONER BRADFORD: But even if they had had
21 the right original weights -- oh, I see what you are
22 saying. They may have used the as-built --no, but they
23 didn't use the as-built weights because they aren't the
24 as-built weights that are on the diagram.

25 MR. FALKENBERRY: That is correct. No one really

1 knows. They could have used the as-builts but not included
2 some aspects of piping or components and what-have-you. But
3 certainly when you take the new calculations with the
4 current as-builts and include all of the significant
5 equipment they do come out differently.

6 MR. DENTON: I think since the plant is built you
7 test it just with the as-builts. In the design phase you
8 are right that they should eventually verified that it was
9 designed with the proper weights as it got built.

10 COMMISSIONER BRADFORD: The point is that you have
11 two different possibilities, one of which is that they tried
12 to use the as-built weights and somehow got it wrong. In
13 that case I assume that will show up in the review of the
14 QA/QC practices. The other is that they didn't try to use
15 the as-built weights at all. If that is what actually
16 happened, then it seems to me that is a different kind of
17 problem and one that isn't necessarily subsumed or found out
18 in a QA/QC review.

19 COMMISSIONER AHEARNE: But that would depend
20 somewhat on how significantly different the as-built weights
21 were from the weights that they originally used because in a
22 lot of the seismic analyses the models that one ends up
23 using are so much of an approximation and there are so many
24 simplifications built in to what the code is actually
25 running that some of the differences between as as-built

1 versus a design will just completely wash out.

2 MR. DeYOUNG: That is true. Rarely in the plant
3 design can you use the as-built weights. You just don't
4 know them that early in the design. So they take what they
5 know will be conservative values for the design itself and
6 then check them later on.

7 COMMISSIONER BRADFORD: But these turn out not to
8 have been conservative.

9 MR. DeYOUNG: Pardon?

10 COMMISSIONER BRADFORD: The weights used turn out
11 not to have been conservative.

12 MR. DeYOUNG: That is right, they were wrong
13 weights.

14 CHAIRMAN PALLADINO: Are the weights going to be
15 checked against what was finally constructed?

16 MR. DeYOUNG: They are being checked.

17 MR. ENGELKEN: I don't think they were necessarily
18 non-conservative. I don't think we know that yet. The
19 problem was they could not trace how the weights were
20 arrived at. I don't think they are necessarily all
21 non-conservative. It was a mix I believe.

22 MR. MIRAGLIA: I think a review of the transcript
23 would indicate the applicant's position with respect to the
24 design of the containment annulus. The structure itself
25 assumed a floor loading I believe of 250 pounds per square

1 foot with respect to the design of the structure in steel.

2 With respect to the weights used and the weight
3 distribution for the supports with in the annulus, they used
4 something less than that. So as I understood what the
5 utility was saying last week, it is that the structure and
6 the design of the structure and the weight differentials
7 that they are finding are below what they assumed for
8 modeling the structure itself and that the distribution in
9 weight now just affects the design of the equipment and
10 piping supports within the annulus space.

11 I don't know if that clarifies it. At least that
12 is the utility's view as stated to us last Tuesday.

13 In addition, Dr. Cloud in the description of the
14 program that he was undertaking did indicate that one
15 element of his program would be field verification of
16 critical piping systems and things of that nature to check
17 the as-built design in the field versus what they looked at
18 analytically.

19 COMMISSIONER BRADFORD: I think that is the
20 important point.

21 CHAIRMAN PALLADINO: I wonder if I might review
22 where we stand or where I think we stand.

23 We have before us a proposal by the staff for a
24 50.54F letter to the licensee to provide certain information
25 before a decision is made on further action.

1 I gather from the discussion that there are some
2 clarifications the staff would like to make in the details
3 of the letter, but I think it is incumbent upon the
4 Commission to indicate whether or not this is the direction
5 it wishes to pursue.

6 There are also letters from others, including I
7 think two letters from Governor Brown of California who
8 proposes a different approach in the independent audit. I
9 think we ought to examine whether or not we want to go with
10 the staff approach or whether there is a desire to broaden
11 the scope to include other proposals.

12 COMMISSIONER GILINSKY: Well, they are not
13 necessarily inconsistent.

14 CHAIRMAN PALLADINO: No, they are not necessarily
15 inconsistent, but I gather the proposal, for example, that
16 Governor Brown indicated, and he had proposed a committee to
17 oversee the selection of the independent auditor and also to
18 oversee the application of the results.

19 COMMISSIONER AHEARNE: Well, he modified that
20 slightly in his latest letter. He pointed out that he
21 wasn't really questioning the role of the Commission in
22 making the final choice, but his point seemed to be that in
23 order to get public acceptance of these reviews, at least
24 the Governor's staff's view was that having a mutually
25 agreed upon reviewer was going to be better than having one

1 chosen by the company. At least I thought that was what the
2 latest letter said.

3 CHAIRMAN PALLADINO: You may be right. Let's see,
4 this is ---

5 COMMISSIONER AHEARNE: The one that came this
6 morning.

7 CHAIRMAN PALLADINO: Well, I have several of them
8 here. I think I have the right letter of November 7th. On
9 page 3 he says: "On the matter that errors at Diablo Canyon
10 be performed by outside experts who are independent of PG&E,
11 they should be persons who have not worked for PG&E on the
12 Diablo Canyon project. Moreover the outside experts should
13 not be selected unilaterally by PGE but they should be
14 acceptable to all parties in the Diablo Canyon proceeding.
15 The final selection of any independent auditor should be
16 approved by the Commission following the staff's
17 consultation with all parties. We have already submitted
18 the staff's suggested list of possible independent auditors."

19 I think the Commission is going to approve or
20 disapprove the selection. However, it would be based not on
21 consultation with all the parties involved. That is the way
22 I understood it. That is one of the differences.

23 MR. DENTON: Yes.

24 COMMISSIONER AHEARNE: Well, I guess there is
25 another issue that I more clearly realized in listening to

1 this presentation this morning. Many of the errors so far
2 are found and how significant they are, we still don't know,
3 correct? But they seem to be at this interface between PG&E
4 and Blume.

5 MR. DENTON: Yes.

6 COMMISSIONER AHEARNE: But that review is almost
7 over.

8 MR. DENTON: That is right. That has been the
9 focus since the start.

10 COMMISSIONER AHEARNE: Yes, I understand that. A
11 lot of the focus upon discussing who is going to be doing
12 the review and what is going to be in that review is not
13 relevant unless one were to (a) disagree with what Cloud has
14 been doing and, (b) disagree in having Cloud do it or decide
15 that somebody else is going to do it. Correct?

16 MR. DENTON: Yes. Or there would be a seeking of
17 a third opinion perhaps. There are other differences, too.

18 CHAIRMAN PALLADINO: And there are other
19 consulting agreements to be developed, if I understood you
20 correctly.

21 MR. DENTON: That is correct.

22 CHAIRMAN PALLADINO: So one could consider
23 Governor Brown's approach in those if one chose to do that.
24 In other words, a timing problem would not exist.

25 MR. DENTON: Our proposal wouldn't foreclose the

1 selection contractors from that list, it just doesn't force
2 it either.

3 Also the letter I think proposes that no fuel
4 loading begin until all of the types of activities we have
5 described have been completed. That is in their second
6 bullet I believe.

7 CHAIRMAN PALLADINO: Any other comments on this
8 matter?

9 COMMISSIONER GILINSKY: Now we might come to that
10 view under your proposal, too, as I understand it, if things
11 turn out badly in the first stage.

12 MR. DENTON: Yes, that is correct. And I would
13 hope that we would have by the time we have to make a
14 decision about fuel loading some input from these other
15 audits that we would have begun.

16 COMMISSIONER GILINSKY: In other words, the way
17 you have phased it it assumes that these audits were
18 satisfactory and one could then go on to the next stage.

19 MR. DENTON: Yes.

20 COMMISSIONER AHEARNE: The way you have got it
21 phased, and tell me if this is correct, you will not
22 actually be able to reach a conclusion as to the
23 significance of the recent errors that are found until
24 sometime in January or February? I have based that on the
25 conclusion that you have said that the technical report

1 isn't going to be done until the end of the year and then
2 you were going to have Brookhaven redo some calculations.

3 MR. DENTON: Yes.

4 COMMISSIONER AHEARNE: Is it correct that as far
5 as what to me at least has been the fundamental question of
6 how important are these, you aren't really going to be able
7 to tell us that until January or February?

8 MR. DENTON: We may be able to do that sooner
9 because we have also asked them for periodic updates of the
10 technical report. So if in fact they are able to complete
11 their reanalysis earlier than the end of the year and get it
12 to us in an informal fashion we could get our contractor
13 checking that earlier. But I think they are talking about a
14 formal report would be nearer the end of the year. So to
15 the extent that they are able to accelerate along some
16 schedule system by system or however it is approached we
17 will follow that also.

18 COMMISSIONER AHEARNE: Does the staff have
19 modifications that they would have imposed on the Cloud
20 program? I gather you have imposed a number of changes on
21 PG&E's general program, but how about the Cloud program
22 itself?

23 MR. DENTON: I think we definitely will have and
24 that is why it is undergoing staff review right now. They
25 have submitted a program plan for Cloud doing to the Blume

1 interfaces I believe only and we do have comments on the
2 extensiveness of that plan.

3 COMMISSIONER AHEARNE: That would go beyond the
4 work to be covered by Cloud in his report due in the next
5 couple of days?

6 MR. DENTON: Yes.

7 COMMISSIONER GILINSKY: Well, it seems to me that
8 since the staff proposal needs to be adjusted in details in
9 any case that we ought to take the time to decide what we
10 mean by an independent review and one way or another take up
11 the Governor's proposal and decide what we think about it.

12 CHAIRMAN PALLADINO: I think what the staff means
13 by an independent review has been outlined. Now maybe you
14 want something in the document. The question is should the
15 reviewer be selected by a consortium of parties or rather by
16 the licensee with the approval of NRC?

17 It seems to me that we have to hold the licensee
18 responsible for what work is done, not only for the
19 competency of the people that are selected to make the
20 review, but also its action based on that review. So I
21 would not by any stretch of the imagination by delegating
22 something to a consortium want to imply any removal of
23 responsibility from PG&E and I think that is germane and
24 that is why I don't lean toward the consortium but I do
25 strongly lean toward wanting NRC approval of whoever is

1 selected.

2 Likewise, I think with regard to the application
3 of results that we should do nothing that implies abdication
4 by NRC of its own responsibilities to make sure that
5 whatever is done is done correctly.

6 COMMISSIONER GILINSKY: Well, I think that is
7 clear.

8 CHAIRMAN PALLADINO: There could be implications
9 that might --(Simultaneous Conversations - Inaudible).

10 COMMISSIONER GILINSKY: No, that is true. I am
11 not saying we end up adopting it. I am just saying we need
12 to take it up.

13 CHAIRMAN PALLADINO: I guess one of the things I
14 was interested in finding out, if you are willing to so
15 indicate, is whether or not the approach that the staff has
16 outlined with regard to this letter, with appropriate
17 clarification and other comments that individual
18 Commissioners might make, whether you think this is the
19 direction we should be going so that if this is not
20 direction we don't have the staff do modification of the
21 letter unnecessarily.

22 COMMISSIONER BRADFORD: I have no difficulty with
23 having the letter redone and looking longer at that
24 approach. I am though concerned about the independence
25 issue. I am thinking about the proceeding as though there

1 were no separate hearings going on and I just assume this
2 was a power plant near completion and in a state with no
3 contested processes at all. Then take the same set of
4 events and assume that we had a letter from the Governor
5 saying that he wanted to be satisfied regarding the adequacy
6 of all the reviews given that the plant had already been
7 licensed and then a bunch of unexpected problems had turned
8 up.

9 I must say that I think that is a request that I
10 think merits real consideration.

11 CHAIRMAN PALLADINO: Which part, Peter?

12 COMMISSIONER BRADFORD: The business of the
13 Governor of the affected State wanting to be assured that
14 the steps from now on were satisfactory to him as the
15 State's Chief Executive. That doesn't incline me
16 necessarily to -- (Simultaneous Conversations - Inaudible).

17 CHAIRMAN PALLADINO: Oh, I want to give him that
18 assurance.

19 COMMISSIONER BRADFORD: See, that doesn't
20 necessarily incline me toward the consortium proposal
21 because that gets tangled up in the hearing and the other
22 parties, and I don't know that we want to go that route at
23 all.

24 But I think that there is a lot to be said for,
25 and I am not quite sure how to do it, but for exploring

1 further the Governor's concerns in this area and making sure
2 that even if we go essentially the staff's route that the
3 concerns of the Governor of California are adequately aired
4 and reflected in the process of reviewing what comes out of
5 the PG&E reverification program and conceivably setting up
6 some separate structure, although I must say I don't know
7 what it would be because I don't think it is the consortium.

8 CHAIRMAN PALLADINO: I think whole process that
9 the staff is trying to develop here is one that would help
10 assure confidence not only for Governor Brown but for all of
11 us and all of the people of California and the rest of the
12 nation, for that matter, that the problems are being
13 properly addressed.

14 So I think from that standpoint we are taking an
15 approach that would reflect our interest in Governor Brown's
16 comment to that extent.

17 I think it comes down to whether or not we want to
18 have consortium people decide who should make the
19 independent audit.

20 COMMISSIONER BRADFORD: Well, I wonder if it
21 really does? If one states that the only two choices are
22 the consortium doing it or the NRC retaining control, then,
23 as you put it, I don't think we can relinquish our
24 responsibility or let PG&E relinquish some piece of its
25 responsibility to a third group.

1 What I am not so clear on though is whether there
2 isn't some middle course in which the Governor's specific
3 concerns about the direction in which the review is
4 proceeding are listened to and, to the extent possible,
5 accommodated as that review progresses because the
6 alternative, it seems to me, is for him to be told, sorry,
7 we are doing it our way and you are a participant in the
8 hearing and will have to raise your concerns exclusively in
9 the context of the operating license hearing.

10 I don't think that as a course of action turns out
11 to be very satisfactory either to him or to us, at least
12 compared to accommodating those concerns within the confines
13 of the review as we eventually approve it.

14 CHAIRMAN PALLADINO: Well, if you have a specific
15 suggestions?

16 COMMISSIONER BRADFORD: Well, I don't at the
17 moment. I am saying that we should probably do more than
18 the staff proposal currently contemplates even if it isn't
19 the precise consortium proposal that the Governor first
20 proposed.

21 COMMISSIONER GILINSKY: Well, the General Counsel
22 made clear at the beginning that this review is really apart
23 from the licensing proceeding. In a way the Governor's
24 proposal ties it to that proceeding. It reflects the
25 configuration of parties in that proceeding.

1 On the other hand, we are dealing with the
2 Governor of the State and if he has concerns and has some
3 thoughts about how this ought to be handled, then I think we
4 ought to listen to him.

5 COMMISSIONER AHEARNE: Could I ask a question? I
6 am still I guess somewhat puzzled by where we go with
7 respect to the particular review of the Blume interface
8 because, if I understand it, if we follow, Peter or Victor,
9 the approach in any of its various forms, because I think
10 the recent submission by the Governor's staff modifies the
11 earlier submission by the Governor's staff, but nevertheless
12 the Governor's representative at the meeting looking in the
13 transcript of that meeting says, "I want the record to be
14 clear that the Governor of California said that an
15 independent audit wouldn't be one not done by a party
16 selected exclusively and unilaterally by PG&E." Now Dr.
17 Cloud would not be what the Governor considers to be an
18 independent audit. But it is that portion which is assumed
19 to be completed.

20 I think what we are then faced with is is the
21 issue independent of how one would construct this
22 rapprochement with the Governor? Nevertheless, if we say
23 yes, we do want to in some way work out that concern, it
24 seems that one of the things that would have to be done is
25 to agree there would be an additional reaudit rework of that

1 interface.

2 COMMISSIONER BRADFORD: Well, perhaps not. It
3 seems to me one of the things that would have to be done at
4 that point is that whatever accommodation were set up would
5 then have to look at the work done to date and decide
6 whether or not it was acceptable. If it was, fine. If it
7 wasn't, then it might have to be expanded or it might have
8 to be done again.

9 COMMISSIONER AHEARNE: You are saying that perhaps
10 the -- (Simultaneous Conversations - Inaudible).

11 COMMISSIONER BRADFORD: To the extent that the
12 work is already done, whether by Cloud or by someone else,
13 it seems to me the first step for any next reviewer, whether
14 it is just the NRC or the NRC plus an expert of the
15 Governor's choosing, is going to be to decide how much of it
16 is acceptable.

17 COMMISSIONER AHEARNE: Well, certainly the NRC
18 step is going to be doing that.

19 CHAIRMAN PALLADINO: Well, may I try the following
20 suggestion, if you all agree, that we ask the staff to
21 modify its letter to clarify some of the points that were
22 raised this morning and ask any Commissioner who has some
23 suggestion on how to handle Governor Brown's concerns to
24 submit them so that we can all review them. Then we can
25 consider them as part of our consideration in a revised

1 letter.

2 COMMISSIONER AHEARNE: I would like to point out
3 that it is not, as I tried to say several times, it is not a
4 Governor Brown concern. We have many letters in from
5 Members of Congress. We have one, for example, I notice
6 from Congressman Mineta. It does not in any way speak to
7 Governor Brown's suggestion. It is just speaking to the
8 question of an independent audit and the necessity to
9 restore public confidence. So I believe the issue is really
10 broader.

11 CHAIRMAN PALLADINO: Yes, and I do think it is a
12 real issue. I think the question of re-establishing
13 credibility is an important part of our task here and we
14 also of course want to be satisfied ourselves that we are
15 getting a truly independent audit.

16 So I was sincere when I said any suggestions that
17 might be forthcoming would be most helpful because that is
18 the way we might be able to put it into the letter itself.

19 Is this a reasonable approach for the time being?

20 COMMISSIONER AHEARNE: Yes.

21 COMMISSIONER ROBERTS: (Nodding affirmatively.)

22 COMMISSIONER GILINSKY: (Nodding affirmatively.)

23 COMMISSIONER BRADFORD: (Nodding affirmatively.)

24 CHAIRMAN PALLADINO: All right.

25 Well now I see we are approaching the adjournment

1 hour. We did not take up the question of enforcement
2 actions that you said you were prepared to discuss. I think
3 perhaps that is going to take more than five minutes. So I
4 am going to suggest that we reschedule that for discussion
5 at another time. We will work on when it is going to be
6 done. That would be a closed session I believe because it
7 involves enforcement action.

8 Well, if there is nothing further to come before
9 us now, we will stand adjourned.

10 (Whereupon, at 12:25 p.m., the public meeting
11 adjourned.)

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NUCLEAR REGULATORY COMMISSION

This is to certify that the attached proceedings before the
COMMISSION MEETING

in the matter of: PUBLIC MEETING - BRIEFING ON RECENT SEISMIC DESIGN ERRORS
AT DIABLO CANYON UNIT 1

Date of Proceeding: November 9, 1981

Docket Number:

Place of Proceeding: Washington, D. C.

were held as herein appears, and that this is the original transcript
thereof for the file of the Commission.

Mary C. Simons

Official Reporter (Typed)

Mary C Simons

Official Reporter (Signature)