

**ORIGINAL**

NUCLEAR REGULATORY COMMISSION

In the Matter of:

PACIFIC GAS AND ELECTRIC COMPANY ) DOCKET NO. 50-275/323  
)  
(Diablo Canyon Nuclear Plant 1 and 2) LOW POWER TEST PROCEEDING

DATE: May 20, 1981 PAGES: 10,715 - 10,943

AT: San Luis Obispo, California

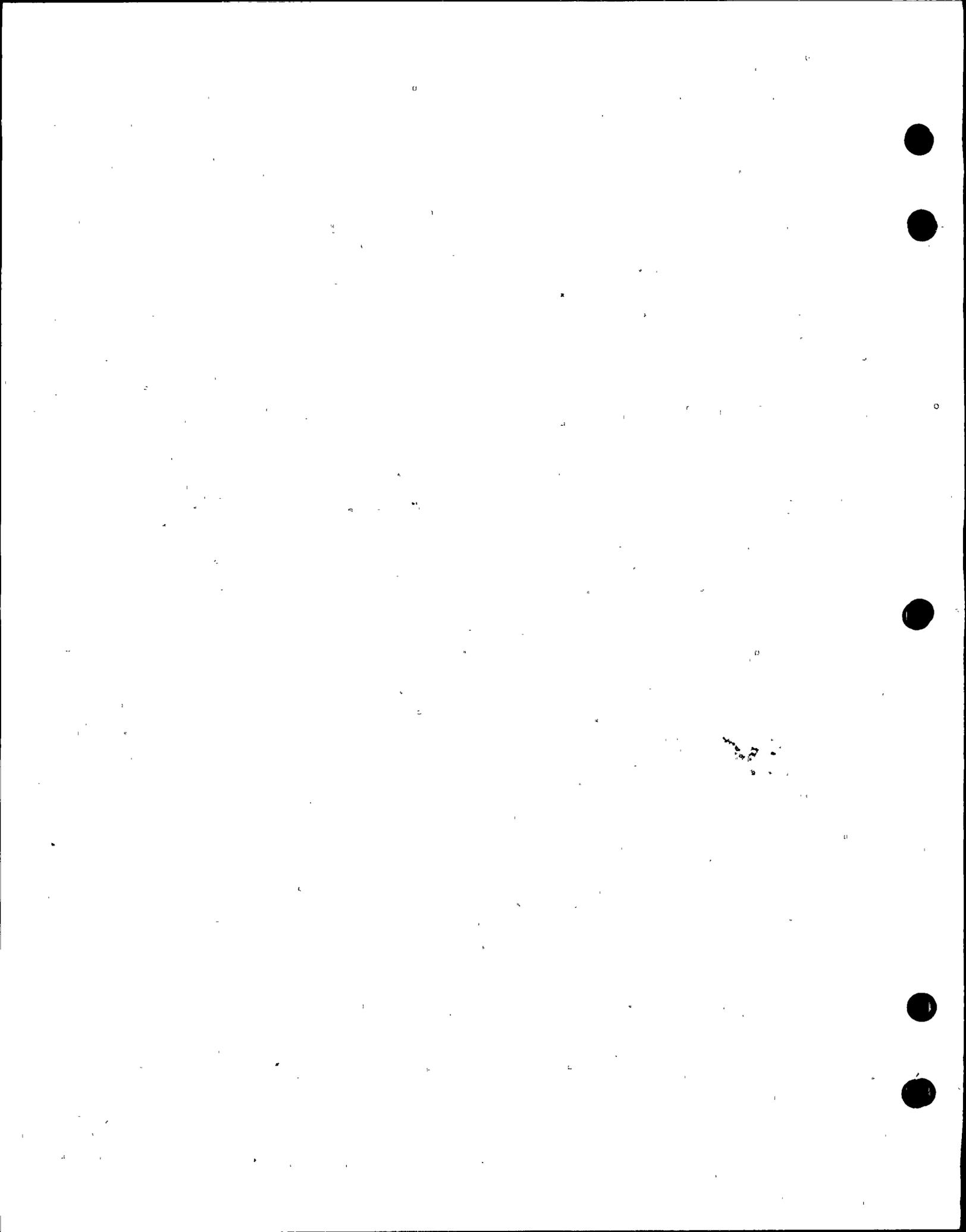


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1 UNITED STATES OF AMERICA

2 NUCLEAR REGULATORY COMMISSION

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4 In the Matter of: )  
 ) Docket No. 50-275  
 5 PACIFIC GAS AND ELECTRIC COMPANY ) Docket No. 50-323  
 Diablo Canyon Nuclear Power )  
 6 Plant Units No. 1 and 2 ) (Low Power Test Proceeding)  
 )

7

8 Veterans Memorial Building  
 Monterey Street  
 9 San Luis Obispo, California

10 Wednesday, May 20, 1981

11 The Atomic Safety and Licensing Board met, pursuant  
 12 to recess, at 9:00 a.m.

13 BOARD MEMBERS PRESENT:

14 JOHN F. WOLF, ESQ., Chairman  
 Administrative Judge  
 15 Atomic Safety and Licensing Board  
 U.S. Nuclear Regulatory Commission  
 16 Washington, D.C. 2055

17 GLENN O. BRIGHT  
 Atomic Safety and Licensing Board  
 18 U.S. Nuclear Regulatory Commission  
 Washington, D.C. 20555

19 DR. JERRY R. KLINE  
 Atomic Safety and Licensing Board  
 20 U.S. Nuclear Regulatory Commission  
 Washington, D.C. 20555

21 For the NRC Staff:

22 WILLIAM J. OLMSTEAD, ESQ.  
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 BETH 042  
 24 U.S. Nuclear Regulatory Commission  
 25 Washington, D.C. 2055



## 1 APPEARANCES:

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I N D E X

2	<u>WITNESSES:</u>	<u>DIRECT</u>	<u>CROSS</u>	<u>REDIRECT</u>	<u>RE CROSS</u>
3	William K. Brunot		10720	10849	10795
4	J. D. Shiffer		10723	10758	10772
5				10787	10789
6				10823	10858
7	R. Patterson		10749		10801
8	W. B. Kaefer		10750		10819
9	S. M. Skidmore				10815
10	Robert E. Paulus	10894	10925		10863
11		10906			
12	Howard W. Mitchell	10896			
13		10909			
14	Jeffrey Jorgensen	10899			
15		10916			
16	<u>EXHIBITS:</u>		<u>FOR IDENTIFICATION</u>	<u>IN EVIDENCE</u>	
17	Applicant's:				
18	66		10758		10772
19	67		10761		10772
20	68		10764		10772
21	69		10768		10772
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P R O C E E D I N G S

(9:00 a.m.)

1  
2  
3 JUDGE WOLF: Come to order, please.

4 Good morning, ladies and gentlemen. The first order  
5 of business will be a statement of appearance by Counsel,  
6 beginning with Applicant.

7 MR. NORTON: Bruce Norton, appearing for Applicant,  
8 Pacific Gas and Electric. We have the same people at Counsel  
9 table today that we had yesterday. We are here and ready to go.

10 JUDGE WOLF: Thank you. Mr. Fleischaker.

11 MR. FLEISCHAKER: Thank you, Mr. Chairman. I am David  
12 Fleischaker, and immediately to my right is Mr. Joel Reynolds,  
13 from the Center for Law in the Public Interest, and we are  
14 representing the Joint Intervenors.

15 JUDGE WOLF: And Mr. Brown.

16 MR. BROWN: My name is Herbert Brown. I am accompanied  
17 by Lawrence Lanpher, and we are appearing on behalf of the  
18 Governor of the State of California.

19 JUDGE WOLF: Mr. Olmstead.

20 MR. OLMSTEAD: Yes. I am William Olmstead, and with  
21 me is Brad Jones. We are appearing on behalf of the NRC Staff,  
22 and our appearances are as noted yesterday.

23 JUDGE WOLF: Would you recall the panel of witnesses?

24 MR. NORTON: Yes, Your Honor.

25 JUDGE WOLF: While they are taking their places,



1 are there any preliminary matters that we should take up at  
2 this time?

3 MR. OLMSTEAD: Mr. Chairman, yesterday, I offered  
4 to undertake to find out for the Board the status of the Final  
5 Environmental Impact Statement in the record. That is Staff  
6 Exhibit 1 at Transcript Page 20725, Wednesday, December 15th,  
7 1976. The Staff Exhibit numbering for the --

8 JUDGE WOLF: Pardon me. Can you repeat that, please?

9 MR. OLMSTEAD: Transcript Page 20725.

10 JUDGE WOLF: Thank you.

11 MR. OLMSTEAD: The Staff Exhibit numbering for the  
12 Environmental Hearing is separate from that of the Safety  
13 Hearings, so there will be a Staff Exhibit 1 in this proceeding  
14 which is different than the Final Environmental Impact Statement.

15 JUDGE WOLF: Thank you.

16 Are there any other preliminary matters?

17 Mr. Lanpher, do you want to continue your cross-  
18 examination?

19 MR. LANPHER: Yes, sir.

20 Whereupon,

21 WILLIAM K. BRUNOT

22 J. D. SHIFFER

23 S. M. SKIDMORE

24 W. B. KAEFER

25 R. PATTERSON



1 resumed the witness stand, and having been previously duly  
2 sworn, were examined and testified as follows:

3 CROSS-EXAMINATION (Continued)

4 BY MR. LANPHER:

5 Q Dr. Brunot, could you please turn to Page 9 of your  
6 prepared testimony?

7 A (Witness Brunot) Yes, I have that.

8 Q Dr. Brunot, toward the bottom of the page, your  
9 paragraph discusses probabilistic risk analysis, and you state  
10 that the techniques for risk analysis are well-developed for  
11 certain kinds of events and systems but are not sufficiently  
12 developed for broad use in licensing.

13 Am I correct, that the kind of risk analysis that  
14 you are referring to in this statement is the probabilistic  
15 risk analysis such as WASH 1400, that we discussed yesterday?

16 A Yes.

17 Q And, indeed, isn't it true that the Commission, since  
18 the publication of WASH 1400 has issued a directive which  
19 withdraws endorsement of that study and, indeed, the Commission  
20 has stated that it believes that the error bounds on the  
21 absolute predictions of risk in WASH 1400 are probably greatly  
22 understated? They don't say which direction are understated,  
23 but they are greatly understated?

24 A The first thing that you said, isn't it true that  
25 they have withdrawn it, no, that is not correct. They withdrew



1 the Executive Summary, if my memory is right, rather than  
2 the whole report, and they stated -- and I couldn't give you  
3 the exact words, but something similar to what you said about  
4 the error bounds was stated by the Commission, among other  
5 things, about the Report.

6 Q In your testimony, you say that the probabilistic  
7 risk analysis are not recommended for broad use in licensing.  
8 Are they recommended for some sort of narrow use?

9 A The techniques are used for particular purposes  
10 in parts of licensing decisions. There are a few licensing  
11 decisions where they are beginning to be used on some systems,  
12 but not very many. I don't think there are any specific  
13 numerical criteria set on probabilities of system failure or  
14 overall consequences, as I recall, anywhere in the licensing  
15 process, but they are beginning to be considered for use in  
16 parts of the process.

17 Q This is something that is being worked on now, and  
18 perhaps in the future, it will have a greater role in the  
19 actual licensing process?

20 A That is correct.

21 Q Dr. Brunot, I would like you to turn to Page 12 of  
22 your prepared testimony, please.

23 A Yes, I have that.

24 Q Thank you. On Page 12, you have two tables which,  
25 as I understand, are the upper regulatory limits, exposure



1 limits, under the NRC Regulations for full-power operation.  
2 That is the table at the top; is that correct?

3 A That is right.

4 Q And those same limits would apply for low-power  
5 operation also; correct?

6 A They apply for the full period of operation, which  
7 includes low and high.

8 Q And, as I understand your conclusion in your testimony,  
9 is that at low-power operation, Diablo Canyon's potential  
10 emissions to the environment will be far under these regulatory  
11 limits; is that correct?

12 A The exposures, rather than emissions, yes; I under-  
13 stand.

14 Q And in reaching that conclusion, have you made the  
15 assumption that the maximum containment leakage rate will be  
16 equal to or less than the design basis limit that you described  
17 yesterday? I think you said it was 1/10th of 1 percent the  
18 first day, and something else on subsequent days?

19 A Yes. All of these, as I mentioned I believe in the  
20 sentence before, when I gave the table, this covers the range  
21 of accidents which are prescribed to be covered when the  
22 analysis is done associated with Part 100, right.

23 Q So this would not include an accident involving  
24 a core melt and subsequent containment failure; is that correct?

25 A That is right. These particular situations. Now,



1 I have to qualify that a little bit, because if you look at  
2 the assumptions used to analyze the design basis accident  
3 for consequences in Part 100, the assumptions include a very  
4 large release from the core, which would only occur in the  
5 case of very severe core damage.

6 So that this range of accidents does include the  
7 possibility of severe damage to the core; however, not large  
8 leakage from the containment.

9 Q Mr. Shiffer, I would like to direct one question to  
10 you, because it is on basically the same subject, and just  
11 so we can have the record together on it.

12 I would like you to turn to Page 36 of your prepared  
13 testimony, please, sir. This question will involve both  
14 Page 36 and the tables there, and also Attachment 1, which is  
15 referenced on Page 36.

16 You just heard my discussion with Dr. Brunot, in  
17 which he stated that, in the tables that he presented, he made  
18 the assumption that the containment, in effect, worked. Now,  
19 there might be releases from the reactor vessel into containment,  
20 but there would be no further releases beyond the design basis  
21 limits; there is some slow leakage that is permitted.

22 Did you make the same assumption?

23 A (Witness Shiffer) Yes. Those tables include the  
24 same design basis assumptions.

25 Q Thus, these tables encompass the possibility of a



1 core melt accident, but while that might lead to the release  
2 of radioactivity from the reactor pressure vessel into contain-  
3 ment, it wouldn't go beyond that; is that correct?

4 A Well, you referenced a number of things when you  
5 mentioned my Page 36. There are two tables on Page 36. Those  
6 two tables represent scaling down of the design basis accidents  
7 and the FSAR, and they have the same assumptions that Dr. Brunot  
8 was just discussing.

9 You also mentioned an Attachment 1. Attachment 1  
10 does not discuss any specific accident. Attachment 1 is simply  
11 looking at whatever accident I assume, if I take 1/20th of the  
12 release, how does that affect distances. But it makes no  
13 assumption to any specific accident.

14 Just the two tables on Page 36 are what you refer to.

15 Q. I am a little bit confused maybe on Attachment 1,  
16 because of your reference to "design basis values" at the top  
17 of that table. I didn't mean to characterize your testimony  
18 as making specific accident assumptions or sequences, but  
19 those design basis values -- we used the term "exposure limits"  
20 with Dr. Brunot, and I will use that again here, but those  
21 design basis values make the assumption that the release from  
22 the containment is not in excess of the Part 100 limits; is  
23 that correct?

24 A. Design basis accident scenario assumptions, there  
25 are many assumptions in the design basis accident -- I mean,



1 in the total calculation of design basis accidents, but for  
2 the scenario portion of it; for example the loss of coolant  
3 accident, it assumes major core damage, release of the vast  
4 majority of the core fission products to the containment  
5 building, and then the leakage from the containment building  
6 at the design basis value.

7           Excuse me, can I say something? I mean, this has  
8 nothing to do with my testimony.

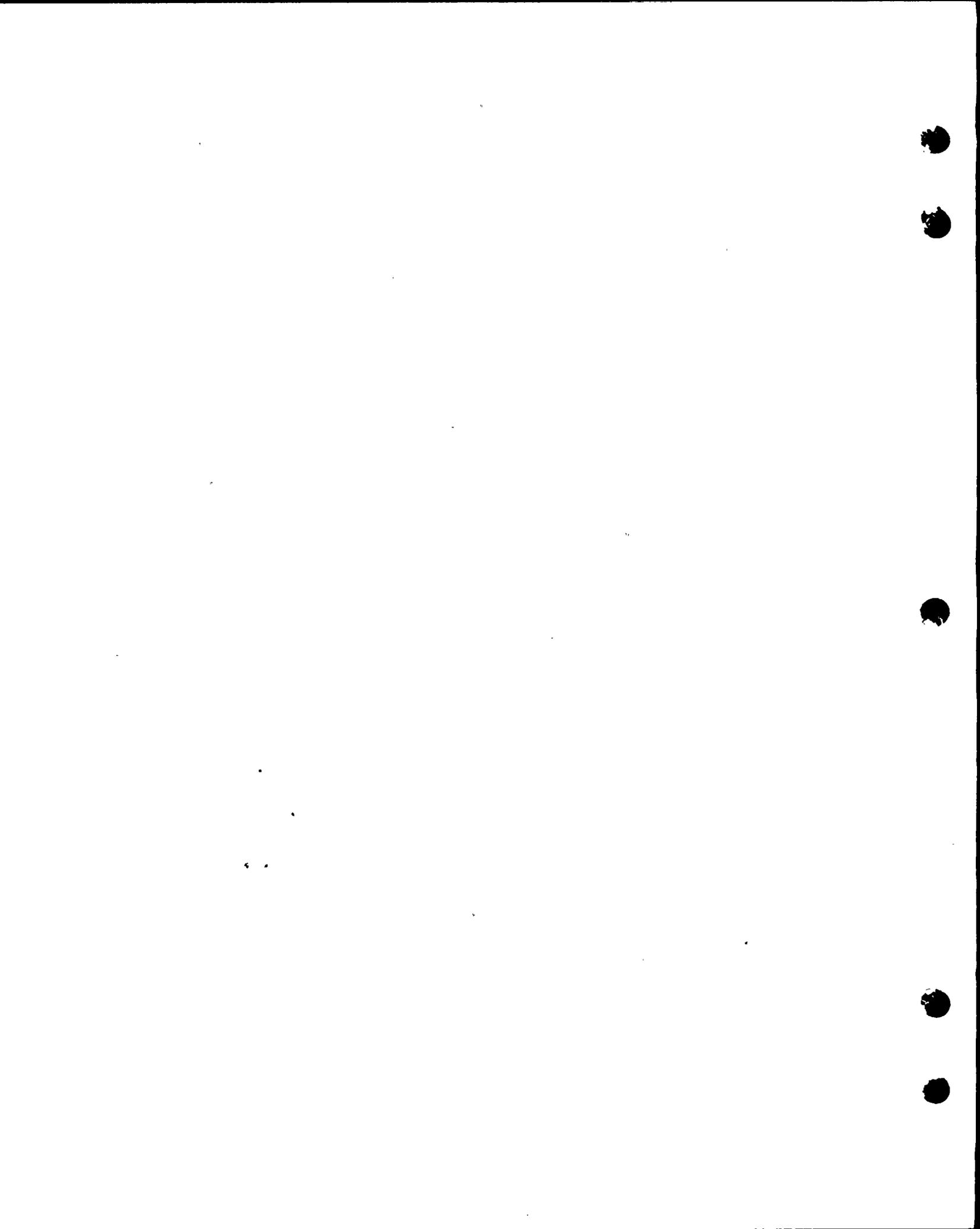
9           I was informed that some copies of my testimony did  
10 not contain a one-page Attachment 1. Is that true or not true?  
11 I am not aware of it. I just referred to it. I assume that  
12 it is there.

13           Q    I will let your Counsel respond. I have got it, in  
14 the copy that was served on me. I am not sure if the reporter's  
15 copies all did.

16           A    Okay. Apparently, it is okay, then. I guess there  
17 was some internal company copies that didn't have it attached.

18           Q    Dr. Brunot, I would like to come back to you for a  
19 few more questions.

20           Yesterday, in cross-examination by Joint Intervenors,  
21 there were some questions with respect to the statements you  
22 have made in your testimony, that actually the isotope -- or  
23 the fission product inventory that will be present at Diablo  
24 Canyon will be less than that assumed by you, because the test  
25 program will probably be at only 3 to 4 percent power and will



1 only be for, I think it is 10 days.

2 Do you recall that examination yesterday?

3 A (Witness Brunot) Yes. I didn't mention those numbers,  
4 but --

5 Q I think those are in your testimony, though; is that  
6 correct?

7 A I don't think I gave the numbers for the number of  
8 days at power, but they may be in other testimony. However,  
9 I did make that statement, yes.

10 Q Fine. In addition, you were shown a draft form of  
11 license which PG & E has submitted to the Nuclear Regulatory  
12 Commission in which the term of the license would be for one  
13 year, and it would be up to 5 percent power. Do you recall  
14 that?

15 A Yes.

16 Q Are you confident that the testing program will only  
17 be up to 3 to 4 percent power?

18 A Well, you see, I am not in charge of the test  
19 program and to set those particular numbers. I have been given  
20 a plan test profile which shows the period of operation at  
21 a power which is undefined and assumed to be less than 5 percent  
22 of I believe about 18 days, or something like this, and as I  
23 mentioned in here, my own inventories were based on 5 percent  
24 for one month, but I am confident that, on the basis of what  
25 I have been told by the PG & E operating people, that it would



1 less than 5 percent for one month.

2 Q Mr. Shiffer, do you want to comment?

3 A (Witness Shiffer) I am confident that it will be  
4 less -- that it will be of the orders that he was discussing.  
5 As a matter of fact, there are a number of tests that are in  
6 what we call the "low-power test program." There are a number  
7 of test programs involved here. There is a zero-power test  
8 program, for example, where we do some basic core parameter  
9 work at zero power.

10 In the low-power test programs -- as a matter of fact,  
11 the highest powered one of those will be run in the range of  
12 3 to 4 percent of power.

13 I think there are seven tests involved. My recollection  
14 is that four of them are run at around 3 percent power,  
15 two of them are -- I guess there are eight tests involved.  
16 Two of them are run at about 1 1/2 percent of power, and two  
17 of them are run shut down.

18

19 / / / /

20 (Please read to the next numbered page.)

21

22

23

24

25



1 Q Now, the highest power level you just described  
2 was three percent, Mr. Shiffer, is there --

3 A I said three to four percent.

4 Q Okay, fine. At three to four percent.

5 A We would never go to five because -- I guess as a  
6 reactor operator-type who has been through this kind of thing  
7 before, when they say power level limit is five percent, they  
8 mean five point zero, zero, zero, zero and not five point  
9 zero, zero, zero, one. You can never get up to the limit.

10 Q Mr. Shiffer, then is -- on the assumption -- well,  
11 we're litigating this case, obviously. If this board were  
12 to issue a license or recommend issuance of a license, is there  
13 any reason that they should go above four percent power in  
14 the license?

15 (Pause)

16 A I think that it gives us additional flexibility,  
17 yes. Once again, if they run a test between three and four  
18 percent power, we would like to have a percent on the upper  
19 end, so we don't inadvertently bounce over the four percent.  
20 We really have to run a percent or two lower than your  
21 license limit to make sure that you don't overshoot your  
22 license limit. So, that's one reason why we'd like five  
23 percent.

24 (Pause)

25 Q Dr. Brunot. I'd like to direct your attention to



1 page eight of your testimony.

2 (Pause)

3 A Yes.

4 Q In the examination, yesterday and I haven't been  
5 able to go back to the transcript to find the exact page, so  
6 I'll try to characterize my recollection. You were asked some  
7 questions relating to your risk increase factor for emergency  
8 planning arrangements and that risk increase factor is one to  
9 two.

10 Now, as I recall, you stated that there were no  
11 specific analysis performed to arrive at that factor, but  
12 that you had conversations and that this was a judgmental  
13 factor on your part. Is that correct?

14 A (Witness Brunot) That's true.

15 Q Now, would it be fair to state that also the  
16 other risk increase factors which are listed on page eight of  
17 your testimony also represent judgmental factors?

18 A Well, let's see. If you'll give me just a minute  
19 to --

20 Q Take all the time you need, sir.

21 (Pause)

22 A Yes, I think that's right.

23 Q Yesterday, in addition, I believe you -- with  
24 reference -- Again, on page eight -- to the plant modifica-  
25 tions, you somewhat changed your testimony, I think, because



1 subsequent to the time this was prepared, you believed most  
2 systems will be available. Is that correct?

3 A That's right.

4 Q Isn't it also true, however, that in order to  
5 conduct the test program which is proposed, particularly, I  
6 believe, some of the natural circulation tests, that there are  
7 certain systems, which in effect are going to have to be  
8 valved out or their automatic actuation is going to be valved  
9 out in order to conduct the test program?

10 A Yes, that's true. I have limited understanding of  
11 that area and I think I couldn't be very specific about which  
12 ones.

13 Q Have you included in your risk increase factors,  
14 factors to account for the lack of automatic initiation of  
15 various safety systems that are going to have to be valved  
16 out?

17 A I'm not sure that there is any significant increase  
18 in risk from those things, but I have to get some help from  
19 others to answer that.

20 Q Would it be fair to state, then, that you didn't  
21 make a determination either way on that?

22 A Excuse me. Did you say, I wouldn't make a deter-  
23 mination?

24 Q Let me repeat my question, sir. Would it be fair  
25 to state, then, that you did not specifically rule out a risk



1 increase factor. It simply was that you didn't consider a  
2 risk increase factor for those systems which are going to  
3 have to be turned off their automatic initiation. They're  
4 going to have to be turned off in order to conduct the low  
5 power test program.

6 A I had been aware of some comments about that kind  
7 of a thing. It didn't sound to me like it was significant-  
8 enough to mention in a list like this. So, I just did not  
9 put it in.

10 (Pause)

11 Q Dr. Brunot, could you describe what the automatic  
12 safety injection system is at Diablo Canyon, please?

13 A What the system is?

14 Q Yes.

15 A It's a system that supplies water in the event of  
16 loss of coolant accidents at high pressure.

17 Q It's often called the high pressure injection  
18 system. Is that correct?

19 A I believe so.

20 Q Are you aware that -- Well, let me read to you a  
21 statement. This is from the Diablo Canyon Unit One Final  
22 Safety Evaluation Reports, Special Low Power Tests, dated  
23 October, 1980. For the information of the Board. It was  
24 attached to the Pacific Gas and Electric Company motion for  
25 summary disposition. I just want to read you one statement



1 from page three dash three of this report.

2 And it states: "To prevent inadvertent safety  
3 injection and to allow performance of the special test; all  
4 automatic safety injection functions will be blocked."

5 Were you aware that that was a necessary condition  
6 for the conduct of the low power tests or at least some of  
7 the tests?

8 MR. NORTON: Excuse me. May we have the last part  
9 of that statment read, because I think the question of counsel  
10 assumes facts not in evidence.

11 MR. LANPHER: I'd like to have an answer to my  
12 question, if I may.

13 MR. NORTON: I'm asking for the question to be  
14 reread. I may want to make an objection to it. I think I'm  
15 entitled to that.

16 JUDGE WOLF: It may be reread.

17 MR. LANPHER: Would you like the Reporter to or  
18 would you like me to rephrase it, sir?

19 MR. NORTON: It's a quote.

20 JUDGE WOLF: If you can rephrase it, fine.

21 MR. LANPHER: Let me rephrase it. It will proba-  
22 bly go quicker.

23 BY MR. LANPHER:

24 Q I'm reading from page three dash three of the  
25 report I previously referenced. The quote is: "To prevent



1 inadvertent safety injection and to allow performance of  
2 special tests, all automatic safety injection functions will  
3 be blocked."

4 A Yes, I'm aware of that --

5 Q Excuse me. Wait, wait, wait. My question was,  
6 were you aware that that was going to be necessary or was  
7 going to be done in connection with the conduct of the low  
8 power test program?

9 MR. NORTON: Excuse me, Your Honor. I would like  
10 to know the quote is of course being read and I'm not blaming  
11 Mr. Lanpher for that, but it's being read as a small quote  
12 out of context and I don't know what special tests -- First  
13 of all, I'm not sure whether he said the test, singular or  
14 test, plural. I don't know if it applies to all eight low  
15 power tests that are planned or one of the tests that's planned  
16 or something in between there and there hasn't been founda-  
17 tion laid that this witness knows the answer to that. Until  
18 the foundation is laid, I think the question is improper for  
19 lack of sufficient foundation.

20 MR. LANPHER: I asked whether the witness was aware  
21 of that. If he cannot answer my question, that will answer  
22 my question, I think.

23 MR. NORTON: Excuse me, Your Honor. It's not  
24 whether he's aware that that quote is in there. The question  
25 is whether he knows which test. Is it singular? Is it



1 plural? If it's plural, how many? I don't know.

2 JUDGE WOLF: I understand your objection.

3 MR. NORTON: I can help --

4 JUDGE WOLF: Just a moment.

5 Mr. Witness, can you answer that question?

6 WITNESS BRUNOT: I'm a little --

7 JUDGE WOLF: Do you need clarification?

8 WITNESS BRUNOT: I think so, as far as which tests  
9 are concerned.

10 JUDGE WOLF: Can you clarify it?

11 (Pause)

12 MR. LANPHER: I've just given the witness a copy  
13 of that report and directed his attention to page three dash  
14 nine, where -- which is entitled, Technical Specification  
15 Impact and it has a list of the tests and I believe there  
16 it indicates that there will be an impact on safety injection  
17 for the first five tests. Tests one through five.

18 BY MR. LANPHER:

19 Q Does that provide you the necessary information,  
20 Dr. Brunot?

21 A I am really not familiar with this table and I  
22 really hesitate to give any answer to questions on this  
23 particular table. I think there are other people who are  
24 more qualified to answer questions in this area. I was aware  
25 that there --



1 JUDGE WOLF: Pardon me. If you can't answer the  
2 question, let's move on.

3 BY MR. LANPHER:

4 Q That's fine, but I'd like to go back to an earlier  
5 question, then, that -- The issue of whether there was an  
6 increase -- potentially an increase risk factor and you've  
7 listed certain factors that you think increase risk in the  
8 low power test program. You did not take --

9 A I, as I say could not --

10 Q Excuse me. Could I complete my question, please?  
11 Just so that you make sure what I'm asking. We can make a  
12 clear record.

13 You did not include in your risk increase factors  
14 any increase in risk for the possibility that safety injection  
15 functions would not be automatically initiated during the  
16 testing program.

17 A Could you excuse me for just a minute? I have to  
18 talk to Mr. Shiffer.

19 Q Well, sure. You can talk to him, but I think that  
20 I tried to phrase it so that it would be a yes or no answer.  
21 I just want to know whether your risk factors that are set  
22 forth on page eight include that.

23 A Let me explain why I wanted to talk to Mr. Shiffer  
24 again.

25 Q Please go ahead and talk with him.



1 MR. NORTON: Excuse me, Mr. Lanpher. I think the  
2 witness has a right to answer without you cutting him off  
3 every time he opens his mouth, because you don't like the  
4 answer.

5 MR. LANPHER: Mr. Wolf:--

6 JUDGE WOLF: Wait a minute. Just a moment.

7 MR. LANPHER: I believe that I was trying to be  
8 extremely polite to the witness just then by assuring him that  
9 I was not trying to cut him off from discussing with his  
10 colleague, Mr. Shiffer. I don't think Mr. Norton's outburst  
11 is necessary.

12 JUDGE WOLF: This is cross examination and there  
13 is a great deal of leeway in that area. So, let the witness  
14 answer if he can.

15 WITNESS BRUNOT: When we were discussing this  
16 risk increase factor, this question came up. When I say we  
17 were discussing it, that is when I was discussing this factor  
18 with Mr. Shiffer and some other people during the review of  
19 the testimony. This factor came up and Mr. Shiffer recalls  
20 that this is one of the reasons why we left this factor in  
21 even though at that time there were no specific systems that  
22 were not complete that -- You know, as I mentioned before had  
23 a concern about leaving this factor in. Because at the time  
24 we reviewed it, we decided that there really were no systems  
25 that were not complete.



1                   However, because of this situation where for some  
2 tests and again my understanding of this is a little weak --  
3 for what tests and whether there is any significant risk  
4 increase factor for that factor. That is the reason why we  
5 left this particular factor in.

6                   BY MR. LANPHER:

7                   Q     You're referring to factor two on page eight?

8                   A     That's right. It's not strictly plant modifications  
9 but it is plant operations.

10                  Q     Did you review the Westinghouse Safety Analysis

11                  which is before you in the preparation of your testimony --

12                  of your prepared written testimony? Is this one of the

13                  documents you reviewed and took into account as you prepared

14                  your risk assessment?

15                  A     No, I did not.

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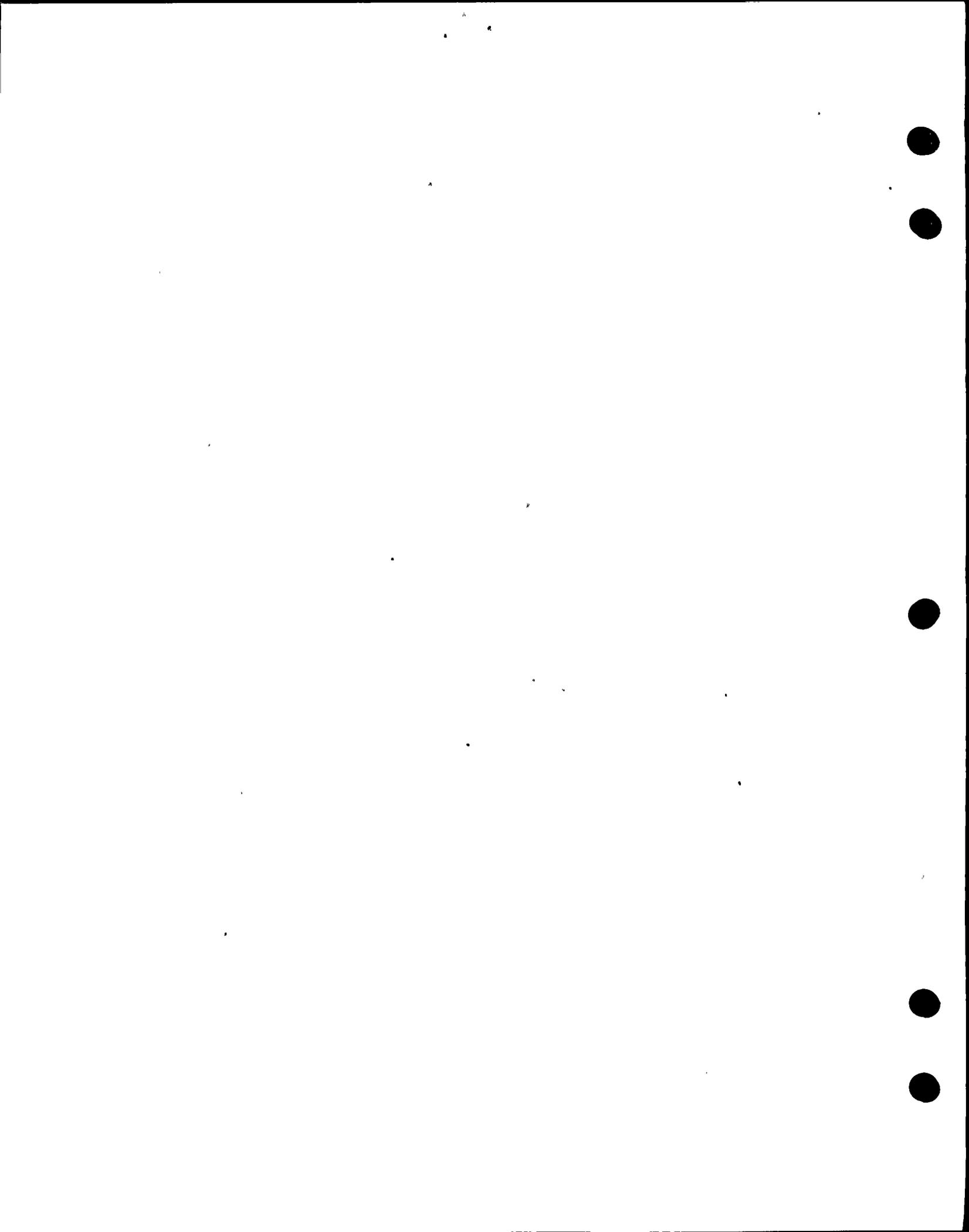
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25                  (Testimony is continued on the next page.)



BY MR. LANPHER:

Q Now, Dr. Brunot, I would like to go back two pages to page six. You described -- have described in your testimony and described yesterday, in fact, how you came to compute your risk reduction factor for fission product inventories. That is factor number one on page six.

Now, the remaining reduction factors, items 2 through 9, it is pages 6 and 7, would it be fair to say that those reduction factors, or risk reduction factors were based on your judgment also, the same way the risk increase factors were based upon the exercise of your judgment?

A (Witness Brunot) If you will give me a second to read through it. I would have to go through each one. I would say numbers 2, 3, and 9 are based upon my judgment along with discussion with other PG & E engineers. Number 4 is also my judgment based upon discussions -- number 4 is based upon the discussions and upon my own knowledge of the factors involved in the production of hydrogen following accidents and numbers 5, 6, 7 and 8 are my own judgment on the basis of oh, a large number of calculations and estimations and specialized work done in this area during the past ten years.

Q I would like to go to factor number 5 at the top of page 7. I am a little curious on that. That is a spent fuel accident, spent fuel pool accidents, and the risk reduction



t3 2g

1 factor you have is about 100. I would have -- there is no  
2 spent fuel at the plant now, is that correct?

3 A That is right.

4 Q Why wouldn't the risk reduction factor, given no  
5 spent fuel, be almost infinite? I mean, there is no risk at  
6 all, is there?

7 A It would be, but -- it would be if there is no spent  
8 fuel, but once you begin operating, there is some small --  
9 even during low power tests, there is some activity in the  
10 fuel and in the event that it is necessary to unload some of  
11 the fuel, there would be some activity in the fuel pool which  
12 had some -- or some fuel elements which had some activity.

13 It might be a factor of -- oh, I would say it might  
14 be a factor of 100 -- that was a broad estimate -- less than  
15 what they would be after full power operation.

16 Q Thank you. Would it be then fair to state -- I  
17 understand some of these risk reduction factors were based on  
18 your own personal judgment and work that you have done in the  
19 past. Some you had discussions with other persons in order to  
20 gather more knowledge relating to these.

21 Would it be fair to state, though, that none of these  
22 reduction factors, and I am talking 2 through 9, were the  
23 product of detailed analyses such as fault tree and event tree  
24 analyses?

25 A That is true, but you see I have a little trouble.



t4 3g 1 with the question, because you say detailed analysis such as  
2 fault tree and event tree analysis. Numbers 4, 5, 6, 7, and  
3 8 are drawn on the basis of detailed analysis -- much more  
4 detailed than fault tree and event tree analysis, but not of  
5 that type. It is principally consequence analysis, what we  
6 call radiation analysis, and fault tree and event tree  
7 analysis is not really involved in that, so the analysis is  
8 more detailed, but it is not fault tree and event tree.

9 Number 2 -- numbers 2 and 3, the answer to your  
10 question is yes.

the 11 I would like you to turn to page 11 of your pre-  
12 pared testimony, Dr. Brunot, and directing your attention to  
13 paragraph 1, and specifically line 6 of that paragraph, you  
14 state that -- well, let me just read it so it is clear in the  
15 record.

16 "Any estimate of risk of exposure to any member  
17 of the public, or group, whether characterized by an estimate  
18 exposure, or by a probability or frequency of receiving the  
19 exposure, at any distance away from the reactor, is directly  
20 proportional to the core inventory of the isotope or isotopes  
21 which could contribute to that exposure."

22 I would like to direct your attention specifically  
23 to your statement about "any distance away from the reactor."  
24 Now, depending on the core inventory, and the energy within  
25 that inventory and the energy which is released, isn't it



t3 4g  
1 possible and indeed likely that the plume which was released  
2 would behave differently? . If there is more energy, it might  
3 go up higher, and thus be caught by stronger winds; and thus  
4 the exposures farther downwind might be higher than close in,  
5 because it would be carried farther?

6 A Yes --

7 Q That is a complex question.

8 A -- the energy in the plume has some effect on the  
9 exposures downwind, that is right.

10 Q So is it fair to say that at any distance away from  
11 the reactor, it would be directly proportional? Don't you  
12 also have to look at the characteristics of the plume and the  
13 energy in the plume before you can be sure that at any  
14 distance, it would be directly proportional?

15 A Well, yes. Certainly it is direct, now -- just a  
16 minute. The -- what I am saying here, it is directly  
17 proportional to the core inventory. It may be proportional to  
18 a number of other factors, which it is, and you mentioned one,  
19 which is the energy in the plume, but the direct proportion  
20 between the inventory and the result is still there.

21 Q Fine, then you weren't meaning to exclude other  
22 factors that might affect this?

23 A That is right.

24 Q Well, you acknowledged that the energy in the plume  
25 was one of those factors. Could you describe any other factors



t3 5g  
1 that might affect this relationship?

2 A Well, all of those that are involved in  
3 consequence analysis; the release rates, the makeup of the  
4 radioactive materials, the various weather conditions, the --  
5 oh, there are -- I could probably go through a list of 25 or  
6 30 factors, and I will if you want.

7 Q No, that is all right. There are many factors,  
8 then?

9 A Yes.

10 Q Thank you. Dr. Brunot, I would like to turn your  
11 attention to page 15 of your testimony?

12 A Yes.

13 Q And specifically lines 13 through 16, you make the  
14 statement that no one resides near the site boundary of  
15 Diablo Canyon. What do you --

16 A I am sorry, excuse me. I was on the wrong page

17 Q I am sorry. Page 15, sir?

18 A Fifteen? Line?

19 Q Lines 13 through 16, sir. Are you there, sir?

20 A Yes.

21 Q You make the statement that no one resides near the  
22 site boundary of Diablo Canyon. What do you consider near?

23 A Well, I think within a few miles. I hadn't really  
24 placed anything precise on that. My understanding was that  
25 the first group of significant population was out beyond about



t3 6g  
1 six or seven miles.

2 Q Let me -- I think this question ought to be directed  
3 to Mr. Shiffer since he is at the plant on a regular basis.  
4 Isn't it a fact, Mr. Shiffer, that there are a number of  
5 families, or at least one family, the Brunot-family, that  
6 lives just north of the plant, within two miles?

7 A (Witness Shiffer) That is correct.

8 MR. LANPHER: Could I have just a moment? I am  
9 just through with Dr. Brunot. I would just like to check my  
10 notes.

11 JUDGE WOLF: Yes, you may.

12 BY MR. LANPHER:

13 Q Dr. Brunot, do you have a copy of NUREG 0654 with  
14 you?

15 A (Witness Brunot) Yes.

16 Q I would like to direct your attention to page 18 of  
17 that.

18 A Yes.

19 Q I believe in questioning yesterday, or in statements  
20 made yesterday, you stated that in this table, 100 percent, or  
21 almost 100 percent of the prompt health effects would result  
22 from the thyroid exposure, and the whole body exposure, in  
23 other words, the columns on the left-hand two-thirds of the  
24 page, is that correct?

25 A Yes.



t3 7h



1 Q Of those prompt health exposures -- health effects,  
 2 excuse me -- can you provide an estimate of percentage of the  
 3 prompt health effects would result from thyroid exposure?

4 A I don't think that is a -- I don't see how that can  
 5 be done as a percentage. The thyroid exposure is a different  
 6 kind of thing than whole body exposure. You see, you are  
 7 talking about exposure as a fraction or a percentage of health  
 8 effects. Exposure is one thing, health effects is something  
 9 else farther down the line. You wouldn't express dose as a  
 10 fraction of health effects or as a percentage of health  
 11 effects.

12 Q I don't mean to belabor this. I think I understand  
 13 your answer. Let me give an example, though, and if you  
 14 still can't answer it, then I am going to leave it alone.  
 15 Would it be incorrect to start to talk about 100 health  
 16 effects? If you had 100 health effects, how many would you  
 17 expect from the thyroid exposure?

18 A Again, I have trouble with that, because 100 health  
 19 effects could be 10 thyroid exposures and a number of other  
 20 things in the batch, so I just don't think there could be a  
 21 percentage done of exposures versus health effects, or -- do  
 22 you see what I am saying?

23 Q I think I understand it. You have sufficiently  
 24 answered my question. Thank you, Dr. Bruno.

25 All right, I would like to switch to the panel  
 testimony, Mr. Shiffer's, and all



1 BY MR. LANPHER:

2 Q First, I want to direct your attention -- Do you  
3 want to consult with your colleagues for a moment?

4 A (Witness Shiffer) Just a second.

5 One of my colleagues wanted a copy of our license  
6 application. We're flooded with paper here. I'm losing  
7 track of things.

8 Go ahead. I'm sorry.

9 Q Fine, I'd like to direct your attention to page  
10 two of your testimony, Mr. Shiffer. Line three. The sentence  
11 starts on line two. It says, "This version of the emergency  
12 plan." And I believe your -- "This version of the emergency  
13 plan was also approved by the NRC." And it goes on and lists  
14 the subject of public hearings in October 1977.

15 When you say, the emergency plan, what are you  
16 including in the emergency plan? Are you including the county  
17 plans?

18 A Yes, I believe that would be a fair statement.  
19 It was all in one package.

20 Q Fine. Now, when you say it was approved by the  
21 NRC, do you really mean by the NRC staff?

22 A Well, yes.

23 Q Thank you.

24 Mr. Shiffer, I would like to talk just generally  
25 about the emergency planning arrangements at Diablo Canyon



1 for a moment to set a conceptual framework. It's my under-  
2 standing that the PG&E on-site plan provides with some limited  
3 outside support activity, the primary response for any emer-  
4 gencies which are on-site. Is that correct? The PG&E  
5 organization.

6 A Let me --

7 MR. NORTON: Excuse me, Mr. Shiffer. May I ask  
8 for a clarification of that question? Is that question ex-  
9 clusionary? In other words, is that question -- is it all  
10 that it does or is that one of the things that it does?

11 MR. LANPHER: You've succeeded in confusing me,  
12 Bruce. Let me rephrase the question.

13 (Laughter.)

14 BY MR. LANPHER:

15 Q With respect to radiological emergencies, on-site  
16 response is primarily the responsibility of the PG&E organiza-  
17 tion. Is that correct.

18 A That's correct.

19 Q With respect to off-site response, if there were  
20 an emergency that needed evacuation or some other off-site  
21 response, that is primarily the responsibility of the local  
22 jurisdiction, the County of San Luis Obispo.

23 A In terms of the legal responsibility, that is  
24 correct. We would certainly make efforts to assist off-site.

25 Q And isn't it true that the state emergency response



1 plan is, in effect, a backup plan? It's not the immediate  
2 response plan, but the immediate response, rather, would be  
3 provided by the local jurisdiction, the County?

4 A That's correct.

5 (Pause)

6 Q Now, yesterday there was some questioning about  
7 the number of persons that might be on shift at any one time  
8 or on the site? PG&E employees who might be on-site during  
9 the low power testing program. Do you recall that?

10 A Yes.

11 Q I want to make sure that I understand what your  
12 answers were. I believe that you said during the day shift,  
13 during the testing phase, there might be approximately 200  
14 persons on-site. Is that correct?

15 A That was an estimate. We assume that there might  
16 be about 200 persons on-site.

17 Q You also said that on the weekend shift when there  
18 was no testing, the minimum crew would be 19 persons.

19 (Pause)

20 A We're talking now -- wait a minute, about the shift  
21 crew. It would be closer to about 14. I think 19 included  
22 some test engineers. If you assume we were not testing, might  
23 not be there.

24 Q Let me clarify my question. Assuming that you  
25 are in the low power testing phase of operation. You've



1 loaded fuel and you've run some tests, but at the time you're  
2 not conducting any tests. Okay? You're on a weekend --

3 A That's correct.

4 Q -- whatever reason. You're not conducting a test.  
5 So, is it your testimony that then the minimum crew would be  
6 14?

7 A Let me add them up again, but it's approximately  
8 that.

9 (Pause)

10 Okay, we would have a shift of 14 people. That  
11 would not include, by the way, any guards.

12 Q Right. We'll stay out of that. But these would  
13 be operating personnel?

14 A That's correct. One of those persons would be  
15 a security supervisor. Okay?

16 Q Thank you.

17 What are the other two shifts? You have a day  
18 shift and then you have an evening and then a graveyard shift?

19 A We have a shift that starts at eight in the morning  
20 and runs to four in the afternoon. One that runs from four  
21 to twelve and one that runs from midnight to eight the next  
22 morning.

23 Q The eight to four shift is the one that you were  
24 referring to having 200 persons?

25 A That's correct.



1 Q With respect to the eight to midnight and the mid-  
2 night to eight a.m. shifts, during the low power testing  
3 program and when there are no tests actually being conducted,  
4 what would be the minimum operating crew?

5 A That would be the 14 people that I just mentioned.

6 WITNESS PATTERSON: I'd like to add something to  
7 that. This is Mr. Patterson.

8 MR. LANPHER: Certainly.

9 WITNESS PATTERSON: Under those circumstances, with  
10 that limited number of people, the reactor would be in cold  
11 shutdown at that time, if we are not testing. If the  
12 reactor -- If we kept the reactor critical, we would have  
13 more than 14 people.

14 BY MR. LANPHER:

15 Q How many more would you have?

16 A (Witness Patterson) We'd have our test people  
17 there and the Westinghouse engineers there to get us up to  
18 the total of 19.

19 Q So, the minimum crew would be augmented by five  
20 persons. Some PG&E and some Westinghouse.

21 A That's correct.

22 WITNESS SHIFFER: I was going to mention one other  
23 thing. We say augmented by five people. I'd rather say,  
24 at least five people, because in my experience, in such  
25 programs, there is always a lot more people around than the



1. minimum. Five is what we're committed to as extra engineers,  
2. but there is probably many more than that.

3. BY MR. LANPHER:

4. Q Mr. Shiffer, yesterday, you were asked some  
5. questions about your procedures for as built drawings. I  
6. was a little confused -- For having as built drawings avail-  
7. able. I was a little confused by the answer. Let me ask  
8. you a couple of questions on that.

9. Do you presently have in the technical support  
10. center, all as built drawings for the entire plant?

11. A (Witness Kaefer) This is Mr. Kaefer. We presently  
12. have an entire set of microfiche drawings of the plant pre-  
13. sently in the technical support center.

14. Q Mr. Kaefer, that includes all changes to all systems  
15. that have been made? Is that correct?

16. A This is an up-to-date master copy identical to the  
17. set that we have in our administration building which is an  
18. up-to-date copy.

19. Q Mr. Kaefer, could you briefly describe what your  
20. procedure is for keeping those drawings up to date when you  
21. have an engineering change notice of what happens. How do  
22. you keep them up to date? I'm frankly a little surprised  
23. that they are up-to-date. It must be an awfully large task.

24. MR. NORTON: Excuse me. I don't have any real  
25. objection to this line of inquiry other than the interest of



1 time and I'm not sure how this is relevant to low power test-  
2 ing. We're not here to try quality assurance programs or  
3 things like that. We're here to talk about emergency planning  
4 and valves and the gentlemen just said we have up-to-date  
5 drawings. To go beyond that, again, I really object to the  
6 question, other than the interest-of time. It's not relevant  
7 to this proceeding.

8 JUDGE WOLF: What's the purpose of the line of  
9 questioning?

10 MR. LANPHER: First of all, I would like to respond  
11 to the relevancy. 0696, page 15 -- NUREG 0696, page 15  
12 specifically covers the requirements for as-built drawings  
13 as one of the requirements for the technical support session.

14 MR. OLMSTEAD: Excuse me. Do you have the right  
15 NUREG number?

16 MR. LANPHER: 0696?

17 MR. OLMSTEAD: Okay.

18 MR. LANPHER: Page 15, and I'm just trying to ask  
19 a couple of questions. I'm almost through, but I think it's  
20 relevant to be able to find out what their procedures are for  
21 insuring that this requirement for licensing is met. Is it  
22 part of the technical -- This is one of the requirements  
23 for an operating license as I understand it.

24 MR. NORTON: I'll withdraw the objection. It's  
25 just at some point it becomes irrelevant.



1 JUDGE WOLF: It's difficult to see how it's rele-  
2 vant to emergency planning.

3 MR. LANPHER: Do you want me to respond?

4 JUDGE WOLF: If you have one more question, let's

5 MR. LANPHER: I have a question pending, if the  
6 witness recalls the question.

7 BY MR. LANPHER:

8 Q Do you, Mr. Kaefer?

9 A We have a set of administrative procedures at the  
10 plant that are in effect at this time that control records

11 and documents at the plant. Basically we have approximately  
12 12 people, mostly clerical, that administer this program.

13 When any approved drawings are received from our  
14 engineering department, this group controls the distribution  
15 of those materials to the various locations within the plant  
16 that obtain these drawings and other documents.

17 (Pause)

18 Q Mr. Shiffer, you said yesterday that the permanent  
19 off-site emergency operations facility will not be -- Well,  
20 it's still just being designed. Is that correct?

21 A (Witness Shiffer) That's correct.

22 Q What is the purpose of the off-site emergency  
23 operations facility?

24 A Well, if you were just talking about our functions,  
25 I mean, in theory, we could build one of these for just PG&E



1 use. It would be for overall, I would say, direction of the  
2 off-site activities of the emergency from a PG&E standpoint.  
3 What it really amounts to is a place where someone like myself  
4 from the corporate office would come to -- and a small staff  
5 of my people. We could set up headquarters and we would try  
6 to, at that point, interface with the local authorities in  
7 the off-site activities.

8 Also, it would be a place where PG&E people would  
9 be located to provide a conduit of information from what's  
10 going on on the site to off-site agencies.

11 One of the reasons for what we have done -- Our  
12 interim facility, and hopefully our permanent facility as  
13 well, would be sort of co-existent with the County organiza-  
14 tion, so that they have PG&E people readily available for  
15 information purposes and to assist.

16 Q Now, this facility, in order to have this infor-  
17 mation, it will have computer readout capabilities and other  
18 matters which can provide information relating to what's  
19 happening at the plant. Is that correct?

20 A That's correct.

21 MR. NORTON: Excuse me. Excuse me. These two  
22 gentlemen may know what they're talking about, but I'm not  
23 sure what they're talking about. The planned future perman-  
24 ent facility or the present temporary facility, which is  
25 obviously the one that's of concern to this Board for purposes



1 of low power testing.

2 MR. LANPHER: I stand corrected. Let me clarify  
3 that so that we make sure we understand each other.

4 BY MR. LANPHER:

5 Q The present temporary interim facility is designed  
6 for that same purpose. To be able to have information  
7 available, both to PG&E persons and any other organizations  
8 or individuals that need to interface off-site with PG&E.  
9 Is that correct?

10 A That's right.

11 Q Mr. Shiffer, have you or has PG&E conducted any  
12 analysis regarding whether the information receipt capabilities  
13 of that interim facility, the off-site support facility,  
14 would continue to be available in the event of a seismic  
15 event?

16 A Well, there's a number of potential information  
17 paths. We are in the process of conducting an analysis right  
18 now on the phone and radio systems. The preliminary analysis  
19 are that it would be. We have not yet conducted an analysis  
20 that I'm aware of on a couple of our computer terminals out  
21 there.

22 (Pause)

23 Q Mr. Shiffer, I would like to turn your attention  
24 to page 16 of your testimony. And specifically line 16 and  
25 17 where you refer to -- and line 18, also. Where you state



1 that there will be 18 off-site environmental sampling stations.

2 Has PG&E yet determined where those will be lo-

3 cated or where they hope to locate them?

4 A Wait a minute. On line --

5 Q Page 16, excuse me.

6 A Sixteen, line 16, 17, -did you say?

7 Q Sixteen, seventeen and eighteen.

8 A You refer to 18, off-site. I think it's 17 in

9 the testimony.

10 Q I believe you're proposing 17 off-site environmental

11 sampling stations.

12 A Yes, those are already in place.

13 Q Then I was confused. Those are already in place.

14 Are they all within the -- what we refer to as the LPZ? The

15 six mile zone.

16 A Oh, no, no. There are -- The ones that you are

17 talking about on lines 16 and 17 are our normal environmental

18 monitoring stations which include the TLDs and the -- in some

19 cases, air samplers. So, that's -- There are 32 of those

20 stations. The 17 that are off-site are spread all over. I

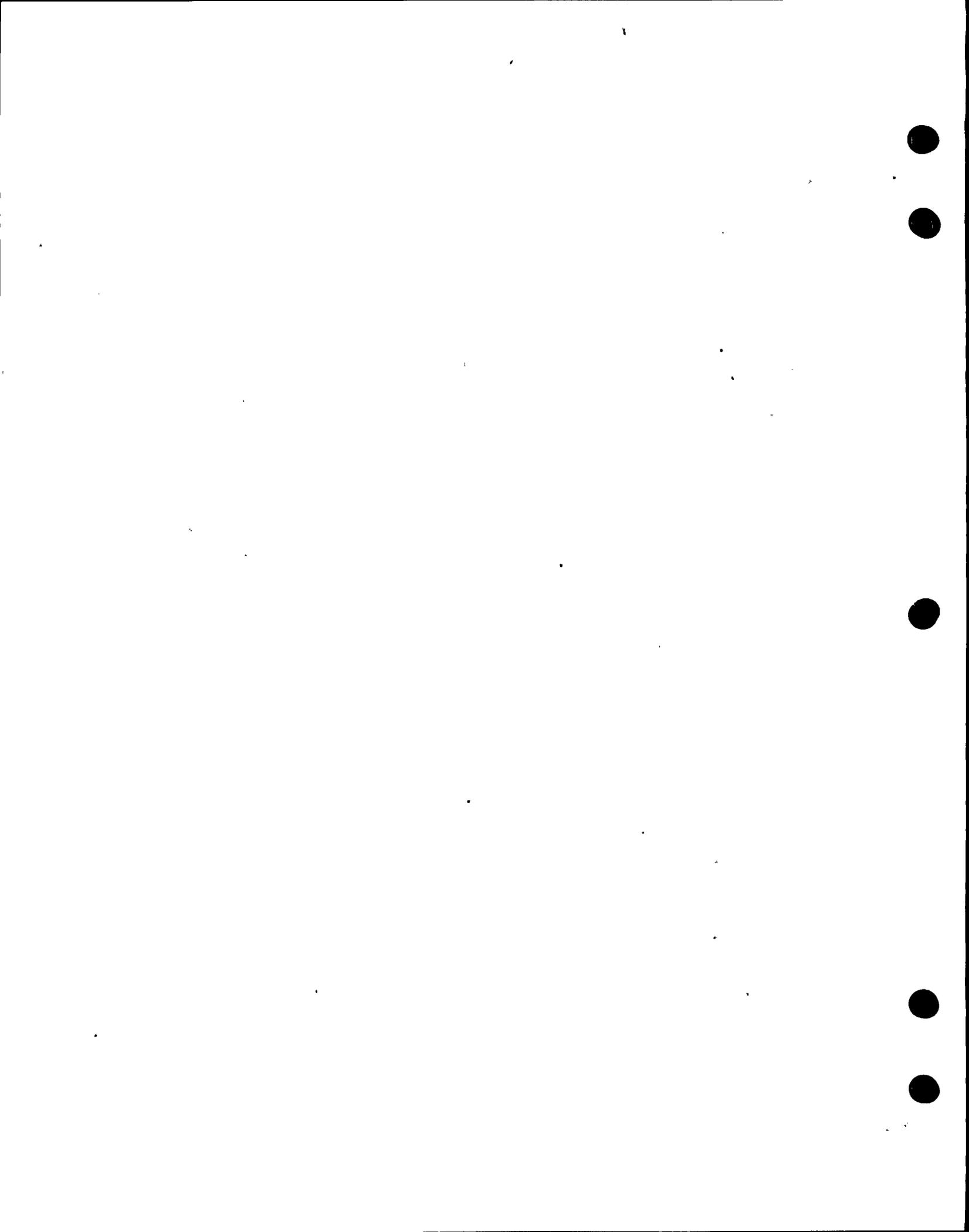
21 could -- If we had a viewgraph or something, I could show

22 them on a map.

23 MR. NORTON: Your Honor, we do have a viewgraph

24 here and we do have a map that he could show. We expected

25 that the Board, perhaps, might want to see a map and see the



1 location of these monitors and we have just a map. It has  
 2 not been marked and Mr. Shiffer, of course, could X on the  
 3 viewgraph and then we can have copies run off for exhibits.  
 4 We do have this available if the Board and/or any of the  
 5 parties would be interested in seeing where,--indeed, those  
 6 monitors are.

7 MR. LANPHER: Maybe we could take just a couple  
 8 of minute recess and set it up. I would like to be able to  
 9 find out where these are located, if that's all right, Judge  
 10 Wolf?

11 JUDGE WOLF: Yes.. Five minutes.

12 Off the record.

13 (A brief recess.)

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25 (Testimony continues on the next numbered page.)



T5 1 JUDGE WOLF: Back on the record.

2 Is it your intention to offer copies of the diagrams  
3 that you are going to project on the screen?

4 MR. NORTON: Yes. These are simply a map, if you  
5 will, a topographical map, of the area. And he will mark them  
6 with a marker as an exhibit number, and then as soon as we  
7 are finished with them, we will have copies run for everyone.

8 JUDGE WOLF: Very well. And the copies will show  
9 the exhibit number that you place on it at this time?

10 MR. NORTON: Yes, and they will be exact copies of  
11 what appears on the screen.

12 JUDGE WOLF: Very well.

13 MR. NORTON: After it is completed, of course,  
14 because he has to mark on it.

15 JUDGE WOLF: Yes.

16 MR. NORTON: And that is why we can't have them ahead  
17 of time.

18 MR. FLEISCHAKER: Mr. Chairman, I have one preliminary  
19 matter. I was approached by a gentleman named Mr. John Dark,  
20 who has submitted to me a written limited appearance, which  
21 I would like to submit to the Board. He lives within the  
22 low population zone and simply wants to submit this to the  
23 record.

24 JUDGE WOLF: Yes. We had announced that anyone who  
25 had a written statement to submit, that we would accept them.



2  
1 MR. FLEISCHAKER: Thank you very much.

2 (Whereupon, viewgraphs were shown.)

3 MR. NORTON: Mr. Shiffer, would you mark the first  
4 one you put up as Applicant's Exhibit 66. It would be "App.  
5 Ex. 66."

6 (Whereupon, the document was  
7 marked for identification as  
8 Applicant's Exhibit Number 66.)

9 JUDGE WOLF: Does any other Counsel have any comments  
10 about the method that is being used to establish the exhibits  
11 that are to be shown on the screen?

12 MR. OLMSTEAD: The Staff has no objection, provided  
13 three copies are provided to the record in hard copy.

14 JUDGE WOLF: Copies are going to be made, and then  
15 they will be submitted. Is that agreeable with you, Mr. Lanpher?

16 MR. LANPHER: Yes, that is agreeable. And I am going  
17 to turn this witness over for a couple of minutes to Mr. Norton,  
18 and I think that would be easier. We could get a little  
19 rebuttal out right now.

20 JUDGE WOLF: Mr. Fleischaker?

21 MR. FLEISCHAKER: That is fine.

22 REDIRECT EXAMINATION

23 BY MR. NORTON:

24 Q Go ahead, Mr. Shiffer.

25 A (Witness Shiffer) Okay. The first-illustration I



3  
1 have here, of course, is the plant site, and already marked  
2 on this particular drawing are sample stations, monitoring  
3 stations, that are part of our ongoing environmental monitoring  
4 program.

5 I believe, if I recall the numbers in my testimony,  
6 I think there was 15 such stations on site. This will show  
7 those, except I notice there is one small error on this thing.

8 You will notice, there is a key that goes on with  
9 this thing, and the ones with the circles are called "Bio-  
10 logical Stations." I don't count those. That has nothing  
11 to do with the radiological stuff.

12 Okay. So there are 15 of those, except that there  
13 is one additional one that is not shown here, and let me mark  
14 it in. I counted that one as one of the ones on site. It is  
15 right on the boundary, the property boundary, up there.

16 This one here is the error. It does not have the  
17 air particulate station at that location and, in addition,  
18 there is one that is more appropriately shown in this picture,  
19 although I counted it in the tabulations of off-site ones. It  
20 is down the access road a small distance. It is right about  
21 here.

22 Q Mr. Shiffer, this is a problem we have with many  
23 witnesses when you say it is "shown about here," and so on.

24 A Yes, I am just going to draw it.

25 Q But the point is that nobody is going to know when



4

1 they read the record a month from now which one you drew first,  
2 and which one you drew second, and which one you drew third.

3 A Okay.

4 Q So would you go back over and give the description.  
5 You put an "X" in one, and you put numbers by the others, and  
6 then the record will be clear.

7 A Okay. The first alteration in this drawing that I  
8 made was to include Station 7-S2 on the southern property  
9 boundary. The second change on the drawing that I made was to  
10 eliminate the air particulate station, that is Station 9-S1  
11 near the breakwater. And the third change I made on this  
12 drawing was to show Station 8-S2, which is down the access  
13 road, south of the plant.

14 Q All right. In those 15 stations and now 16, counting  
15 8-S2, which is outside the plant boundary --

16 A That is correct.

17 Q -- what are those 15 and now 16 stations?

18 A Okay. Each one that has a triangle, labeled as a  
19 dosimetry station, contains a thermal-luminescent or what  
20 we call a TLD radiation dosimeter. That is a dosimeter that  
21 measures background radiation, and in order to read that  
22 dosimeter, you take it to a reader and develop it, so to  
23 speak, and read it.

24 There are three stations on this picture, indicated  
25 with the squares, called air particulate stations. Those are



5  
1 air samplers that run continuously, and they have a particulate  
2 and charcoal filter on them that is collected routinely about  
3 once a month, as I recall. So they would measure iodines and  
4 particulates.

5 The TLD's that are there, again, are also collected  
6 once a month, and they are in there for background radiation,  
7 basically; to measure background radiation.

8 Okay?

9 Q Yes. Would you put up the next one and mark it  
10 as Applicant's Exhibit 67?

11 (Whereupon, the document was

12 marked for identification as

13 Applicant's Exhibit Number 67.)

14 MR. NORTON: Your Honor, while Mr. Shiffer is marking  
15 this map, I might point out that it is a topographical map,  
16 and if you look immediately above, where he is writing the  
17 "Applicant's Exhibit 67," you will see a dark line, which is  
18 indeed the coastline of California.

19 You will also see some lines to the left of that,  
20 which is out in the Pacific Ocean, and those are simply topo-  
21 graphical markings, but that is the ocean, the Pacific Ocean.  
22 Everyone ought to know that. It is not the coastline. The  
23 coastline is the dark line that one can see in, I guess you  
24 could call it the left, lower left quadrant of that map.

25 JUDGE WOLF: All right.



1 WITNESS SHIFFER: Okay. For those of you that are  
2 out-of-towners, we are talking about -- this is Morro Bay.  
3 Morro Bay is up here. I will mark on the map, and the plant  
4 is right about here. Avila Beach and the Five-Cities area  
5 is down here.

6 BY MR. NORTON:

7 Q You could indicate that on the map by describing  
8 which quadrant of the map it is in, and then maybe the dark  
9 area, et cetera.

10 A Okay. I did it again, didn't I?

11 Q Yes.

12 A I am sorry. Morro Bay is due north of the plant, in  
13 the upper left-hand corner of the picture. The plant is on  
14 the left-hand side of the picture, about in the middle. Avila  
15 Beach is, I would guess, slightly below the center of the  
16 picture, center and to the left. The Five-Cities area is in  
17 the lower right-hand portion of the picture.

18 This is going to take a little bit of drawing, here.

19 First, I will put where the plant is, just so that  
20 we will get referenced here. Now, this is really difficult,  
21 and it is right about here. This may not be perfect, but it  
22 is hard to see this. Okay. We will put the plant at about  
23 that location.

24 Q You have indicated that by an "X" with a circle  
25 around it?



1           A     An "X" with a circle in the left-hand side of the  
2 picture, about midway, up and down.

3           Q     To give an idea of scale of that map, how far is it  
4 from the plant to Morro Bay in air miles?

5           A     Okay. The plant to Morro Bay is 10 miles; something  
6 like that. It is approximately 10 miles. From the plant to  
7 Avila Beach is about seven miles. And the plant to downtown  
8 San Luis Obispo, which is in the central portion of the map,  
9 is around 12 miles, in round numbers.

10                   I am going to start at the kind of upper left-hand  
11 side of this thing, and the key on this is the same as on  
12 the previous one; namely, triangles will be at dosimeter  
13 station; squares will be at the air particulate station. And  
14 each one has a designation number. I might as well give you  
15 the official designation number, since they are identified.

16                   Station 2-F2 is actually at our Morro Bay power  
17 plant.

18                   I guess, just for completeness, I might as well put  
19 the key on here.

20                   Okay. In addition to those that are spread around  
21 the area of the plant, we do have three more that I just don't  
22 have a map that I could easily depict them on, but let me tell  
23 you where they are.

24                   There are three additional, and all three of these  
25 stations contain both a TLD and an air sampler. One is located



1 in Orcutt, and one is located in Lompoc, and one is located  
2 in Solvang. Orcutt is adjacent to the town of Santa Maria,  
3 and it must be, what, 35 miles south of here, or south of the  
4 plant; something like that. Lompoc must be the better part of  
5 50 miles south of the plant, and Solvang is around 50 miles  
6 south of the plant, I guess.

7 All right. Those two pictures show where all of the  
8 normal environmental monitoring systems are. Now, let me --

9 JUDGE BRIGHT: Mr. Shiffer, before you leave that,  
10 what is the significance of that -- it looks like a Greek "5"  
11 there on that.

12 WITNESS SHIFFER: Oh, the "5?" I have no idea what  
13 the code is for these numbers. It is our Engineering Research  
14 Department that set it out, and what "1C1" means, I don't know.  
15 I just use those numbers because they are the numbers that  
16 appear in our reports. I don't think it means anything. I am  
17 sure they have a system, but I am not aware of what it is and  
18 why they have a "5." I don't know.

19 Let me show you for a moment a little different type  
20 of instrument.

21 MR. NORTON: We will mark this Applicant Exhibit 68.

22 (Whereupon, the document was  
23 marked for identification as  
24 Applicant's Exhibit Number 68.)

25 WITNESS SHIFFER: And I am going to-label this one --



1 although I am using the same picture of the site as I did  
2 before, Applicant's Exhibit 68 is going to show where on-site  
3 real-time instruments will be. I have no numbering scheme for  
4 these, so I will just start making one up here.

5 BY MR. NORTON:

6 Q Maybe you could use X-1, X-2, et cetera.

7 A Well, I will call it RT-1, Real-Time 1.

8 Q Okay.

9 A And Real-Time 1 is located basically right adjacent  
10 to -- and I didn't draw it very good -- but right adjacent to  
11 Environmental Sampling Station 8S-1 in the southern portion  
12 of the site. By the way, that instrument is functioning today.  
13 It is installed and operational.

14 Q Could you take a moment and explain the difference  
15 between that instrument and the previous instrument you described?

16 A Yes. The difference between this instrument --

17 MR. OLMSTEAD: Mr. Chairman, before we go on, though,  
18 I would like clarification.

19 The question that Mr. Lanpher asked that got us  
20 into this related to environmental sampling stations. We are  
21 now into real-time instruments, which were provided previously  
22 before the TMI improvements, and I presume was discussed in  
23 the environmental record in this proceeding, and I question  
24 the relevance of this line of examination we are embarked on

25 JUDGE WOLF: Is it necessary to go into these at



1 this time?

2 MR. NORTON: I think it would be of interest to this  
3 Board and to the parties to see what instrumentation is  
4 available. If you look at the testimony that has been submitted,  
5 I believe one gentleman suggests that there may not be any  
6 instrumentation, and we can wait until he gets up and says,  
7 "Yes, that is what the words in my testimony say," and then  
8 we can put Mr. Shiffer on in rebuttal and say, "Well, this is  
9 the instrumentation there is," or we can do it now all at one  
10 time, which seems to be the speedy way to do it, and that is  
11 what I was trying to accomplish.

12 MR. LANPHER: I think it is helpful to get a record  
13 of what monitoring instrumentations are available at the plant  
14 and I think that to do it all at one time, rather than have  
15 to set up again at another time, makes all the sense in the  
16 world.

17 JUDGE WOLF: Well, let's proceed then as quickly as  
18 we can.

19 WITNESS SHIFFER: First, I assume I should still  
20 answer the question about what is a real-time instrument, as  
21 opposed to what I just described?

22 BY MR. NORTON:

23 Q Yes.

24 A Okay. A real-time instrument is an instrument you  
25 can walk up to and look at it and get a direct reading off of



1 it. So you are measuring the dose rate in the real time, in  
2 other words at this instant in time. The instruments that I  
3 discussed previously one has to collect, take back to a  
4 laboratory and analyze, and you get the number at some later  
5 time.

6 Q Does a real-time instrument -- you say you have got  
7 one operating now. If you had one operating right outside the  
8 building here, does it show the background radiation that  
9 exists naturally in the environment?

10 A Yes, it does. Particular instruments that we  
11 specified for this application do go all the way from background  
12 on up to rather high levels.

13  
14  
15 (Please continue to the next numbered page.)  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25



1 BY MR. NORTON:

2 Q Okay. Go ahead.

3 A (Witness Shiffer) Okay, I also was going to correct  
4 something. This particular instrument that I am showing here  
5 is a post-TME instrument, by the way, for Mr. Olmstead, but  
6 in any event, RT-1 is located at the -- down by the warehouse  
7 in this certain portion of the site.

8 RT-2 is going in this week. Hopefully they are  
9 working on it today. It will be at this location. That  
10 location on the drawing is at the northern, generally northern  
11 boundary of the site approximately half a mile from the  
12 reactor.

13 That instrument is being installed, as I say, right  
14 now, and hopefully will be working next week.

15 Q This is back to the area map, which you will mark as  
16 Applicant's Exhibit 69, please.

17 A That is correct.

18 (Whereupon, the above-mentioned  
19 document was marked as  
20 Applicant's Exhibit No. 69 for  
21 identification.)

22 WITNESS SHIFFER: All right, first off, I will do  
23 this more or less chronologically. Let us see, I am up to --  
24 the next one is RT-3. We have had for several years now,  
25 about four years, two real-time instruments out in the



t6 2g 1 environment. One is located by the Avila Beach guard  
2 station, so I will mark that one RT-3.

3 The other one that has been in existence for  
4 several years is up in Baywood Park, approximately this  
5 location.

6 Now, then, we are installing at the present time a  
7 number of additional ones, and they will go approximately  
8 like this. Okay, RT-5 is a station that will be up in Morro  
9 Bay. RT-6, the second one I have drawn here, is going to be  
10 at the Sheriff's Office. RT-7 will be in downtown San Luis  
11 Obispo. RT-8 is going to be at the airport, which is about  
12 there. RT-9 will be at our information center. All right.

13 RT-10 is -- that is Pismo Beach, downtown. RT-11  
14 is Grover City. I think that is it.

15 Okay, now then, in terms of schedule on these things,  
16 of course we -- the information center instrument is being  
17 installed again this week. It is on our property, so we don't  
18 have to get any permits for it. The one at the Sheriff's  
19 Office is also being installed this week. We don't need a  
20 permit for that, apparently.

21 The remainder of them, we have basically just  
22 concluded negotiations for permits with these, and we hope to  
23 get them installed in the next three weeks or so.

24 BY MR. NORTON:

25 Q Mr. Shiffer, you say you have just completed



t6 3g  
1 negotiations for permits, et cetera. I take it that is  
2 something that has been going on for some time, too.

3 A (Witness Shiffer) Yeah, it is not -- I have not  
4 been personally involved in it, but that is right, we have had  
5 to contact local -- we are talking about several  
6 jurisdictions here, city officials, county officials, and so  
7 on, to get permission to put these in.

8 Q And those permits are now -- have finally all  
9 been --

10 A Well, no. We are -- some of them are final. A  
11 couple of them have been verbally approved, but have to go  
12 through a formal sign-off process. So hopefully, we will  
13 have the permits officially signed off within the next couple  
14 of weeks, and some of them sooner than that, so we will get  
15 started on putting these additional ones in.

16 I have learned to hedge my bets when I say permits  
17 will be signed at some time. It doesn't happen at the  
18 schedule I intended it to happen on.

19 One of the reasons we had to get these permits is  
20 because ultimately these instruments will telemeter back to  
21 a central computer, and we have to get the communications  
22 permits and stuff involved with this.

23 Q All right, do you have any others to show?

24 A No, I think that is it.

25 MR. NORTON: All right, we would at this time ask



t6 4g 1 that Applicant's Exhibits 66, 67, 68 and 69 be admitted into  
2 evidence. We will have them copied, obviously, with  
3 sufficient copies given to the court reporter, and that should  
4 be done prior to lunch.

5 MR. REYNOLDS: Excuse me, Judge Wolf?

6 JUDGE WOLF: Yes.

7 MR. REYNOLDS: Intervenors. This testimony was  
8 in the nature of a rebuttal, and I was

9 MR. NORTON: No, no.

10 MR. REYNOLDS: -- wondering whether or not cross-  
11 examination should be had at this time on those Exhibits, or  
12 will we be given an opportunity -- would you prefer us to do  
13 it later.

14 JUDGE WOLF: Well --

15 MR. NORTON: It might be easier if they did cross-  
16 examine on those Exhibits now while they are up on the view-  
17 screen so everyone can see them. We would have no objection  
18 to that.

19 JUDGE WOLF: Well, let us finish, though, with Mr.  
20 Lanpher first, and then we will come back to you, Mr. Reynolds  
21 after that.

22 MR. REYNOLDS: All right.

23 JUDGE WOLF: Before we move on, the Applicant's  
24 Exhibits 66, 67, 68 and 69 are received in evidence, and  
25 may be withdrawn in order to make copies, which will be



t6 5g

1 substituted for them, and in the necessary numbers submitted  
2 to the clerk.

3 (Applicant's Exhibits Nos. 66,  
4 67, 68 and 69 were thereupon  
5 received into evidence.)

6 RE-CROSS EXAMINATION

7 BY MR. LANPHER:

8 Q Mr. Shiffer?

9 A (Witness Shiffer) Yes?

10 Q Mr. Lanpher here. Directing your attention to

11 Applicant Exhibit 69.

12 A Okay.

13 Q Could you again indicate which of those numbers are  
14 the pre-TMI, or the ones that are actually operating now? I  
15 understand some are being installed, but what are the -- sort  
16 of the older instruments?

17 A Three and 4. RT-3 at Avila Beach and RT-4 in  
18 Baywood Park.

19 Q They have been operating for a number of years?

20 A Yeah, it is the late 1970's. I forget the exact  
21 date they were installed.

22 Q What was the criteria for the location of all these  
23 instruments, not just RT-3 and 4, but your whole array of  
24 instruments?

25 A Well, RT-3 and 4, we tried to pick areas that were



t6 6g  
1 close to -- either in or close to population centers in the  
2 two -- well, certainly the prevailing wind directions.

3 And also we have a practical criteria, in the sense  
4 that we would like the thing to be safe from vandalism, and  
5 yet accessible 24 hours a day seven days a week, so we try to  
6 locate them in a location that we can get to and they won't  
7 be destroyed. The remaining --

8 Q Mr. Shiffer --

9 A Just to finish the question --

10 Q Fine.

11 A The remainder of them, we just sat down, and we  
12 tried to ring the plant with them at approximately the 12-mile  
13 radius, only because most of the population centers are in  
14 that general range, but once again, looking for places where  
15 we could stick them where they would not be vandalized and  
16 where people could get to them.

17 Q Would it be fair to say that RT-3 is about six miles  
18 from the plant?

19 A Yes.

20 Q And RT-4 maybe a little shorter, about five miles,  
21 is that correct?

22 A No, it is actually a little longer. Probably my  
23 scale of my drawing is not very good. It is probably closer  
24 to about, oh, I would say maybe eight miles. It is beyond the  
25 LPZ.



t6 7g  
1 Q So the only -- RT-3 is approximately on the edge of  
2 the LPZ, and all the other --

3 A All the other ones are beyond the LPZ.

4 Q Thank you. Now, these monitors, do they have to --  
5 does someone have to physically in order to read them?

6 A At the present time, yes. You have to go physically  
7 to read them. Ultimately, all of them except R-3 -- or  
8 excuse me, 3 and 4, will transmit by radio, I guess it is  
9 radio. I am not a communications expert on this, but they  
10 will transmit back to a central computer. We are also going  
11 to replace 3 and 4 with instruments that do that as well,  
12 but right now we have left them the way they are.

13 Q But that capability doesn't exist now.

14 A No, that capability doesn't exist now. We expect  
15 to have that capability in summertime, hopefully.

16 MR. LANPHER: I have got no further questions on  
17 these Exhibits. Should I continue with my cross-examination,  
18 Judge Wolf?

19 JUDGE WOLF: Would it be terribly inconvenient if  
20 we permitted the other Counsel to finish so that we could get  
21 Mr. Shiffer back at his seat?

22 MR. LANPHER: Whatever you prefer. No, it would not  
23 be inconvenient to me.

24 JUDGE WOLF: All right. Mr. Reynolds?

25 ///



## FURTHER RECROSS EXAMINATION

BY MR. REYNOLDS:

Q Mr. Shiffer, these maps which you have been discussing, are they included in the Diablo Canyon onsite plan?

A (Witness Shiffer). They are in the -- at the time of February, 1980. In other words, this map that I have shown you right here is in there. We have had to juggle around a couple of locations slightly to make it -- you know, to get the permits and get the final locations, but conceptually, it is in there, yes.

Q Which stations are not on the maps that are included in the plan?

A I am sorry, which stations are not on maps that are included in the plan?

Q That is right.

A Let me think about the way you asked me that question. Which station is not on a map that is included in the plan?

Q Well, let me explain it again. You said that the maps in the plan were up to date as to February, 1980, is that right?

A Yeah. I would have to look -- I will have to look at the map in the plan to tell you the exact discrepancies. I don't know exactly.



t6 9g 1 Q Okay, I would be interested in that information.

2 A If you will wait just a moment.

3 Okay, if you compare this against -- if you are  
4 interested in the figure number of the plan, 7-3-4. Of course,  
5 RT-3 and 4 are as located, since they were previously in  
6 existence.

7 The plan shows the one in Morro Bay, RT-5 at  
8 approximately where I have shown it. It shows RT-6  
9 approximately where I have shown it, at the Sheriff's Office.  
10 We have moved RT-7 from -- okay, RT-7 in the plan was shown  
11 over by Cal Poly. We have moved it more to downtown San Luis  
12 Obispo.

13 RT-8 is shown in the plan at the same spot that it  
14 is presently located. RT-10 we moved from Shell Beach to  
15 Pismo Beach, and RT-11 is -- well, it is approximately where  
16 it was shown in the plan, and then there appears to be one --

17 Q What do you mean -- excuse me, -- I wonder if you  
18 could explain what you mean approximately?

19 A Well, okay. It shows it in the plan here as -- okay,  
20 no I am sorry, looking at the map, it shows it in the plan as  
21 being in Oceano, and in fact it is going to be at the Grover  
22 City Health Department.

23 And then there is apparently one dot shown on this  
24 map that we don't actually have a monitor for, that is in the  
25 plan on the map, that -- it shows it way down at the bottom of



t6 10g

1 the picture. I am not sure where it was intended to be.

2 Q Okay. Does that cover all those on this map?

3 A Yeah.

4 Q Okay. We can check the other ones when we get to  
5 the other maps. I have a couple questions on this. These are  
6 all the real-time monitors, is that right?

7 A That is correct. Except for the two that are on the  
8 site.

9 Q Has -- have any of the data been made available off  
10 the real-time monitors to persons not associated with PG & E?

11 A Well, RT-3 and RT-4, we -- yes, the County Health  
12 Department personnel have access to those two instruments.

13 I don't know how often they read them. We have a gate  
14 clearance form at our access, access gate for RT-3, and then  
15 RT-4 is up at the Baywood Park fire station, and I don't --  
16 I really don't know how often they go to it.

17 Q As far as the other real-time monitors, though, is  
18 that --

19 A Well, the other ones, of course, aren't installed  
20 yet.

21 Q I see. I see. What specific procedures or  
22 arrangements have you made to make this kind of information  
23 accessible to County and State officials?

24 A Well, once again, we are -- at both locations where  
25 RT-3 and RT-4 is, we have a letter that I wrote, in one case



t6 11g  
1 to our guard captain down there, in the other case to the  
2 fire chief in Baywood Park, and we were supplied with a list  
3 of names from Tim Masekano (phonetic) of the health department  
4 of people that he wanted to have access, so I wrote letters  
5 saying please give these people access to those instruments.

6 Q Fine. We can go to I guess Exhibit 68.

7 A Yes.

8 Q Now, are there any discrepancies between this map  
9 and the one in the Diablo Canyon plan?

10 A I will have to check that. I am not sure we even  
11 showed two of them on-site in the old Diablo Canyon plan.  
12 That was kind of an afterthought to put these two in. Just a  
13 minute. I really don't think these were shown in the plan.  
14 I think that these were two that we added later.

15 Q Fine. You stated, I think, that all of these  
16 monitors which you have been discussing will be installed  
17 prior to fuel load, is that right?

18 A No, I don't think I stated that. I think -- I mean,  
19 I expect that to be the case. I did not specifically commit  
20 to it.

21 Q Okay, so I guess -- I think you stated the problem  
22 was permitting, if you didn't get the permits, they wouldn't  
23 be?

24 A Yeah, it is really -- if we get the permits, they  
25 will be installed, that is correct.



12g 1 Q Fine. Can we take a look at Applicant's Exhibit 67?  
2 What discrepancies exist between this and the map contained  
3 in the plan?

4 A Okay, I am going to have to look at this one,  
5 because we have added a lot of these not too long ago.

6 Okay, let us see if your --- for your information,  
7 the picture I am looking at in the plan is 7.3-3.

8 Q If it is easier, maybe you could just tell me which  
9 ones are on the plan. I am -- you know --

10 A I am going to have to count them here. If you --  
11 well you want to just know how many -- let me count them and see --  
12 it looks like we have got more in real life than I show in  
13 this picture. Just a moment. Let us see. I show 16 in this  
14 picture. What have I got up there, about 16? I think so.  
15 It appears to me -- well, it looks to me like it  
16 is pretty close, except that it looks like 7-F-1 up there is  
17 not shown on the plan map. It looks like an extra. Other  
18 than that it is -- yes, 7-F-1 doesn't seem to be shown on the  
19 map of the plan. Other than that, it looks, with the scale  
20 I have drawn this thing, it would be pretty close.

21 Q According to your testimony at 16, you talk about  
22 a network of 21 environmental radiation monitoring stations,  
23 but you say this has been increased to 32, but the  
24 discrepancies which you have pointed out just now only total  
25 one, two, three, four five, maybe six additional ones. Am I



1 missing something?

2 A Okay, what I am -- I am talking about, in our  
3 original program, prior to the time we wrote a revision two  
4 of the plan, we had whatever the previous number was, 21, okay,  
5 and then -- so revision two of the plan reflects most of these  
6 changes, this increase from 21 to 32.

7 Q Okay, so -- all right, fine.

8 A Okay?

9 Q Some of the increment has been included in the plan?

10 A Yes. That is correct.

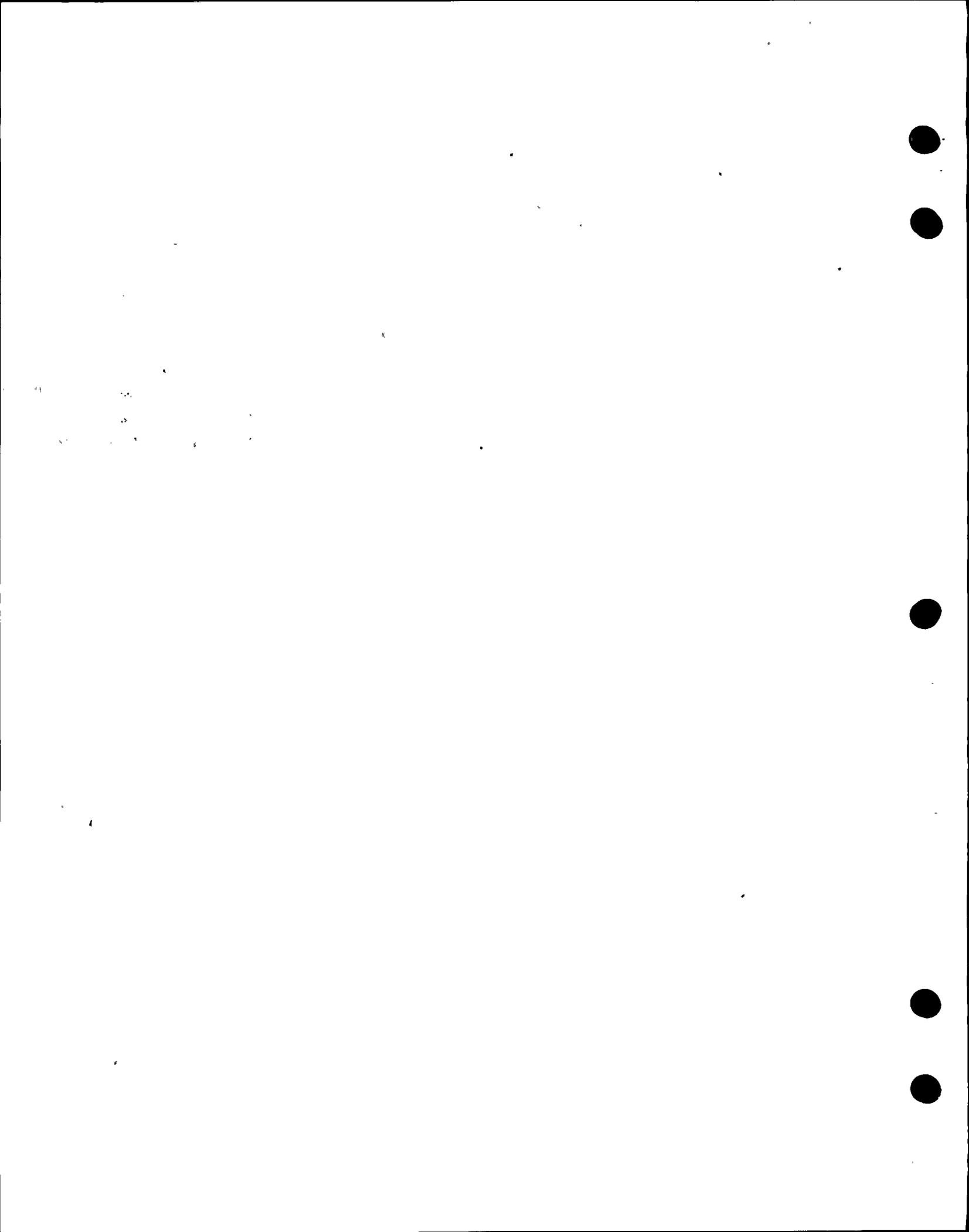
11 Q So in summary then, you would say that the maps  
12 which appear in the plan are not an up-to-date and a totally  
13 accurate reflection of the monitors which actually will exist  
14 at the time of fuel load, assuming you get the permits?

15 A That is correct, and when we come out with revision  
16 three of the plan, presumably we will take these maps in,  
17 upgrade them and make them absolutely accurate.

18 Q Now, I just want to ask several general questions  
19 about access to the information that you get from these  
20 monitors. You stated, I believe, that you cannot interrogate  
21 these monitors from the control room, for example, is that  
22 right?

23 A That is correct.

24 Q So you would have to go out to each individual  
25 station to get the information?



14 1 A That is correct, for these monitors.

2 Q Now, are all of these monitors located on roads?  
3 Or next to roads?

4 A Yeah, generally. They are all -- yeah, they are  
5 all located next to roads, I believe. I have not visited  
6 every single one of these real-time monitors, but -- or excuse  
7 me, of these TLD monitors, but --

8 Q So the answer then is you don't know whether they  
9 all are located next to roads?

10 A Well, the answer is that with possibly one or two  
11 exceptions, I know they are.

12 Q Now, are these roads pavement, are they dirt? What  
13 kind of roads are they?

14 A In general, they are paved roads. A couple of  
15 exceptions to that would be those that are up on the Fields  
16 Ranch, which is a dirt road.

17 Q All right, now --

18 A And possibly 5-C-1. I am not sure where 5-C-1 is  
19 located exactly.

20 Q Are these well-marked, these monitors?

21 MR. OLMSTEAD: Objection. Relevance.

22 JUDGE WOLF: What is the basis for the objection?

23 MR. OLMSTEAD: The objection is that I don't  
24 understand the relevance of whether the monitor is on a  
25 paved road or not, or well-marked or not.



15g 1 MR. REYNOLDS: The relevance, it seems to me, is  
2 that you have to get out to the monitors to get the  
3 information, and if you can't get out to the monitors, or  
4 you can't find the monitors once you get out there, then the  
5 information doesn't do you any good.

6 (Applause)

7 JUDGE WOLF: You may answer.

8 WITNESS SHIFFER: The answer to the question is, if  
9 you are in the vicinity of one of these monitors, yes, they  
10 are quite visible.

11 BY MR. REYNOLDS:

12 Q So if you are, for example, going out to a monitor  
13 at night, are they difficult to find? Would they be  
14 difficult to find?

15 MR. NORTON: Your Honor, I am going to object. That  
16 fact assumes that we have a bunch of idiots living in San Luis  
17 Obispo who don't know where the monitors are. Of course they  
18 do, and the people who would be going out to get the  
19 information would know where they are.

20 MR. REYNOLDS: I think that is a mischaracterization  
21 of the question.

22 MR. NORTON: I object on the same basis that Mr.  
23 Olmstead objects.

24 JUDGE WOLF: The objection is noted. You may  
25 answer the question.



16g  
1 WITNESS SHIFFER: In my experience, they are easy  
2 to find.

3 BY MR. REYNOLDS:

4 Q All right. Now, once you get to the monitor, it is  
5 only the real-time monitoring equipment which you can actually  
6 look at, and you get the information, is that right?

7 A That is correct.

8 Q But for all the other ones, there is -- what kind --  
9 do you have to do some sort of subsequent analysis to get the  
10 information?

11 A Well, yeah. For a TLD, you bring it back, and you  
12 read it -- you what you call read it on a TLD reader. You  
13 insert it into an automated reader, and you get a number out  
14 of it.

15 Q Oh, so you would have to go to the monitor, get the  
16 information out of it --

17 A You go down to the monitor, you collect -- you  
18 collect the sensitive instrument, which is at the -- that  
19 location. You take that instrument, which looks -- it is a  
20 small little device, and you take it back and insert it into  
21 a reader, and then it reads -- and you get the information off  
22 it that way.

23 For an air sample, you collect the filters -- the  
24 filters, you could get an estimate of what was going on if you  
25 had a geiger counter or something at the location, okay?



t6 17g

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But to do a detailed analysis, you would take it  
back to the laboratory.

/// PLEASE CONTINUE READING NEXT NUMBERED PAGE ///



1 Q These are very sensitive pieces of equipment. Is  
2 that right?

3 A. Yes.

4 Q Have they been tested for operation under seismic  
5 conditions postulated for the Diablo Canyon Nuclear Power  
6 Plant?

7 MR. OLMSTEAD: Objection. Mr. Chairman, the direct  
8 testimony is supposed to be related to the emergency planning  
9 contention of the Joint Intervenors. The seismic qualifica-  
10 tions of the plant are not an issue here. There's no require-  
11 ment that I know of in the emergency planning regulations  
12 to seismic qualified monitoring stations. I think we're far  
13 afield of the central contention of this case.

14 MR. REYNOLDS: Judge Wolf, I think that Mr. Olm-  
15 stead knows that the NRC has requested the Applicant to pre-  
16 pare a study -- or prepare and analysis of earthquake effect  
17 as they relate to emergency planning. Certainly if these  
18 monitors are relevant to emergency planning, whether or not  
19 they work during an earthquake is relevant to the contention  
20 that we have submitted.

21 JUDGE WOLF: You may answer the question.

22 WITNESS SHIFFER: The answer to the question is  
23 that I'm not aware of the seismic capability of a TLD. I  
24 don't know.

25 MR. REYNOLDS: Thank you. I have no further



1 questions.

2 JUDGE WOLF: Mr. Olmstead, do you have any  
3 questions?

4 MR. OLMSTEAD: I don't believe my time for examin-  
5 ation of the entire panel has come up and I would just propose  
6 to leave my questions until that time.

7 JUDGE WOLF: We stated earlier that if you have  
8 any questions on these exhibits that we're offering, that they  
9 be done now by each party. You don't care to do that?

10 MR. OLMSTEAD: I'm not prepared to ask questions  
11 on these exhibits at this time.

12 JUDGE WOLF: This is the only time you'll have.

13 MR. OLMSTEAD: Okay, I pass.

14 JUDGE WOLF: We'll go back, then, to you, Mr.  
15 Lanpher.

16 MR. LANPHER: You can resume your other position,  
17 Mr. Shiffer.

18 WITNESS SHIFFER: Okay.

19 MR. NORTON: Excuse me, Your Honor. I would like  
20 to ask a question or two on these exhibits before they are  
21 taken down.

22 JUDGE WOLF: Is this in the --

23 MR. NORTON: In the form of redirect.

24 JUDGE WOLF: -- redirect or what?

25 MR. NORTON: After the cross. Yes, Your Honor.



1 I just have a couple of questions that the cross-  
2 brought up.

3 REDIRECT EXAMINATION

4 BY MR. NORTONG:

5 Q You were asked questions about the reading of taking  
6 this back to a lab. Is there a mobile van available?

7 A Yes, there is. It did slip my mind. We do have  
8 a mobile van -- radiological monitoring van, which really  
9 we haven't shown on this thing. It does have several capa-  
10 bilities. First, it carries with it three additional real  
11 time instruments that can be left at whatever location you  
12 want. Okay? And in addition to that, it contains a TLD  
13 reader which you could read these instruments with, with these  
14 non real time instruments.

15 So, you could with the mobile van drive up to one  
16 of these instruments, read it in place, with the van. You  
17 could also drop off up to three additional real time instru-  
18 ments if you chose to do so.

19 Q So, in addition to the -- I guess additional --  
20 What would it be? Five or six real time instruments that  
21 are being placed, you have three more real time instruments  
22 in the van that you could place at any one spot you wanted  
23 to?

24 A That's correct. Any area that you thought might  
25 be of interest for the particular event, you could put an



1 instrument right there.

2 Q Is this van operational at this moment in time?

3 A Yes, it is.

4 Q Have PG&E personnel been trained on this van --  
5 on the use of this van at this time?

6 A We're conducting training sessions on it right this  
7 very moment. In fact, I think today, we had one training  
8 session last week. We've had several training sessions on  
9 the thing and we're winding it up here, hopefully, this week.

10 Q Is there anyone in addition to PG&E personnel  
11 being trained on the use of this van?

12 A Yes, we have invited personnel from the county  
13 health department to participate in this and we have --  
14 assuming that everyone showed up today, ten people out of  
15 the health department are suppose to be receiving this train-  
16 ing also.

17 Q And they will be trained in the use of this van,  
18 reading these instruments that are on Exhibit No. 67 from the  
19 van. They will be trained in the use of real time instruments  
20 from the van. Is that correct?

21 A That's correct. They'll also be invited to use  
22 the van when we -- if we ever had to activate it.

23 Q Do you have any doubt that those people will be  
24 able to find the instruments?

25 A No.



1 MR. LANPHER: Excuse me. Could I have an oppor-  
2 tunity to object? I don't know what people he's talking  
3 about there. Is he talking about the PG&E employees or the  
4 health department or what?

5 MR. NORTON: All of them.

6 JUDGE WOLF: I'll sustain the objection.

7 MR. REYNOLDS: Judge Wolf, I have two questions.  
8 about this van, since it was raised by Mr. Norton. I'll be  
9 very brief.

10 JUDGE WOLF: Very well.

11 RECCROSS EXAMINATION

12 BY MR. REYNOLDS:

13 Q Is this van a four-wheel drive vehicle?

14 A No, it's not.

15 Q Do you have any idea how long it would take this  
16 van to cover the cycle of instruments that you have been  
17 discussing and analysing as it goes the information which is  
18 taken from these monitors?

19 A Not really. One reason being is that I haven't  
20 been checked out on how long it takes to read a TLD. So, I  
21 couldn't estimate that. I could possibly find that out for  
22 you.

23 Q But you are unaware of the information?

24 A I personally am at this moment, yes.

25 Q All right, if you could find out the information.



1           A       I could guess how long it would take you to drive  
2 from one to the other, but I haven't received the training on  
3 the TLD reader.

4           Q       I guess what I'm interested in is not only how long  
5 it takes to drive from each one, but to perform the function  
6 for which its intended at each site and at each monitor and  
7 then to go on to the next one and do the same thing.

8           A       I'd have to get an estimate for you on that.

9           Q       Fine.

10           MR. REYNOLDS: I have no further questions on that.

11           I would note that there was some information  
12 yesterday which Mr. Shiffer said that he would find out. I  
13 don't know if he has or not, but at some point, if you could  
14 just all at once supply this information for the record. I  
15 would appreciate it.

16           WITNESS SHIFFER:-- Right.

17           JUDGE WOLF: Thank you. You may return to your  
18 chair.

19           Mr. Lanpher?

20           (Whereupon, Mr. Shiffer returns to the witness  
21 table.)

22           JUDGE WOLF: You may proceed.

23           RE-CROSS EXAMINATION

24           BY MR. LANPHER:

25           Q       Mr. Shiffer, I'd like to go back to just briefly



1 to an earlier matter which we did discuss. We were talking  
2 about the emergency off-site center. The interim one is  
3 right by the Sherrif's building. Correct?

4 A Correct.

5 Q That trailer is not seismically qualified. Right?

6 A No.

7 (Pause)

8 Q Mr. Shiffer, have you or has anyone at PG&E postu-  
9 lated what would be the effect on the Diablo Canyon Plant if  
10 the plant were operating at low power and an earthquake  
11 greater than the safe shutdown earthquake occurred?

12 MR. NORTON: I'm sorry. May I have that question  
13 repeated or read back? Which ever is easier, Mr. Lanpher.

14 MR. LANPHER: I have it written out, so I can  
15 repeat it if you --

16 MR. NORTON: Please.

17 BY MR. LANPHER:

18 Q Have you or to your knowledge anyone else from  
19 PG&E postulated what would be the effect on the Diablo Canyon  
20 Plant and its systems if the plant were operating at low  
21 power and an earthquake greater than the safe shut down  
22 earthquake occurred?

23 MR. NORTON: Object, Your Honor. Relevancy and it  
24 assumes clearly facts not in evidence.

25 MR. LANPHER: Judge Wolf, at page 4-19 of the PG&E



1 emergency plan, one of their action levels postulates and  
2 earthquake greater than the SSE levels. I think it's clearly  
3 relevant to ask whether they have done any any analysis of  
4 what the impact of such an earthquake would be, during low  
5 power testing. I'm limiting it to that.

6 JUDGE WOLF: You may answer the question.

7 (Pause)

8 MR. NORTON: Your Honor, I would like --

9 WITNESS SHIFFER: I really would have to --

10 MR. NORTON: Excuse me, Mr. Shiffer. Your Honor,  
11 I would like to again clarify the question. Again, these  
12 two gentlemen may think -- Mr. Shiffer may think he knows  
13 what the question is, but he says, have you done an analysis  
14 of what? I'm sitting here. That's why I asked the question  
15 to be reread. I'm still not sure -- have you done an analysis  
16 of what? Structures? Systems or of what are we talking  
17 about? Because we have had the seismic hearings.

18 JUDGE WOLF: Mr. Witness, do you understand the  
19 question?

20 WITNESS SHIFFER: Well, I think I do. Maybe I  
21 ought to have it read one more time.

22 JUDGE WOLF: Will you read it back?

23 THE WITNESS: The question -- Why don't I para-  
24 phrase it.

25 MR. LANPHER: Why don't we have it read back?



1 I tried to make it even clearer the second time. I think if  
2 you want it exact, I think the Reporter should probably do it.

3 JUDGE WOLF: Will you read it back please.

4 Off the record.

5 (Whereupon, the question was read back.)

6 JUDGE WOLF: On the record.

7 Do you want to state your objection again?

8 MR. NORTON: Yes, Your Honor. They say what will  
9 the effect be. The effect on what? Is the question, has  
10 there been a seismic analysis for an event larger than the  
11 postulated 7.5 Hosgri Event? Has there been a seismic analy-  
12 sis for an 8 or an 8.5? That's a different hearing entirely,  
13 because that's what that question is. It has nothing to do  
14 with this hearing.

15 MR. LANPHER: Judge Wolf, may I be heard?

16 (Pause)

17 JUDGE WOLF: Do you want to respond to that objec-  
18 tion?

19 MR. LANPHER: Yes, I would. We are taking a  
20 postulated event from the Diablo Canyon Emergency Plan.  
21 We're asking whether they have analyzed what the effect would  
22 be. I will clarify the question. On the plant generally?  
23 On the systems, the components, the structures? Have they  
24 done an analysis of what the effect of this postulated event  
25 greater than the SSE would be? I think it lends itself to a



1 yes or no answer.

2 JUDGE WOLF: Can you answer yes or no to that?

3 WITNESS SHIFFER: I think my answer is, I don't  
4 know the answer to that question. As far as the analysis  
5 greater than the Hosgri analysis.

6 JUDGE WOLF: Than-the-what, Mr. Witness?

7 WITNESS SHIFFER: What the counsel is referring to  
8 in the plan, by the way, is an action level. A generic action  
9 level. It says if you have an earthquake greater than such  
10 and such a value, you must classify the accident in such and  
11 such a way. Automatically classify it.

12 BY MR. LANPHER:

13 Q The answer to the question then is that you do not  
14 know whether PG&E has performed any analysis of the effect of  
15 an earthquake greater than the SSE level on the structures,  
16 the components or the systems while it's operating at low  
17 power?

18 A That's correct. I don't know that.

19 JUDGE WOLF: Next question, then.

20 (Applause)

21 WITNESS BRUNOT: Excuse me. I am on the panel and  
22 I know the answer and the answer is yes, an analysis has been  
23 done.

24 BY MR. LANPHER:

25 Q Could you please describe that analysis.



1 A (Witness Brunot) The analysis --

2 MR. OLMSTEAD: "Objection." Mr. Chairman, the seismic  
3 hearings held in this very facility, in the fall. This issue  
4 is pending before the Atomic Safety Licensing and Appeal  
5 Board. The type of seismic design on structures, systems and  
6 components is an issue that this Board cannot decide even if  
7 it wanted to. So, I object to this line of questioning.

8 MR. LANPHER: Judge Wolf. I have a right to find  
9 out what analysis he's referring to. I don't know if it was  
10 something we litigated last fall or not. I don't believe it  
11 was because we didn't talk about earthquakes greater than the  
12 7.5 magnitude event postulated or the Hosgri Fault and we  
13 didn't talk about low power. So, I clearly have a right to  
14 enquire further in Mr. Brunot's answer.

15 MR. NORTON: Excuse me, Your Honor. I would like  
16 to respond to that. I don't think because they didn't ask  
17 a question that they should have that that somehow changes  
18 things. The point is is that we are required to analysis a  
19 postulated 7.5 Hosgri Event. That analyzation has been done  
20 and the hearings have been done on that for sometime. They  
21 want to relitigate it, but this isn't the forum to do that.

22 MR. LANPHER: It's absurd to say that we're trying  
23 to relocate the seismic proceedings.

24 (Pause)

25 JUDGE WOLF: I don't know why you're pursuing the



1 question, then, if you aren't attempting to relitigate the  
2 matter.

3 MR. LANPHER: They are postulating an action level  
4 in their emergency plan. They are postulating an action level  
5 greater than the safe shutdown earthquake. I want to know  
6 whether they have analyzed what the effect of that earthquake  
7 would be. We didn't litigate that last fall. That was not  
8 part of that hearing. It was stipulated at magnitude 7.5  
9 earthquake.

10 MR. NORTON: Excuse me, Your Honor. I think the  
11 problem is is the very first thing that Mr. Lanpher you have  
12 said is not so. We did not postulate an action level. You  
13 didn't listen to Mr. Shiffer's answer and until you lay that  
14 foundation, your question has no relevance at all.

15 MR. LANPHER: The emergency plan speaks for itself  
16 on page 4-18, I believe, which I referenced before. 4-19,  
17 excuse me.

18 (Pause)

19 JUDGE WOLF: Mr. Brunot, are you familiar with the  
20 section that counsel is referring to?

21 WITNESS BRUNOT: In the emergency plan?

22 JUDGE WOLF: Yes.

23 WITNESS BRUNOT: No, I'd have to look at that.

24 JUDGE WOLF: Is anyone familiar with it on the  
25 panel of witnesses?



1                   WITNESS SHIFFER: The section of the emergency  
2 plan?

3                   JUDGE WOLF: With the section that counsel is  
4 referring to.

5                   WITNESS SHIFFER: That he's discussing? Yes.

6                   There was a document put out by the Nuclear Regula-  
7 tory Commission that told you how to classify an accident so  
8 that the entire United States would use a consistent classi-  
9 fication scheme. Okay?

10                   We were required to incorporate that into our  
11 emergency plan and we did. Now, in so doing, we tried --  
12 we gave guidance in the emergency plan as to this kind of  
13 an event requires this kind of a classification system. We  
14 did not make any judgment as to the probability of such an  
15 event. We just simply used the words out of the guidance  
16 document that we were given.

17                   This guidance document applies to the entire  
18 United States. One of the things that it says is that if  
19 you have an earthquake greater than the safe shutdown earth-  
20 quake, you must call that a site emergency. Since it says  
21 that in the guidance document that I was given, we copied  
22 that verbatim in the emergency plan. I didn't make any  
23 judgment as to whether it was possible or not possible.  
24 Simply that is in the guidance document, so I incorporated  
25 it into the emergency plan in that manner for that purpose.



1 JUDGE WOLF: So, your answer is is that no analysis  
2 was made beyond the requirements of the SSE?

3 WITNESS SHIFFER: That's true.. My answer is that  
4 I have certainly not made any analysis and I'm not really  
5 aware of analysis for circumstances of that nature.

6 JUDGE WOLF: Mr.. Lanpher?

7 MR. LANPHER: Maybe I'm confused, Judge Wolf, but  
8 now I think we have a conflict between what Mr. Shiffer says  
9 and what Dr. Brunot said.

10 WITNESS BRUNOT: There is not a conflict. Mr.  
11 Shiffer said that he did not make an analysis in connection  
12 with the context of use in the emergency plan. The question  
13 that you asked, which he said he didn't know and which I said  
14 I do know that there was such an analysis. The analysis that  
15 I was referring to was that in the FSAR amendment 52, which  
16 had to do with engineering matters and was done during a  
17 period about two or three years ago connected with an interim  
18 operating license. It was a different context and it was done  
19 for different purposes. No conflict.

20 JUDGE WOLF: You may proceed. Next question.

21 MR. LANPHER: That's all I need on that.

22 (Pause)

23 BY MR. LANPHER:

24 Q Mr. Shiffer, are you familiar with what the driver  
25 turnover rate has been with the San Luis Obispo Ambulance



1 Service?

2 A No.

3 Q So, you don't know whether the training which you  
4 described in your testimony for their driver covers all their  
5 present drivers. Is that correct?

6 A No, I don't. Although, I do know that we're re-  
7 peating it on June 8th.

8 Q You have had three drills with the ambulance  
9 service. Is that correct?

10 A Yes.

11 Q Have any of those drills involved the ambulance  
12 service gaining access to the plant in the alternate route?  
13 In other words, from the north through the Field Ranch?

14 A No.

15 Q It's true, is it not that the northern route is  
16 a fairly narrow dirt road, particularly just north of the  
17 plant?

18 A Yes.

19 Q It's also true, is it not that that road in adverse  
20 weather conditions becomes quite slippery and muddy?

21 A That's correct.

22 Q With respect to the French Hospital agreement and  
23 the St. Francis Hospital agreement, is it your testimony that  
24 the French Hospital provides the primary care facility for  
25 persons injured on-site in a radiological emergency and St.



1 Francis is a backup facility? Is that correct?

2 A Yes.

3 Q Has PG&E developed a plan for transport of persons  
4 from the San Luis Obispo area to the St. Francis Hospital if  
5 that should become necessary?

6 (Pause)

7 A Not a specific plan, yet, for that particular  
8 eventuality.

9 Q With respect to warning the public in the event  
10 that a radiological emergency were to occur. It is true, is  
11 it not, that the proposed siren system has not yet been  
12 installed?

13 A That's correct.

14 Q And it's also true that the public information  
15 program proposed by PG&E to explain this siren system has  
16 not been instituted yet?

17 A That's correct. And a lot of this has to do with,  
18 of course, timing, because of the delays and things. It's  
19 our intention if as we approach licensing and if it appears  
20 that we will be licensed before the sirens are in, then we  
21 will get out some sort of a newsletter to everybody in the  
22 LPZ as to what the status is at that point in time.

23 Q That has not been done now.

24 A That has not been done. We keep sliding it. Trying  
25 to figure out where we will be at any given moment. But we



1 will do that before fuel loading, if the sirens are not in  
2 and the regular public information program is not in place.

3 (PaUse)

4 Q With respect to fire protection at the plant, Mr.  
5 Shiffer, is it the goal of the fire protection system at  
6 Diablo to be able to control almost any fire through the  
7 automatic sprinkler and other systems which you've described  
8 in your testimony?

9 (Pause)

10 A (Witness Patterson) Mr. Patterson.

11 The automatic fire protection system at Diablo  
12 we believe will control any fire in the areas that are pro-  
13 tected by the automatic systems.

14 Q In effect, Mr. Patterson, that would be the first  
15 line of defense. If a fire occurred in one of those areas --  
16 Let me step back for a moment. Those are -- that automatic  
17 fire protection system is in the areas which are most sensi-  
18 tive in terms of possibly complicating operation of the  
19 reactor. Is that correct?

20 A Not really. Mostly they're in areas where the  
21 fire load is higher, rather than -- well, as well as in places  
22 where the effect would be very important.

23 Q Mr. Patterson, can you explain what you mean by  
24 fire load would be higher?

25 A I don't know whether that is the appropriate



1 technical term, but it's the -- what I mean is the amount of  
2 combustibles that could be involved in the fire.

3 Q In the event that the automatic system were not  
4 capable of handling a fire or in the event that a fire was in  
5 a different area of the plant. One of the areas not covered  
6 by that system, then the on-site fire brigades would be  
7 expected to be the first line of defense or the second line  
8 of defense. Is that correct?

9 A That's correct.

10 Q Could you describe the makeup of a fire brigade?  
11 How many people would be in an on-site fire brigade?

12 A The normal make-up. Well let me say first that  
13 there are different times of the day and the days of the  
14 week that there are different brigade structures available.  
15 Monday through Friday, your normal work hours, there are three  
16 brigades. One made up of operational personnel. The other  
17 two made up of maintenance personnel.

18 On the off hours and on weekends there are only  
19 the on-shift operating brigade personnel and the make-up of  
20 that brigade is five people.

21 ////

22 ////

23 ////

24 ////

25 (Testimony will continue on the next numbered page.)



T8 1 Q Those five people, Mr. Patterson, would be from among  
2 the minimum of 14 people that was described earlier in our  
3 cross-examination; is that correct?

4 A (Witness Patterson) That is correct.

5 Q Mr. Shiffer, in your testimony, at the bottom part  
6 of Page 27, you describe the training which about 60 brigade  
7 members have gone to at FM Chemical Company.

8 Q Could you describe the simulated electrical fire  
9 training which was conducted, please?

10 A (Witness Patterson) The simulated electrical fire  
11 consisted of extra cable tray equipment, electrical cable tray  
12 equipment, from Diablo Canyon, which was taken to this practice  
13 site. The cable trays were loaded with electrical cabling.  
14 Again, this was cabling from Diablo Canyon, so as to make it  
15 as plant-specific as possible.

16 Q These cables were not set on fire by an electrical  
17 fault. They were artificially ignited. -I am not exactly  
18 sure as to what the ignition source used was.

19 A The insulation and the cable tray configuration was  
20 ignited, and various methods were used to put this fire out.

21 Q Now, this was at the FM Chemical facility? Was  
22 this outside or inside?

23 A To the best of my knowledge, this was inside.

24 Q And were the brigade members wearing respirators,  
25 breathing apparatus, in order to practice fighting this?



2  
1 A Yes, they were.

2 Q Did you participate in this training?

3 A No, I did not.

4 Q Did any member of the panel participate in this fire  
5 training?

6 A No.

7 Q I would like to draw your attention, Mr. Shiffer, to  
8 Page 30 of your prepared testimony relating to training and  
9 drills. It is correct, is it not, that the last general site  
10 drill was in 1979?

11 A (Witness Shiffer) That is correct.

12 Q And the previous general drill was in 1977?

13 A That is correct.

14 Q And so both of those drills were not under Revision 2  
15 of the PG & E Emergency Plan, but were under, I guess it was  
16 Revision 1; is that correct?

17 A That is right.

18 Q Now, you have stated on Page 32 of your testimony  
19 that PG & E is aiming at a full-scale exercise of the revised  
20 County, State and PG & E plans in August of this year; is that  
21 correct?

22 A That is correct.

23 Q This will be a full-scale exercise of those plans;  
24 if those plans, in fact, are ready, then? Is that one of the  
25 limiting factors?



3

1 A Well, as I think I answered a question yesterday,  
2 the schedule is conduct this drill in August of '81, and every  
3 attempt will be made to do it. Now, if there is some deficiency  
4 in the plan that just makes the drill impossible to conduct,  
5 obviously we will have to delay it.

6 Q Fine. Thank you.

7 Now, you have stated in your testimony several times,  
8 I think at Pages 33 and 39, to be specific, that in the event  
9 that there is -- and this is within the context of the low-  
10 power program; in the event that there is a loss of coolant  
11 accident and there is doubt as to the proper functioning of the  
12 ECCS, the standard procedure would be to immediately notify  
13 the Sheriff and to recommend evacuation; is that correct?

14 A That is correct.

15 Q And there will be no waiver of that provision in  
16 your plan, in the PG & E plan, for low power?

17 A That is correct.

18 Q Now, I believe your testimony is that if the operation  
19 of HPI or the ECCS is in doubt, you will take this action.

20 First of all, are you familiar with the TMI accident,  
21 the sequence of events?

22 A Generally, yes.

23 Q Would you say that the operation of the ECCS system  
24 was in doubt there?

25 A Well, I believe that in the early stages, at least,



4  
1 the ability of the system to function was not in doubt. As  
2 things went on, of course, whether it was being effective or  
3 not was certainly in doubt.

4 Q Did that complete your response, Mr. Shiffer?

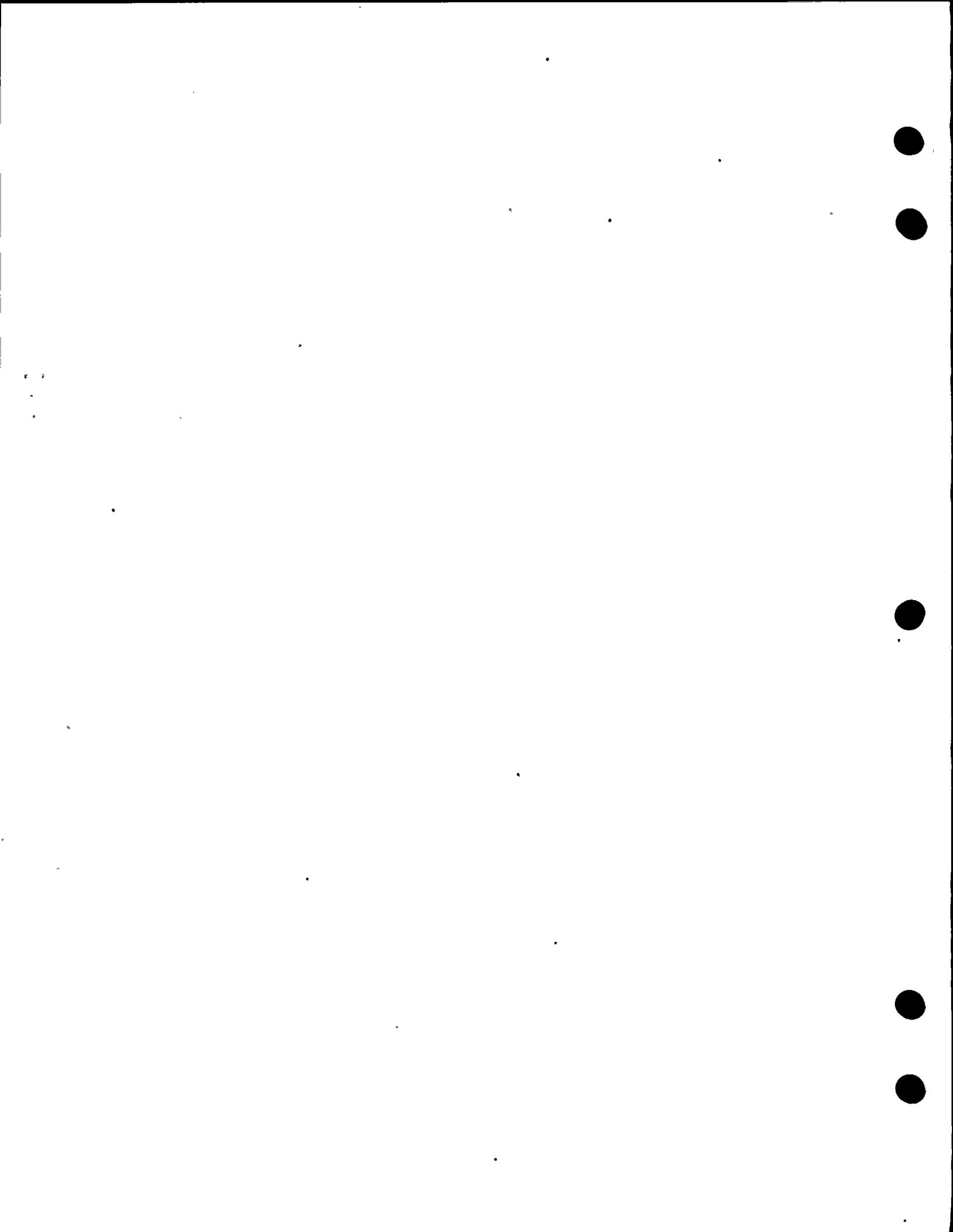
5 A I guess.

6 Q The point I am trying to develop, and let me just  
7 ask it, to determine whether operation of ECCS is in doubt  
8 requires the exercise of some judgment; it is not just necessarily  
9 an open-and-shut thing; oh, my goodness, the ECCS is in doubt,  
10 we have got to give the recommendation. You are going to have  
11 to check a lot of parameters, and there are a lot of factors  
12 that have to be considered; is that correct?

13 A Well, that is correct, except, of course, those are  
14 discussed.

15 For example, we tried to make this as cut and dried  
16 as possible, so that a man is not just -- you know, in setting  
17 up this kind of thing, we have tried to say, for example, if  
18 a pump does not start, then the system is in doubt. If you  
19 have your standard signs for inadequate core cooling, for  
20 example, the system is in doubt.

21 We place the system in doubt when equipment fails  
22 to function. For example, a valve fails to close, a pump fails  
23 to start, even if it doesn't happen to be necessary, really,  
24 at that moment. So we have a very conservative, in my opinion,  
25 set of criteria for when the system is in doubt.



5 1 Q I would like to turn your attention to your testimony  
2 on evacuation, starting at Page 38. At Line 16 on that page,  
3 Mr. Shiffer, you have stated that the panel intuitively believes  
4 that evacuation of the LPZ would be relatively simple.

5 Now, Mr. Shiffer, I have reviewed your Statement of  
6 Qualifications and that of the other members of your panel, and  
7 I can't find any courses in evacuation, or anything like that.  
8 Are you an expert in evacuation?

9 A No. I have done some reading on it, but I have never  
10 taken any formal courses in evacuation.

11 Q And have any members of the panel taken such courses?  
12 I mean, they were not listed in the Resumé.

13 A The answer, I am sure, is no.

14 Q At the top of that same page, Mr. Shiffer, Page 38,  
15 you state that there are approximately 65 permanent residents  
16 of the LPZ. You also say that there are as many as 1,500  
17 visitors on a summer weekend to Montana De Oro State Park.

18 Are you familiar with Amendment 52 to the Diablo  
19 Canyon FSAR?

20 A Not without looking at it specifically, no.

21 Q Well, in that Amendment -- and since it is in evidence,  
22 let me just give you a page from that, just to refresh some  
23 recollections.

24 (The document was handed to the witnesses.)

25 MR. LANPHER: For the record, I have given to



6  
1 Mr. Shiffer Page 5-2 of Amendment 52, and also for the record,  
2 there is some underlining on the last line which we inserted.  
3 It is not part of the original. I am not marking this as an  
4 exhibit because, pursuant to our discussion yesterday, the FSAR  
5 will be part of the record, and so there is no reason to mark  
6 it, unless you would like me to, Judge Wolf.

7 JUDGE WOLF: You are the one who has to argue it.

8 MR. LANPHER: Okay, fine.

9 BY MR. LANPHER:

10 Q Isn't it true, Mr. Shiffer, that in Amendment 52,  
11 PG & E estimated that the daytime population might be as high  
12 as 5,000 persons at Montana De Oro?

13 A Yes, that is what the Amendment says. I can explain  
14 to you where I got the number in the testimony, if you are  
15 interested.

16 It came out of an affidavit that was submitted by  
17 the Governor, right? So I just took your number.

18 Q You just took our word and did not take --

19 A That is correct. I assumed it was true.

20 Q Fine. Now, isn't it also true that there are agri-  
21 cultural workers within the LPZ that would need to be evacuated  
22 if an evacuation decision were made?

23 A Yes, there are some.

24 Q So that would be some additional population that would  
25 have to be evacuated; correct?



7  
1 A That is correct.

2 Q I would like to direct your attention to your  
3 Conclusions, Mr. Shiffer, at Page 40. First of all, Conclusion  
4 2, you say, "Onsite and offsite emergency facilities have been  
5 provided and equipped to allow effective transfer of information  
6 to enhance emergency management and decision-making."

7 You are speaking of Company emergency facilities;  
8 isn't that correct?

9 A Yes.

10 Q And in Conclusion Number 3; you say, "A comprehensive  
11 emergency communications system, using redundant radio and  
12 telephone equipment, has been provided to assure that adequate  
13 communications will exist throughout any emergency."

14 Again, you are speaking about Company facilities;  
15 correct?

16 A That is correct. Of course, some our Company facili-  
17 ties go to non-Company locations.

18 Q Correct, but I am just trying to understand exactly  
19 what the Conclusions are.

20 A I am talking about our system that we have installed;  
21 that is correct.

22 Q Thank you. Similarly, in Paragraph 4, where you  
23 talk about the radiological monitoring capability, you are  
24 talking about the Company system which you described earlier  
25 on the Viewgraphs; correct?



8  
1 A That is correct.

2 Q And in Paragraph 6, where you talk about transporta-  
3 tion of contaminated persons, you are talking about persons  
4 who are injured in some manner on-site; correct?

5 A That is correct.

6 MR. LANPHER: I have no further questions for this  
7 panel.

8 JUDGE WOLF: All right. We will suspend now for lunch,  
9 and the Staff will take up the cross-examination of the panel  
10 after lunch.

11 MR. OLMSTEAD: What time, Your Honor?

12 JUDGE WOLF: At 1:00 o'clock.

13 (Whereupon, at 12:00 p.m., a luncheon recess was  
14 taken, and the hearing was scheduled to resume at 1:00 p.m.  
15 of the same day.)

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A F T E R N O O N      S E S S I O N

JUDGE WOLF: On the record. Mr. Olmstead?

MR. OLMSTEAD: Yes, sir. The questions I have for the panel go to the joint testimony section.

## RE CROSS EXAMINATION

BY MR. OLMSTEAD:

Q And first, I would like to ask the panel if you can tell me how many people do you have on-site currently? Approximate round numbers.

A (Witness Patterson) Approximately 275 people.

Q That includes the construction workers?

A No, these are plant personnel only, permanently assigned people on the plant staff.

Q If you added the construction staff to that, approximately how many people would be there?

A These will have to be estimates, but I believe there are about 200 Pacific Gas and Electric Company construction people, and approximately 500 contractor employees.

Q So you have somewhere between 900 and 1,000 people out there currently?

A That is correct.

Q And do they work in shifts?

A Some do. Some don't.

Q Okay. Do --



t9 2g

1 A I could say that the majority, the great majority  
2 are there only on the day shift.

3 Q And they would leave at what time in the afternoon?

4 A Between 4:00 and 5:00.

5 Q And how long does it take them to leave the site  
6 boundary? Approximately? --

7 A I would say approximately a half-hour.

8 Q Okay. Based on your best estimates at the moment,  
9 when do you expect to load fuel, assuming a favorable  
10 decision from this Board?

11 MR. LANPHER: Judge Wolf. I object. I don't  
12 understand the relevance of that. This is Mr. Lanpher. It  
13 seems to be speculation completely, given this Board's  
14 necessity to decide.

15 MR. OLMSTEAD: Mr. Chairman, I think that what I  
16 want to get a feel of is what their earliest estimate is, so  
17 that we can get an understanding of some of the dates that  
18 have been asked about, in terms of whether those activities  
19 are going to be accomplished or not at the approximate time  
20 that this company plans to load fuel if they get a  
21 favorable decision.

22 MR. NORTON: Excuse me, Your Honor, may I be heard,  
23 Applicant?

24 JUDGE WOLF: Yes.

25 MR. NORTON: It is a difficult question for this



t9 3g  
1 panel, because if the panel could be given a framework as to  
2 when a decision could be forthcoming, in other words, could  
3 you be ready to load fuel by such and such a date, I think  
4 they could answer it, but the way the question was phrased,  
5 not knowing the timetable of this Board, they can't  
6 speculate as to what this Board is going to do.

7 They could clearly answer the question about ---

8 MR. OLMSTEAD: Let me rephrase the question.

9 MR. NORTON: Yeah.

10 BY MR. OLMSTEAD:

11 Q Assume for the moment that someone said to you by  
12 the 1st of July that you were authorized to load the fuel.  
13 How long would it take you to be prepared to actually load  
14 fuel?

15 A (Witness Patterson) Well, that would depend a  
16 little bit on when they -- if they told us today that it  
17 would be July 1, as opposed to if they told us June 30th it  
18 would be July 1.

19 Q If you find out on July 1?

20 A I find out on July 1?

21 Q Right.

22 MR. LANPHER: I am going to object, Judge Wolf. I  
23 still don't understand where Mr. Olmstead is going. It is  
24 our position that the question is today, what is the state of  
25 emergency planning? That is the record that we have to work



t9 4g  
1 with, or this Board has to decide upon, and speculation about  
2 what they might do in the future is not relevant. The reason  
3 being, we wouldn't have a chance to test that. If they make  
4 a commitment they are going to do something, that is not  
5 evidence that an adequate emergency plan is in fact present.

6 I think what we should be focussing on is what  
7 facilities, and what has been implemented as of now.

8 MR. NORTON: Excuse me, Your Honor. I would like to  
9 comment on that.

10 JUDGE WOLF: Yes.

11 MR. NORTON: That is a very fascinating speech.

12 Unfortunately, it is not the contentions in this proceeding.

13 The contentions in this proceeding are very clearly worded  
14 and were drafted and worded by the Intervenors and Governor  
15 Brown and the Board. Those are the contentions, not what  
16 Governor Brown's Counsel would now like to have the  
17 contentions.

18 As to his comment about everything has to be done  
19 before a decision can be made, this is totally incorrect.  
20 What has to be done is this Board has to be firmly convinced  
21 that something has been done, or that it will be done before  
22 certain activities take place.

23 If indeed someone is installing an instrument, and  
24 says under oath that that instrument will be bolted down and  
25 operable by June 1, that is the evidence before this Board.



1 It is not, as much as Governor Brown would like it to be, the  
2 fact that he can come back on June 1 and have another hearing  
3 to see if the bolts were tightened down. The evidence that  
4 this Board can take certainly does go to those things which  
5 people are testifying under oath will be done by dates  
6 certain.

7 JUDGE WOLF: It seems that it is somewhat  
8 speculative, but if you can give an estimate, we will hear it.

9 WITNESS SHIFFER: Well, if we were told on July 1  
10 that we would get a license, we would estimate that it would  
11 be approximately 30 days before we loaded the core.

12 JUDGE WOLF: Next question.

13 MR. OLMSTEAD: Okay.

14 BY MR. OLMSTEAD:

15 Q This morning you were asked about the test drill  
16 that was going to be performed, pursuant to NUREG 0654. I  
17 believe it is on line 25 of page 32 of your testimony.

18 MR. REYNOLDS: Excuse me, what was the page cite?

19 MR. OLMSTEAD: I believe it is page 32, line 21  
20 to 25.

21 BY MR. OLMSTEAD:

22 Q Is it still your current plan to have that drill in  
23 August of 1981?

24 A (Witness Skidmore) This is Mr. Skidmore. I have  
25 been working with FEMA, the State OES people, local county



t9 6g  
1 people, and other interested parties such as EPA and DOE, and  
2 we have laid out an initial groundwork for what FEMA is calling  
3 a series of drills that would test the emergency preparedness  
4 of all these different agencies, including PG & E. This  
5 is all leading up to the fuel exercise currently scheduled in  
6 August, as we say on line 23 on this page that we are referring  
7 to, and we are working together in consort to pick dates for  
8 those at our mutual convenience.

9 Now, the earliest test that some of those drills  
10 will take place is in the early part of June, okay? And that  
11 is because, as I found out last week, the County has its  
12 budget program to resolve prior to that point in time.

13 Q Okay, in terms of the equipment that you need for  
14 those drills and exercises, is that -- does PG & E already  
15 have that equipment?

16 A Well, we have -- the EOF has been established, and  
17 within PG & E, we have had drills to exercise the equipment  
18 there. We plan to interface with the County and other  
19 organizations in the inter-agency drills leading up to the  
20 full field exercise, so the equipment that we need for fuel  
21 load and low power testing license, I believe yes, is in fact  
22 in place.

23 Q Okay. In terms of the equipment needed to conduct  
24 the drill, do you have all of that available to you at this  
25 time?



t9 7g  
1 A I am sorry, did you say do I have all that  
2 available today, did you say, at the end of your question?

3 Q Right. The equipment needed to conduct these  
4 drills you are referring to, is that available to PG & E?

5 MR. LANPHER: Could I ask a clarification just so  
6 I understand the question?

7 JUDGE WOLF: Yes, you may.

8 MR. LANPHER: This is the equipment that PG & E  
9 needs, is that what you mean, Mr. Olmstead?

10 MR. OLMSTEAD: That is right.

11 MR. LANPHER: Thank you.

12 MR. REYNOLDS: And if I could ask for a  
13 clarification, too, which specific drill? Are you talking  
14 about the full exercise?

15 BY MR. OLMSTEAD:

16 Q Yes.

17 A (Witness Shiffer) I would say that the minimum  
18 equipment that is necessary to run the drill is functional.  
19 We do not have our computerized -- our big computerized  
20 system functional yet. We anticipate that it will be  
21 functional -- and although it is not essential to the drill,  
22 it would certainly be desirable.

23 Q Do you anticipate that it would be functional be-  
24 fore August of '81?

25 A We are certainly working on that schedule.



1 Q Okay, this morning when you were talking  
2 about the siren alerting system, I believe it is correct that  
3 you do have the sirens, is that correct?

4 A We physically have the sirens, yes.

5 Q And what you need is the local permits?

6 A That is correct.

7 Q And do you have a timetable for that estimated, for  
8 obtaining the local permits?

9 A We have a timetable for the next step along the  
10 way --

11 Q Okay.

12 A -- depending on -- it is impossible to schedule  
13 beyond the next step. You have got to clear each hurdle.

14 Q Okay, on page 38 of your testimony, where you are  
15 referring to the public information program, there is a  
16 reference to some brochures. Are those brochures currently  
17 ready for production?

18 A They are all drafted and laid out. We have been  
19 waiting to get the draft county plan, which just came out  
20 last week, because much of the public information program,  
21 you know, involves off-site actions, and so we really  
22 couldn't put those in final form. So, we have them drafted,  
23 now that we have the draft County plan, we will try to get  
24 them in final form as soon as we can.

25 Q And how long do you estimate that that will take?



1 A Well, I would hope we could get it done in the  
2 next -- well, just a minute. It is all -- I didn't bring my  
3 schedule for each specific -- there are several pieces of the  
4 thing, and it is all scheduled for being completed on or  
5 before the summer of this year.

6 Q What was the date?

7 A I said, there is different parts of it, or by the  
8 summer of this year.

9 Q By that you mean August?

10 A Well, July type of --

11 Q July?

12 A Yeah. That kind of -- for different parts of it.

13 Q There was discussion yesterday about the Department  
14 of Forestry, your testimony particularly on page 28 describes  
15 the letter of understanding between the California Department  
16 of Forestry and the subsequent letters between you and the  
17 California Department of Forestry, and at the bottom of page  
18 28 says that the company is conducting a radiation detection  
19 program, training program for approximately 60 CDF  
20 personnel during the month of May, 1981.

21 Is that program being conducted now?

22 A (Witness Kaefer) This is Mr. Kaefer. Approximate-  
23 ly three-quarters of those 60 personnel have been receiving  
24 this training. The training for those 45 personnel will  
25 conclude this Saturday. The remaining approximately 15



1 people will receive their training on Tuesday, Wednesday and  
2 Thursday of next week.

3 Q And is the necessary equipment being provided to the  
4 California Department of Forestry by PG & E with regard to  
5 their fire-fighting needs as to the plan?

6 A We have been in touch with the California Department  
7 of Forestry to address what their needs in equipment might be.  
8 Their normal MSA airpacks that they use for their normal  
9 fire-fighting activities are the same equipment we use for  
10 our radiological airborne equipment at the plant.

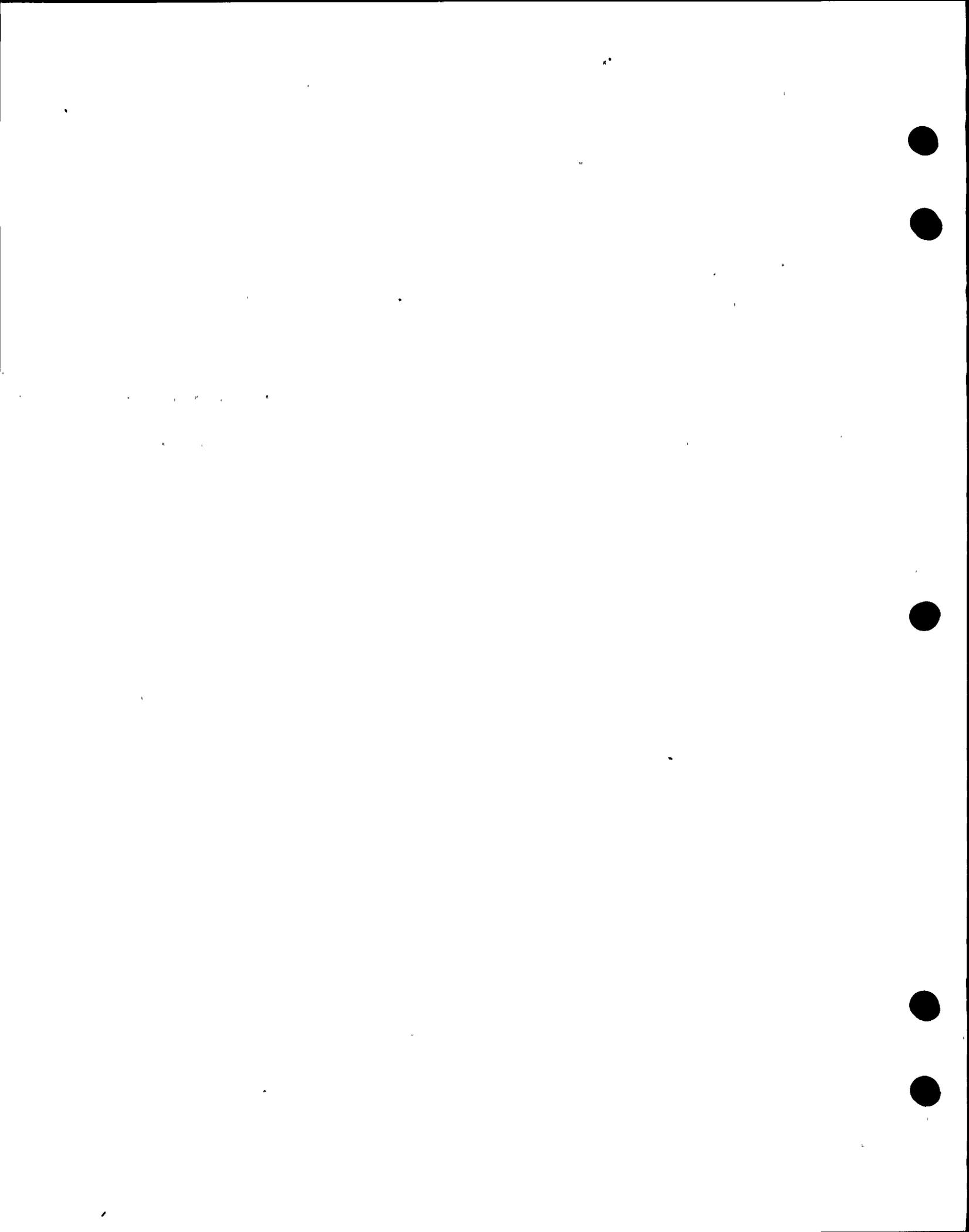
11 As of yet, they have not identified any additional  
12 physical equipment that they may need.

13 Q And if they did so identify any additional  
14 equipment, is the company prepared to assist them in obtaining  
15 it?

16 A (Witness Shiffer) Yes.

17 Q Yesterday you were asked a series of questions  
18 involving a radiological exposure to an employee, and a  
19 question about whether an ambulance would carry one person or  
20 two persons, or how you would get them to the hospital.

21 I would like to ask you in the event that the  
22 employee did not have any physical injuries such as broken  
23 bones, fingers, et cetera, but had been overexposed to  
24 radiation, if it would be routine for the company to call an  
25 ambulance to the site?



11 .  
1 A Probably not. By the way, as long as you have  
2 brought up that subject, I think it is partially an answer  
3 to one of the Intervenor's questions, the San Luis  
4 Ambulance Service does have three ambulances, and five drivers  
5 and seven attendants.

6 Q But in the --

7 A But the direct answer to that, it was just a piece  
8 of information that I think was requested yesterday, but the  
9 answer to your question is, if a man received an external  
10 exposure, was overexposed in that manner, there would be no  
11 need to take him in an ambulance, that is correct.

12 Q So he would be driven, in all probability, in a  
13 PG & E vehicle, or a private automobile, is that correct?

14 A If he was feeling -- I mean, if he had no physical  
15 disability or anything like this, was not feeling sick, then  
16 yes, he would probably just be taken down in a PG & E car.

17 Q Shortly after radiation exposure, overexposure to  
18 an employee, would you expect him to have physical symptoms?

19 A Ordinarily no, that is correct.

20 MR. OLMSTEAD: I have no further questions.

21 JUDGE WOLF: Do you have any questions?

22 MR. NORTON: Yes, Your Honor. At the very  
23 beginning of the hearing, Dr. -- Judge Bright asked that we  
24 go through the 16 points in Section 50.47(b). We are  
25 prepared to do that at this time. I will ask the panel



12 1 questions about these specific requirements.

2 Generally, those responses and the questions I ask  
3 will be strictly adhering to 50.57(c), however, once in a  
4 while as the subject matter wanders near an area that I want  
5 to redirect on, I will ask a few questions that are not  
6 directly related to 50.47(b).

7 Now, perhaps the Board and the parties would want to  
8 pull out their copy of that, because I will just start with  
9 number one and move numerically through those requirements.

10 MR. LANPHER: Could I get a clarification, you are  
11 referring to 0654, the planning standards, that is what you  
12 are going to be going through, or are you going through the  
13 regulation?

14 MR. NORTON: The regulation, Section 50.47, 10 CFR.

15 I would like to -- for the benefit of those  
16 listening -- also read paragraph (c)(c)(1).

17 It says, "Failure to meet the standards set forth  
18 in paragraph (b)," which are the 16 standards we are now  
19 about to address, "of this subsection may result in the  
20 Commission declining to issue an operating license. However,  
21 the Applicant will have an opportunity to demonstrate to the  
22 satisfaction of the Commission that deficiencies in the plans  
23 are not significant for the plan in question, that adequate  
24 interim compensating actions have been or will be taken  
25 promptly, or that there are other compelling reasons to permit



13  
1 plant operation."

2 In addition, if you go down to Section 2, it talks,  
3 the size of the EPZ's also may be determined on a case by case  
4 basis for gas-cooled nuclear reactors, of which obviously  
5 Diablo Canyon is not such a reactor, but it then goes on to  
6 say, and for reactors with an authorized power level less than  
7 250 megawatt thermal.

8 Clearly at five percent low power, we are talking  
9 about less than 250 megawatt thermal, which is, I think,  
10 already in evidence as testified to by Dr. Bruno, and I  
11 believe he was cross-examined on that.

12 Now, getting on to the first of the 16 standards.  
13 I would like to address the panel in general, although I  
14 believe Mr. Shiffer will generally be the one responding to  
15 the questions.

16 REDIRECT EXAMINATION

17 BY MR. NORTON:

18 Q Mr. Shiffer, the first standard is, and I will  
19 quote, "Primary responsibilities for emergency response by  
20 the nuclear facility licensee and by State and local  
21 organizations within the emergency planning zones have been  
22 assigned, the emergency responsibilities of the various  
23 supporting organizations have been specifically established,  
24 and each principal response organization has staff to respond  
25 and to augment its initial responses on a continuous basis."



14 1 Now, my first question to you is, in terms of low  
2 power testing that has been describe here, up to five percent  
3 low power, is it your opinion that -- let me strike that last  
4 part.

5 Do you have an opinion as to whether the Applicant  
6 complies with that requirement for the purposes of low power  
7 testing?

8 A (Witness Shiffer) For the purposes of low power  
9 testing?

10 Q Yes.

11 A Yes.

12 Q All right. Now, did you cover this standard in  
13 your testimony at any place, and if you did, would you  
14 identify where in your testimony that you did cover it?

15 A In -- basically in the testimony paragraphs 1, or  
16 sections, I guess it is, 1, 6, 8, and 11.

17 JUDGE WOLF: What is the page, please?

18 BY MR. NORTON:

19 Q That is Section 1, section 6, section 8 and section  
20 11?

21 A Well, section 1 starts on page four. I am sorry,  
22 that is the wrong testimony, I am sorry. I picked up Dr.  
23 Brunot's. Let me get mine. Section 1 in mine starts on page  
24 four. Section 6 starts on page 24. Page 27 is where  
25 Section 8 starts. And Section 11 starts on page 38.



15

1 Q All right. Now, is this standard, if you will,  
 2 also addressed in other documents? For example, is it  
 3 addressed in any sections of the existing emergency plan,  
 4 of the PG & E's emergency plan?

5 A It is addressed in sections 5.3 and 5.4.

6 Q All right. Is there an existing State plan?

7 A Yes.

8 Q Is it addressed in the existing State plan?

9 A Yes.

10 Q And where?

11 A Primarily in section 6, although scattered  
 12 throughout the plan. Section 6.

13 Q All right. Now, we have talked a little bit  
 14 yesterday on cross-examination about implementing procedures.  
 15 Would you first describe -- I am not sure it was very clear  
 16 yesterday in cross as to what implementing procedures are.  
 17 The full description of that document, if you would, as to --  
 18 I don't mean for you to obviously describe the whole document,  
 19 but what it is?

20 A Well, the emergency plan is a fairly general  
 21 document that gives an overview of emergency facilities,  
 22 organizations, whatever topic. In addition to that, there is  
 23 a document, or there is a book of detailed implementing  
 24 procedures that are used at the site that give detailed  
 25 guidance on how to conduct any particular action or respond



16

1 to an emergency.

2 Q And then, as a matter of fact, it has always been  
3 a requirement, has it not, of the Commission, that one has  
4 implementing procedures to implement an emergency response  
5 plan, correct?

6 A That is correct.

7 Q All right. But it has not been until recently a  
8 requirement that those implementing procedures ever be  
9 submitted as a part of the document record, correct?

10 A That is correct.

11

12 /// PLEASE CONTINUE READING NEXT NUMBERED PAGE ///

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1 Q Is it your understanding, now, however that you  
2 are required to submit implementing procedures?

3 A That's correct.

4 Q Has PG&E prepared implementing procedures?

5 A Yes.

6 Q And have they submitted them?

7 A Yes.

8 Q Do you, by chance, have a copy of that document  
9 with you? The implementing procedures.

10 A Yes.

11 Q Those rather large notebooks you are holding up  
12 are the implementing procedures. Correct?

13 A Yes.

14 Q Now, is the standard number one addressing the  
15 implementing procedures in addition to the emergency plan  
16 in your testimony and the state plans?

17 A Yes.

18 MR. LANPHER: Judge Wolf, may I make an inquiry?

19 JUDGE WOLF: Yes.

20 MR. LANPHER: These procedures, if they are going  
21 to be referred to, are they going to be -- I know it's a big  
22 document, Mr. Norton, but is that going to be made available  
23 to everyone?

24 MR. NORTON: Well, that's what I was trying to  
25 cover yesterday and that I was trying to discuss with you



1 this morning. These are documents that are in the record.  
2 They have been submitted. Now, we can have three copies of  
3 it marked as an exhibit, but its already submitted to the  
4 Commission along with the FSAR, it's part of the license  
5 application. It's required under the regulations to be a  
6 part of the application. And, again, it becomes just a  
7 cumbersome thing to the record. I don't care.

8 MR. LANPHER: We don't have -- We have the  
9 emergency plan. This is a new document, the implementing  
10 procedures. We don't have that.

11 MR. NORTON: Yes, it was submitted very recently.  
12 That's correct and we can -- We're not offering it as an  
13 exhibit, now. That's what I'm saying.

14 MR. REYNOLDS: Was it circulated to the service  
15 list, by any chance?

16 MR. NORTON: It has just been submitted.

17 JUDGE WOLF: Will --

18 MR. REYNOLDS: Will it be --

19 JUDGE WOLF: Pardon me.

20 MR. REYNOLDS: I'm sorry, Judge.

21 JUDGE WOLF: Will the Joint Intervenor and Gover-  
22 nor Brown's representatives get copies?

23 MR. NORTON: They certainly will.

24 MR. LANPHER: My objection, Judge Wolf, is that  
25 Mr. Shiffer is making a reference to this document and he's



1 testifying regarding this document. Now, we obviously are  
2 going to have to have an opportunity to cross examine on it.  
3 We can't cross examine on it right now, when we see a document  
4 that is three or four inches thick. But, if it's going to  
5 be relied upon, we need to have an opportunity to review it.

6 MR. NORTON: Your Honor, it's not being relied upon.  
7 He's testifying that indeed it's contained in the implementing  
8 procedures. We've always had implementing procedures. There  
9 has been testimony in every hearing about implementing pro-  
10 cedures. This is not a new document. In a sense, it is  
11 revised continually like emergency plan documents. They  
12 are continually revised. It's a dynamic document. This is  
13 the latest revision. It's been around for years and the  
14 intervenors have known about them for years.

15 They've gone through discovery in this case.  
16 They've asked interrogatories. They have requested document  
17 productions and so on and so forth. They can't now yell,  
18 Oh, surprise, we need time.

19 First of all, we're not offering it as an exhibit.  
20 I am simply asking questions as to if it's contained in there  
21 and simply saying, yes, it is contained in there. It's not  
22 being offered as an exhibit.

23 MR. LANPHER: For the purpose of the record, if  
24 nothing else, Judge Wolf, if they are going to testify re-  
25 garding a document, it better be in the record.



1 JUDGE WOLF: I think counsel is saying that it is  
2 in the record.

3 MR. LANPHER: It hasn't been provided to us.

4 JUDGE WOLF: Aren't you in the process of providing  
5 it?

6 MR. NORTON: Absolutely.

7 MR. LANPHER: We object to testimony regarding it  
8 when we haven't been provided it.

9 JUDGE WOLF: Well, at this point, as I understand  
10 the purport of the counsel, is to merely identify various  
11 sections where information regarding implementation can be  
12 found. It seems to me in cross examination, all you have to  
13 do is take down the numbers of the sections, borrow the book  
14 and cross examine. I don't see any reason for any delay.

15 MR. LANPHER: I'm not asking for delay. They can  
16 go ahead with this cross examination. I want to get ahold  
17 of the document. I want to have a chance to review it and  
18 then if I need to cross examine on it, I want that opportu-  
19 nity.

20 JUDGE WOLF: You'll have that opportunity. Just  
21 let me know in the morning what you need in the way of  
22 cross examination.

23 MR. FLEISCHAKER: Judge Wolf, I would like to know  
24 whether we have any more documents like this that the  
25 Applicant is going to pull out of it's back pocket and serve



1 on us the day before the hearings commence. I can certainly  
2 take --

3 JUDGE WOLF: Just a minute. The Board asked that  
4 this be done and no one is pulling anything out of back  
5 pockets. This is in the record and you are being served a  
6 copy of it. It seems to me as qualified cross examiners,  
7 you don't need anymore than you are going to have right now.

8 MR. FLEISCHAKER: May I respond to that, please?  
9 What the Board requested was that the Applicant provide an  
10 indication of where in the testimony it was going to be  
11 addressing the sixteen points. I understand that. I agree  
12 with that. That's a good exercise. But, now what we have is  
13 a document that is three or four or five inches thick that  
14 hasn't been served on us. We've had no opportunity to read  
15 or review.

16 Now, under the circumstances, I think that what  
17 I am requesting now is whether the Applicant can indicate to  
18 us whether there are going to be any more documents that  
19 are going to be forthcoming that we haven't read or reviewed.

20 MR. NORTON: Mr. Fleischaker, I would hope, that  
21 given the nature of the case and given the nature of the  
22 hearing and the licensing process that there would be innumer-  
23 able documents that are filed through the history of this  
24 case. In the past that in the future, which you have not  
25 been privy to in advance of their being filed. This is one



1 of those documents. It's being filed and you are now getting  
2 it. You don't work at PG&E and you can't see the day to day  
3 work as it's going on anymore than I can. I didn't see the  
4 document before it was filed, either.

5 It's the nature of the way the business has always  
6 been done. We didn't schedule the date of this hearing. You  
7 can tell by the size of that document that it wasn't put to-  
8 gether overnight. It is a document that has been around and  
9 revised over a long period of time. It is only recently  
10 been required to be filed. That's why it was never filed  
11 before, because it was never required to be filed before.

12 We have copies for you. We are happy to provide  
13 them for you. The timing is something I have no control over.

14 MR. FLEISCHAKER: All I'm asking is whether you  
15 are --

16 JUDGE WOLF: Let's not go on with this. Mr. Norton,  
17 can you provide copies this evening for counsel?

18 MR. NORTON: We can do better than that. We can  
19 provide a copy right now for each of them.

20 JUDGE WOLF: We'll have a conference in the  
21 morning, Mr. Fleischaker, to straighten out whatever the  
22 difficulties are.

23 MR. FLEISCHAKER: Thank you, Your Honor.

24 JUDGE WOLF: Let's have your next question.  
25



1 BY MR. NORTON:

2 Q Mr. Shiffer, let's move on now to -- Let me stay  
3 with number one for a moment. I take it then that because  
4 the County plan is in draft form as you testified and because  
5 the State plan, while there is an applicable State plan, there  
6 is another new state plan now, that at this moment in time,  
7 you don't feel that you comply with number one in terms of  
8 a full power license. Is that correct? With standard number  
9 one?

10 A That's right:

11 Q But in terms of a low power operating license, you  
12 feel you have, correct?

13 A Correct.

14 Q All right, now, let's move on to number two, which  
15 says, "on-shift facility licensee responsibilities for  
16 emergency response were unambiguously defined. Adequate  
17 staffing to provide initial facility accident response in  
18 key functional areas is maintained at all times. Timely  
19 augmentation of response capabilities is available and the  
20 interfaces among various on-site response activities and  
21 off-site support and response activities are specified."

22 Do you feel that the Applicant or do you believe  
23 that the Applicant has complied with standard number two  
24 in terms of low power testing?

25 A Yes.



1 Q What sections of your testimony respond to that  
2 standard?

3 A Section one.

4 Q That obviously begins on page --

5 A Four.

6 Q Are any sections of the emergency plan---

7 A Yes. Section 5.2 of the emergency plan.

8 Q How about the implementing procedures? Is this  
9 addressed in the implementing procedures?

10 A It's addressed in implementing procedure, GA 4 --  
11 wait a minute. I'll have to look at that one. Excuse me.

12 I'm sorry. GA 4. GA 2 is for the previous one.

13 Q GA 2 is number one?

14 A Yes. We changed the subject before I had a chance  
15 to indicate those. In number one it was GA 2 and GA4 for the  
16 procedures. In number two, it's GA 4 and in both one and two  
17 and again we got off the subject on number one, the corporate  
18 emergency response plan discusses this also.

19 MR. NORTON: Mr. Fleischaker, I'm not trying to  
20 surprise you because I don't know the answer to this one  
21 either.

22 BY MR. NORTON:

23 Q Is the corporate emergency response plan been filed?

24 A No.

25 Q That is a document which the company has which it



1 follows. Correct?

2 A That's correct.

3 Q Now, Number three says, "Arrangements for re-  
4 questing and effectively using assistance resources have been  
5 made. Arrangements to accomodate state and local staff of  
6 the licensee's near-site emergency operations facility have  
7 been made and other organizations capable of augmenting the  
8 planned response have been identified."

9 Mr. Shiffer, is it your opinion that this standard  
10 as been complied with as respects low powered testing?

11 A Yes.

12 Q Could you tell us what sections of your testimony  
13 address this standard?

14 A Okay. Sections one, six on page 24, ten on page  
15 33 and to some extent in the introduction to the testimony.

16 Q All right. Number four states: "A standard  
17 emergency classification and action level scheme, the bases  
18 of which include facility system and effluent parameters is  
19 in use by the nuclear facility licensee and state and local  
20 response plans call for reliance on information provided by  
21 facility licensees by determinations of minimum initial  
22 off-site response measures."

23 Again, for purposes of low power testing, do you  
24 feel that the Applicant has complied with this standard?

25 A Yes.



1 Q All right, then where in your testimony is that  
2 covered.

3 A I'm sorry, on the number three, I misspoke. The  
4 introduction applies to this one here. In the introduction.  
5 And, okay in the testimony, it's in the introduction.

6 Q And the emergency plan of the utility?

7 A Section four.

8 Q Is it covered in the implementing procedures?

9 A Yes. Implementing procedure GA 1.

10 Q Moving to number five. "Procedures have been  
11 established for notification by the licensee of state and  
12 local response organizations and for notification of emergency  
13 personnel by all organizations. The content of initial and  
14 followup messages to response organizations and the public  
15 has been established and means to provide early notification  
16 and clear instructions to the populace within the plume  
17 exposure pathway emergency planning zone have been established."

18 Again, I ask you if you believe that standard has  
19 been satisfied for purposes of low power testing?

20 A Yes, for low power testing.

21 Q Where is that covered in your testimony, first?

22 A Well, in the testimony, it's primarily discussed  
23 in section 10 on page 33.

24 Q Is it covered in the implementing procedures and  
25 if so, where?



1 A GA 2.

2 Q And how about the emergency plan? The Applicant's  
3 existing emergency plan?

4 A Primarily in section 4.1. A little bit in section  
5 6.1 and 6.2.

6 Q Number six, a very short one: "Provisions exist  
7 for prompt communications among principle response organiza-  
8 tions to emergency personnel and to the public."

9 : Is that covered in your testimony?

10 A Yes, in section three.

11 Q Is it covered in the implementing procedures?

12 A To a degree in GA 2.

13 Q Do you believe that the Applicant, for purposes  
14 of low power testing has complied with that standard?

15 A Yes.

16 Q Number seven: "Information is made available to  
17 the public on a periodic bases on how they will be notified  
18 and what their initial actions should be in an emergency  
19 (eg, listening to a local broadcast station and remaining  
20 in doors). The principle points of-contract"-- I believe  
21 that's a misprint. I believe it's "prinicple points of  
22 contact with the news media for dissemination of information  
23 during an emergency (including the physical location or  
24 locations) are established in advance, and procedures for  
25 coordinated dissemination of information to the public are



1 established."

2           There has been some cross examination regarding  
3 that. First of all, what is the LPZ that you are using for  
4 purposes of low power testing?

5           A       Six miles.

6           Q       I believe your testimony says that there are 65  
7 so-called permanent residents in that zone?

8           A       Yes.

9           Q       In addition to that, is there not Montana Doral  
10 State Park?

11          A       Yes.

12          Q       Now, you've also been asked about sirens. I take  
13 it-- What is the idea for the permanent plan in terms of those  
14 sirens.

15          A       I'm sorry.

16          Q       What is the intention of the Applicant. What does  
17 it intend to do with those sirens?

18          A       The intention of those sirens is to comply with  
19 the NUREG-0654 requirement for a notification of ten mile  
20 radius within 15 minutes.

21          Q       At this point in time, you do not, I take it,  
22 from the answer to cross examination, have the necessary  
23 permits from local authorities to install the sirens to total-  
24 ly cover that area. Correct?

25          A       That's correct.



1 Q So, in the interim -- We're talking about the  
2 six mile LPZ -- I take it -- Well, let me ask you. Are you  
3 prepared to in some other way notify the residents of the  
4 LPZ or those people within the LPZ at the time of emergency?

5 A That notification --

6 Q Well, yes or no?-- Do you have a plan?

7 A Yes.

8 Q What are those plans?

9 A That notification would have to be carried out  
10 house to house by the Sheriff's office.

11 (Laughter.)

12 Q Have you discussed this with the Sheriff's office?

13 A Yes.

14 Q Have you discussed it with specific members of  
15 the Sheriff's office?

16 A Yes.

17 Q Have you discussed it with the Sheriff, himself . .

18 A Yes.

19 Q Have they given you assurances or any sort of  
20 response at all as to what they will do if called upon to  
21 do that?

22 MR. LANPHER: I object to this questioning. This  
23 is hearsay. If they want to call the Sheriff as a witness  
24 or subpoena him, that would have been different. They haven't  
25 done so.



1 MR. NORTON: Excuse me, Your Honor, they've been  
2 cross examining on the letters of understanding and agreements  
3 between the Applicant and agencies. It's in the direct test-  
4 imony. They've cross examined on it. That's the way these  
5 things are done. We can't call in everybody in the world you  
6 have an agreement. If they had wanted him here, they could  
7 have subpoenaed him. We'd be happy to call the Sheriff,  
8 incidentally, if that is what they would like, but this  
9 gentleman represents the Applicant. He deals with the  
10 Sheriff and has dealt with the Sheriff. He's certainly is  
11 capable of telling what the agreement and understanding  
12 between the Applicant and the Sheriff's office is.

13 JUDGE WOLF: In an administrative hearing we can  
14 put up with some hearsay. You may answer it.

15 MR. NORTON: Please go ahead and answer.

16 WITNESS SHIFFER: Could you briefly repeat the  
17 question, please?

18 BY MR. NORTON:

19 Q The question was, what is the understanding between  
20 the Applicant, Pacific Gas and Electric, yourself, and the  
21 Sheriff's office.

22 A The understanding is that we notify them of an  
23 emergency and request and inform them that the evacuation of  
24 the LPZ is necessary. That they will mobilize the necessary  
25 forces and go out and notify the people in the LPZ and



1 coordinate and conduct evacuations.

2 Q Have you discussed with the Sheriff's office as to  
3 the time required for such a notification process?

4 A Have I discussed the time required?

5 Q Yes. How long it would take the Sheriff's office  
6 to accomplish the task?

7 A Well, yes, I've discussed it with them.

8 Q Have they indicated to you the source of time  
9 on which they're talking about to accomplish the task of  
10 notification of the LPZ?

11 A Well, they've never given me a specific number,  
12 but they said a few hours.

13 MR. LANPHER: Judge Wolf, I would like to make  
14 my objection. Now, he's saying we don't even have a specific  
15 number. Maybe a few hours. I understand that in an adminis-  
16 trative proceeding that hearsay rules don't necessarily  
17 apply strictly, but I think we've gone to far.

18 JUDGE WOLF: We'll take it for what it's worth.

19 (Laughter.)

20 MR. NORTON: Well, Your Honor, I would like to  
21 comment that the hearsay objection --

22 JUDGE WOLF: Let's go on to the next question.

23 MR. NORTON: All right.

24 BY MR. NORTON:

25 Q The question of notification of the people within



1 the LPZ, why have you not at this point in time sent some  
2 sort of a brochure or a letter to the people in the LPZ in-  
3 forming them as to how they will be notified?

4 A Primarily because the situation is changing and-  
5 we'll try to hold off as late as possible and get the most  
6 accurate information.

7 Q I take it then that if by the time fuel load  
8 arrives, you have the sirens in place, you would notify them  
9 about how they are going to work -- the sirens are going to  
10 work, so on and so forth. Correct? -

11 A That's correct.

12 Q But, if not. If you're going to use the Sheriff's  
13 office for notification, I take it you would notify them of  
14 that process prior to fuel load?

15 A That's correct.

16 Q In either event, you will notify them prior to  
17 fuel load. Is that correct?

18 A That's correct.

19 JUDGE BRIGHT: Mr. Norton?

20 MR. NORTON: Yes.

21 JUDGE BRIGHT: Am I to take it from that this  
22 number seven, isn't it?

23 MR. NORTON: Yes.

24 JUDGE BRIGHT: Is that covered in your direct  
25 testimony? I didn't hear a reference to it. I'm sorry if I



1 missed it.

2 MR. NORTON: I believe it is in the direct testi-  
3 mony in terms of the Sheriff's evacuation of the LPZ.

4 JUDGE BRIGHT: Could Mr. Shiffer indicate where  
5 that is?

6 MR. NORTON: When I said I believed that, I'm not  
7 sure. I'm going to look and see. I don't have that on my  
8 notes here.

9 (Pause)

10 Excuse me, I'd like to direct Mr. Shiffer's atten-  
11 tion to page 38, lines ten through fifteen.

12 (Pause)

13 BY MR. NORTON:

14 Q Does that, indeed, discuss what we were --

15 A Does the testimony discuss the information that  
16 is made available to the public on a periodic bases? The  
17 answer is no.

18 Q But it does the evacuation of the LPZ which --

19 A It discusses the evacuation process of the LPA in  
20 section 11 which begins on page 38, -but it does not discuss  
21 the public information program.

22 MR. NORTON: Your Honor, there was another spot  
23 in here that did and let me find it. I think it does and  
24 let me direct the witness' attention to that if I can find  
25 it.



1 WITNESS SHIFFER: There is a brief reference on  
2 the public warning system in section seven.

3 MR. NORTON: Yes, that is what I was referring to,  
4 also.

5 WITNESS SHIFFER: That's on page --

6 MR. NORTON: 26.

7 BY MR. NORTON:

8 Q But, again, that does not address the notification  
9 directly in the direct written testimony.

10 A That's right.

11 (Pause)

12 Q Moving on to number eight: "Adequate emergency  
13 facilities and equipment to support the emergency response,  
14 are provided and maintained."

15 Mr. Shiffer, for purposes of low power testing,  
16 do you believe the Applicant has complied with this standard?

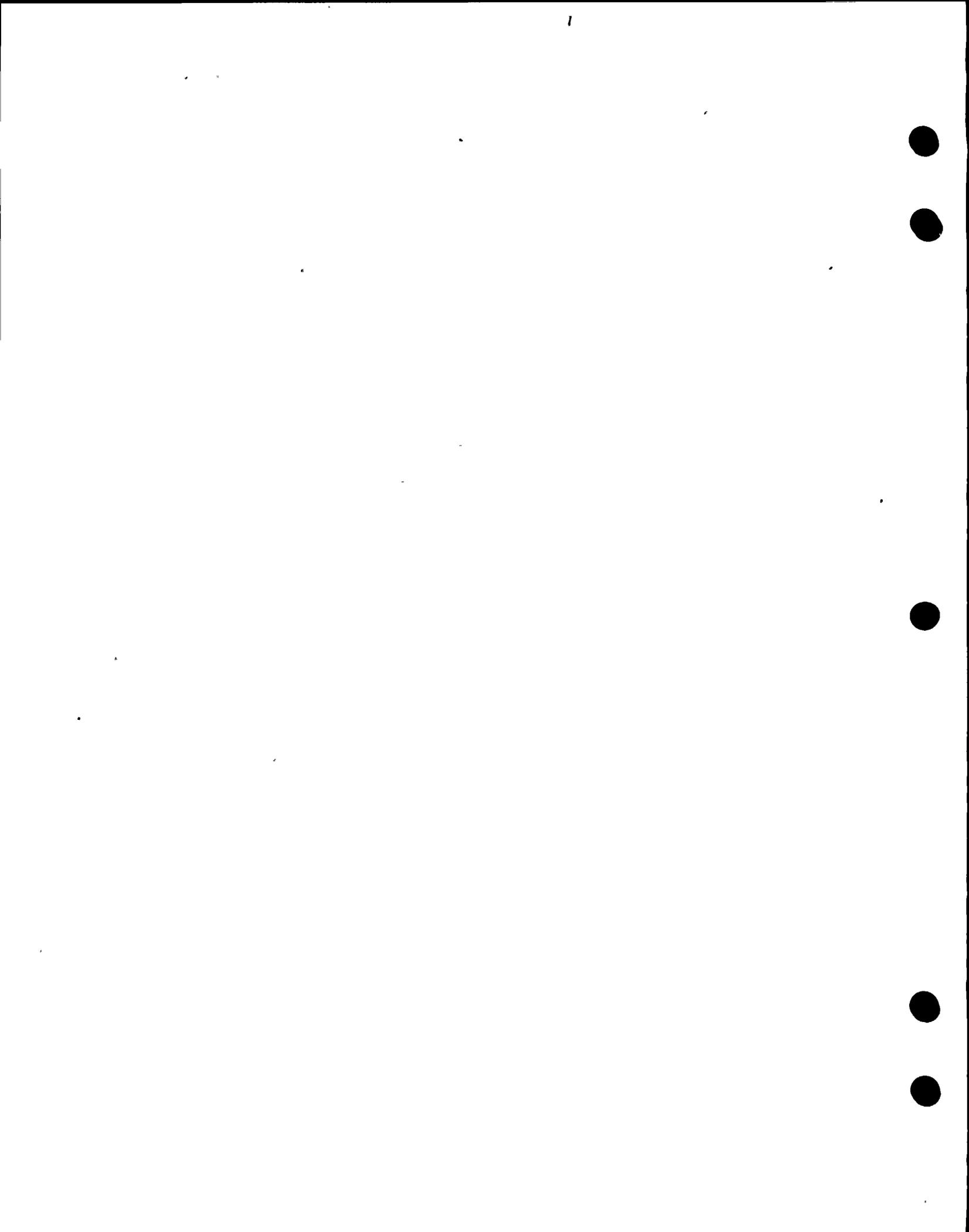
17 A Yes.

18 Q And where are these various things addressed in  
19 your testimony? What sections?

20 A Sections two, three, four and five. If you want  
21 page numbers again, two starts on page 7, three starts on  
22 page 12, four starts on page 16 and five starts on page 21.

23 Q Does the emergency plan refer to this standard or  
24 to the items in the standard?

25 A In section seven.



1 Q And the implementing procedures?

2 A Well, many of the implementing procedures discuss  
3 specific pieces of emergency equipment, but the ones that  
4 most generally discuss the facilities are GA 7, 8 and 9.

5 Q Number nine: "Adequate methods, systems and  
6 equipment for assessing and monitoring actual or potential  
7 consequences of a radiological emergency condition are in  
8 use."

9 First of all, let me ask you, if you believe for  
10 purposes of low power testing, that the Applicant has ade-  
11 quately responded to this standard?

12 A Yes.

13 Q Where is that referred to in your testimony?

14 A I believe it's section four which begins on page  
15 16.

16 Q Would it also be addressed in Exhibit No. 66, 67,  
17 68, 69 --

18 A Yes, it would be.

19 Q And the testimony regarding those exhibits?

20 A Right.

21 Q And the testimony regarding the van -- mobile van?

22 A Right. Yes.

23 Q Is it discussed in the implementing procedures?

24 A Yes in implementing procedure, R2.

25 Q Is it in the emergency response plan?



1 Or in the corporate plan?

2 (Pause)

3 A Yes. Let me get -- I'm looking at my notes here  
4 and I'm sorry, I -- just a minute.

5 (Pause)

6 In the emergency plan itself, it's primarily dis-  
7 cussed in Section 7. I omitted that from my -- It's discussed  
8 in some degree in corporate emergency procedure 4.3.

9 ////

10 ////

11 ////

12 ////

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25 (Testimony continues on the next numbered page.)



T11  
1 Q Moving to Number 10, "A range of protective actions  
2 have been developed for the plume exposure pathway EPZ for  
3 emergency workers and the public. Guidelines for the choice  
4 of protective actions during an emergency, consistent with  
5 federal guidance, are developed and in place, and protective  
6 actions for the ingestion exposure pathway EPZ appropriate to  
7 the locale have been developed."

8 Q First, do you believe that the Applicant has complied  
9 with this standard for purposes of low-power testing?

10 A We are going to have to make one change in our  
11 implementing procedure for this, and that is, our emergency  
12 radiological worker dose limits are based on the recommendations  
13 of the National Commission on Radiation Protection, and this  
14 requirement -- wait a minute.

15 Q I was going to ask if that applies to Number 10 or not.

16 A Oh, I am sorry. That is Number 11. I am sorry.

17 Number 10, yes, I believe we are in compliance with  
18 that, and the discussion of that is really an implementing  
19 procedure, R-2.

20 Q Would that not also, inferentially, in terms of  
21 the limiting factor of low-power testing be discussed in  
22 Mr. Brunot's testimony and in that portion of your testimony  
23 which deals with exposure limits?

24 A Yes, to the extent that the possibility of exposure  
25 is reduced because of operating at low power.



2

1 Q And Number 11, and I will read it, "Means for  
2 controlling radiological exposures in an emergency are established  
3 for emergency workers. The means for controlling radiological  
4 exposures shall include exposure guidelines consistent with EPA,  
5 emergency worker and lifesaving activity protective action  
6 guides."

7 Now, I believe you said that you were about to make  
8 a change in your implementing procedure. First of all, what  
9 implementing procedure are you referring to?

10 A Well, in the implementing procedure-- it is also  
11 discussed in the Emergency Plan; it is Implementing Procedure  
12 R-2.

13 Q All right. And what revision are you making?

14 A Well, the NCRP guidelines for emergency exposure,  
15 for example, for lifesaving actions, whole body, is 100 rem,  
16 and I believe the EPA guidance is 75 rem, so we are going to  
17 have to make that change.

18 Q So it is a numerical change?

19 A It is a numerical change; that is correct. It is  
20 just a numerical value.

21 Q But it is not a change that affects the procedure?

22 A No, no, just the numerical value.

23 Q All right. Will that change be made prior to fuel  
24 load?

25 A Yes.



3  
1 Q Do you believe, for purposes of low-power testing,  
2 that the Applicant complies with the standards set forth in  
3 Number 11?

4 A With that exception, yes.

5 Q And you believe that they will comply with it as  
6 soon as they make the numerical change?

7 A Yes.

8 Q All right. Moving on to Number 12 --

9 JUDGE BRIGHT: Mr. Norton, on Number 10, I heard some  
10 talk about -- some part of the direct testimony applied, but I  
11 never could figure out exactly what it was.

12 MR. NORTON: Okay, I am sorry. I referred to it  
13 generally, and I am sure they understood what I meant, and we  
14 did not identify it.

15 BY MR. NORTON:

16 Q Dr. Brunot, would you identify where in your testimony  
17 it relates to the plume exposure pathway, ingestion exposure  
18 pathway?

19 A (Witness Brunot) Yes, I will get the sections. The  
20 main conclusion is in the Conclusion-section of the testimony,  
21 which is the last written page. It is also addressed in the  
22 earlier section called Emergency Planning Zones, and I will  
23 get the page; that is Page 19 of my testimony and, as I say,  
24 in the Conclusion, which is on Page 20.

25 Q And, Mr. Shiffer, where in your testimony do we



4  
1 address that, or do you address that?

2 A (Witness Shiffer) Well, to the extent that that is  
3 discussed in the testimony, it would be in Section 10.

4 Q All right.

5 A On Page 33.

6 Q And Number 12: "Arrangements are made for medical  
7 services for contaminated injured individuals." Again, for  
8 purposes of low-power testing, Mr. Shiffer, do you feel the  
9 Applicant has complied with that standard, or do you believe  
10 that?

11 A I am sorry, I had to get my paper back again.

12 Q It was in reference to Number 12.

13 A Yes.

14 Q All right. And where is that covered in your testimony?

15 A Section 6.

16 Q Okay. Along those lines, I believe you informed  
17 Mr. Reynolds that there were three ambulances available, and  
18 you also said a certain number of drivers and assistants. I  
19 forget what those numbers were.

20 A I said there was three ambulances, five drivers and  
21 seven attendants.

22 Q All right. Is there ongoing training with those  
23 drivers and attendants?

24 A They have participated in a drill. Approximately  
25 half of those people attended a lecture on basic radiation



5 1 that was given in August, 1980, and June 8th, 1980, there will  
2 be a repeat of that course for the crew.

3 Q I believe you said 1980.

4 A Oh, excuse me.

5 Q You mean 1981?

6 A 1981. In other words, two weeks from now, or so.

7 Q All right. Will that be the entire 12 --

8 A Well, in this particular case, they are going to get  
9 the entire staff; everybody who they can possibly get. Obvious-  
10 ly some people may not be available.

11 Q Number 13 --

12 JUDGE KLINE: Mr. Norton, before we go on, we are  
13 beginning to have a little concern over the use of the qualify-  
14 ing phrase, "for low-power testing." At the beginning, we  
15 included in our request that we see or hear some of the criteria  
16 by which we are to judge when some requirement that doesn't  
17 meet full requirement would, nevertheless, be adequate for low-  
18 power testing.

19 We see the phrase, but we are not sure we are seeing  
20 the criteria. That is to say, the phrase, "for low-power  
21 testing" may imply that something less than the full requirement  
22 of the regulation is permitted. We would like to see what that  
23 is.

24 MR. NORTON: All right. I think I understand where  
25 you are going, but I am not positive. Are you asking -- there



6

1 are some of these that have been complied with for purposes of  
2 full- and low-power testing, but for purposes of this hearing,  
3 as we say in our written testimony, as we have said all along,  
4 that we understand we will have to do more than we have done  
5 to this moment in time, in terms of a full-power license.

6 We are trying to not get into that, because we don't  
7 see it as relevant to this proceeding. I know the Staff  
8 doesn't see it as relevant to this proceeding. And that is why  
9 I am asking the questions in terms of for low-power purposes,  
10 because for low-power purposes, as Dr. Brunot's testimony  
11 clearly establishes, you are concerned about different distances.  
12 You are talking of an LPZ of six miles. You are not talking  
13 about different distances.

14 And so I am not quite sure how to respond to your  
15 question beyond that.

16 When we say "for low-power purposes," we are assuming  
17 those conclusions made by Dr. Brunot regarding the exposures,  
18 the maximum exposures that one can have under low-power testing,  
19 and while we might meet it for that purpose, it might not be  
20 met for full-power purposes.

21 We are not trying to make those kinds of distinctions  
22 in this hearing, because, again, both the Staff and I happen  
23 to believe that this is not relevant at this point in time.  
24 The question is whether there is adequate emergency response  
25 capability for low-power testing.



7  
1 MR. LANPHER: Mr. Chairman, may I add to that?

2 JUDGE WOLF: Just a moment.

3 JUDGE KLINE: When we are told that a particular  
4 requirement is met for the purpose of low-power testing, we  
5 would like to see in a little more detail how the specific plan  
6 for low-power testing differs from the requirement set forth  
7 in NUREG-0654.

8 MR. OLMSTEAD: Mr. Chairman, I think that the time has  
9 come for the Staff to make it perfectly clear what our position  
10 is. If the Board disagrees of course with the Staff and chooses  
11 clear: 11 to go with the Applicant's analysis here, that is something  
12 they can of course do.

13 I don't think that there is any disagreement among  
14 the parties in this proceeding; Joint Intervenors, the State,  
15 the Staff or the Applicant, about whether the requirements of  
16 5047 are met.

17 The Staff's position, since the Prehearing Conference,  
18 has been that they are not met. That is the reason that the  
19 Applicant applied for an exemption, and that is the reason that  
20 the Staff reviewed the exemption request.

21 JUDGE WOLF: You are going to get a chance to explain  
22 that, in turn, if you will wait just a minute until we get  
23 finished with this.

24 MR. OLMSTEAD: Okay.

25 MR. NORTON: I am afraid, Judge Kline, that we are



8  
1 going to have to continue this dialogue a little bit further,  
2 because, unfortunately, I am still not exactly sure what you  
3 want. I am sorry. I am not understanding well.

4 JUDGE WOLF: Well, proceed, will you, Mr. Norton, for  
5 now.

6 MR. NORTON: Perhaps if we could take a five-minute  
7 break and I can talk with Mr. Shiffer, and so on, he may  
8 understand a lot better what you want than I do. You both have  
9 the same sorts of backgrounds. Could we do that?

10 JUDGE WOLF: Well, if it will move it along, we will  
11 take five minutes, then.

12 (Recess.)

13

14 // // //

15 (Please continue reading on the next numbered page.)

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T12  
1 JUDGE WOLF: Are we on 13, now?

2 MR. NORTON: Yes.

3 JUDGE WOLF: Do you wish to proceed?

4 MR. NORTON: Yes.

5 Judge Kline, I have discussed the series of questions  
6 that you posed with the panel, and although we are still not  
7 certain exactly what you want, Dr. Brunot is going to try to  
8 address your questions now, and rather for me to attempt to  
9 repeat your question, which I admittedly don't clearly under-  
10 stand, he believes that he understands it, and he is going to  
11 try to address it now for you, if that is appropriate with the  
12 Board.

13 JUDGE KLINE: Fine.

14 WITNESS BRUNOT: The first and most concrete difference  
15 between the necessity for planning at the full-power level and  
16 at the low-power level is what is alluded to in the 5047,  
17 Paragraph (c) (2), and I will read from it. It says:

18 "Generally, the plume exposure pathway EPZ for  
19 nuclear power plants shall consist of an area about  
20 10 miles in radius and the ingestion pathway EPZ shall  
21 consist of an area about 50 miles in radius. The exact  
22 size and configuration of the EPZ surrounding a parti-  
23 cular nuclear power reactor shall be determined in  
24 relation to local emergency response needs and capa-  
25 bilities as they are affected by such conditions as



2  
1 tomography, topography, land characteristics, access  
2 routes and jurisdictional boundaries.

3 "The size of the EPZ's also may be determined on  
4 a case-by-case basis for gas-cooled reactors and for  
5 reactors with an authorized power levels less than  
6 250 Megawatts thermal.

7 "The plans for the ingestion pathway shall focus  
8 on such actions as are appropriate to protect the  
9 food ingestion pathway."

10 The point here is, as in my testimony, the Conclusion  
11 to my testimony, which I think I should read the last sentence.  
12 It says, "In view of the large reductions in both probability  
13 and consequences of such accidents which could occur during  
14 low-power operation, it is my conclusion that on the basis  
15 of all such predictions of potential exposures, that emergency  
16 planning need not be carried out for distances much beyond  
17 the site boundary, and certainly not beyond the low population  
18 zone, for plume exposure or ingestion pathway exposure."

19 The point of this is that all that we saying is that  
20 all activities, all emergency planning activities, which relate  
21 to distances outside the low population zone are not necessary,  
22 and we are not, in this case, required to plan for those  
23 activities prior to the full-power hearing.

24 Now, as I have also mentioned in the testimony,  
25 because of the additional times available, because of the



3  
1 flow capacities and time available to take actions, this allows  
2 greater time to act, even though the range of activities need  
3 only be carried out to the extent of the low population zone.

4 So that even though it is difficult to identify  
5 as going through each of these features, each of the 16 factors,  
6 the first and most concrete fact is that all those activities  
7 which deal with distances outside the low population zone are  
8 not necessary.

9 BY MR. NORTON:

10 Q When you talk about time delays, are the time delays  
11 discussed in your testimony or Mr. Shiffer's testimony?

12 A They are discussed in general in my testimony, and  
13 the risk reduction factors which I have presented and been  
14 questioned on in a general way, and then they are also discussed  
15 for more specific situations in Mr. Shiffer's testimony.

16 Q And by "time delays," if I understand this, what you  
17 are talking about is not really a time delay but an additional  
18 time that you have available to you to take protective measures  
19 at low-power, as opposed to full-power?

20 A That is right, because the energy generated during  
21 the shutdown period, following shutdown, after 5 percent  
22 operation, the energy generated is much less. This means that  
23 in the event that emergency cooling is necessary, and so on,  
24 it takes much, much less time for the temperature to build up,  
25 and during this time -- I am sorry; much more time. I misspoke.



4  
1 Much more time for temperatures to build up, and those are the  
2 times available to take actions off-site.

3 Q All right. So you are really saying a two-pronged  
4 thing; the area of concern, of course, is greatly reduced,  
5 and the time in which to do something about it is greatly  
6 enlarged?

7 A That is correct.

8 JUDGE KLINE: That is helpful. Thank you.

9 MR. NORTON: Okay. And I am sorry, I forgot what  
10 number we left off with of the 16 factors.

11 JUDGE WOLF: Number 13 coming up.

12 MR. NORTON: Yes, I will now do Number 13.

13 Number 13 simply reads: "General plans for recovery  
14 and reentry are developed."

15 BY MR. NORTON:

16 Q First of all, Mr. Shiffer, do you believe that, for  
17 purposes of low-power testing, that the Applicant complies with  
18 this requirement?

19 A (Witness Shiffer) Yes.

20 Q All right. And in terms of the Emergency Plan, is  
21 that discussion contained therein?

22 A Yes, in Section 9. It is also discussed in Emergency  
23 Procedure R-2.

24 Q All right. Now, Number 14: "Period exercises are  
25 (will be) conducted to evaluate major portions of emergency



5 1 response capabilities. Period drills are (will be) conducted  
2 to develop and maintain key skills and deficiencies identified  
3 as a result of exercises or drills are (will be) corrected."

4 I am sorry that I didn't read read it a little bit  
5 better than that.

6 Were you able to follow that, Mr. Shiffer, despite  
7 my poor syntax?

8 A Yes.

9 Q All right.

10 A It is discussed in the testimony in Section 9.

11 Q All right. And do you believe that, for purposes of  
12 low-power testing, the Applicant has, and will, comply with  
13 this standard?

14 A Yes.

15 Q Number 15: "Radiological emergency response training  
16 is provided to those who may be called on to assist in an  
17 emergency."

18 Again, where is that discussed in your testimony?

19 A In 9.

20 Q All right. And do you believe that, for purposes  
21 of low-power testing, that the training has, and will be,  
22 adequate for purposes of low-power testing?

23 A Yes.

24 Q Finally, Number 16: "Responsibilities for Plan  
25 development and review and for distribution of emergency plans



6  
1 are established and Planners are properly trained."

2 First of all, has this been discussed? This particular  
3 item, was this discussed in your written testimony?

4 A No, it was not.

5 Q All right. Let's break it down. First of all, in  
6 its entirety, do you believe that the Applicant, for purposes  
7 of low-power testing, has complied with this requirement?

8 A Yes.

9 Q All right. Now, breaking it down, it says, first  
10 of all, "Responsibilities for Plan development" should be  
11 taken care of. Has that been done and, if so, where is it?

12 A Well, that is discussed in the Position Plans, and  
13 there were job descriptions for the people. We have not  
14 included it in the Emergency Plan. It is in, for example, my  
15 job description.

16 Q All right. In fact, it is your individual responsi-  
17 bility, is it not?

18 A In the general sense, yes.

19 Q In addition, there is a request that there should  
20 be Plan review. Is that handled anywhere? Is there, indeed,  
21 provisions made for Plan review?

22 A Yes, there are. That is discussed really in the  
23 Charters for our Safety Review Committees, Corporate Safety  
24 Review Committees, and it is discussed in those Charters as  
25 an internal PG & E document, but the details of those Charters



7  
1 are incorporated into the Plant's technical specifications,  
2 which will be a part of the license. In other words, when we  
3 receive our license, appended to that is the technical speci-  
4 fications. There is a section in those technical specifications  
5 on administrative controls, and that will require that emergency  
6 plans be periodically reviewed.

7 Q And that review is by the Plant's Staff Review  
8 Committee?

9 A And a Corporate Review Committee, as well.

10 Q All right. Another part of that has to do with Plant  
11 administrative procedures regarding distribution of the Plan.  
12 Where is that covered if, indeed, it is, as I believe you have  
13 testified it was?

14 A Well, it is contained in a general way in our admini-  
15 strative procedures on document control.

16 Q All right. And finally, it says, "that Planners are  
17 properly trained." Where is that handled?

18 A That is in the job descriptions that I referred to  
19 previously.

20 Q So, indeed, all of these have been covered?

21 A Yes.

22 MR. NORTON: Excuse me, Your Honor. I would like  
23 to take just a moment to go over the notes we had during the  
24 cross and make sure we have covered everything.

25 JUDGE WOLF: All right.



8  
1 BY MR. NORTON:

2 Q I would like to ask the panel, there were questions  
3 asked I believe of Dr. Brunot and Mr. Shiffer regarding the  
4 power at which the tests would be conducted, and I believe you  
5 said a couple of them would be conducted at 1 1/2 percent,  
6 and a couple at 3 to 4 percent, et cetera, and Dr. Brunot, you  
7 were questioned about where you got these numbers.

8 I would ask the panel, is it not true that there  
9 have been experience from other similar reactors for low-power  
10 tests where you can get the numbers, and where you have, in  
11 fact, gotten the numbers as to fission products, et cetera,  
12 or the power levels at which they were operated during those  
13 tests?

14 A (Witness Brunot) As far as the record of other  
15 reactors, at what power level it has been operated, I don't  
16 know. As far as the relationship between that and the fission  
17 products, yes, there is a well-established relationship.

18 Q All right. So that was not just then idle speculation  
19 on your part? There are hard numbers available that you indeed  
20 called upon or did use?

21 A Yes.

22 MR. NORTON: We have no further redirect at this time,  
23 Your Honor.

24 JUDGE WOLF: Mr. Reynolds, do you wish to cross-  
25 examine on the criteria that has been discussed by the panel?



1 MR. REYNOLDS: I do have some recross based on the  
2 redirect.

3 RECROSS EXAMINATION

4 BY MR. REYNOLDS:

5 Q Mr. Skidmore, did I understand you correctly to say  
6 that this full exercise, which is referred to in the Shiffer,  
7 et al, testimony could conceivably be ready in June?

8 A (Witness Skidmore) No.

9 Q Which drill were you referring to in the month of June?

10 A Let me, if you would, clarify, using the vocabulary  
11 established by FEMA. The "exercise" refers to a full field  
12 exercise, and that is the one that we pointed out in our  
13 testimony. I think it is on Page 38, if I remember correctly,  
14 and that is the one that is scheduled in August. Okay?

15 Q And you do not plan at this time, anyway, that that  
16 drill will precede fuel loading?

17 A Not necessarily. It is not needed for fuel loading.  
18 Okay?

19 Q All right, fine.

20 A The other terms I referred to were "drills." Now,  
21 this, again, is using FEMA's definition. Anything that isn't  
22 an "exercise" is, by definition, a "drill." That includes what  
23 we might call "walk-throughs," where you literally have people  
24 in a room and you march through a procedure, asking what one  
25 does.



1           The next step would be actually to simulate what you  
2 would do. Now, it is those events that are being planned with  
3 FEMA; the California OES people, EPA, DOE, and the other parties  
4 I mentioned, and those will be starting, per FEMA's guidance,  
5 as concurred in by the State OES people, in early June. Excuse  
6 me, early July.

7           Q     Now, Mr. Shiffer, the implementing procedures which  
8 you discussed during the course of the redirect, those are  
9 not -- I think we discussed this yesterday, but I just want  
10 to make sure the record is clear on it; those are not part of  
11 the Plan?

12           A     (Witness Shiffer) Well, they have never been sub-  
13 mitted or attached to the Plan, that is correct. So physically,  
14 they are a separate document.

15           Q     With reference to the San Luis Ambulance Service,  
16 is there any agreement between PG & E and the Ambulance Service  
17 in which the Ambulance Service commits full-time service to  
18 Pacific Gas and Electric?

19           A     No.

20           Q     Isn't it true that the Ambulance Service has other  
21 customers, perhaps?

22           A     Yes.

23           Q     In the agreement which is included in Appendix 7 of  
24 the Plan, it doesn't specify the number of drivers that are  
25 committed, does it?



1 A No.

2 Q It doesn't specify the number of attendants which are  
3 available to PG & E, does it?

4 A No.

5 Q And it doesn't specify that you will get three  
6 ambulances, or two ambulances, or, assuming they are busy that  
7 night, any ambulances?

8 A That is correct.

9 Q And do you have any back-up arrangements for an  
10 ambulance service?

11 A No, we don't.

12 Q You had not planned for that contingency; is that right?

13 A Well, if we were simply unable to get an ambulance  
14 and we needed to get a person to the hospital, we would take them  
15 in a Company car.

16 Q Now, you referred to conversations which you have had  
17 with the Sheriff in which he informed you that his personnel  
18 would notify residents and visitors in the LPZ, and he gave  
19 a time estimate for that notification, isn't that right?

20 A Yes.

21 Q Do you know how he arrived at that time estimate?

22 A Well, for the notification process, particularly for  
23 residents in the LPZ, I know that back in some of the exercises  
24 in '77, I guess it was, they dispatched a team out there and  
25 kind of went house to house, up through the See Canyon area,



1 which is where most of these residences are located and, as I  
2 remember the exact number, it was about an hour and 20 minutes  
3 to get to them all.

4 Q And you said they went to See Canyon. Did they go  
5 to other areas of the LPZ?

6 A Well, the only other area where is a house, really,  
7 other than that general road up through the See Canyon area,  
8 would be the Field Ranch.

9 Q Did they go to the Field Ranch?

10 A I don't think they did. I don't recall specifically.  
11 I don't think so.

12 Q And there are other people in the LPZ, besides  
13 residents, isn't that right?

14 A Oh, yes.

15 Q There are a number of visitors, for example in the  
16 Montana De Oro State Park?

17 A That is correct.

18 Q I think the figure that was discussed earlier was  
19 5,000 people on a particular day; isn't that right?

20 A Well, the number that was in the testimony was 400  
21 to 1,500.

22 Q Even that, but I think there was another number today,  
23 but that doesn't matter.

24 Did the Sheriff, in this mock drill or notification  
25 drill, attempt to notify any of these visitors in Montana De Oro



1 State Park?

2 A Not that I am aware of, no.

3 Q Do you know if they have ever attempted any mock  
4 notification in remote areas of the LPZ?

5 A Not that I am aware of.

6 Q Do you know how many Officers were involved in that  
7 notification?

8 A In '77?

9 Q Yes.

10 A Not specifically. It was a couple of cars.

11 Q If they only covered See Canyon in 1977, it probably  
12 means that they would need more Officers to aid in the notifica-  
13 tion to stretch to other areas of the LPZ; isn't that right?

14 A Depending on the time of day.

15 Q Do you know if the Sheriff has other men which he  
16 could deploy in that fashion?

17 A And also the wind direction. The wind direction  
18 would govern where you would want to concentrate your early  
19 efforts, obviously.

20 Q Do you know if the Sheriff has sufficient men to  
21 notify all persons in the LPZ within the time estimate which he  
22 gave you?

23 A Well, he would probably -- in fact, not "probably;"  
24 he would undoubtedly invoke these mutual aid agreements and  
25 get assistance. For example, talking about Montana De Oro,



1 they would get Park people, and then, if he needs additional  
2 law-enforcement agencies, he has various mutual assistance  
3 agreements that he can call on.

4 Q Isn't that speculation on your part? Do you know for  
5 a fact that that is what he would do?

6 A That is what he has told me he would do. I know for  
7 a fact that he has mutual assistance agreements. I also know  
8 that he would utilize the Park personnel.

9 Q Do you know whether or not the Sheriff has prepared  
10 a detailed plan specifying the numbers of Officers, numbers of  
11 cars, areas where these Officers will be deployed, in the event  
12 that it is necessary for them to notify members of the LPZ on  
13 short notice?

14 A The plan that has been prepared at this moment is  
15 the plan that is incorporated, or the SLP that is incorporated  
16 in the County Plan that is attached to the Site-Emergency Plan.

17 Q Now, do you know if that Plan specifies numbers of  
18 Officers in particular areas and numbers of vehicles that  
19 should be deployed; specific information which will aid in  
20 the implementation?

21 A I don't believe that it does for that specific case,  
22 no.

23 Q Do you know if the estimate that the Sheriff gave  
24 you for notification time, was that based on notification  
25 efforts during good weather, perhaps on a summer day?



1           A     I think it was a daytime notification. I presume  
2 it was good weather, yes.

3           Q     Is it probable that that estimate would be increased  
4 in terms of the time it would take to notify if it were, say,  
5 cold, rainy weather?

6           A     Well, I don't think it would change all that much,  
7 because you would go up -- I mean the houses, of course, you  
8 could find day or night. The number of people on a cold, rainy  
9 night that might be in Montana De Oro I am sure would be much  
10 smaller. So I would think that aspect of it would be much  
11 reduced.

12          Q     Are some of the roads that would have to be utilized  
13 for notification dirt roads?

14          A     Well, the Field Ranch Road is.

15          Q     And there are people who live on the Field Ranch Road;  
16 isn't that correct?

17          A     Yes. There is about --

18          Q     And they would have to be notified?

19                   I am sorry, I didn't mean to cut you off. Why don't  
20 you go ahead and finish your answer.

21          A     I was going to say, there are seven.

22          Q     And those people would be notified by the Sheriff's  
23 personnel; is that correct?

24          A     That is correct, or by telephone.  
25



1 BY MR. REYNOLDS:

2 Q Or by telephone, so it would be either one, by  
3 telephone or by actually house to house, is that correct?

4 A (Witness Shiffer) That is correct.

5 Q When was the last time you were out at the Field  
6 Ranch?

7 A Last time I was out?

8 Q Yes.

9 A Monday.

10 Q And didn't you have a conversation on Monday with  
11 Alan Brunot, whose family owns the Field Ranch?

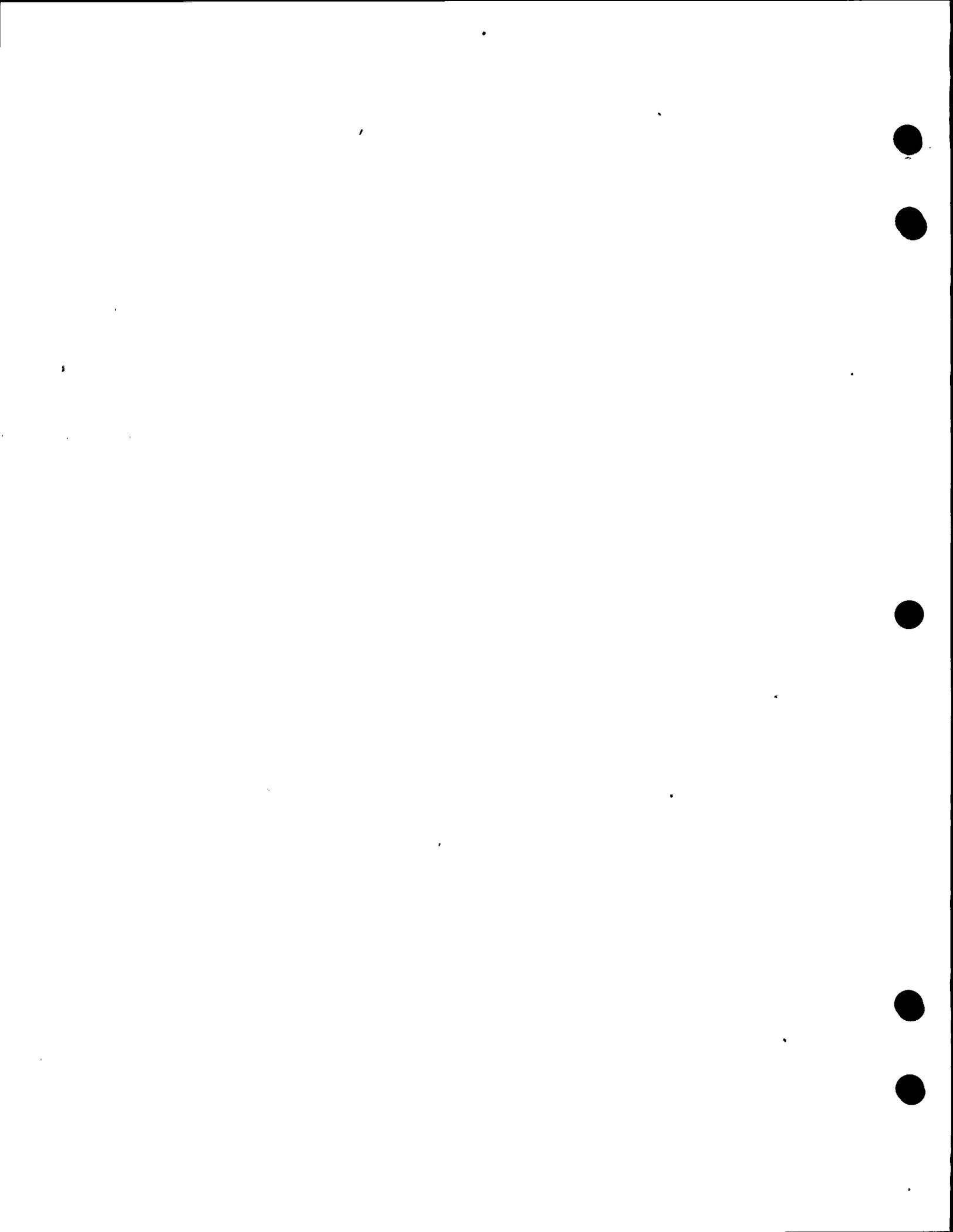
12 A Yes.

13 Q And didn't he inform you that the Field Ranch Road  
14 is impassable in wet weather, and during the winter for as  
15 much as two weeks at a time?

16 A Well, yes, and he was speaking primarily of the --  
17 that stretch of the road, the adobe section that -- in  
18 between -- or the first thing you -- basically the first thing  
19 you encounter as you go North out of the plant. You could  
20 come in from the other side. One of the houses, as a matter  
21 of fact, is right on the border line on the northern border.

22 So you wouldn't really have to travel, only 100  
23 yards of the Fields Road to get to that one.

24 Q Has the Sheriff planned for the contingency that  
25 certain of the residents might not be at home during the time



t13 2g  
1 that they go to the particular house?

2 A Well, I don't know specifically. I suppose if there  
3 is nobody home, there is nobody home.

4 Q And it is conceivable that they might have to go  
5 back to a house the second time, to notify?

6 A Well, if they somehow -- if they were not there and  
7 they came back in, but ordinarily in a situation like this  
8 if you evacuated the place you would throw up a roadblock so  
9 people wouldn't come back in.

10 Q That assumes that they might -- that they wouldn't  
11 be out within the LPZ itself, perhaps hiking, something like  
12 that.

13 A Oh, that is true, but -- yeah, they might have --  
14 they probably would make a second pass or so, if they didn't  
15 feel they had gotten everybody.

16 Q Do you know if the Sheriff has prepared a written  
17 statement to give to people at the time that they are  
18 notified explaining such things as what is going on at the  
19 plant, what measures that person should take, how much time  
20 they would have, things of that nature?

21 A I am sure that he hasn't.

22 Q Is it your position that until it is clear finally  
23 whether or not the alert system will be in prior to fuel load  
24 or a house to house search will be the means of notification,  
25 is it your position that there is really no purpose to be



13t 3g 1 served by notifying the public through a public information  
2 program?

3 A No, I think I said that as we get closer to fuel  
4 loading, and we decide what point -- what status we will be in  
5 by the time we are fuel loading, we intend to write something  
6 to each resident.

7 Q What do you mean by the status that we will be in?

8 A Well, I mean -- in other words, what I am saying  
9 is if at the time of fuel loading we intend to conduct house  
10 to house notifications, that is what our letter will say.  
11 If by some chance, we had some fraction of the early warning  
12 system in so that it might affect an area, we would obviously  
13 say that.

14 Q So until you have decided whether or not that will  
15 be the case, is it your view that there is no purpose to be  
16 served by implementing a public information program? --

17 A Today, I don't think there is any real purpose for  
18 it, but I -- we intend to do it before we load.

19 Q Do you mean that there is no purpose to be served  
20 by informing the LPZ residents or visitors what the  
21 evacuation routes might be?

22 A Well, I guess it is a question of -- simply of  
23 timing. I think there is a purpose to be served by  
24 notifying them before they might have to actually engage in  
25 such a thing, whether today, or next week, or next month is,



t13 4g  
1 I don't think critical.

2 Q Well, you said -- maybe it was not you. Maybe it  
3 was Dr. Brunot. It was one member of the panel, in response  
4 to a question of Mr. Olmstead that if you were notified on  
5 July 1 that you could load fuel, it would take 30 days, so is  
6 it your position that 30 days provides plenty of time to tell  
7 the public everything they need to know about evacuation?

8 MR. NORTON: Excuse me. Are we talking about the  
9 65 people in the LPZ?

10 MR. REYNOLDS: No. We are talking about the  
11 residents of the LPZ and any visitors that might be in the  
12 LPZ.

13 MR. NORTON: Excuse me again. Are we to assume  
14 that all visitors who are going to be in the LPZ, we know  
15 where they come from? They may be here from New York State  
16 or wherever, and clearly you are not going to be able to give  
17 them advance notice, and that is why you have to have plans,  
18 and you have to know what you are going to do and go in and  
19 do it, but I don't understand what his question -- is he  
20 asking us, do we have a plan to notify everyone in the world  
21 or do we have plans to notify the people that live in LPZ?

22 BY MR. REYNOLDS:

23 Q Why don't we take first the people that live in the  
24 LPZ? Is it your position that 30 days provides plenty of  
25 time to inform them of everything they need to know about



5g  
1 evacuation?

2 A (Witness Shiffer) Yes, I think so.

3 Q Do you feel that there is no purpose to be served  
4 by providing public information programs to explain what the  
5 risks might be at low power?

6 A Well, I think -- I don't know that there is any  
7 tremendous purpose to be served, to talk about the details  
8 of the -- you know, specific low power test program. I  
9 don't -- I think that the general subject of nuclear power is  
10 worth discussing, and of course, that is a very much discussed  
11 subject in this area.

12 Q Has PG & E taken -- has PG & E taken any actions to  
13 inform the residents of the LPZ what the risks are in a  
14 low power test program?

15 A I am sorry. People were talking. Would you say  
16 that again?

17 Q Sure. Has PG & E taken any actions to inform the  
18 residents of the LPZ what the risks involved in a low power  
19 test program might conceivably be for them?

20 A Not at this time, no.

21 Q Has PG & E taken any action to inform the LPZ  
22 residents what the medical facilities are that they would have  
23 to contact in the event of radiation-related injury due to  
24 an accident at the Diablo Canyon plant?

25 A No, because I think that that is something that



6g  
1 really the County Health Officer should decide on the -- you  
2 know, at the time of an occurrence.

3 Q Has PG & E taken any action to inform those  
4 residents of the LPZ just generally what kinds of things  
5 would be the most appropriate actions to take in the event of  
6 such an accident?

7 A Not yet, but we will do that.

8 Q That will be done within 30 days prior to fuel load,  
9 is that correct?

10 A That is correct.

11 Q And there is no plans to do it any sooner than that?

12 A Well, I would have to get out -- now that we have  
13 the County plan in our -- you know, in our hands, and we can  
14 sit down and discuss certain details, it is our intention to  
15 try to get the entire public information program related to  
16 emergency planning out as soon as we possibly can.

17 Hopefully that will be all -- you know, we are  
18 talking about -- up to now, at least, we have been talking  
19 about July, August type timeframes. I would certainly hope  
20 that the majority of that will be out by that point in time,  
21 and that will cover a much broader spectrum of things, that  
22 we -- like I say, almost every document that is involved to  
23 some extent is tied to the County plan, and so we have been  
24 reluctant to put this information out prior to the County  
25 plan being in our hands.



7g  
1 MR. REYNOLDS: I have no further questions.

2 JUDGE WOLF: Mr. Lanpher, your witness.

3 MR. LANPHER: Judge Wolf, I would like about five  
4 minutes to go over my notes before conducting some cross-  
5 examination.

6 JUDGE WOLF: We will take a ten-minute break at  
7 this time. Off the record.

8 (Brief recess.)

9 JUDGE WOLF: On the record. Are we ready, Mr.  
10 Lanpher?

11 MR. LANPHER: Yes.

12 MR. BROWN: Judge Wolf, I am going to ask, if you  
13 don't object, this question of the PG & E panel.

14 JUDGE WOLF: Very well.

15 RE-CROSS EXAMINATION

16 BY MR. BROWN:

17 Q Mr. Shiffer?

18 A (Witness Shiffer) Yes, sir.

19 Q Your statements on redirect concerning whether  
20 PG & E believes that it satisfies the 16 criteria of 50.47  
21 low power testing, did you consider the possibility of  
22 complications caused by an earthquake as great as the SSE?

23 MR. NORTON: Excuse me, Your Honor. I don't have  
24 any real objection to the question, except I assume I know  
25 what Mr. Brown means, but it isn't in the question, and it



8g 1 just dawned on me that it isn't in the question. I assume he  
2 means a maximum credible earthquake, at the closest point to  
3 the site, as opposed to that earthquake occurring, you know,  
4 50 miles away, or something, where the largest ground motions  
5 occur at the site, is that correct, as opposed to someplace  
6 else?

7 MR. BROWN: I am using the technical definition of  
8 it as the NRC does in the regulations.

9 MR. NORTON: Okay, at the site.

10 WITNESS BRUNOT: I am not going to answer the  
11 question, but I am going to comment that one of the things  
12 involved here, you are speaking of operating at three percent  
13 or five percent power for one month, and as you may know from  
14 the seismic hearings, or from the seismic risk analysis, that  
15 the frequency -- expected frequency of those kind of  
16 earthquakes is maybe once every thousand years, to ten  
17 thousand years, something like that. I am just kind of --

18 BY MR. BROWN:

19 Q I follow your comment. We are guided, though, on  
20 that by the regulations. In any event, Mr. Shiffer, if you  
21 have had a chance to run through the 16, I would appreciate  
22 it if you could respond.

23 A (Witness Shiffer) Well, most of the 16 points, I  
24 would have answered -- in fact, in general, I would answer --  
25 my answer would have been the same. Now, one thing I should



9g

1 say that we are doing here is that we have been asked to<sup>10878</sup>  
2 respond to a letter that discusses earthquakes specifically  
3 with respect to emergency planning, like for example in the  
4 communications systems and things of this nature. We haven't  
5 completed that analysis yet and have not made that submittal,  
6 but in most of these cases, I mean, like for example,  
7 responsibilities and things like this, it would be the same  
8 answer.

9 Q Well, what complications did you consider, or do  
10 you have in mind right now when you responded?

11 A Well, my answer is to the best of my knowledge, to  
12 the extent that a facility is required to be earthquake-proof,  
13 we have made it earthquake-proof. To the extent that the  
14 facility may not be required to be, it may not be. So, I  
15 mean, where there is a requirement to make something a Class  
16 I structure, for example, the tech support center, we made it  
17 a Class I structure.

18 Q But I asked if you had any complications in mind  
19 when you responded to these. I still not -- I don't have an  
20 answer, I believe. If you could just list the complications  
21 caused by the SSE, that is what I would like, and if you didn't  
22 have any in mind, please state that, too.

23 A Well, I made a statement -- I didn't -- I made a  
24 statement in a general way. I mean, in other words, I would  
25 feel that certainly an earthquake would be a complication



10g  
1 because if not -- I mean, even if it didn't affect the plant,  
2 you know, it would be something that the general public would  
3 be obviously aware of, and could possibly -- you know, well,  
4 for example, the Sheriff's office could possibly be  
5 responding to something involving the earthquake, and that  
6 would be a -- if it was unrelated to Diablo Canyon, that  
7 would be a complication.

8 Q For sure I am not trying to argue with you. I  
9 just want to get something clear. From the nature of that  
10 answer, I am going to assume it, if I am correct, state it,  
11 otherwise correct me, that you really did not have a list of  
12 complications in mind when you went through the 16 points.

13 A That is correct. That is correct.

14 Q Thank you. Now, PG & E was asked by the NRC to  
15 undertake an analysis of the consequences of earthquakes,  
16 and apparently it is my understanding from something said  
17 earlier that such a study is now under way, is that correct?

18 A That is right.

19 Q Now, will that study also embrace the question of  
20 earthquakes in conjunction with operation at low power?

21 A Yeah, the study that is being -- I mean, the  
22 question we were asked by the NRC and the study that is being  
23 done involves primarily the subjects of evacuation and  
24 communications.

25 Now, the communications system analysis obviously



11g  
1 is relevant to low power, since we have been using basically  
2 the same communications system. Much of the evacuation portion  
3 of it would not really be relevant to low power, because it  
4 is primarily being looked at -- you know, the roads and  
5 things that are being looked at in that sense are located  
6 well beyond the LPZ.

7 Q Now, this is -- I think it is necessarily subsumed  
8 by the other question, but I take it when you went through  
9 the 16 criteria, you didn't have in mind a -- the complications  
10 that might be caused by an earthquake greater than the SSE?

11 A That is right.

12 Q This is for anyone on the panel who might be able  
13 to respond. The question is whether the review of FSAR  
14 amendment number 52 was ever completed by the NRC?

15 A (Witness Brunot) The amendment 52 was submitted as  
16 a partial response to a motion for interim license about  
17 three years ago. The NRC at that -- there were some other  
18 factors involved in that license applications. For other  
19 reasons, that application was not pursued, and the review --  
20 what the NRC staff did was submit that analysis to one of  
21 their research branches for review.

22 The research branch reviewed it, not completely.  
23 They reviewed it in a survey way, and produced a review  
24 document. That was submitted back to the staff with a cover  
25 letter saying that they had reviewed it and they gave their



12g  
1 technical comments, about 20 pages, and they indicated that --  
2 or the NRC staff indicated that it was not their intention to  
3 use that amendment 52 for any licensing decisions, since the  
4 motion was not being pursued.

5 Q I take it then, just to make clear for the record,  
6 that that -- there was no amendment to the SER or supplement  
7 to the SER issue which would have embraced the staff's review  
8 of FSAR amendment 52?

9 A That is correct.

10 Q Thank you.

11 MR. BROWN: Those are all the questions we have got,  
12 Judge Wolf.

13 JUDGE WOLF: Mr. Olmstead, do you have any  
14 questions for this panel?

15 MR. OLMSTEAD: Yes, I have one.

16 FURTHER RECROSS EXAMINATION

17 BY MR. OLMSTEAD:

18 Q I would like to know if the panel has Joint  
19 Intervenor's Exhibit 111 there?

20 A (Witness Shiffer) You will have to tell me a little  
21 more precisely what that is, because we have got so much  
22 paper up here. I --

23 Q It is Pacific Gas and Electric's answers to Joint  
24 Intervenor's interrogatories, dated April 29, 1981. It is  
25 the supplemental answers.



1 A Okay.

2 Q And my question to you is, does your -- the  
3 redirect examination covering the 16 items in 50.47(b) that  
4 Mr. Norton went over with you just a moment earlier change in  
5 any way the answers that you gave in this supplement to  
6 Joint Intervenor's interrogatories?

7 A No.

8 Q No? Thank you.

9 JUDGE WOLF: Does that end your examination?

10 MR. OLMSTEAD: Yes, sir.

11 JUDGE WOLF: Very well. Subject to possible recall  
12 of this panel in the morning -- first the Board members will  
13 have questions. Mr. Bright?

14 JUDGE BRIGHT: Well, just a few things. I thought  
15 of along the way. I think the cross-examination has been  
16 quite thorough, gentlemen.

17 I guess, Dr. Brunot, a question that occurred to me,  
18 I don't know whether this -- anybody even thinks about it in  
19 these terms or not, but up to a certain point, running at a  
20 particular power level, you could suffer complete uncovering,  
21 is a word that was recently coined, I understand, uncovering of  
22 the core, get rid of all heat conduction, but still maintain  
23 convection and radiation, and at some point, the fuel would  
24 not get hot enough to either injure the clad, let alone melt  
25 the fuel. Has anyone ever really calculated this, how long



14g 1 you could run at say five percent power?

2 WITNESS BRUNOT: You are right, at some point that  
3 would be the case. I don't know of analyses -- whether that  
4 kind of analysis has been carried that far. I think that we  
5 might possibly ask to get some information from Westinghouse  
6 on that. Could we see what we could find, and answer that  
7 later? I am not prepared to answer.

8 JUDGE BRIGHT: Well, it is not really terribly  
9 important, if it is no real problem. I would be interested,  
10 just as a matter of getting some perspective as to when you  
11 are going to get in trouble.

12 WITNESS BRUNOT: I will see if I can get some --  
13 have a -- consult with Westinghouse and see.

14 WITNESS SHIFFER: Just to make sure that we get the  
15 information that you are really looking for, I mean, there  
16 is really two ways to look at this. If you ran at a low  
17 enough power level forever, you wouldn't generate enough  
18 heat, so that is one possible way to express the answer.

19 Another possibility is if you ran at five percent  
20 power for some period of time, you probably wouldn't generate  
21 enough heat either. Now, are you interested in both of those?  
22 I don't know that --

23 JUDGE BRIGHT: No, you say that you intend to  
24 operate the thing at up to five percent power, so I think we  
25 have a given.



15g 1 WITNESS:SHIFFER: So you are mostly interested in  
2 how long could you go at five percent power?

3 JUDGE BRIGHT: Yes.

4 WITNESS:SHIFFER: Okay.

5 JUDGE BRIGHT: And suffer no problem, in case you  
6 did happen to lose all the water.

7 WITNESS SHIFFER: I don't know the answer to that  
8 question, and we will try to see if we can find it.

9 JUDGE BRIGHT: I have heard the statement more than  
10 once about -- well, it goes something like, well, the TMI  
11 accident could never happen to Diablo Canyon because it is a  
12 different system. That is fine, but -- and I am just curious  
13 as to -- yeah, it is a different system, but it is a  
14 pressurized water reactor. It runs on the same physical  
15 principles that any B and W plant does, and I am just  
16 curious why in a very short thesis, perhaps, why it couldn't  
17 happen at Diablo.

18 WITNESS BRUNOT: I don't think, -- Dr. -- or Mr. Bright,  
19 that anyone -- I haven't said that no accident similar to  
20 TMI could possibly happen to Diablo, and I know that is true  
21 for the people here with me.

22 What is often said, that the systems are different,  
23 and the response, particularly during the early part of the  
24 accidental events that happened at TMI, are quite different  
25 at Diablo, and that would be because of the different storage



16g 1 capacity in the steam generator, and some other differences.

2 I think we have spent the last two -- I guess it is  
3 over two years studying the sequences that happened at TMI  
4 very carefully, to reduce the likelihood of those kinds of  
5 possibilities at Diablo, or at anywhere else in the industry.

6 I don't think that you would get an absolute  
7 statement that no such thing could possibly happen.

8 JUDGE BRIGHT: Let us see. Mr. Shiffer, I guess,  
9 we were talking about the number of people that would be on  
10 the reservation out there, and I heard a number like 14  
11 bandied around, or something like that.

12 WITNESS SHIFFER: That was -- that was the --

13 JUDGE BRIGHT: Operating crew?

14 WITNESS SHIFFER: That was -- yeah, that was  
15 basically the operating crew without testing going on.

16 JUDGE BRIGHT: Okay, now my question was, was that  
17 total or was that per unit?

18 WITNESS SHIFFER: Oh, that is for Unit 1.

19 JUDGE BRIGHT: For Unit 1?

20 WITNESS SHIFFER: Right.

21 JUDGE BRIGHT: And there was one question that I  
22 thought -- or at least to me needed a little bit of  
23 clarification. During cross, Mr. Lanpher asked about doing  
24 tests with intentionally degraded safety systems, and my  
25 question, does that mean you are going to weld them shut, or



17g 1 just what is the process for that?

2 WITNESS SHIFFER: No, generally speaking, what  
3 that -- certainly not weld -- not mechanically deactivating  
4 systems. You can deactivate most systems by control switches,  
5 for example, putting a switch -- a typical control switch,  
6 you will have an on/off/automatic, three positions, and  
7 normally the switch might be in the automatic position, and  
8 in a test like this, you might turn it to the off position,  
9 so you would defeat the automatic initiation, so I mean, that  
10 is the kind of way that one defeats a system for a test like  
11 this.

12 JUDGE BRIGHT: Well, then can I assume that there  
13 was no intimation that these systems were not ultimately  
14 available?

15 WITNESS SHIFFER: Oh, absolutely correct, in fact  
16 I think it discusses in the testimony that you know, if you  
17 had an emergency, you would be expected to turn all these  
18 systems on.

19 JUDGE BRIGHT: Back on.

20 WITNESS SHIFFER: Back on, that is correct.

21 JUDGE BRIGHT: Thank you.

22 WITNESS PATTERSON: I might add a little bit there,  
23 Mr. Bright. When we -- when we disable them, there is a --  
24 you might call it a master manual initiation switch, so we  
25 are not talking about running around having to turn six or



18g 1 eight different pieces of equipment back on. We have one  
2 master switch on the control board, which we can just turn  
3 the one switch to manually initiate all the engineered  
4 safeguards equipment.

5 JUDGE BRIGHT: All right. Thank you.

6 JUDGE WOLF: Dr. Kline?

7 JUDGE KLINE: Yes, I have a question for Dr. Brunot.  
8 It is related to Table I, the fission product inventories.

9 WITNESS BRUNOT: Yes, I have it.

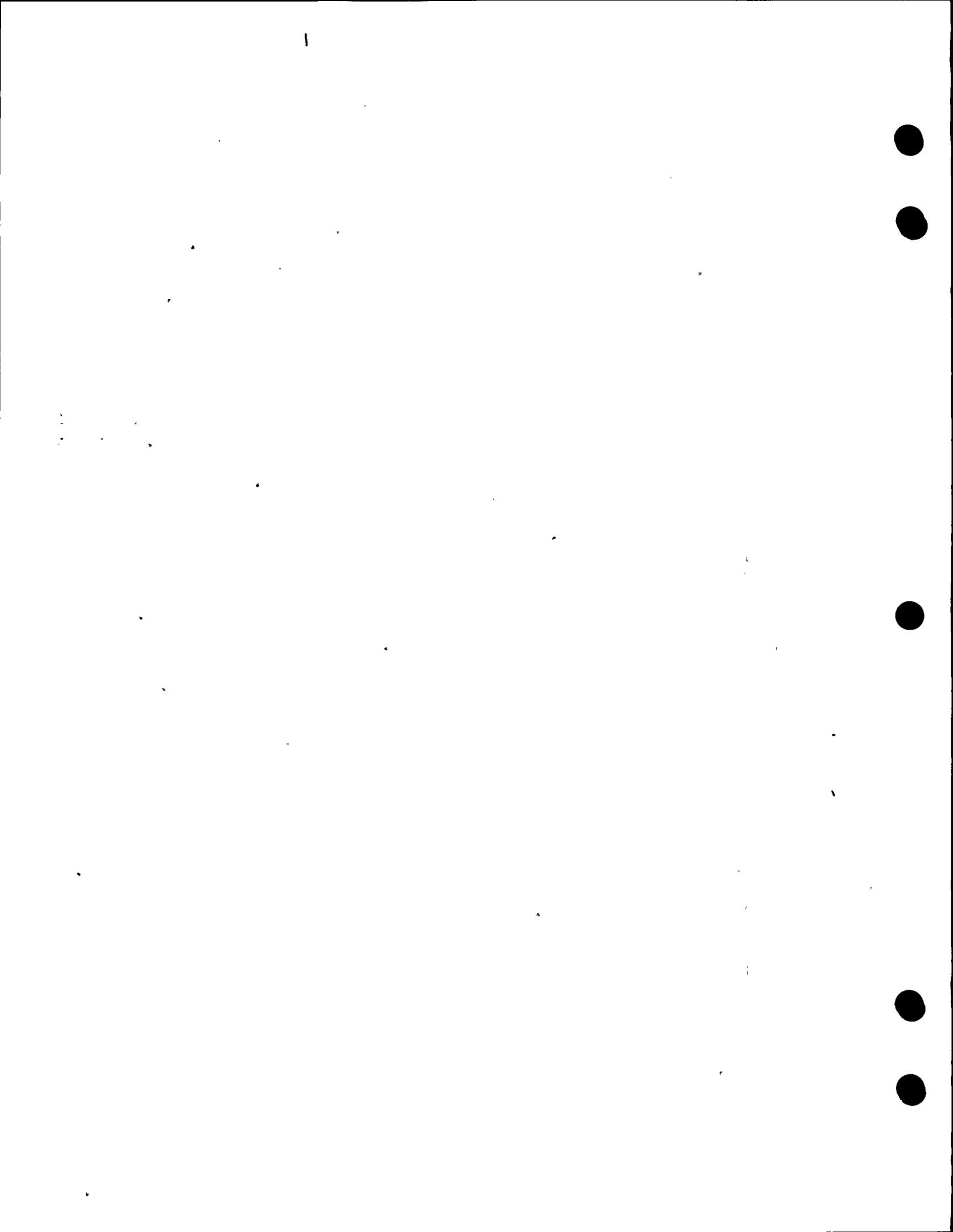
10 JUDGE KLINE: Okay, in the last column of showing  
11 the ratios of full power to five percent power, there is  
12 ratios predominantly of 20, but many much larger.

13 I am interested in knowing, that ratio, I presume,  
14 is sensitive to the time interval you chose for column three,  
15 that is, one month. Had there been another time interval,  
16 the ratio would be different, is that correct?

17 WITNESS BRUNOT: It is not sensitive for the ones  
18 that are 20. For most of them it is not sensitive. For the  
19 ones that are 400, 200 and so on, yes, it is sensitive. It  
20 is directly proportional to the operating time.

21 JUDGE KLINE: What is the significance, then, of  
22 choosing one month operation at five percent power, in light  
23 of the request for license for one year?

24 WITNESS BRUNOT: The -- I am sure the request for  
25 license for one year is so that the time at which the at-power



19g  
1 test, five percent or three to four percent, can be flexible,  
2 at which they are actually run, can be within that period of  
3 time, but the -- but the planned power is the thing that you  
4 need to determine the fission product inventories, the planned  
5 power profiles.

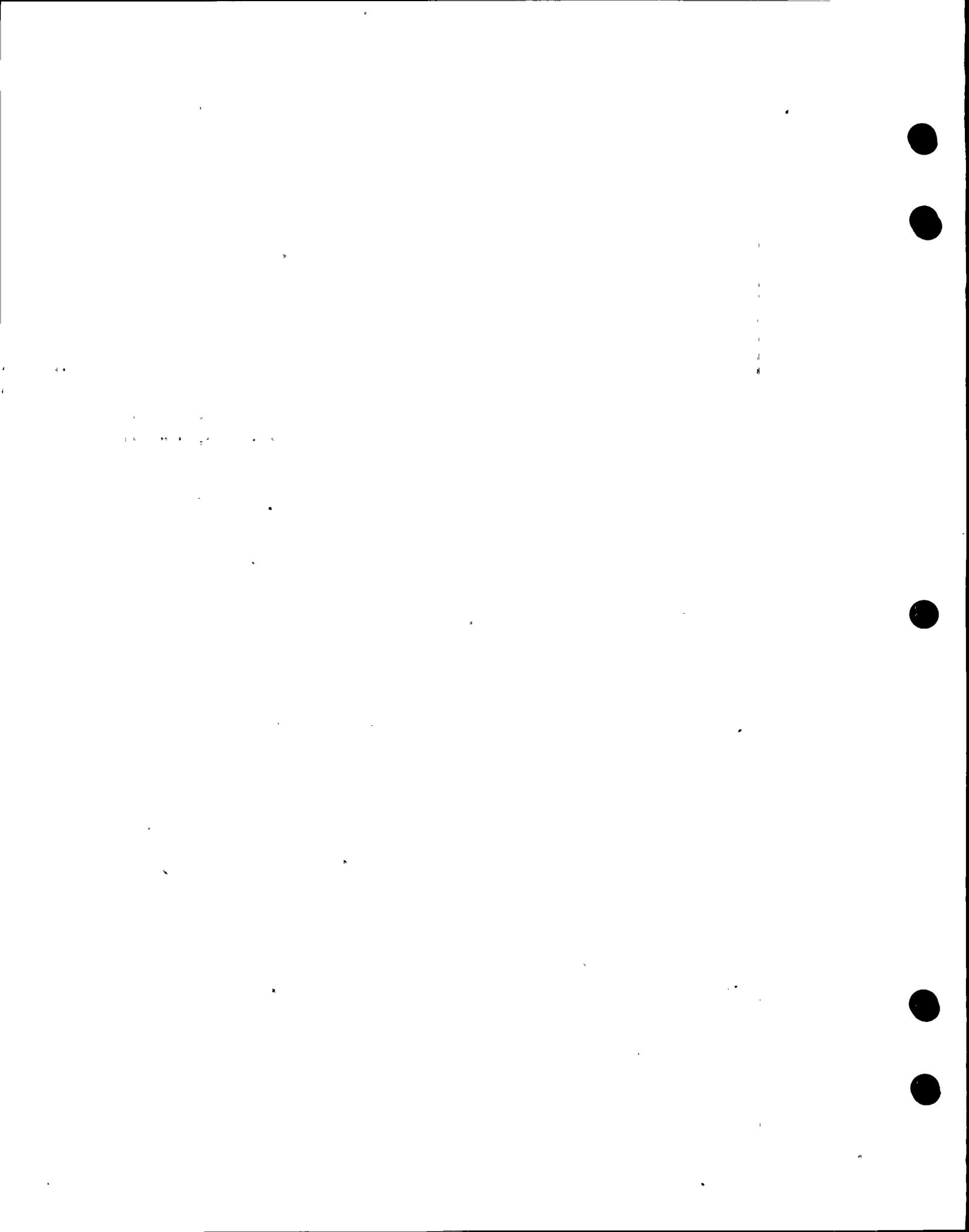
6 JUDGE KLINE: Yes. Is the -- are the numbers in  
7 column 3 computed numbers, or observed or taken from some  
8 other experience?

9 WITNESS BRUNOT: They are computed numbers, and the  
10 most convenient way to do them, I can personally develop them  
11 by hand, and the data necessary to carry out the  
12 calculations are experimental numbers. They are very well-  
13 defined experimental numbers, and the uncertainties are not  
14 very high on those particular numbers.

15 JUDGE KLINE: All right. Does one month imply that  
16 there would be approximately 30 days of operation, sort of  
17 spread throughout a year, or are these 30 days in sequence?

18 WITNESS BRUNOT: The profile that I have seen is --  
19 the actual planned profile that I have seen is drawn for  
20 about, oh, 18 days in sequence. I understand from what Mr.  
21 Shiffer said, I believe it was this morning, that there are  
22 several periods of operation planned at three to four percent.  
23 I would expect that to be within about a month. Is that  
24 right.

25 WITNESS SHIFFER: Well, the program has all these



20g  
1 tests taking place over a scheduled 18-day interval. Within  
2 that time frame, some of the tests don't require three to  
3 four percent power. For example, two of them are with the  
4 reactor shut down. A couple others are with it at one  
5 percent, so I mean, the intention is -- the intention is to  
6 just do them sequentially-over that 18-day period.

7 JUDGE KLINE: I see. So that the actual number of  
8 days, then, will be less than the 30 days contained in this  
9 calculation, is that correct?

10 WITNESS SHIFFER: Yes, that is true.

11 JUDGE KLINE: Okay. And would you say that for the  
12 reduced number of days, the more realistic number of days,  
13 that it would have little impact on the ratios that are near  
14 20, or would they --

15 WITNESS BRUNOT: Yes, it would have little impact  
16 on the ratios that are near 20. Of course, the 20 would  
17 increase if the actual power is three to four percent, rather  
18 than five, but it would have very little impact on what that  
19 number is. It would have a proportional number on the larger  
20 numbers, the ones that are 300 and 400.

21 JUDGE KLINE: It would be directly proportional,  
22 that is, if one cut the number of days in half, say at a  
23 certain power level, would the ratio double?

24 WITNESS BRUNOT: Yes, the large ones -- the 400's  
25 and so on, would be larger.



21g 1 JUDGE KLINE: But are they proportional? Would  
2 they --

3 WITNESS BRUNOT: Yes.

4 JUDGE KLINE: Are they directly proportional?

5 WITNESS BRUNOT: Yes. There are a few of these  
6 products that result from two -- a series of isotopes that  
7 have more than one decay process in them, so that is why there  
8 are some differences here that they aren't all 440. So, some  
9 of the fission products have chains that make them grow even  
10 less than a linear proportionality.

11 JUDGE KLINE: All right. Thank you, that is all.

12 JUDGE WOLF: Subject to the possible recall of this  
13 panel for additional cross by Counsel for the Joint  
14 Intervenors and for Governor Brown in the morning, you may be  
15 dismissed at this time.

16 MR. OLMSTEAD: --Excuse me, Mr. Chairman. Are you  
17 referring to cross on the Board questions?

18 JUDGE WOLF: Well, perhaps I should have offered  
19 cross right now, if anyone has any cross on Board questions.  
20 Do you, Mr. Reynolds?

21 MR. REYNOLDS: No, I have no questions.

22 JUDGE WOLF: Mr. Lanpher?

23 MR. LANPHER: I have no recross on the Board's  
24 questions. I would like a clarification on your earlier  
25 statement that they were subject to recall tomorrow morning.



22g  
1. Does that --

2. JUDGE WOLF: Well, after you have had a chance to  
3. look at the document that is going to be given to you, the  
4. book by --

5. MR. LANPHER: The procedures, you mean?

6. JUDGE WOLF: Yes.

7. MR. LANPHER: Judge Wolf?

8. JUDGE WOLF: Yes.

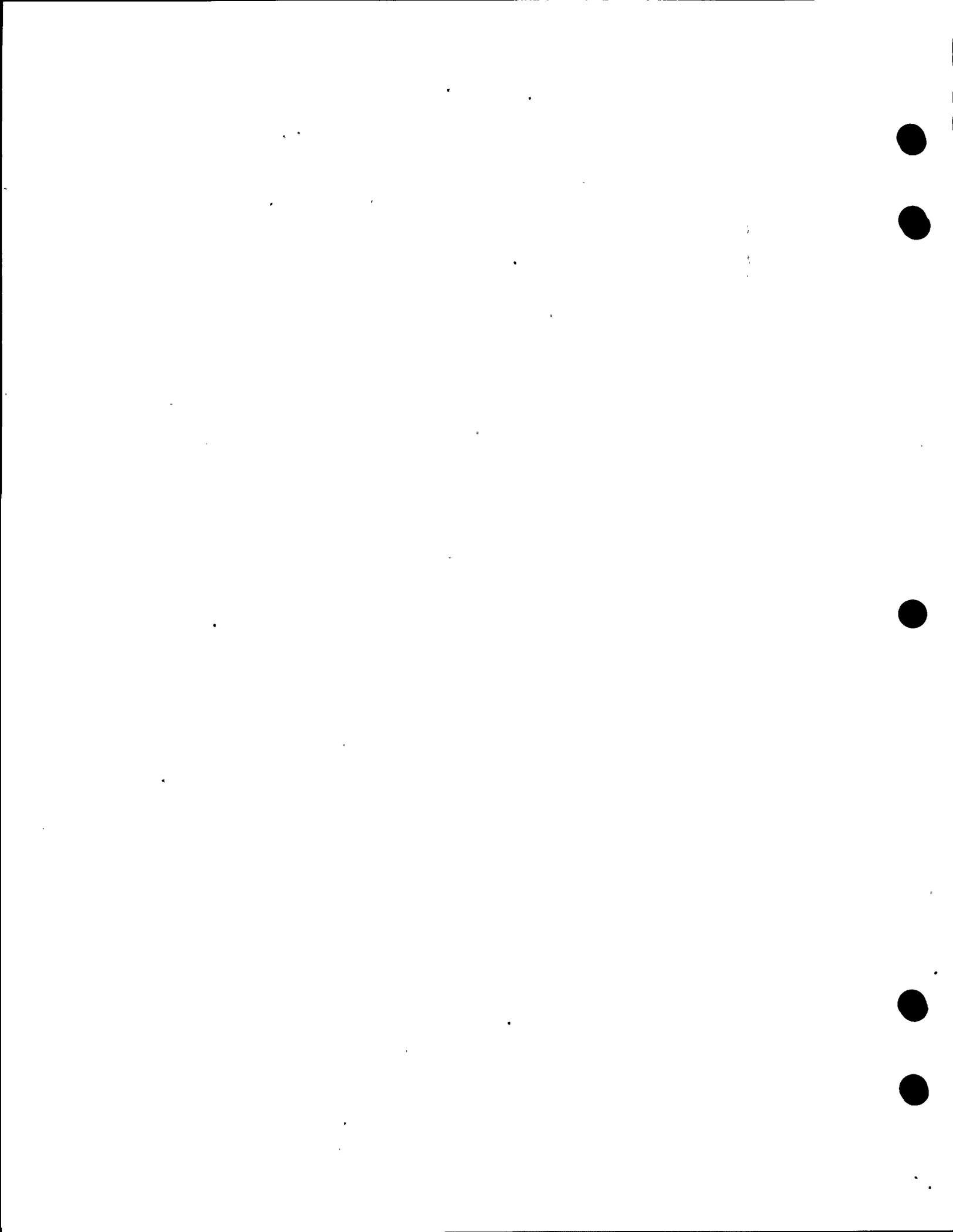
9. MR. LANPHER: I cannot be ready to make a decision  
10. on whether I have cross-examination on that procedure volume  
11. tomorrow morning -- by tomorrow morning. It just can't be  
12. done. We have witnesses and other things to prepare also.

13. JUDGE WOLF: Well --

14. MR. LANPHER: I will be happy to take a quick look  
15. at the volume tonight, to try to determine whether I am going  
16. to need to, but I can't prepare that kind of cross-examination  
17. tonight, sir.

18. JUDGE WOLF: Well, very well. You take a quick  
19. look, and let me know in the morning, and you do the same,  
20. Mr. Reynolds.

21. MR. REYNOLDS: I have just one reservation, and  
22. that is for the information which Mr. Shiffer has pledged to  
23. get, and I don't care when he gets it, just at some point  
24. during the hearing. If you recall, there were certain  
25. questions that were asked, he said he would check on the



1 information and get back?

2 JUDGE WOLF: Yes. Right.

3 MR. NORTON: What questions were those? Do you have  
4 a list of the information you want, so we can --

5 MR. REYNOLDS: I think Mr. Shiffer has that list,  
6 don't you?

7 MR. NORTON: Well, I want to know what you want.

8 MR. REYNOLDS: Well, I have, I believe, a partial  
9 list. It may be all of it, but I haven't reviewed the  
10 transcript, and it is conceivable there may have been

11 something else, so perhaps Mr. Shiffer and I can get

12 together and --

13 MR. SHIFFER: Yeah, maybe we could get together  
14 after this is over, and just -- I have a list here of things  
15 I think you asked me.

16 MR. REYNOLDS: Fine. That is acceptable for me.

17 JUDGE WOLF: Mr. Olmstead, do you have any cross  
18 on the Board's questions?

19 MR. OLMSTEAD: No.

20 JUDGE WOLF: Very well, then. You may be excused.

21 MR. LANPHER: Judge Wolf?

22 JUDGE WOLF: Yes.

23 MR. LANPHER: Should I ask our witnesses to come up  
24 to the table now?

25 JUDGE WOLF: Yes, surely.



24g  
1 MR. NORTON: Your Honor?

2 JUDGE WOLF: Yes.

3 MR. NORTON: Should we take a couple-minute break  
4 while they change places and so on?

5 JUDGE WOLF: Very well. Off the record.

6 (Brief recess.)

7 JUDGE WOLF: On the record. Are you ready, Mr.  
8 Lanpher?

9 MR. LANPHER: I am ready, sir.

10 JUDGE WOLF: Will the witnesses please stand, raise  
11 your right hand?

12 Whereupon,

13 ROBERT E. PAULUS

14 HOWARD W. MITCHELL, M.D.

15 JEFFREY JORGENSEN

16 were called as witnesses, and having been duly sworn, were  
17 examined and testified as follows:

18

19 ///: PLEASE CONTINUE READING NEXT NUMBERED PAGE ///

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DIRECT EXAMINATION

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BY MR. LANPHER:

Q Gentlemen, could you first identify yourselves for the record, beginning with Mr. Paulus?

A (Witness Paulus) Robert Paulus, Deputy Director for the California Department of Forestry.

WITNESS MITCHELL: I am Dr. Howard W. Mitchell, the Health Officer of this County, and the Director of the Health Agency.

WITNESS JORGENSEN: Jeffrey Jorgensen, County Board of Supervisors, San Luis Obispo County.

BY MR. LANPHER:

Q Mr. Paulus, do you have in front of you a document entitled "Affidavit of Robert E, Paulus"?

A (Witness Paulus) Yes, I do.

Q Do you have any additions or corrections to that document?

A There is one correction, on page three, it would be under item (a), that should read Avila Valley, not Avila Beach.

Q And with that correction, is that affidavit true and correct to the best of your knowledge?

A Yes, it is.

Q And is there attached to your affidavit also a document entitled "Resume of Robert E. Paulus?"



26g

1 A Yes,

2 Q Do you have any additions or corrections to that?

3 A No additions or corrections.

4 Q Is it true and correct to the best of your knowledge?

5 A Yes, it is.

6 Q And are there two Exhibits to your affidavit, an

7 exhibit A, consisting of one page; and an exhibit B consisting

8 of two pages?

9 A Yes, that is correct.

10 MR. LANPHER: Mr. Chairman, I request that the

11 Affidavit of Robert E. Paulus and the Exhibits and the

12 resume be admitted into evidence and incorporated in the

13 record as read.

14 JUDGE WOLF: Any objections to the admission of

15 the written testimony of Mr. Paulus?

16 MR. REYNOLDS: "No objection."

17 MR. NORTON: No objection.

18 JUDGE WOLF: Without objection, the written

19 testimony of Mr. Robert E. Paulus and the attached exhibits

20 will be admitted into evidence as if read.

21 (Whereupon, the prepared statement of the above

22 party was inserted into the record)

23

24

25







an extensive meeting with the plant manager concerning the degree of planning, training and equipping of CDF personnel who may be called to respond at the plant, pursuant to the letter of understanding, referred to in paragraph 4 below. The tour was preceded by a visit to the CDF administered fire stations at the San Luis Obispo Airport and the Nipomo Forest Fire Station, including interviews with the personnel stationed at these facilities.

- (4) I have reviewed the Emergency Plan (revision 2) dated February 1980 for the Diablo Canyon nuclear power plant units 1 and 2 prepared by Pacific Gas and Electric Company; I am also familiar with the letter of understanding dated February 13, 1979 from T. J. Waddell, CDF Ranger-in-Charge of the San Luis Obispo Ranger Unit, addressed to the late Mr. R. D. Ramsay, Plant Superintendent, which letter is appended to the aforementioned emergency plan. A true copy of the letter of understanding is attached hereto as Exhibit "A."
- (5) I am familiar with the facilities, manpower and equipment at various CDF stations throughout San Luis Obispo County that may be called upon to respond to emergencies at the Diablo Canyon nuclear power plant pursuant to the aforementioned emergency plan and letter of understanding.
- (6) I can state of my own knowledge that (contrary to the assertion in paragraph 8.1.2.2(d) of the aforementioned emergency plan) that "refresher training and radiation protection practices and procedures is..." not included as part of an annual tour of the Diablo Canyon facility and its fire suppression equipment by Department of Forestry personnel. I can further state of my own knowledge that the pattern of twice-yearly fire drills and annual walk-through tours for CDF personnel, provided for in said plan, has not occurred in any regular way but has been sporadic and has failed to include significant numbers of CDF personnel who may be called upon to respond to in-plant emergencies.
- (7) CDF personnel in San Luis Obispo County have received no detailed training on necessary techniques in or equipment for responding to an in-plant fire or emergency medical incident at Diablo Canyon, nor have they received training concerning fire fighting in an emergency which potentially includes radiation hazards. Because of this lack of training, the Department, contrary to the letter agreement, could not utilize the most effective fire suppression methods which might otherwise be available.



- (8) The stations administered by the Department of Forestry which are most likely to be called upon to respond to emergencies at the Diablo Canyon nuclear power plant pursuant to the aforementioned letter of agreement are located at the San Luis Obispo County Airport and at the Nipomo Forest Fire Station in the town of Nipomo. In major emergencies certain other facilities throughout the county may also be called upon to respond. In addition, certain volunteer companies who are under the command of the Department of Forestry may be called upon to respond to emergencies at the plant. The three most likely facilities and the equipment available to them, along with response times are as follows:
- (a) Avila Beach Station at a distance of 12 miles with a 15-minute response time; this is an entirely volunteer fire company equipped to respond with a 500 gallon per minute pumper.
  - (b) Nipomo Station at a distance of 26 miles from the plant with a 40-minute response time. There is one full-time CDF Captain on duty at all times, augmented by a volunteer fire company equipped to respond with a 750 gallon per minute pumper.
  - (c) Edna Valley/Airport Station 18 miles from the plant with a 30-minute response time. There is one full-time CDF Captain on duty at all times, augmented by a volunteer fire company equipped to respond with a 750 gallon per minute pumper.
- (9) While the fire fighters in CDF's system responsible for operating the aforementioned stations are aware that they may be called upon to respond to emergencies at the plant, all of those with whom the matter was discussed on April 16 agreed that they had not received any significant training to prepare them for fire suppression responsibilities in the event of simultaneous radiation exposure or risk thereof at the plant.
- (10) On April 14, 1981 Ranger-in-Charge T. J. Waddell solicited attendance by other chiefs of fire departments within San Luis Obispo County to attend a meeting scheduled for May 14, 1981 to discuss possible approaches to a training and equipment plan connected with any response to emergencies at the Diablo Canyon nuclear power plant. I am not able at this time to estimate how much time must elapse before CDF personnel are adequately trained and equipped to respond to in-plant emergencies.



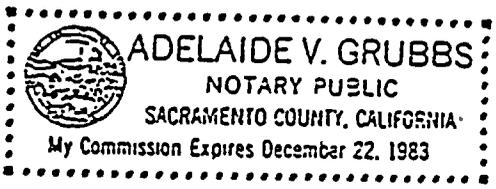
- (11) As a result of the tour on April 16th and the information developed at that time, Ranger Waddell has notified PG&E that the letter of understanding dated February 13, 1979 has been abrogated and is no longer in effect. A true copy of the letter transmitting such notice is attached hereto as Appendix "B."
  
- (12) Ranger Waddell's notice also informed PG&E's plant manager of CDF's wish to proceed as expeditiously as circumstances will permit to develop and carry out planning and training which will permit CDF personnel to safely respond to in-plant emergencies.

Robert E. Paulus  
Robert E. Paulus

Subscribed and sworn to before me this 17 day of April, 1981.

Adelaide V. Grubbs  
Notary Public

My commission expires: 12-22-83





## DEPARTMENT OF FORESTRY

P.O. Box 151, Hwy 1, N.  
San Luis Obispo, CA. 93406  
-543-4244

February 13, 1979

7100 COOPERATIVE FIRE PROTECTION  
7150 Mutual Aid  
Diablo Canyon Power Plant (PG&E)

Pacific Gas & Electric Company  
Diablo Canyon Power Plant  
P.O. Box 56  
Avila Beach, California 93424

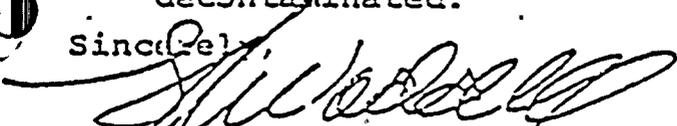
Attention: Mr. R.D. Ramsay, Plant Superintendent

Dear Mr. Ramsay:

This letter of understanding supercedes our letter of February 1, 1978. As discussed with your representative, this Department approves of and agrees to the following procedures.

1. To provide fire suppression support for grassland fires and/or in plant fires and emergency medical incidents at Diablo Canyon.
2. To participate in a fire drill on a semi-annual basis.
3. To make designated members of the Department available for basic training in radiation protection to be presented by P.G. & E. personnel.
4. That Department personnel, when called to assist in fire suppression, have the authority and responsibility to determine and utilize the most effective fire suppression methods, providing, that these methods do not adversely affect nuclear safety or the possible health and safety of the public.
5. That PG&E will, when asking for assistance, advise the Department if the potential for radiation exposure and/or contamination exists.
6. That, when the potential for radiation exposure and/or contamination exists, PG&E will provide dosimeters for Department personnel and will provide a trained monitor to accompany Department personnel to advise and insure that Forestry personnel are not unnecessarily exposed.
7. That PG&E will, at the conclusion of any fire suppression activity, monitor Department personnel and equipment for contamination and perform any decontamination work required.
8. That PG&E will replace any equipment that cannot be satisfactorily decontaminated.

Sincerely,

  
T.J. Waddell, Ranger-in-Charge/County Fire Chief



DEPARTMENT OF FORESTRY

P.O. Box 151, Hwy 1, North  
San Luis Obispo, CA 93406  
805-541-4244

EXHIBIT B  
PAGE 1 OF 2



April 20, 1981

1980 COOPERATIVE FIRE PROTECTION  
1980 Mutual Aid  
Diablo Canyon Power Plant  
P.O. & E.

Mr. Robert Thornbery  
Plant Superintendent  
Pacific Gas & Electric Company  
Diablo Canyon Power Plant  
P.O. Box 56  
Avila Beach, CA 93424

Dear Mr. Thornbery:

Thank you for the courtesies extended to me, to other California Department of Forestry representatives, and to representatives of other interested emergency service organizations on the tour of the Diablo Canyon Plant on 16-April.

My superiors have requested that I cancel the letter-of-understanding dated 13-February, 1979, which I had directed to your predecessor. The CDF and other interested fire service representatives are prepared to meet with P.G. & E. to develop an adequate and comprehensive plan for CDF's response to any on-site emergencies. You will recall that we have initiated participation from the other fire service representatives by my letter of 13-April, directed to all County Fire Chiefs, inviting them to a tour of the Diablo Canyon Plant on 14-May. This was coordinated by P.G. & E. representative, Chuck Richmond.

It seems to me that the plan should consist of at least three elements, they are:

1. Training needs - focused primarily on radiation protection and suppression efforts involving high-voltage electrical fires.
2. An assessment of specialized equipment needs for off-site personnel responding to an incident at Diablo Canyon.
3. A fire pre-plan of the Diablo Canyon Plant, showing in routine schematic form, the inventory and location of firefighting equipment and primary access to the various structures. It should also address the structure of the P.G. & E. fire brigade and CDF liaison.



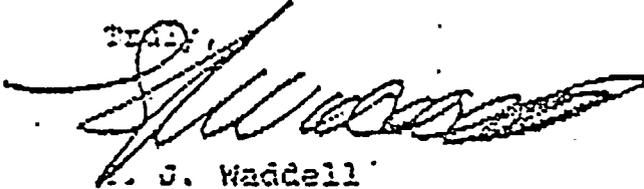
April 20, 1961

EXHIBIT B  
PAGE 2 OF 2

Upon completion of this planning effort we will then prepare a new letter-of-understanding, which will be reviewed by my superiors.

Finally, I must inform you that CDF will not respond to any Diablo Canyon facility on-site emergency where we might be faced with possible radiation hazards until appropriate training of CDF personnel has been completed.

True:



J. Waddell  
Ranger-in-Charge/County Fire Chief

pal

cc: John Hastings



RESUME OF  
ROBERT E. PAULUS

DATE

1/80 to Present

DEPUTY DIRECTOR FOR FIRE PROTECTION AND TECHNICAL SERVICES

Responsible to the Director for all aspects of Department of Forestry's Fire Protection Program.

5/75 to 1/80

STATE FOREST RANGER IV

Ranger-in-Charge of the Butte Ranger Unit. Responsible for the total administration and direction of the unit, which consists of all Department of Forestry activities, including contractual fire protection. Via a contractual arrangement, served as the Chief of the Butte County Fire Department.

7/71 to 5/75

STATE FOREST RANGER III

Ranger-in-Charge of the California Department of Forestry Fire Academy. Responsible for total administration and direction of the Academy training program accomplished through the directing and coordinating of an administrative staff consisting of a State Forest Ranger II and seven State Forest Rangers I.

Effective February 1, 1973, assigned additional program responsibilities as the Department of Forestry In-Service Training Officer. Responsible for the development, coordination, and evaluation of all Department in-service training programs.

11/68 to 7/71

STATE FOREST RANGER II

Under the direction of a State Forest Ranger III assigned as the Director of Training at the Department of Forestry Fire Academy.

Primary duties included the direct supervision of four State Forest Rangers I assigned to the Academy as instructors. Evaluation and adjusting the training program to ensure an accurate and meaningful training program. Evaluated student progress, counseled students, and coordinated with ranger unit supervisors relative to personnel matters with probationary employees. Other duties as assigned.

7/64 to 11/68

STATE FOREST RANGER I

Under the direction of a State Forest Ranger II administered a Ranger District comprised of three forest fire stations, one county fire station, and one forest fire lookout, in a geographical sub-unit which covered 319,000 acres of State responsibility lands and 80,000 acres of local government responsibility area.

7/54 to 7/64

Promoted through various levels of the Department's fire suppression program, including Fire Fighter, Fire Apparatus Engineer, and Fire Captain.



UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of )

PACIFIC GAS AND ELECTRIC COMPANY )

(Diablo Canyon Nuclear Power Plant,  
Units 1 and 2) )

Docket Nos. 50-275 O.L.  
50-323 O.L.

CERTIFICATE OF SERVICE

I hereby certify that copies of the "GOVERNOR EDMUND G. BROWN JR. SUBMISSION OF PREPARED TESTIMONY" in the above-captioned proceeding have been served on the following on May 8, 1981, as follows:

Richard S. Salzman, Esq., Chairman \*\*  
Atomic Safety and Licensing Appeal Board  
U. S. Nuclear Regulatory Commission  
Washington, D. C. 20555

Dr. W. Reed Johnson \*\*  
Atomic Safety and Licensing Appeal Board  
U. S. Nuclear Regulatory Commission  
Washington, D. C. 20555

Dr. John H. Buck \*\*  
Atomic Safety and Licensing Appeal Board  
U. S. Nuclear Regulatory Commission  
Washington, D. C. 20555

Chairman \*\*  
Atomic Safety and Licensing Board Panel  
U. S. Nuclear Regulatory Commission  
Washington, D. C. 20555

Chairman \*\*  
Atomic Safety and Licensing Appeal Panel  
U. S. Nuclear Regulatory Commission  
Washington, D. C. 20555

John F. Wolf, Esq., Chairman \*  
Atomic Safety and Licensing Board  
U. S. Nuclear Regulatory Commission  
Washington, D. C. 20555



Mr. Glenn O. Bright \*  
Atomic Safety and Licensing Board  
U. S. Nuclear Regulatory Commission  
Washington, D. C. 20555

Dr. Jerry R. Kline \*  
Atomic Safety and Licensing Board Panel  
U. S. Nuclear Regulatory Commission  
Washington, D. C. 20555

William J. Olmstead, Esq. \*\*  
Edward G. Ketchen, Esq. \*\*  
Lucinda Low Swartz, Esq. \*\*  
Office of Executive Legal Director  
BETH 042  
U. S. Nuclear Regulatory Commission  
Washington, D. C. 20555

Secretary \*\*  
U. S. Nuclear Regulatory Commission  
Washington, D. C. 20555  
ATTENTION: Docketing and Service Section

Mrs. Elizabeth Apfelberg \*\*  
c/o Nancy Culver  
192 Luneta Drive  
San Luis Obispo, CA 93401

Janice E. Kerr, Esq. \*\*  
Public Utilities Commission  
5246 State Building  
350 McAllister Street  
San Francisco, CA 94102

Mrs. Raye Fleming \*\*  
1920 Mattie Road  
Shell Beach, CA 93449

Mr. Frederick Eissler \*\*  
Scenic Shoreline Preservation Conference, Inc.  
4623 More Mesa Drive  
Santa Barbara, CA 93105

Mr. Gordon Silver \*\*  
Mrs. Sandra A. Silver \*\*  
1760 Alisal Street  
San Luis Obispo, CA 93401

John Phillips, Esq. \*\*  
Center for Law in the Public Interest  
10203 Santa Monica Drive  
Los Angeles, CA 90067

Bruce Norton, Esq. \*\*\*  
Norton, Burke, Berry & Junck  
3216 North Third Street - Suite 300  
Phoenix, Arizona 85012



Philip A. Crane, Jr., Esq. \*\*\*  
Pacific Gas and Electric Company  
P. O. Box 7442  
San Francisco, CA 94106

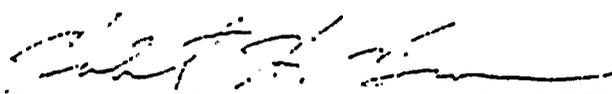
David S. Fleischaker, Esq. \*\*  
1735 Eye Street, N. W. - Suite 709  
Washington, D. C. 20006

Arthur C. Gehr, Esq. \*\*  
Snell & Wilmer  
3100 Valley Bank Center  
Phoenix, Arizona 85073

Mr. Richard B. Hubbard \*\*  
MHB Technical Associates  
1723 Hamilton Avenue - Suite K  
San Jose, CA 95125

Mr. Carl Neiberger \*\*  
Telegram Tribune  
P. O. Box 112  
San Luis Obispo, CA 93402

Byron S. Georgiou, Esq. \*\*  
Legal Affairs Secretary  
Governor's Office - State Capitol  
Sacramento, CA 95814

  
Herbert H. Brown  
HILL, CHRISTOPHER AND PHILLIPS, P. C.  
1900 M Street, N. W.  
Washington, D. C. 20036

May 8, 1981

\* By messenger  
\*\* By U.S. mail, first-class  
\*\*\* By express mail



27g  
1 BY MR. LANPHER:

2 Q Okay, Dr. Mitchell, do you have in front of you a  
3 document entitled "Affidavit of Dr. Howard Mitchell?"

4 A (Witness Mitchell) Yes, I have.

5 Q Do you have any additions or corrections, sir?

6 A Yes, I have, in-point-four, it should read County  
7 Health Department as opposed to County Health office, and I  
8 have written a substitute paragraph for paragraph 6, because  
9 number one, number 6 was bad English, and it didn't say what  
10 I wanted said, so I rewrote it.

11 Q Okay. Dr. Mitchell, first of all, could you speak  
12 a little slower?

13 A I will try.

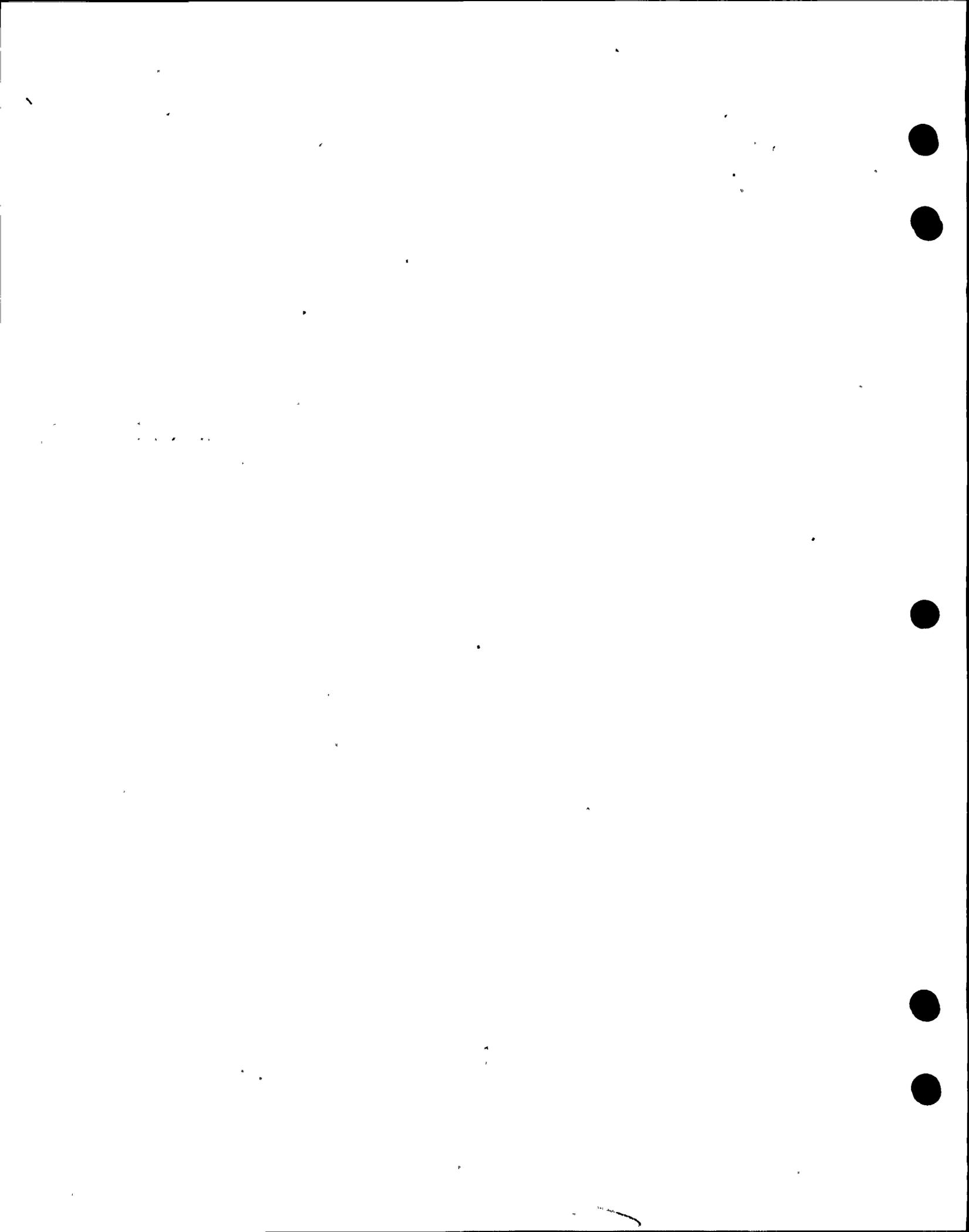
14 MR. LANPHER: Mr. Wolf, I have distributed to the  
15 Board, and to the recorder and to all parties a copy of the  
16 substitute of paragraph 6. I would like Dr. Mitchell to read  
17 it so it is clearly in the record.

18 JUDGE WOLF: Yes, you may.

19 BY MR. LANPHER:

20 Q Would you please read your revised paragraph 6,  
21 sir?

22 A (Witness Mitchell) "The County is inadequately  
23 informed about, and has never attempted to evacuate persons  
24 who would require ambulance-type conveyances from the low  
25 population zone, nor the immediately adjacent zone where a



28g  
1 larger number of persons reside. The low population zone and  
2 the Avila Beach area in particular have limited ingress and  
3 egress and would present difficulty in advising or removing  
4 residents with special needs in the event of an emergency at  
5 Diablo Canyon."

6 Q : Dr. Mitchell, do you have any other additions or  
7 corrections?

8 A No, I have not.

9 Q And as corrected, is your affidavit true and correct  
10 to the best of your knowledge?

11 A Yes, it is.

12 Q Now, is there also attached to your affidavit a  
13 statement of your qualifications?

14 A Yes, there is.

15 Q And do you -- it consists of four pages, and do  
16 you have any additions or corrections to that?

17 A Well, some minor changes in regard to officerships  
18 that I hold in organizations and that sort of thing. It is  
19 basically correct.

20 Q Do you have a list of those changes?

21 A I can't even find the list that I have.

22 MR. OLMSTEAD: We have no objection to those if he  
23 doesn't.

24 BY MR. LANPHER:

25 Q Okay.



29g  
1 A They are really not very important. I am president-  
2 elect of the Lung Association instead of being on the board,  
3 things like that.

4 Q Okay.

5 MR. LANPHER: Mr. Chairman, I move the admission  
6 into evidence of the affidavit and statement of qualifications  
7 of Dr. Howard Mitchell, and request that it be incorporated  
8 in the record as if read.

9 JUDGE WOLF: Any objections to the offer?

10 MR. REYNOLDS: No objections.

11 MR. OLMSTEAD: No objections.

12 MR. NORTON: No objection.

13 JUDGE WOLF: In making the change in paragraph 6,  
14 did you furnish the reporter with that to insert in the copies  
15 that you have given him?

16 MR. LANPHER: I have furnished the reporter with  
17 12 copies of the same insert which I provided the Board.

18 JUDGE WOLF: Thank you. Then without objection,  
19 the affidavit of Dr. Howard Mitchell and his qualifications  
20 will be received and bound in the record as if read.

21 (Whereupon, the prepared statement of the above  
22 party was inserted into the record.)  
23  
24  
25



UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of

PACIFIC GAS AND ELECTRIC COMPANY

(Diablo Canyon Nuclear Power Plant,  
Units 1 and 2)

Docket Nos. 50-275 O.L. ---  
50-323 O.L. ---

AFFIDAVIT OF DR. HOWARD MITCHELL

I, Dr. Howard Mitchell, being duly sworn, state under oath  
the following:

(1) I am the Health Officer of San Luis Obispo County  
("County"), California, having served in this position since July 8, 1976.  
I reside at Shell Beach, San Luis Obispo County, California.

(2) The County Health Agency has the responsibility to develop,  
implement and coordinate an overall plan for medical and health services  
during an emergency. As County Health Officer, my staff and I are  
responsible, among other things, for determining the extent of radiation  
beyond the Diablo Canyon site boundary in the event of a radiological  
emergency, and the proper medical care of persons who might be injured in  
such an emergency.

(3) The County does not have adequate nor sufficiently  
sophisticated equipment to monitor for radiation beyond the plant confines  
nor does it have adequate communication equipment to reach headquarters or  
other County personnel.

(4) The County Health Office is inadequately staffed to respond  
effectively to a radiological emergency at Diablo Canyon and carry out at  
the same time its regular environmental protection duties.



(5) The County has inadequate medical facilities to care for or transport the persons who might be injured in a radiological emergency at Diablo Canyon. Except for French Hospital, which has limited facilities, the County's hospitals have not developed plans to treat persons injured in a radiological accident nor have they conducted training necessary for implementation of such plans.

(6) The County is inadequately prepared and has never attempted to evacuate persons in an orderly manner from the low population zone ("LPZ") which has limited ingress or egress and the difficult terrain, as well as the difficulty in advising LPZ residents of actions to be taken in the event of an emergency.

(7) I am familiar with and, indeed, on April 18, 1977, signed off on behalf of the County Health Agency, the Division of Environmental Health's Standard Operating Procedure for Nuclear Power Plant Emergency Response. While I believe these procedures, on paper, were thought to be adequate generally at that time, the County, as outlined above, cannot respond effectively and expeditiously to implement these procedures so as to respond to a radiologic emergency at Diablo Canyon.

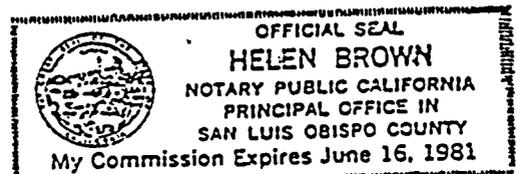
(8) It would take considerable time, equipment, training and personnel before the County Health Agency is reasonably ready to respond adequately to an emergency involving offsite radioactive releases from the Diablo Canyon facility.

*Howard W. Mitchell, M.D.*  
Howard W. Mitchell, M.D.

Subscribed and sworn to before me this 31st day of March, 1981.

*Helen Brown*  
\_\_\_\_\_  
Notary Public

My commission expires: June 16, 1981





(6) The County is inadequately informed about and has never attempted to evacuate persons who would require ambulance-type conveyances from the low population zone nor the immediately adjacent zone where a larger number of persons reside. The low population zone and the Avila Beach area in particular have limited ingress and egress and would present difficulty in advising or removing residents with special needs in the event of an emergency at Diablo Canyon.



## CURRICULUM VITAE

Howard W. Mitchell, M.D., M.P.H.

Present Position: Health Agency Director and Health Officer  
County of San Luis Obispo  
2191 Johnson Avenue  
San Luis Obispo, California 93401; (805) 543-1200

Also:  
Lecturer in Preventive Medicine and International Health,  
School of Medicine, University of California, San Francisco.

Lecturer in Health Care Administration, Golden Gate University,  
San Francisco. and Vandenberg Air Force Base, California.

Birthplace and Date: Evansville, Indiana; 25 June 1923.

Home Address: 1702 Ocean Boulevard, Shell Beach, California 93449  
Telephone: (805) 773-1077

Family: Married to Marie Iverson Mitchell, 1950.  
Children: Christopher: Born November, 1952.  
Kathryn: Born January, 1956.

### Education and Training:

A.B., 1945, University of Michigan.

M.D., 1949, Indiana University.

Internship, 1949-50, State University of Iowa Hospitals, Iowa City.

Assistant Residency in Pediatrics, 1950-51, Children's Hospital of Michigan, Detroit.

Special Trainee, February-September, 1951: "Health Problems of Southeast Asia,"  
Harvard School of Public Health and U.S. Public Health Service.

Trainee, October-November, 1951, Foreign Service Institute, Washington, D.C.  
M.P.H., 1955, University of Michigan.

### Previous Employment and Consultations:

U.S. Public Health Service, February, 1951-March, 1954.

As trainee (shown above): February, 1951-December, 1951.

Assigned to U.S. Department of State, USOM/Iran, December, 1951-February, 1954.

Public Health Advisor: Province of Azerbaijan, 1952.

Province of Fars, January-April, 1953.

Chief Technical Advisor in Public Health, Tehran, April, 1953-February, 1954.

Indiana State Board of Health, Indianapolis:

Pediatric Physician, 1954.

Director, Division of Maternal and Child Health, 1955-56.

Indiana University Graduate School of Social Services:

Lecturer in Health and Disease, 1955-56.

University of California, Berkeley:

Associate Clinical Professor of Public Health Administration, School of  
Public Health, 1956-58

City of Berkeley, California:

Assistant Health Officer, 1956-58.

Member, Medical Advisory Committee, Alameda County Tuberculosis and  
Health Association, 1957-58.

Member, Allocation Committee, Council of Social Welfare, Berkeley  
Area, 1957-58.



Co-chairman, Public Health Section, Herrick Memorial Hospital, 1957-58.

American University of Beirut, Lebanon:

Acting Director, School of Public Health, 1958-60.

Chairman, Department of Public Health Practice, School of Public Health, and  
Chairman, Department of Preventive Medicine, School of Medicine, 58-60.

Associate Professor of Public Health and Preventive Medicine, 1958-60.

Consultant to U.N. Relief and Works Agency, 1959.

Consultant to Arabian-American Oil Company, 1960.

Harvard University School of Public Health:

Visiting Lecturer in Public Health and Preventive Medicine, 1960.

State of California Department of Public Health:

Chief, Bureau of Occupational Health, 1960-65.

Member, Medical Services Committee, and Alcoholism & Dangerous Drugs  
Committee, Alameda-Contra Costa Medical Association, 1962-65.

Chairman, Occupational Health Section, and Vice-chairman, Accident Pre-  
vention Committee, American Conference of Governmental Industrial  
Hygienists, 1962-63.

Member, Health Services Committee, Council of Social Welfare, Alameda  
County, 1962-63.

University of California, Berkeley:

Lecturer in Public Health, 1960-65.

Head, Medical Care Administration, 1963-64.

University of California, San Francisco:

Lecturer in Preventive Medicine, 1964-65.

University of California Business & Economics Extension, San Francisco and Berkeley:

Lecturer in Medical Care Administration, 1961-63.

and Foundation, New Delhi, India:

Consultant to Punjab State and Government of India in Health and Family Plan-  
ning, 1965-67.

Program Advisor in Family Planning, 1967-68.

University of California, Los Angeles:

Lecturer in Public Health and Head, Program in Population and Family Health,  
1968-70.

Consultant to the Community Health Action Planning Service (CHAPS),  
American Public Health Association, in a review of the Los Angeles  
County Health Department, January-June, 1969.

Consultant to the W.H.O. and UNICEF in India, June-August, 1969.

Consultant to the Los Angeles Regional Family Planning Council, 1969-70.

Consultant to Southern California Region, Planned Parenthood, 1970.

Westinghouse Electric Corporation:

Director, Westinghouse Population Center, 1970-71.

Consultant to the Family Planning Program, San Juan, Puerto Rico, July, 1971.

Representative of the W.H.O. on the U.N.-U.N.E.S.C.O.-W.H.O. Interagency  
Mission to Iran, January-March, 1971.

Maryland Department of Health and Mental Hygiene:

Special Consultant to the Baltimore City Health Department, November-  
December, 1971.

Alameda County, California:

Chief, Division of Adult and Child Health, Health Care Services Agency, 1972-74.

Member, Program Council, Planned Parenthood, San Francisco-Alameda.

Member, Ad Hoc Committee on Aging, Comprehensive Health Planning Council  
of Alameda County.

Member, Family Life Committee, Geriatrics Committee, Perinatal Mortality  
Committee, Child Welfare Committee, Alameda-Contra Costa Medical  
Association.



Member, National Family Planning Forum.

Member, Children's Council of Alameda County.

Member, Utilization Review Committee, Visiting Nurse Association of Oakland, California.

Special Consultant on Occupational Health to the Department of Personnel, County of Alameda, December, 1973-February, 1974.

Priser Foundation International, Oakland, California:

Senior Program Advisor in Public Health and Population, February, 1974-October, 1974.

Vice-President, Medical Affairs, November, 1974-June, 1976.

Consultant to the U.N.D.P., September and November, 1974.

#### Professional and Scholarly Societies:

Alpha Omega Alpha Honor Medical Society

Phi Kappa Phi Honorary Fraternity

Delta Omega Honorary Public Health Society

American College of Preventive Medicine, Fellow

American Public Health Association, Fellow

Royal Society of Health, Fellow

San Luis Obispo County Medical Society

California Medical Association

American Medical Association

American Society of Tropical Medicine & Hygiene

California Academy of Sciences

Population Association of America

California Conference of Local Health Officers.

Mission Coast Lung Association, Vice President and Member of Board.

Consortium For Nurse-Midwifery, Director

#### Published Writings and Reports:

"Certain Political and Social Aspects of the Point Four Program in Iran." The Indiana Social Studies Quarterly, VII:1, Autumn, 1954.

"Caesarean Section Rates in Indiana - A Concluding Study," Journal of the Indiana State Medical Association, 49, May, 1956.

"A Contagious Disease We Should Spread - Enthusiasm," Nursing Outlook, 4:8, August, 1956.

"A Diabetes Fair - Tried and Found Successful," (with William A. Weeden, M.D.); California's Health, 14:14, January 15, 1957.

"Occupational Health in Government," Western City, 33:6, June, 1957.

"Occupational Health in Local Government," California's Health, 14:24, June 15, 1957.

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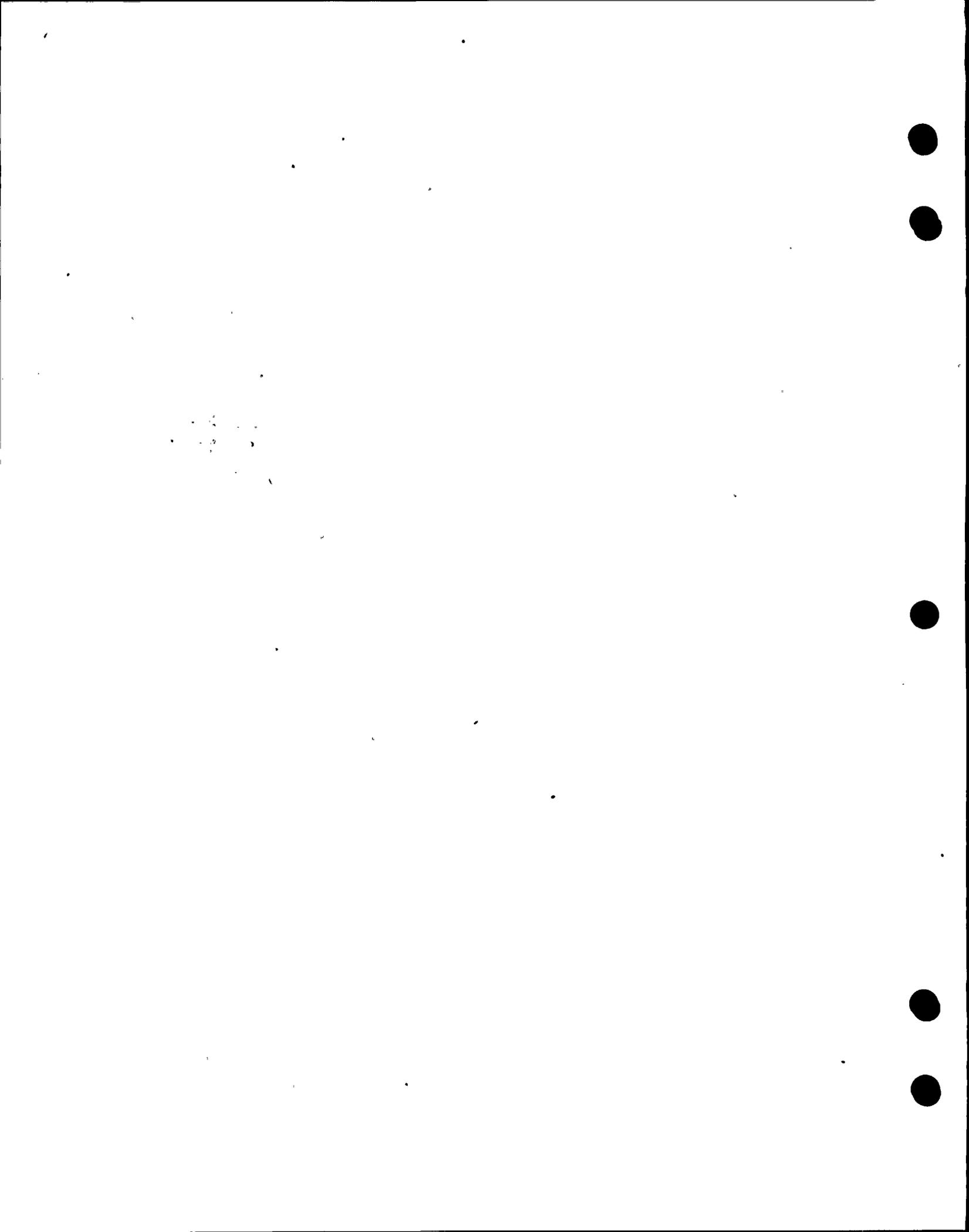
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1 BY MR. LANPHER:

2 Q Mr. Jorgensen, do you have in front of you a docu-  
3 ment entitled "Affidavit of Jeffrey Jorgensen?"

4 A (Witness Jorgensen) Yes, I do.

5 Q Do you have any additions or corrections, sir?

6 A Yes, on page three, paragraph 7, the last three --  
7 I would like to delete the last three lines beginning with  
8 the words "I have," and substitute for those lines the  
9 following:

10 I have repeatedly emphasized the need to create a  
11 practical workable plan which provides --

12 Q Wait a second. You have got to slow down.

13 A All right.

14 Q Could you start over again, please?

15 A I have repeatedly emphasized the need to create a  
16 practical workable plan which provides for actual prepared-  
17 ness, rather than the purely administrative paper plans which  
18 presently exist.

19 To date, no actual preparedness has been developed,  
20 and will not be until the County's current planning effort  
21 is completed.

22 Q Okay, now thank you. I am sure that the reporter  
23 got it down, but I am also sure that no Counsel got it down,  
24 so I would like you to start over again, and read it very  
25 slowly.



31g 1 A Okay.

2 Q Pausing after every three or four words.

3 A I have repeatedly emphasized the need to create a  
4 practical workable plan which provides for actual preparedness,  
5 rather than --

6 MR. REYNOLDS: Hold on?-

7 BY MR. LANPHER:

8 Q Okay, go ahead.

9 A Rather than the purely administrative paper plans  
10 which presently exist. To date, no actual preparedness --

11 MR. OLMSTEAD: Wait.

12 MR. LANPHER: Okay.

13 JUDGE WOLF: Beginning after the word "to date."

14 WITNESS JORGENSEN: To date, no actual  
15 preparedness has been developed, and will not be until the  
16 County's current planning effort is completed.

17 BY MR. LANPHER:

18 Q Mr. Jorgensen, do you have any other additions or  
19 corrections?

20 A (Witness Jorgensen) No, I do not.

21 Q As corrected, is your affidavit true and correct to  
22 the best of your knowledge?

23 A Yes, it is.

24 MR. LANPHER: Mr. Chairman, I move the admission of  
25 the affidavit of Jeffrey Jorgensen into evidence, and request



32g 1 that it be incorporated in the record as if read.

2 JUDGE WOLF: Any objection?

3 MR. REYNOLDS: No objection.

4 MR. OLMSTEAD: No objection.

5 JUDGE WOLF: Without objection, the written  
6 testimony of Jeffrey Jorgensen as corrected will be received  
7 and bound in the record as if read.

8 (Whereupon, the prepared statement of the above  
9 party was inserted into the record.)

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UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of

PACIFIC GAS AND ELECTRIC COMPANY

(Diablo Canyon Nuclear Power Plant,  
Units 1 and 2)

Docket Nos. 50-275 O.L.  
50-323 O.L.

AFFIDAVIT OF JEFFREY JORGENSEN

I, Jeffrey Jorgensen, being duly sworn, state under oath  
the following:

(1) I am a member of the Board of Supervisors of San Luis Obispo County ("County"), California, having served on that Board since March 15, 1980. I reside at 369 Chorro Street, San Luis Obispo, California, 93401.

(2) As a member of the Board of Supervisors, I am responsible, with other Board members, for the overall direction of County activities relating to the safety of the residents of the County, including their safety in the event of a radiological emergency at the Diablo Canyon Nuclear Power Plant.

(3) I am familiar with the current County emergency plans designed to provide for offsite emergency response under County direction to a radiological emergency at Diablo Canyon.

(4) Although the County has current emergency plans on paper, those plans would not provide substantial protection to County residents or the general public in the event of a radiological emergency at Diablo Canyon. This is because the County has not made sufficient preparations



to implement these plans and thus is not prepared to respond to an emergency at Diablo Canyon. This lack of preparedness results from, among other things, the following:

(a) There has been no adequate training or coordination of County personnel who would be required to implement the plans;

(b) Important equipment necessary to effective emergency response, including communications equipment, is not available;

(c) There have been no full-scale exercises to demonstrate effectiveness of the plans;

(d) There has been no systematic public information program designed to educate the public on necessary actions, including evacuation and shelter, to be taken in the event of a radiological emergency; and

(e) Inadequate medical facilities exist to transport and treat persons injured in a radiological emergency.

Indeed, the training and exercises specifically called for in Section V (I) of the County Emergency Response Plan and which are crucial to effective preparedness are, to my knowledge, entirely lacking. In short, the County presently could not respond effectively to a radiological emergency at Diablo Canyon.

(5) There are no plans for the County to implement the current plans and thus to create the necessary preparedness to respond to a radiological emergency at Diablo Canyon.

(6) Even if the County were to implement the current plans, the state of preparedness would be inadequate, because the plans do not prepare for a Diablo Canyon emergency in conjunction with a major earthquake on the Hosgri Fault.



(7) The lack of preparedness to respond to a Diablo Canyon emergency is a condition which has continued for several years.

During my service as a member of the Board of Supervisors, I have repeatedly emphasized the need to create actual preparedness but no actions have been forthcoming, to implement the plans.

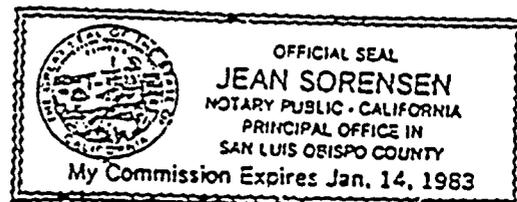
(8) The County currently is working to prepare a new emergency plan designed to comply with state law requirements, as well as those regulatory requirements of the Nuclear Regulatory Commission promulgated on August 19, 1980. That new plan is only at the concept stage and will not be completed until late this summer, at the earliest. Steps to implement that new plan, i.e., to create preparedness to respond to a radiological emergency, will not be taken until after the final plan is prepared. I have substantial concern for the adequacy of the new plans, because the County Board of Supervisors voted recently not to include in the plan detailed analysis of the effects of an earthquake in conjunction with a Diablo Canyon emergency. Accordingly, for the foreseeable future, the County will not be able to respond effectively to a radiological emergency at Diablo Canyon, and even after the new plans are prepared and implemented, their adequacy may be lacking.

  
Jeffrey Sorensen

Subscribed and sworn to before me this 31 day of March, 1981.

  
Notary Public

My commission expires: 1/14/83





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1 MR. LANPHER: Mr. Chairman, I had -- I interpreted  
2 Mr. Kline's comment at the beginning of yesterday's session  
3 somewhat differently than Mr. Norton, in terms of specifying  
4 the areas of testimony covered, relating testimony to the  
5 specific areas of the regulations. I have not, so to speak,  
6 coached my witnesses to respond to that, and I was prepared  
7 to direct the Board's attention myself to the area -- to the  
8 planning standards and the FEMA document, 0654, to which the  
9 various pieces of testimony are related, and I am prepared to  
10 do that now for the Board's convenience, if that would be  
11 agreeable.

12 JUDGE WOLF: That would be satisfactory.

13 MR. NORTON: Excuse me. I am not sure I understand  
14 what you said you were going to do. May I ask for a  
15 clarification?

16 MR. LANPHER: I am not going to ask the witnesses  
17 to go through their testimony and say, does this portion  
18 address such and such a planning standard of NUREG 0654, or  
19 of the regulations. I am going to just state my  
20 understanding of where -- for the Board and everyone else --  
21 I am going to state my understanding of those standards to  
22 which the testimony is directed.

23 MR. NORTON: Excuse me, Your Honor. I have a  
24 problem with that. Is Mr. Lanpher saying that he is going to  
25 testify --



34g  
1 JUDGE WOLF: No, he is not testifying.

2 MR. NORTON: -- or is he saying he is going to  
3 make --

4 JUDGE WOLF: He is merely indicating there the  
5 testimony that these witnesses are supplying comes from.

6 MR. LANPHER: Well, to what portion of the  
7 regulations it relates.

8 JUDGE WOLF: Related to the -- any of the 16  
9 criteria.

10 MR. LANPHER: This is solely for the purpose of the  
11 Board. I can do it in my brief if you would prefer.

12 JUDGE WOLF: No, you may do it now. I think it  
13 would be all right.

14 MR. LANPHER: This is my understanding of the  
15 request -- okay, I will start -- okay?

16 JUDGE WOLF: Right.

17 MR. LANPHER: I will start with Mr. Paulus, and I  
18 have related these to the planning -- in my notes, I have  
19 related these to the planning standards in 0654, which I  
20 guess are identical to the 16 sections which Mr. Norton went  
21 through in the regulations, but my references will be to the  
22 planning standards in 0654.

23 Now, Mr. Paulus's testimony in full part relates to  
24 standard C relating to emergency response support and  
25 resources, and also in significant part to standard P, relating



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1 to emergency plan development.

2 In addition, his testimony, section 6 and 7,  
3 related to Standard N concerning drills and exercises; to  
4 Standard B, as in Boy, relating to interface between off-site  
5 support groups and the on-site emergency organization, and  
6 Standard O relating to radiological emergency response  
7 training.

8  
9 /// PLEASE CONTINUE READING NEXT NUMBERED PAGE \_///-....

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1 Dr. Mitchell's testimony, in paragraph three,  
2 relates to Planning Standards H relating to equipment for  
3 emergency response and to Planning Standard I relating to  
4 accident assessment.

5 In paragraph four, Dr. Mitchell's affidavit relates  
6 to Planning Standard A concerning staffing of emergency  
7 response organizations.

8 In paragraphs five and six, it relates to Planning  
9 Standard L concerning medical facilities.

10 With respect to Mr. Jorgensen's testimony, his  
11 testimony concerns Standard A, relating to staffing as well  
12 as staffing of emergency response organizations and agree-  
13 ments between agencies.

14 Planning Standard E concerning notification of the  
15 public.

16 Planning Standard F concerning prompt emergency  
17 communications.

18 Planning Standard G concerning public education  
19 program.

20 Planning Standard H concerning emergency equipment.

21 Planning Standard N concerning exercises and drills.

22 Planning Standard L concerning medical support.

23 And Planning Standard O concerning training.

24 At this time, I do have a limited number of  
25 questions for each of the gentlemen on our panel in the nature



1 of a rebuttal which I understand is the acceptable way that  
2 we're proceeding at this point.

3 DIRECT EXAMINATION

4 BY MR. LANPHER:

5 Q I'd like to address you first, Mr. Paulus.

6 Mr. Paulus, the PG&E panel has stated that CDF  
7 terminated its previous agreement with PG&E because of a lack  
8 of training and because of a lack of necessary response plan.  
9 Would you please explain why the agreement was rescinded?

10 A (Witness Paulus) The agreement was rescinded after  
11 we conducted a tour of the area and discussed with our fire  
12 fighting employees their knowledge of the plant and what they  
13 were expected to do. Those interviews determined that the  
14 employees were not adequately trained or prepared to respond  
15 at that time, so we made the determination to cancel the  
16 agreement.

17 MR. NORTON: Excuse me, Your Honor, I understood  
18 Mr. Lanpher was doing rebuttal. I have no objection to him  
19 doing rebuttal, but what is that in rebut to? There was no  
20 testimony regarding that from our witness' that goes to that  
21 at all.

22 MR. LANPHER: It was prepared testimony by Mr.  
23 Shiffer relating to the -- to the Shiffer Panel relating to  
24 their understanding of why the agreement was terminated and  
25 that's what it is in response to.



1 MR. NORTON: We withdraw the objection.

2 JUDGE WOLF: You may proceed.

3 MR. LANPHER: Thank you.

4 BY MR. LANPHER:

5 Q Mr. Paulus, could you please explain what a pre-  
6 fire plan is and why it may be important for the CDF response  
7 effort?

8 A A pre-fire plan to be brief, is a written document  
9 that sets out in detail a sequence of events that must take  
10 place to insure that an emergency incident is dealt with in  
11 a safe and successful manner. That document should be in  
12 the hands of the fire-fighting personnel who are expected to  
13 respond to the incident.

14 Q At the time you visited the facility, was there  
15 a pre-fire plan which you viewed to be adequate?

16 A No, there was not.

17 Q What are the necessary elements of a pre-fire plan?

18 A There are many elements to the plan. Basically,  
19 the plan sets forth the emergency notification procedure.  
20 Who notifies whom and when. It sets forth whose in command  
21 of the incident. Sets forth the proper safety practices.

22 The pre-plan would consist of a diagram, a floor  
23 plan, of the area that you're working in and that should be  
24 made available to the fire-fighting personnel. That document  
25 would note any safety hazards. It would note fire extinguisher



1 locations, special hazards. The pre-plan also notes the  
2 proper ingress and egress routes. Many of those kind of  
3 things.

4 Q Once a pre-fire plan is prepared, how do you in-  
5 sure that the pre-fire plan is, in fact, adequate?

6 A Well, the most practical and best way is to simu-  
7 late an emergency and then actually activate the plan and test  
8 it against the emergency and have it evaluated by the super-  
9 visory personnel.

10 Q Mr. Paulus, Mr. Shiffer testified relating to  
11 a radiation training course which presently is being conducted  
12 for approximately 60 CDF employees, 45 this week and 15 next  
13 week. Are you familiar with that training?

14 A Yes.

15 Q What is your view of it?

16 A I think it's a good training program. It's basi-  
17 cally a 24 hour course with -- designed to meet our needs and  
18 specifically the employees needs. It's ongoing now. It's  
19 my understanding that it will be completed for the most part  
20 this week and we have some more to do next week.

21 Q What then, still needs to be accomplished before  
22 a new agreement between PG&E and CDF can be reached?

23 A Basically we need to review in detail the pre-fire  
24 plan and test it.

25 Q And is a pre-fire plan being prepared at this time?



1 A Yes, that's correct, it is.

2 Q Dr. Mitchell, I'd like to direct several questions  
3 to you.

4 One further question, to you, Mr. Paulus. You  
5 said that the pre-fire plan is being prepared now. When do  
6 you expect that it will be completed and --

7 A (Witness Paulus) Anticipate --

8 Q Let me finish. And when do you expect that it's  
9 adequacy can be demonstrated?

10 A Anticipate the initial draft to be completed about  
11 June 5th. We would expect a review to take a week or so and  
12 hopefully depending upon PG&E and everything falling in place,  
13 perhaps, early July sometime that plan could be tested.

14 Q Given that time schedule, when could a new agree-  
15 ment be executed between PG&E and CDF?

16 A As soon as we're assured that the pre-fire plan  
17 addresses the issues and that fire plan is accepted.

18 Q Now, Dr. Mitchell.

19 Dr. Mitchell, in your testimony you have indicated  
20 some concern regarding the County's ability to monitor radio-  
21 active admissions. Mr. Shiffer and his panel have indicated  
22 that PG&E is substantially expanding it's off-site monitoring  
23 capability and is, indeed, offering training to county health  
24 personnel.

25 Do these developments eliminate your concerns which



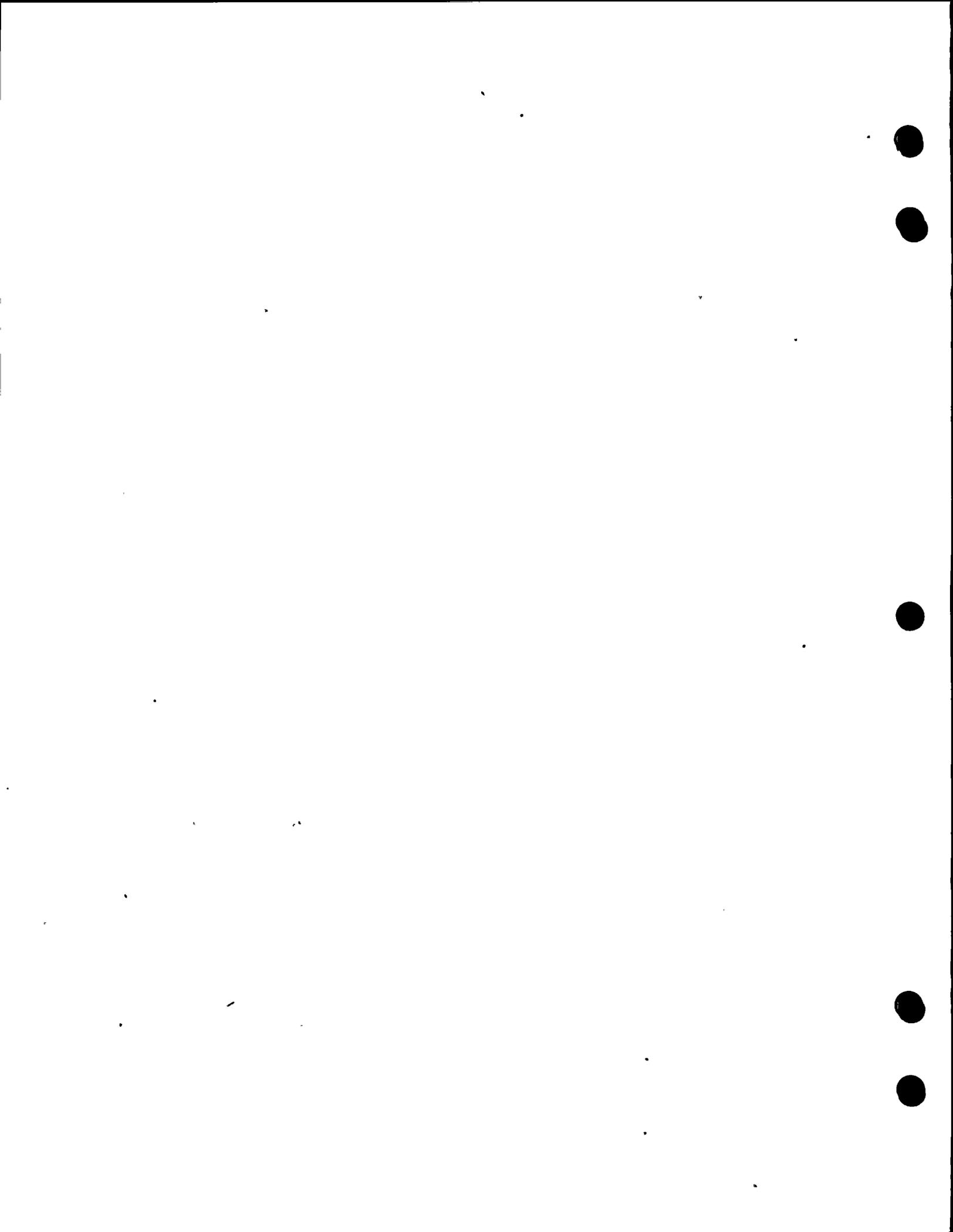
1 which are expressed in your testimony?

2 A (Witness Mitchell) I think I'm very pleased with  
3 what is presently going on and the relationships that are  
4 going on between my staff and PG&E employees. I think my  
5 staff are learning more about what is going on in terms of  
6 monitoring at PG&E. In terms of equipment, which we actually  
7 have in our own hands, however, we're not any better off than  
8 we were. We hope to be one day soon.

9 However, the equipment which they are planning to  
10 put into the field, I was really -- In one way, I was really  
11 surprised and pleased at the variety of monitoring devices  
12 and their locations, but at the same time, I was a little  
13 bit surprised to note that they're so far away from where the  
14 problem might be.

15 If they were talking about low level, if I under-  
16 stand what they said earlier, they're going to talk about a  
17 relatively small geographical area and I find that none of  
18 those measuring devices have been placed within that area.  
19 I was sort of curious about that.

20 In regard to the whole process of monitoring, I  
21 think we're dealing with -- as far as our side is concerned,  
22 a problem of small numbers. I have ten staff members of  
23 environmental health types who would carry this out and in  
24 any particular moment they're all over the county. We don't  
25 have radios in our cars, unfortunately, to call them in. We



1 don't know where they're located in many instances. And on <sup>10911</sup>  
2 the weekends and at night, our call system is such that not  
3 more than probably two or three persons would be available to  
4 be called because of the natures of the kinds of problems  
5 we ordinarily deal with. So, I've been worried about the  
6 promptitude with which they could respond.

7 I guess that's all I have to say right now.

8 Q Dr. Mitchell, in your testimony, you also indicated  
9 concern for the adequacy of county medical facilities to treat  
10 persons injured in a Diablo Canyon radiological emergency.

11 PG&E has described in Mr. Shiffer's testimony, its arrangements  
12 for medical and ambulance facilities. Is this PG&E testimony  
13 eliminate your concerns in that regard?

14 A Not really. I would be much happier if a whole  
15 group of physicians in this community had the knowledge and  
16 capability of dealing with some of these kinds of problems  
17 that I learned about in Oakridge. There are very specific  
18 and highly technical means of dealing with radioactive injury  
19 -- radioactively caused injury or injuries associated with  
20 radioactivity and I'm afraid that there are relatively few  
21 physicians in the community who have had this kind of training.

22 We know, in general, that the hospitals except for  
23 the small unit at the French Hospital don't have any highly  
24 technical -- very technical available equipment to deal with  
25 these issues, either. So, from both of those points of view



1 -- Oh, in regard to the ambulances, it was mentioned that  
 2 San Luis Ambulance has two or three rigs depending on which  
 3 day it is and they have capability of responding to anything  
 4 that goes on. Mostly what they respond to our automobile  
 5 accidents on the freeway and people's heart attacks and things  
 6 like that. So, I can't ever be sure that at any particular  
 7 moment, either of them or anyone of the three might be avail-  
 8 able to go take care of other kinds of injuries.

9 So, we're kind of short on ambulances as far as  
 10 the city of San Luis is concerned. We have a total, I think,  
 11 of ten or eleven in the whole county.

12 Q Dr. Mitchell, in that response, you mentioned the  
 13 Oakridge course which you attended and which is referenced in  
 14 Mr. Shiffer's testimony. Could you describe that for us?

15 A It was extremely interesting and effective course  
 16 and I'm very grateful for having had the opportunity to go  
 17 there. I learned a great deal about radiation. About the  
 18 treatment of radiation injuries. To have appropriate respect  
 19 for radiation as well as not excessively be fearful of it  
 20 and how to deal with it. It was mostly directed to physicians  
 21 who are going to be dealing with probable radiation injuries  
 22 of one kind or another. Most of the class, I noted, were  
 23 physicians associated with occupational health units that  
 24 work with power plants or who are themselves employed as  
 25 consultants to nuclear power plants and that sort of thing.



1 In other words, these were persons who would  
2 probably have a hands-on responsibility with regard to a case  
3 management of a radiologically injured person. They dealt  
4 to some extent with the community aspects of the problem. Not  
5 to the degree however that probably would be my interest to  
6 the degree that I would need to know.

7 There were a lot of things that I learned besides  
8 that. I had a nice chat with Fred Middler while I was there,  
9 who was here once recently on a panel with me and who provided  
10 me with some rather surprising information which I guess I  
11 can share.

12 That is, he told me that the plan that he worked  
13 out or that he -- he told me what had been planned to be done  
14 with injured workmen at the plant, was to fly them directly  
15 to San Francisco and not to send them to French Hospital,  
16 which was a surprise to me. And I asked Tom Gott, who is  
17 over at the French Hospital and took the course at Oakridge,  
18 if this was true or not and he said, he didn't know anything  
19 about it. That's what Fred said, so I assume that it may be  
20 the truth.

21 In any event, I was also surprised to see their  
22 biological monitoring system. I heard a remark earlier  
23 this afternoon or maybe it was a long time ago -- it was today,  
24 though -- with respect to -- there was no real interest in  
25 the biological measuring devices or something to that effect.



1 And I noted with real interest the ones they used at Oakridge.  
 2 For example, they collect insects at night in insect collec-  
 3 ters and then they put them on an x-ray film overnight and  
 4 see whether they radiate or not and I was really interested to  
 5 see these large x-ray sheets with all kinds of bugs identified  
 6 on them who left their radiation marks.

7 So, apparently there were some bugs who were radi-  
 8 ated, even though the controls within the various plants,  
 9 there at Oakridge are very carefully controlled.

10 Also, they collect deer antlers which are shed each  
 11 year and test them for radioactive material and they find that  
 12 they do, indeed, contain radioactive materials. So, I would  
 13 gather that even under their best circumstances, the environ-  
 14 ment from time to time does have some radioactive material  
 15 getting into it.

16 This was just sort of an extra-added attraction  
 17 which I learned while I was there. I would also say that  
 18 I saw the first atomic reactor, which is now a national  
 19 monument, which was extremely interesting and a lot of other  
 20 things which are probably not relevant.

21 (Laughter.)

22. ////  
 23 ////  
 24 ////

25 (Testimony continues on the next numbered page.)



1 Q Dr. Mitchell, can you slow down a little bit?

2 A I'm sorry. It's my habit to speak fast.

3 Q Who is Mr. Middler?

4 A Dr. Fred Middler is a medical consultant in  
5 radiology. I believe he consults with Diablo Canyon as well  
6 as a number of other nuclear power plants. He used to work  
7 with some agency associated with the Federal Government, I  
8 believe. He's now a professor at the University of New Mexico,  
9 I believe it is and is a consultant to the radiation industry:

10 Q Dr. Mitchell, Mr. Shiffer has testified regarding  
11 the 1977 and 1979 drills which were held. Did you attend these  
12 drills and if so, did they demonstrate adequate preparedness  
13 in your opinion?

14 A The answer to the first is yes and the answer to  
15 the second is no. I was there as a member of the -- well  
16 the key group of people that are suppose to be working to-...  
17 gether as county employees and department heads to play our  
18 role on the scenario that was devised jointly between PG&E  
19 and our emergency services coordinator.

20 In general, I think I'm correct in saying this,  
21 that the only persons who really went into the field were my  
22 own staff who on both occasions went into the field with  
23 their radiation measuring devices and their walkie-talkies  
24 which are hand-held radios to communicate back to the command  
25 center what was happening, you know, where they were.



1           There was a time when we started the clock and we  
2 were playing it for real. As I said, I believe they were the  
3 only ones who actually went out in the field. I know no  
4 evacuations took place. I'm not sure, but I believe that  
5 the Sheriff did not infact send his men out over See Canyon  
6 Road on those occasions. But my staff, though, they are  
7 faithful workers, had great difficulty clamoring through the  
8 brush and getting information back and at one point, in fact,  
9 they simply could not communicate and had to go to a pay  
10 telephone to communicate the results of their findings.

11           So, we decided that our radio equipment is not  
12 adequate. No, I should say more than that, actually. That  
13 is, I felt that what we were doing was going through a planned  
14 exercise on that particular day during which all -- everything  
15 else stopped and we were all gathered at the county court  
16 house annex to play this particular exercise through.

17           That is not the way life is. Everyone of those  
18 persons would have been dispursed throughout the county some-  
19 place doing something else at that moment and might not be  
20 able or available to do that which they had planned that day.

21           That's why I felt that. it wasn't real.

22           Q       Now, Mr. Jorgensen, I have a number of questions  
23 for you.

24           Mr. Shiffer and all in their testimony, have  
25 stated at page two of their testimony that the current county



1 emergency plans remain in effect. Is this true and if so,  
2 have they been implemented?

3 A (Witness Jorgensen) I'm assuming that the ques-  
4 tion refers to two plans: the nuclear emergency response  
5 plan and the nuclear emergency evacuation plan adopted in  
6 1976. Is that correct?

7 A That's correct.

8 Q The answer to that question is that technically,  
9 those plans remain in effect in the sense that they have  
10 never been formally rescinded by the Board of Supervisors.  
11 However, since the Three Mile Island accident, there has been  
12 no action to implement those plans in any way whatsoever.  
13 They are in essence nothing more than paper plans. Since  
14 the Three Mile Island Accident, the plans have been in essence  
15 have been shelved and we have embarked upon an entirely new  
16 planning process for emergency response in San Luis Obispo  
17 County.

18 Q Mr. Jorgensen, why in your view were the current  
19 plans never implemented? Why were they shelved, to use your  
20 word?

21 A Prior to Three Mile Island, this is before my  
22 time on the Board of Supervisors, so I can only surmise that  
23 prior to Three Mile Island, the emphasis placed on emergency  
24 planning for nuclear power plants was not a particularly  
25 strong one and I think that San Luis Obispo County and the



1 Nuclear Regulatory Commission and others probably shared that  
 2 view, so that prior to March of 1979, there was not a great  
 3 deal of effort put into those plans because of the limited  
 4 economic resources of the county, because there was no pres-  
 5 sure to do so and because it was not perceived to be a high  
 6 level priority in light of all the other things that the  
 7 county government has to provide.

8           However, after Three Mile Island, it became  
 9 extremely clear that the county's plans would have to be  
 10 substantially changed and that aggressive action was going  
 11 to have to be taken in the future to make sure that there  
 12 was actual preparedness because of what we learned from  
 13 Three Mile Island. Because the county had never put any  
 14 effort into implementing the 1976 plan, because we had limited  
 15 county resources and because new requirements were going to  
 16 come down from the state and federal authorities on what  
 17 should be in those plans, there was a -- the county took the  
 18 position that they should wait and see what the new regulations  
 19 would be rather than simply patch up a plan that was obviously  
 20 inadequate. That we would try to develop an entirely new  
 21 plan once we found out what the new state and federal require-  
 22 ments would be.

23           And that's what's happened. Since the Three Mile  
 24 Island Accident there has been no effort put in to the '76  
 25 plans to upgrade them and at this point, no one in the county



1 to my knowledge is operating under those plans as an emergency  
2 response plan for San Luis Obispo County.

3 I think that the action that we took to shelve  
4 the 1976 plans was a very conscious one taken by all the  
5 parties involved. There was no objection to that action.  
6 It seemed like the only rational intelligent thing to do under  
7 the circumstances. Was to wait and reassess the situation  
8 and try to develop a new plan under the new regulations.

9 I might add that during my time on the Board, since  
10 March 15, of 1980, this position has been reasserted before  
11 the Board of Supervisors in recommendations from our county  
12 administrative officer and emergency services coordinator  
13 on a number of occasions. That we should wait and have a  
14 clear picture of the regulations before we committed additional  
15 manpower and equipment.

16 Q Mr. Jorgensen, --

17 A One final thing. At no time has the county been  
18 informed that we would be expected to operate under some in-  
19 terim plan or under the 1976 plan as a bases for a low power  
20 test or anything else. There has been no request of the  
21 county that we at this point upgrade our 1976 plan in order  
22 to be prepared for a low power license.

23 I think it's been clearly understood by all of the  
24 parties that we would be developing a new plan and that was  
25 I think concurred in and in fact actively supported when we



1 hired a consultant to prepare our present planning efforts.

2 Q Mr. Jorgensen, did you ever inform the Nuclear  
3 Regulatory Commission that the current plans had not been  
4 implemented?

5 A Yes, I have.

6 Q When was that?

7 A There was a meeting in San Luis Obispo with  
8 representatives from FIMA, NRC, PG&E, the county, myself,  
9 Supervisor Kupper from the county, the emergency services  
10 coordinator where there was a discussion of where do we go  
11 from here with respect to emergency plans.

12 At that time, we made it very clear, myself and  
13 also Supervisor Kupper -- very clear to those people repre-  
14 sented that we had no actual preparedness. That the 1976  
15 plans were paper plans only. That the county was not relying  
16 on those plans as the bases for their emergency planning  
17 efforts and then I went into rather lengthy detail about the  
18 nature of the planning effort that we are involved in.

19 Shortly before the meeting with FIMA and NRC that  
20 I'm referring to --

21 Q Mr. Jorgensen, just a second. Could you tell us  
22 when the meeting was?

23 A It was October 21, 1980.

24 Shortly at a very -- within a matter of days of  
25 this meeting, the county had hired a consultant to prepare



1 a new emergency plan for San Luis Obispo County and there  
2 was a very specific time table of duties that would be  
3 performed in preparing that plan and I went through that  
4 specific time table and made that -- presented that to the  
5 people represented at that meeting.

6           Essentially we were talking about two separate  
7 phases to our planning effort. The first phase which we are  
8 now only -- which we are now just to complete, which is phase  
9 one, would be the development of an administrative draft  
10 document. It would not represent an actual plan that could  
11 be used to respond in the event of an emergency, but it would  
12 simply be the framework and the conceptual guideline on which  
13 standard operating procedures, equipment, personnel and so  
14 forth could be developed. We are in the process of completing  
15 that.

16           There was also a second phase and I might digress  
17 for a minute and say that plan which we -- draft plan, which  
18 spells out the administrative procedures is not scheduled to  
19 be formally adopted by the Board of Supervisors of the county  
20 until the first meeting in December. At this point, we are  
21 simply receiving the preliminary draft and transmitting it  
22 to state and federal authorities for review. So, we won't  
23 even have an adopted administrative document until December  
24 1981.

25           The second phase, which is the phase that involves



1 actually developing actual preparedness for a plan, called  
2 phase two, will take some additional time beyond the time  
3 to complete the phase one document and that would be in the  
4 development of standard operating procedures and equipment  
5 and so forth.

6 Q The preparation of those standard operating pro-  
7 cedures. Is that an on-going effort now?

8 A Yes. Obviously there is a great deal of concern  
9 that we move forward with the emergency planning process and  
10 the county is taking it very seriously and doing everything  
11 that they can to develop these plans. As a result, phase two,  
12 the development of the standard operating procedures is going  
13 to occur concurrently with the Federal and state review of  
14 our administrative plans. So, that we will be developing  
15 preliminary standard operating procedures beginning in June  
16 and proceeding forward from that time.

17 However, they will not become adopted operating  
18 procedures, obviously, until the formal administrative plan  
19 itself is adopted by the Board and there is obviously on-going  
20 training and inventoring of equipment needs and so forth  
21 throughout the process.

22 Q Mr. Jorgensen, Mr. Shiffer stated in his testimony  
23 that PG&E hopes to have a full scale exercise of revised  
24 state, local and PG&E emergency response plans by August  
25 1981. With respect to the local emergency plan that is being



1 revised and formulated at this time. Do you believe that  
2 this goal can be achieved?

3 A In discussions with our emergency services coordin-  
4 ator, I believe that the exercises that have been referred to  
5 will probably not occur in August. Probably more likely in  
6 September and at this point, what I can say is that the county  
7 intends to participate in those exercises in September. How-  
8 ever as I already mentioned, we will not have a formally  
9 adopted plan. There will not be public hearings on the plan.  
10 We will not probably have received review comment and sugges-  
11 tions from change from the Federal and state government and  
12 so, therefore, I can only say that the exercises that we will  
13 be participating in would have to be characterized as pre-  
14 liminary in nature and educational in nature rather than  
15 representing drills of an actually adopted in place plan.

16 ////

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25 (Testimony continues on the next numbered page.)



1 MR. LANPHER: Mr. Chairman, I have no further  
2 questions.

3 JUDGE WOLF: Thank you.

4 Mr. Norton, do you have something to say?

5 MR. NORTON: I believe, in the order you established,  
6 that we --

7 JUDGE WOLF: The Joint Intervenors come next.

8 MR. NORTON: No, I believe we do, in the order you  
9 established, unless you have changed that order.

10 JUDGE WOLF: I beg your pardon?

11 MR. NORTON: I believe we are next, according to the  
12 order you established the first day.

13 JUDGE WOLF: I think that is right.

14 MR. NORTON: Okay. We only have approximately a  
15 little less than a half hour tonight, so I think I will probably  
16 just deal with one witness this evening, preliminarily.

17 CROSS-EXAMINATION

18 BY MR. NORTON:

19 Q Mr. Jorgensen, you stated a couple of times the County  
20 intends this, and the Board intends that, and so on. Are you  
21 here as an authorized spokesman for the San Luis Obispo County  
22 Board of Supervisors by a vote of that Board, or are you here  
23 as an individual?

24 A (Witness Jorgensen) I am speaking as an individual  
25 member of the Board of Supervisors.



2  
1 Q All right. So you are not speaking for the Board  
2 of Supervisors?

3 A No, I am not.

4 Q Or for the County?

5 A I am speaking as an individual member of the Board of  
6 Supervisors, based on the information that I have in my official  
7 capacity as a Board member.

8 Q I understand. I thought that is what you were here  
9 for, but a couple of times you said the County this and the  
10 Board that, and I wasn't sure.

11 Mr. Paulus, I notice by your affidavit that you are  
12 the Deputy Director of the CDF for fire protection and technical  
13 services. How long have you held that post?

14 A (Witness Paulus) Since January of 1980.

15 Q Approximately a year and-a-half; a little shy of that?

16 A Correct.

17 Q What is the superstructure of your organization? Who  
18 do you report to? Are there Deputy Directors above you?

19 A I report to the Director of the Department.

20 Q You report directly to the Director?

21 A Or his Chief Deputy.

22 Q Who is the Director?

23 A The Director is David Pesonen.

24 Q How long has he been the Director?

25 A I believe about two years; a little over two years.



3  
1 Q And was he appointed by Governor Brown?

2 A That is correct.

3 Q And there are two Governor Browns. That is the  
4 Governor Brown that is in these proceedings; correct?

5 A Yes.

6 Q All right. Now, how many visits have you made to  
7 Diablo Canyon, to the facility, in your position as Deputy  
8 Director?

9 A One visit.

10 Q You just made the one?

11 A That is correct.

12 Q And that was just a few weeks ago?

13 A April 16th, I believe.

14 Q Why didn't you visit before?

15 A I had not really had a need nor any request to visit  
16 before.

17 Q Who requested you this time?

18 A The Director of the Department.

19 Q Oh, Mr. Pesonen?

20 A Yes, correct.

21 Q Do you have responsibility for other nuclear plants,  
22 for fire-protection services?

23 A The Department currently does not protect any other  
24 nuclear power plants in the State.

25 Q How about in Sacramento?



4  
1 A No.

2 Q You have no requirements for fire-fighting protection  
3 requirements at any other nuclear facility in the State; is  
4 that your testimony under oath?

5 A That is under oath. Not to my knowledge.

6 Q Are you familiar with what you are required to do by  
7 law in the State of California?

8 A I believe so.

9 Q All right.

10 A Are you referring to direct protection by the Depart-  
11 ment of Forestry, or are you referring to mutual aid response  
12 requests?

13 Q If you are requested to respond, are you familiar  
14 with what your requirements under the law are?

15 A I am sorry, I didn't understand the question.

16 Yes. I did not understand your question.

17 Q And are you required to respond to other nuclear  
18 facilities?

19 A We could, under a mutual aid agreement to other depart-  
20 ments. That is a possibility, yes.

21 Q Just under mutual aid agreements?

22 A Yes.

23 Q No other law requires that?

24 MR. LANPHER: Excuse me. To the best of your know-  
25 ledge.



5  
1 MR. NORTON: Excuse me.

2 MR. LANPHER: He is starting to badger the witness on  
3 this. The witness is trying to answer, and he has answered the  
4 question, and Mr. Norton keeps asking him.

5 BY MR. NORTON:

6 Q As the Deputy Director of CDF for fire protection  
7 and technical services, you are certainly familiar with the  
8 legal requirements of that Department, are you not?

9 A Yes, I think so.

10 Q All right. Now, are you legally required to respond  
11 to any other fires at any other nuclear facilities in the  
12 State of California?

13 A You are getting into a very --

14 JUDGE WOLF: I think the witness has already answered  
15 that question.

16 MR. LANPHER: May I make another objection, if the  
17 Chairman will allow me?

18 JUDGE WOLF: Yes, you may.

19 MR. LANPHER: I think we are getting into the asking  
20 for a legal conclusion. This gentleman is here to testify  
21 regarding CDF's intentions to respond to an emergency at Diablo  
22 Canyon.

23 JUDGE WOLF: Well, I think it is proper to inquire  
24 as to his duties under the law, but I think he has already  
25 stated it as he understands it.



6  
1 MR. NORTON: Well, I am not sure; maybe he did answer  
2 it. I am not sure whether he is required or not required to  
3 respond to any other nuclear facilities in the State.

4 BY MR. NORTON:

5 Q Are you or are you not?

6 MR. LANPHER: Why is this relevant?

7 JUDGE WOLF: Let him answer.

8 You may answer that question.

9 WITNESS PAULUS: That is a difficult question to  
10 answer, because I don't understand whether you are referring  
11 to a direct protection responsibility to the State.

12 To be specific in your answer, to my knowledge, the  
13 only nuclear power plant that the Department of Forestry had  
14 any obligation to respond to was the one at Diablo Canyon.  
15 There are no others located in our jurisdiction.

16 To expand upon that, through mutual aid agreements,  
17 the Department of Forestry could possibly be called upon to  
18 assist other departments.

19 BY MR. NORTON:

20 Q Well, have you by chance ever reviewed the State of  
21 California Nuclear Power Plant Emergency Response Plan and  
22 the obligations of the California Department of Forestry under  
23 that Plan?

24 A Yes, I have looked at that Plan.

25 Q All right. Does it not say on Page 20 of that Plan --



7  
1 MR. LANPHER: Could we show him a copy, please?

2 MR. NORTON: You certainly may.

3 MR. LANPHER: Is this the one which is attached to  
4 the PG & E Plan?

5 MR. NORTON: Yes.

6 BY MR. NORTON: . . . . .

7 Q We could start at Page 17, and I will carry it through.

8 If you would look at Page 17(b) under "V, Organiza-  
9 tion and Assignments" under (b) it says, "State Assignments."  
10 It says, "All departments will. . ."

11 Is the Department of Forestry excluded from that  
12 designation of "all departments?"

13 A Not to my knowledge, no.

14 Q You are included, right?

15 Does it say, "Plan for the safety of employees and  
16 protection of State property in the event of an accident," et  
17 cetera, and a whole bunch of procedures, right? And we get  
18 down, and it says, "Provide manpower, equipment and facilities."

19 Does it say that?

20 A Yes.

21 Q Now, on Page 20, doesn't it specifically list, for  
22 the Department of Forestry, F(2) on Page 20, under the "Depart-  
23 ment of Forestry," ". . .provide fire protection personnel  
24 and equipment?"

25 A Correct.



8  
1 Q Is that not your legal responsibility, to do that,  
2 at all State nuclear power plants in the State of California?

3 MR. LANPHER: I would like to object again. He is  
4 calling for a legal conclusion. He asked it right there:  
5 "Isn't it your legal responsibility." If he wants to ask his  
6 understanding of his responsibility --

7 MR. NORTON: Strike the word "legal."

8 JUDGE WOLF: Are you familiar with that section,  
9 Mr. Witness?

10 WITNESS PAULUS: Yes, I have read this document a  
11 number of times.

12 BY MR. NORTON:

13 Q And you don't perceive that this gives you the  
14 responsibility to do what it says you are supposed to do?

15 A This does not state that the Department of Forestry  
16 will go out and assume fire protection responsibilities for  
17 nuclear power plants in any given location. There may be other  
18 jurisdictions there that have that primary responsibility. The  
19 Department of Forestry may, under this Plan, if so ordered by  
20 the Governor's Office, or in a state of emergency, provide  
21 assistance to other departments.

22 Q Who has primary responsibility at Rancho Seco?

23 A I believe that is located in the Harold fire-protection  
24 district.

25 Q Who has primary responsibility at Diablo Canyon?



9  
1 A That is located in the County of San Luis Obispo,  
2 and the Department of Forestry, by virtue of a contract arrange-  
3 ment with the County of San Luis Obispo, would have that  
4 responsibility.

5 Q All right. So you do have that responsibility;  
6 correct?

7 A We do have that responsibility. We also have a  
8 responsibility not to subject our employees -- there is nothing  
9 in the law that says we have to send our employees into an  
10 environment that they are not trained to cope and handle with,  
11 and there is nothing in that agreement that says we will do  
12 that.

13 (Applause.)

14 Q And whose responsibility is it to see that your  
15 employees are trained? Is that not your responsibility?

16 A That would be my responsibility; yes, sir.

17 Q And why haven't you undertaken that until your first  
18 visit just several weeks ago, when you have been in the Office  
19 for a year and-a-half?

20 A Because I did not have the detailed knowledge. The  
21 State of California is a big State, and I did not have detailed  
22 knowledge of this particular circumstance.

23 Q And isn't it a fact, because these hearings were  
24 approaching, that you were sent down here?

25 A I was asked to come down here by my boss, the Director.



10 1 Q Because of these hearings; correct?

2 A I don't know that to be a fact, Counsel.

3 Q You didn't ask him why?

4 MR. LANPHER: He has answered the question.

5 MR. NORTON: Fine. I will withdraw the last question.

6 BY MR. NORTON:

7 Q If it is your responsibility, and you have no responsi-  
8 bility for any other nuclear plant in this State, why haven't  
9 you taken care of it before? Why haven't you looked into it  
10 before?

11 MR. LANPHER: Judge Wolf, this has been asked and  
12 answered. He stated it was a big State. He just had never  
13 focused on it before, and then he came down last month.

14 JUDGE WOLF: Well, this is cross-examination. I will  
15 let him answer that again.

16 WITNESS PAULUS: Would you repeat the question again,  
17 please?

18 MR. NORTON: Yes.

19 BY MR. NORTON:

20 Q It is a big State, but Diablo Canyon is apparently,  
21 pursuant to your testimony, the only power plant which you  
22 have a responsibility for; the only nuclear plant you have a  
23 responsibility to provide fire protection for?

24 A That is right.

25 Q Well, tell me this: Have you visited any others?



1 A No, I have not.

2 Q Okay. Assuming you have this responsibility that you  
3 now say you have, why haven't you been here before to look at  
4 the situation?

5 A Again, I was not aware of this situation. I was not  
6 intimately familiar with the details. I made some assumptions  
7 in my Office that the planning here was adequate. That was  
8 a false assumption.

9 Q Did you ask certain employees to sign affidavits that  
10 they weren't properly trained?

11 A No, I did not.

12 Q Were you present when attorneys for the Governor  
13 asked those employees to do that, or are you aware of that?

14 MR. BROWN: That assumes we did it. I object.

15 MR. NORTON: Asking the employees of the California  
16 Department of --

17 MR. BROWN: No, you said when the Governor's people  
18 asked something. We object to that. He made an assumption  
19 that is highly inappropriate.

20 JUDGE WOLF: I will sustain that.

21 MR. NORTON: I will rephrase it.

22 BY MR. NORTON:

23 Q Are you aware of any activity on the part of anybody  
24 to get your employees, California Department of Forestry, to  
25 sign affidavits?



1 A No, I am not.

2 Q You have not heard of that?

3 A I have not heard of that.

4 Q Now, you updated your affidavit. You did not change  
5 Paragraph 6, which talks about radiation training, but you  
6 did then testify later that you understand radiation training  
7 has taken place?

8 A Yes, that is correct.

9 Q All right. Now, you also say in Paragraph 6, however,  
10 you can state of your own knowledge that (contrary to the  
11 assertion in the Emergency Plan) that "refresher training and  
12 radiation protection practices and procedures is. . ." not  
13 included as part of an annual tour of the Diablo Canyon  
14 facility and its fire-suppression equipment by Department of  
15 Forestry personnel.

16 How do you base that on your own knowledge?

17 A It is based on my on-the-ground interviews with  
18 those employees who would be the fire-fighting personnel who  
19 would respond to the Plan.

20 Q So it is not of your own knowledge? That is what you  
21 have gone out and asked people, I take it?

22 A That is what the employees have told me.

23 Q I just want to clarify it, because usually, when you  
24 say of your own knowledge, it is personal knowledge, as opposed  
25 to what somebody tells you.



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So you really don't mean of your own knowledge here;  
is that correct?

A Well, to me, it is of my own knowledge, because that  
is what the employees related to me.

Q Okay.

///

(Please continue on the next numbered page.)



1 Q Would you say, in reading paragraph six, at the  
2 present time, your opinion regarding what you state in  
3 paragraph six has changed regarding the radiation training  
4 now which has taken place, etcetera?

5 A Yes, I think we've made a great deal of progress.  
6 We want to proceed in the most expeditious manner possible to  
7 train our employees.

8 Q Do you feel that there is any equipment there  
9 lacking? Your affidavit says that they don't have the  
10 proper equipment or training on the equipment. What equipment?

11 A I think the equipment in question at the time was  
12 the radiological monitoring type equipment. Some discussion  
13 on self-contained breathing apparatus. I think we've satis-  
14 fied those needs through the training and through PG&E's  
15 own stock of self-contained breathing apparatus.

16 Q Isn't the breathing apparatus that your people  
17 have the same that PG&E has?

18 A It's interchangeable. It's just the amount that  
19 may be required.

20 Q So, upon further investigation, that problem  
21 went away.

22 A That would be correct.

23 Q Would it be correct then that you had not thoroughly  
24 investigated the situation when you prepared this affidavit?

25 A No, I don't believe that's correct.



1 Q Well, if thorough investigation changes the  
2 affidavit --

3 JUDGE WOLF: Next question.

4 BY MR. NORTON:

5 Q -- was this information you required later?

6 (Applause)

7 MR. LANPHER: Excuse me. Could you repeat the  
8 question?

9 BY MR. NORTON:

10 Q Was this information regarding the equipment some-  
11 thing that you just acquired this week or what?

12 A Relative to the self-contained breathing apparatus,  
13 that was something that I did acquire at a later date.

14 (Pause)

15 Q Let me ask you this very basic question. If there  
16 were any kind of a fire and you got a call right now and if  
17 you happened to be out at the local person who is in charge  
18 and you have to be there with him, tomorrow morning for example,  
19 if you were still here and a call came in from Diablo Canyon  
20 and they just said, hey, we're out at Diablo Canyon. We've  
21 got a fire and we need your help. Would you tell them not  
22 to go?

23 A No.

24 Q Would you tell them to go?

25 A Given the fact that there is no nuclear radiation



1 possibility at this time, we would respond.

2 Q All right, let me put it to you another way.  
3 Let's say that your pre-fire plan --

4 (Applause)

5 Let me put it to you another way. That the pre-  
6 fire plan which you're going to have, you said on your desk  
7 the fifth of June or whatever --

8 A Pre-fire plan?

9 Q Yes. Did you say the fifth of June? -And you  
10 thought it would be like the first of July before you could  
11 rehearse under it or something. If indeed low power testing  
12 was occurring at that time and the same call go, would you  
13 tell them that they could not go?

14 A In my best judgement, we would probably not enter  
15 into a letter of agreement until that pre-fire plan addresses  
16 the issues. So, my answer specifically is no we would not  
17 respond until we were satisfied that the safety measures are  
18 met.

19 (Applause)

20 JUDGE WOLF: Hey, quiet.

21 BY MR. NORTON:

22 Q Do you not have in a letter of agreement with the  
23 County of San Luis Obispo that requires you to go?

24 A I don't think that agreement to my knowledge  
25 specifically refers to that.



1 Q Are you familiar with the fiscal year 1980-81  
2 contract between your agency and the County of San Luis  
3 Obispo?

4 A I'm familiar with the contract. It's a similar  
5 contract that we use throughout the state. I'm familiar with  
6 the basic principles of the contract.

7 Q Doesn't it require you to fight fires in that area?

8 MR. LANPHER: Excuse me. If you're going to be  
9 questioning on a contract, can you make a copy of it available  
10 please? Both to counsel and to the witness.

11 (Pause)

12 MR. NORTON: Unfortunately, I don't have enough  
13 copies of it. I assumed that he was familiar with the con-  
14 tract or would even have a copy of it. I don't have enough  
15 copies. I only have the one, so I can't give it to everybody.

16 (Pause)

17 Your Honor, because we only have the one copy and  
18 I can't ask a question while he's looking at it and he can't  
19 look at it while I'm reading in it, we can hold those questions  
20 off until the morning and we can get copies for you this  
21 evening.

22 JUDGE WOLF: Very well.

23 (Pause)

24 BY MR. NORTON:

25 Q Do you have these pre-fire plans with any other



1 utilities -- with any other large generating stations, etcetera?

2 MR. BROWN: One moment. That assumes, Your Honor  
3 that there is an agreement with the other utilities.. Foundation  
4 has to be established first if there is such agreements  
5 pursuant to which there would be a pre-fire plan.

6 JUDGE WOLF: Do you want to establish that?

7 MR. NORTON: Yes, I have no objection to that.

8 BY MR. NORTON:

9 Q Do you have any agreements to provide fire protec-  
10 tion services to any other power plant whether they be nuclear  
11 or other wise?

12 A I'm not personally familiar with any specific  
13 letter of agreements with our power plants, but I am sure  
14 that we do. It would be reasonable to assume so.

15 Q Have you reviewed those plans -- those pre-fire  
16 plans?

17 MR. LANPHER: Wait, I object. He just answered  
18 that he's not personally familiar with them. He can't have  
19 reviewed them.

20 JUDGE WOLF: I didn't understand his answer that  
21 way. What was your answer?

22 WITNESS PAULUS: I'm not specifically familiar with  
23 any letter of agreement for pre-fire plans that we have with  
24 other plants.

25 JUDGE WOLF: Do you know that there are any such



1 plans?

2 WITNESS PAULUS: Not for a fact.

3 JUDGE WOLF: I don't understand that answer.

4 MR. NORTON: I don't either.

5 Do you have pre-fire plans with any-  
6 body?

7 WITNESS PAULUS: Yes, we have a lot of pre-fire  
8 plans. Your question, I thought, was specifically to power  
9 plants.

10

11 BY MR. NORTON:

12 Q I'm trying to get some examples of large outfits  
13 that you have pre-fire plans with.

14 A We have pre-fire plans in many many areas of the  
15 state, relative to refineries, large industrial complexes,  
16 all kinds of things of that nature.

17 Q What I would like to have you tell me is how many  
18 of those you have personally gone to the site and reviewed?  
19 In the position that you're in now?

20 A In the position that I'm in now?

21 Q Yes.

22 A I think that I have probably looked at about four  
23 or five in the last year and a half throughout the state.

24 Q Specifically reviewed them?

25 A In a field review, yes.



1 Q Just as a part of the tour?

2 A Yes, actually part of a unit tour.

3 Q Not check whether they are fully complete and  
4 so on, but just as part of going out and seeing what was going  
5 on.

6 A That's correct.

7 MR. NORTON: Your Honor, it's about four minutes  
8 before five. I may want to ask Mr. Paulus some questions in  
9 the morning about that contract, but I may not. It may not  
10 be worth it. This seems like a good time to break. I don't  
11 really have any questions for him other than that.

12 JUDGE WOLF: Very well, we'll adjourn at this time  
13 until 9:00 a.m. in the same room.

14 MR. FLEISCHAKER: Excuse me, Mr. Chairman, before  
15 we adjourn. Since we have a schedule by which we change rooms  
16 frequently, could you please announce for the public where  
17 the meeting tomorrow will be?

18 JUDGE WOLF: I just said in this room.

19 MR. FLEISCHAKER: I'm sorry I didn't hear you.

20 JUDGE WOLF: Off the record.

21 (Whereupon, at 4:56 p.m. the hearing in the above  
22 entitled matter was recessed until 9:00 a.m. the next day.)  
23  
24  
25



This is to certify that the attached proceedings before the

Nuclear Regulatory Commission

in the matter of:

Date of Proceeding: May 20, 1981

Docket Number: 50-275/323

Place of Proceeding: San Luis Obispo, California

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

Horace W. Briggs

Official Reporter (Typed)

*Horace W. Briggs*

Official Reporter (Signature)

