# ORIGINAL

UNITED STATES OF AMERICA NUCLEAR REGULATORY COMMISSION

In the matter of:

COMMENTS BY PARTIES ON DIABLO CANYON CRITICALITY AND LOW POWER OPERATION

Docket No.

OPEN MEETING

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
COMMENTS BY PARTIES ON DIABLO CANYON
CRITICALITY AND LOW POWER OPERATION
PUBLIC MEETING
Room 1130 1717 H Street, N.W. Washington, D.C.
Friday, February 10, 1984
The Commission met, pursuant to notice, at
10:05 a.m.
COMMISSIONERS PRESENT:
NUNZIO PALLADINO, Chairman of the Commission
THOMAS ROBERTS, Commissioner
FREDERICK BERNTHAL, Commissioner
STAFF AND PRESENTERS SEATED AT COMMISSION TABLE:
SAM CHILK
DARRELL EISENHUT
J. FITZGERALD GEORGE MANEATIS
BRUCE NORTON HOWARD ERIEND
JAMES SCHUYLER
TOM DEVINE

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1	AUDIENCE SPEAKE	RS:		
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3	JAMES	SHIFFER		
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## PROCEEDINGS

2 CHAIRMAN PALLADINO: Good morning, ladies and 3 gentlemen.

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This meeting is for the purpose of hearing comments from the participating parties in the Diablo Canyon proceeding. The issue in question is the future Commission decision of whether or not to authorize the licensee to proceed with criticality and operation up to five percent of full power.

9 The Commission has an order dated January 23, 1984, 10 to authorize the facility to be operated in Modes 4 and 3. 11 We have tentatively scheduled a meeting to discuss the 12 decision for authorization up to five-percent power for 13 February 27.

In keeping with our previous decision to hear from 14 the parties before deciding the next step, we are holding 15 16 today's meeting. We will hear from the parties in the following order: First the staff; then PG&E, followed by the 17 Joint Intervenors. We had been informed that there was 18 going to be a representative of Governor Deukmejian to make 19 a presentation, but I understand the representative is here 20 only to answer questions. 21

Before we begin, are there any additional remarks
by other Commissioners? '

COMMISSIONER ASSELSTINE: I would just make one
 comment. I would have preferred to have this meeting in

1	California, I think it would have been useful to have a meeting
2	of this type in the vicinity of the plant.
3	CHAIRMAN PALLADINO: Any other comments? Okay,
4	thank you. Well, then let me turn the meeting over to
5	Mr. Eisenhut.
6	MR. EISENHUT: Thank you.
7	This morning I will give a brief summary just to
8	recap where we are in somewhat of a small update. Recall
9	that the Safety Evaluation Supplement, SSER 20 and 21, were
10	both issued in late December of 1983 and they conveyed the
11	status on a couple of issues at that time.
12	No. 20 addressed the overall status of the
13	independent design verification program and the internal
14	technical program that was carried out by PG&E, and in that
15	safety evaluation we concluded that the issues that were
16	required to be resolved prior to a decision to go up to
17	five percent were in fact resolved.
18	Regarding SSER 21, which related and addressed the
19	status of the allegations, we stated that we had not identi-
20	fied any issue to preclude operation up to five percent at
21	that time. That is, we had not come to a conclusion as a
22	result of an allegation to hold off on that decision.
23	However, we felt that there were several actions
24	which should be resolved and, since we had the time, it would
25	be prudent to go ahead and resolve them prior to a decision

to go to five percent.

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2	Recall also, in January we gave you an update on
3	the overall allegation status, showing how the number of
4	allegations had grown and putting them into several "bins"
5	if you will.
6	We provided a later update, dated February 6, which
7	is SECY-804-61, which was earlier this week, where we showed
8	that there are not, the way we counted, about 185 allegations.
9	There is an inconsistency in the memo, referring to a couple
10	of different numbers. That is because during the writing
11	of the memo the number went from 183 to 185. But there are
12	185 allegations.
13	At that time, we also made a preliminary determination
14	as to which of the allegations we felt had to be resolved
15	prior to a decision regarding initial criticality and going
16	to five percent. The February 6 memo is the latest status
17	that we have on the allegations. However, let me point out
18	there are a couple of other developments that have occurred
19	very recently.
20	First, in the area of small bore piping, we sent
21	a memorandum for our counsel to the Hearing Board, the
22	the second on Relevant 7 schemein up stated that the

Appeals Board, on February 7, wherein we stated that the allegations involving small bore piping design concerns have been identified, which could bear on one or more of the issues in the hearing -- specifically we identified, for

example, issues 2 and 8.

2	On that particular item, I think where we very
3	preliminarily are is that some of those issues are being
4	resolved or we have concluded they are not probably not
5	significant.
6	There are some aspects of those allegations on
7	small bore piping which we believe will be and are going to
8	bear out to be substantiated. We are continuing to evaluate
9	this area to try to decide how much of it gets substantiated;
10	what aspects get substantiated, and then the safety
11	implications of those aspects that get substantiated.
12	Specifically, the issue we are trying to address
13	is whether or not, or to what degree, those concerns have
14	to be resolved. How they have to be resolved, and when they
15	have to be resolved that is prior to an initial criticality
16	five-percent decision or not.
17	CHAIRMAN PALLADINO: I gather you have not made
18	that determination yet.
19	MR. EISENHUT: We have not, except we have
20	determined that there are some areas where it appears that
21	some of the allegations have been substantiated, specifically
22	relating to some of the small bore piping support calculations,
23	particularly those that were done by computer, by a computer
24	model.
25	We are looking into it. We have a number of people

1	working the problem. Originally, as we told you the last
2	meeting I believe late in January we brought in a
3	reviewer from Region III. Since that time, we have brought
4	in management from Region I, Region II, Region III managers,
5	additional people from NRR, and we are using the Brookhaven
6	National Lab as a consultant to follow up on this particular
7	area. We are hoping to do that in a short time frame and
8	we are shooting to come down stating a position of where
9	we are perhaps even next week on this particular area.
10	COMMISSIONER BERNTHAL: Are you excuse me.
11	Go ahead.
12	CHAIRMAN PALLADINO: Do you then tell the Board
13	where you stand?
14	MR. EISENHUT: Certainly. We have not even decided
15	yet exactly when we are going to be meeting with the utility,
16	how we are going to be meeting with them to put this item
17	into some framework, approach to the resolution. But I
18	suspect it will be coming down sometime next week.
19	We would I should also point out, we had a meeting
20	last week in California, last Tuesday, where we discussed
21	this at some length. We kept a transcript of that meeting.
22	We have served that transcript or are in the process of
23	serving that transcript of the Commission and the Board, and
24	all the parties. It usually takes several days from the
25	signing to actually making it. But it is being provided to

1	the Board and parties because it was a meeting where we
2	spent several hours on this particular issue.
3	As it evolved somewhat since that time but I thought
4	we needed to highlight it because it is an area where we are
5	coming up with, concluding that some of the allegations are
6	being substantiated, and that is one of the items that we
7	had put preliminarily on the table in the category that
8	said it needed to be resolved prior to criticality.
9	COMMISSIONER BERNTHAL: Are you being so circum-
10	spect in referencing the small bore piping questions because
11	of a procedural constraint. Or if not, could you be ever
12	so slightly more specific?
13	MR. EISENHUT: Well, I can be ever so slightly,
14	but I want to characterize that it is somewhat preliminary
15	and in fact we are not sure quite what all the facts are.
16	But it is the kind of thing where there are
17	questions where we have gone out and audited small bore
18	piping support calculations and we have audited something
19	on the order of twelve of those calculations to date. We
20	had decided originally to audit 22.
21	One of those calculations we looked at in some
22	depth and it was really the subject of the meeting in
23	California, where we walked through here is the original
24	model, calculational model approach used to model the problem
25	and the model of record in the files, it turns out, is

different than certainly the original. It turns out that
 the model of record appears to have an error in that
 calculational model due to a problem.

It appears that there were either input coordinates
that were off; inputs were not at the nodes, or a number of
kinds of calculational errors in that approach.

7 There are a number of questions raised by this.
8 How was the approach done? It appears that the original
9 calculation modeling this problem was -- let me put in sort
10 of a simple framework -- it was a relatively complex model.
11 That model concluded that support did not meet the criteria.

12 That calculation was apparently put aside and a 13 new calculation was done on the same problem. That new 14 calculation was a rather simplistic model. That simplistic 15 model showed that in fact the support did meet the appropriate 16 criteria. But it turns out that simplistic model had an 17 error in it.

18 Correcting the error shows that you don't meet 19 the criteria. So, then it evolved to a more complex model 20 which was about back where you started in the first place, 21 where you still don't meet the criteria. Of course, then 22 you go one more step into a more refined calculational model. 23 We are trying to go through this process, looking at

a number of questions. There are allegations that there were undue pressures on the people doing these calculations. There

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1 are allegations that the people doing these calculations had 2 no formal training. There are allegations that the people 3 doing these calculations were not trained in the computer program; their job duties, and assignments, and approaches 4 5 were not appropriately laid out. There are even allegations 6 bordering on these people were under undue pressure, working 7 seven days a week, so many hours a day, with a quota to do 8 certain kinds of calculations.

So, we are looking at this overall framework. It
is fair to say, though, that we have found an error or
errors in small bore piping support calculations, and we
have to look at those, obviously, to ascertain what the
significance of those is.

I think it is fair to say, though, at this time that we found no big problem in terms of the structure from the limited number we have looked at. That is, even correcting --

18 CHAIRMAN PALLADINO: You found no problem.
 19 MR. EISENHUT: Even correcting the calculation
 20 would not lead you to say there was a problem.

CHAIRMAN PALLADINO: I though you said the calculations in one case showed acceptability and in another case not acceptability. Wouldn't that --

24 MR. EISENHUT: But in the final process -- I'm 25 sorry.

1 CHAIRMAN PALLADINO: Wouldn't that indicate a 2 problem?

MR. EISENHUT: Well, the final calculation ultimately showed it was all right and it met the criteria. So, we are looking at the evolution of how you go through the calculation of modeling, which by itself is not necessarily the problem.

8 COMMISSIONER BERNTHAL: I am trying to get straight 9 whether your problem, though, is primarily one of verification 10 or whether -- maybe you are not prepared to say and you don't 11 want to state for the record yet what your judgment is of 12 the possible significance, structural significance, of the 13 difficulty, or whether it is primarily one of verification --14 quality assurance in the calcualtions, if you will.

MR. EISENHUT: I think certainly my opinion would be that it is premature to tell, the overall question. But at least on one part of it, I think it is our opinion that there is going to have to be some additional verification that the calculations were properly done.

20 CHAIRMAN PALLADINO: So you have not really made
21 any judgment, Darrell, that this is acceptable.

22 MR. EISENHUT: We have not made the judgment that
23 it is acceptable. /

24 CHAIRMAN PALLADINO: And if it is acceptable, then
25 you would not anticipate any hardware problems. But if it's

1	unacceptable, you can't really tell yet.
2	MR. EISENHUT: That is correct.
3	CHAIRMAN PALLADINO: There possibly would be some
4	hardware changes.
5	MR. EISENHUT: Certainly, there would have to be
6	some additional calculational verification to verify the
7	calculations are correct or, if they are not correct, to
8	correct them. Then you would have to evaluate the significance
9	of that changed calculation on the structure.
10	CHAIRMAN PALLADINO: Now, you don't know that
11	the final calculation has errors, you are just going to check
12	to see.
13	MR. EISENHUT: We only know of one process where
14	we saw an error in the calculation of methodology, but we
15	have only looked at something like twelve calculations out
16	of about 1,800.
17	I should also point out that at the meeting in
18	California we went through a long laundry list of potential
19	concerns, last Tuesday. We went through these concerns
20	based on a limited look, for example the first example on
21	our list was training records. We had not found adequate
22	documentation to show that these individuals doing small bore
23	piping calculations had adequate training. That was a concern
24	on our list.
25	The utility has since responded to a number of the

concerns. The utility at the meeting last week stated they had the records, they just hadn't provided them, and we have not had time to go through them.

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That is why on one hand we haven't concluded where 4 in this long list there are problems and the significance 5 of them. But at the same time, I wanted to point out that 6 we are starting -- we have seen some errors which at least 7 in my mind are going to lead us to the point where we are 8 going to have to do some additional calculational verification 9 and the degree to that and the significance of that we are 10 just not prepared to say yet today. 11

12 The utility did submit a package of information 13 last week. We have asked the utility to address a long 14 list of a number of areas and we are going to be meeting 15 with them over the next week or so.

16 COMMISSIONER BERNTHAL: Darrell, one last question -17 and maybe we beat this long enough, and you probably answered 18 this already.

But is the question one that impinges, then, would impinge ultimately on seismic integrity or is that another matter?

MR. EISENHUT: It could end up being both. It could be broader than that. Specificially, where we are today is addressing one area. That is, were the small bore piping support calculations done properly. But there are so

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1	many other aspects to it, a la allegations, that I don't
2	want to say it's limited to that.
3	COMMISSIONER ASSELSTINE: Darrell, I have a couple
4	more questions based upon the transcript of the staff's
5	meeting.
6	First, I wanted to ask about the extraneous
7	snubbers. And it strikes me there are two questions there.
8	One is, is there a safety problem with having them in the
9	plant as they are now.
10	But the second question, I think, is perhaps the
11	more significant and I think Jim Knight had identified it at
12	one point in the meeting. That is, what does this all say
13	about the licensee's design practice and is there reason to
14	question the overall administration of the design program.
15	Have you reached any kind of a judgment yet on
16	that?
17	MR. EISENHUT: I might ask Jim Knight to answer it.
18	MR. KNIGHT: If I may take your questions in order.
19	Based on what we have seen and we have taken a look, guite
20	a close look here at Diablo, there isn't a safety problem
21	per se in having the extra snubbers there.
22	(Commissioner Gilinsky enters hearing room.)
23	MR. KNIGHT: In fact, one of the whole reasons this
24	becomes a question is that in a great majority of instances
25	you find that the snubber is not necessary and in fact could

be removed.

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2	This is, for want of a better term, an industry-
3	wide phenomenon, problem. We have been involved through
4	the professional societies developing industry papers that
5	we hope to have out fairly soon to alert design professionals
6	to the problem or being satisfied on the basis of calculational
7	measures alone and not going back and taking an overall look
8	at the system to see if it makes sense.
9	On the second question, what is fact does this
10	have to say about the administration, if you will, of the
11	engineering program, I intended that somewhat rhetorical
12	question it's designed to hopefully cause people to
13	sharpen their focus on this matter. It is not that my view
14	was, whereas I can stand here and say it is not a safety
15	problem for this plant from the standpoint of, let's say,
6	a fundamental seismic capacity of the plant, it's still in
7	our view something that shouldn't be dismissed lightly.

18 Over the long term you have a great deal of time
19 and energy that gets put into the maintenance of these
20 things and that, in our view, detracts from other perhaps
21 far more useful use of those resources, of maintenance
22 people, record-keeping people.

So, I think it's something -- I wouldn't want to
pass it off lightly to a utility or licensee because it's
not specifically identified as a big safety problem right

now, but it's something that needs attention.

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CHAIRMAN PALLADINO: Are you speaking of the extraneous snubbers?

MR. KNIGHT: The so-called extraneous snubbers. 4 COMMISSIONER ASSELSTINE: Maybe I am reading too 5 much into what's in the transcript, but the sort of a sense 6 I had from Mr. Yen's description and questions was, you know, in 7 a reasonable design process, clearly some of the snubbers or 8 a large number of them weren't necessary, and a reasonable 9 design process would have ensured that they never would have 10 been put in in the first place. Therefore, this called in 11 question the reasonableness of the whole design process. 12

MR. KNIGHT: We are in a realm where, whether 13 14 reasonable, certainly the best design process would have caused people to go back and look at the process, look at 15 the overall layout. Once having satisfied all the letter 16 17 of the law, if you will, the code -- I mean code calculations and the fact that at each designated point I meet my expense 18 criteria. When we go back and say, "All right, now what 19 20 have I got here, is there a better way?"

It's that step that certainly from the standpoint of economics and time is something of a painful step. You have met the letter of the law and now to step back -- in the best process you would do it. You would step back and say, "Can I even make it better?"

1	But I guess I would stop short, certainly, of
2	saying, "All right, this calls into question now the whole
3	fabric of the engineering design process." That, I don't
4	think is a fair judgment in my opinion.
5	CHAIRMAN PALLADINO: But I think we have to go
6	back to the history of this project. It has gone through
7	to many iterations that one can't say that because of new
8	approaches, new information, that the old approach was wrong.
9	It just may have resulted in things that are no longer
10	needed.
11	The question in the end is, is the plant
12	satisfactory.
13	MR. KNIGHT: Certainly that and, having had
14	several successive design bases not only in seismic but in
15	many other evolving questions, has complicated the process
16	to the point where the opportunity for having something like,
17	you know, extraneous snubbers or supports ending up in
18	what normally might seem unreasonable proximity to each other.
19	The opportunity for these things has been rampant
20	because of the protracted schedule.
21	COMMISSIONER ASSELSTINE: The errors that you are
22	now finding, the questions that you are now looking at as
23	the result of the allegations in the small bore piping area,
24	were any of those identified by the IDVP and the ITR and if
25	not, to what extent do those issues, the ones you are looking

1 at now, call into question the adequacy of the IDVP and the 2 ITR?

3	And I might say, after you talk about that one
4	on small bore piping specifically, one of the biggest
5	questions I have right now is how to relate the issues that
6	we are looking at in the allegations with the staff con-
7	clusions, particularly in SSER 20 and the preceding SSERs
8	that talk about the adequacy of the IDVP and the ITR, and
9	to what extent the new information you are looking at now
10	re-opens issues that you thought were resolved prior to
11	receiving the allegations.
12	But maybe talk about small bore piping and then
13	move to the broader.
14	MR. CHANDLEF: If I may, Commissioner Asselstine,
15	before Mr. Knight responds, I would point out as we
16	indicated in our letter to the Appeal Board of February 7
17	that Mr. Eisenhut alluded to a moment ago these very
18	questions are in fact now being looked at by the staff to
19	determine what effect they may potentially have on the
20	record already developed before the Appeal Board.
21	So, that is something we are presently looking into
22	COMMISSIONER ASSELSTINE: Now, you talk about
23	small hore piping
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24 MR. KNIGHT: I would put my response in two
25 categories.

### COMMISSIONER ASSELSTINE: Okay.

2	MR. KNIGHT: Keep in mind that the IDVP looked at
3	rather a broad spectrum of things throughout the plant, so
4	that small bore piping was a relatively small part of that
5	overall IDVP effort.

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In addition, the IDVP started off with what one might say were the major issues, a structural sample which was the auxiliary building, and also started with one might call more significant piping problems which would usually be larger systems.

It is often said, and I think it is a fair characterization that the initial purpose of the IDVP was well served. Problems were discovered in structures that led eventually to all structures being reviewed.

Problems were observed in piping analyses that led to essentially all piping -- seismic analysis and thermal analysis as well -- being reviewed.

The IDVP then turned to become more of an overview program, the concept being that since the utility had determined they w uld put into place the Diablo Canyon project and essentially commit to redo this material rather than some additional samples, they still try to determine whether any further action was necessary, that the IDVP then would become, as I said, an overview.

It would look not explicitly at that sample problem,

though some of that was necessary, but rather would look at 1 2 the process. Do they have in place the right process? Are 3 they doing the kinds of things that need to be done to have 4 an effective review? 5 So, to get to the essence of your question, why 6 didn't the IDVP find some of these mistakes, some they did. 7 A number of others were simply not in areas -- they just didn't look. In their overall program they didn't go to that 8 9 extent. 10 I think it's also useful at this point to comment 11 that in a number of instances -- it's not unusual at 12 Diablo Canyon, we have seen it in other IDVPs -- there will 13 be some, call them "mistakes" in some of these calculations. 14 There are a large number of them that are done on a production 15 basis. 16 Some of the mistakes can be categorized as just 17 outright errors. And to give you a "for instance," a 18 coordinate system which locates the support in space being 19 put down by the analyst in the reverse direction. Some 20 axis should point to the right and it points to the left. 21 That was just a mistake that the analyst made. 22 There are others where -- we are still looking at 23 a number of a category where one analyst may say, "I don't 24 think that's as good a characterization of that structure 25 as one could have and one needs," and you get into a realm

where a couple of competent people might well disagree.

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I don't want to overblow that, but there are those kinds as well.

As far as the mistakes that the IDVP did find, there were a number where, I think, a reasonable judgment was 5 made that this kind of error is within -- let's call it 6 the certainly not desired but expected bands of error. Its 7 consequences are very small. Again, that was a feature of 8 the IDVP for this plant as well as others where the mandate 9 10 of the IDVP was to look as an experienced, qualified, professional organization. Don't just count beans, so to 11 speak, but look at the substance of those errors or mistakes, 12 or lapses, or whatever they may be, and pass a judgment on 13 the significance, overall significance. 14

15 COMMISSIONER ASSELSTINE: Is it fair to say that, 16 given the approach to the IDVP, that is to identify areas 17 in the process where there need to be changes to prevent 18 significant errors from occurring at the end of the process, 19 we ought to reasonably expect, when we are looking at the 20 allegations, then, not to find any significant problems 21 that have made it now all the way through the process.

That is, they should have been picked up by the process and corrected prior to, or at least by this time. So that if you found significant problem areas or problem items individually, those would then call into question the

,	adoguagu of the compating provide that we had
•	adequacy of the corrective measures that were taken as a
2	result of the IDPV. Is that fair?
3	MR. KNIGHT: I think that's a fair statement.
4	COMMISSIONER ASSELSTINE: Okay.
5	CHAIRMAN PALLADINO: One caution, they have not
6	reached that conclusion yet.
7	COMMISSIONER ASSELSTINE: That's right.
8	CHAIRMAN PALLADINO: There is an allegation and they
9	are looking into it.
10	COMMISSIONER ASSELSTINE: Which really means, I
11	take it, that the staff conclusions on the adequacy of the
12	IDVP right now are for all intents and purposes sort of
13	suspended until you get through the allegation reviews.
14	Does that sound fair, or not?
15	MR. KNIGHT: If I may, I would like to raise a
16	caution on that for a couple of reasons. The IDVP was a
17	rather extensive program.
18	COMMISSIONER ASSELSTINE: Right.
19	MR. KNIGHT: And in my own world, at least, I
20	tend to put it into compartments by the disciplines involved.
21	COMMISSIONER ASSELSTINE: Yes.
22	MR. KNIGHT: We have seen absolutely nothing
23	to date, and we have in fact looked at a number of allegations
2.4	in the field of structures. We have seen absolutely nothing
25	to date that would call into question either the judgments
	the second se

1	made by the IDVP or the work that was subsequently done.
2	We have seen nothing that would call into question
3	a number of other areas. My only caution would be
4	COMMISSIONER ASSELSTINE: Areas not covered by the
5	IDVAP?
6	MR. KNIGHT: No, areas covered by the IDVP but
7	not but outside the area of small bore piping. And I
8	think small bore piping deserves to be looked at as a rather
9	special area.
10	Again, I am not passing judgment but I think in
11	terms of reflecting of this matter, it is worthy of noting
12	that the small bore piping was done by a separate field
13	organization, as it always is and really must be from the
14	standpoint of practicality.
15	But there is a feature there where you have the
16	age-old problem of communication between, if you will, a
17	headquarters organization and a field unit who is performing
18	a task requiring a good deal of communication and a task
19	that is performed by a separate group of specialists.
20	COMMISSIONER ASSELSTINE: Is Mr. Yen here today?
21	MR. KNIGHT: No, he is not here today.
22	COMMISSIONER ASSELSTINE: Okay.
23	CHAIRMAN PALLADINO: Do you have more, Darrell?
24	MR. EISENHUT: I was just going to say
25	CHAIRMAN PALLADINO: Thank you, Mr. Knight.

MR. EISENHUT: I was just going to say, a number of these questions that we have just now been discussing is what leads us to the conclusion that -- I believe the plant has estimated they will not be ready, physically ready to go to initial criticality and on up to five percent before the latter part of February, certainly within the last few days of the month.

So, I think where we are, I don't think we are ready to say that it calls into question or suspense our feelings on the IDVP as much as, we just believe it is prudent to go ahead and work on these issues to see where we come down over the next couple of weeks. before we can state what our opinion really is of how these things mesh together.

We have a large number of people working the
problem. The February 6 memorandum I referred to, SECY-84-61,
referred to something now in the order of 35 total technical
staff working the problem of allegations in general and the
overall review. It has actually gone up since that time.
We have assigned individuals from a number of other groups.

We have a number of people that actually are
working -- from the various regions -- working in California.
So, we are putting a very brchestrated, concerted effort to
try to understand what it means in the overall framework of
where you expect Diablo to have been over the many years,

1 what it means about the IDVP, if anything; what it means 2 about the internal technical program, the Diably Canyon 3 project, and then, ultimately, where to go to resolve this issue. 4 We expect a more detailed safety evaluation. Roughly 5 6 over the next couple of weeks we will be putting together 7 what all this means, shooting towards the kind of schedule we were previously talking about, sometime later in the month. 8 9 CHAIRMAN PALLADINO: Darrell, there was a 2.206

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petition from GAP and Mothers for Peace, I think, February 6.
Where does that stand?

MR. EISENHUT: I think it is an item I skipped on my outline. We have a rather large 2.206, it is something in the order of probably a four or five-inches thick document. The document is formally coming through the legal office. It will be something that we are going to have to address prior to a licensing decision.

Larry, you may want to comment on it more, but it
is basically just in the process. Actually, my copy was
first received yesterday. There undoubtedly are a number of
questions that we are going to be referring back, asking
the utility their view on and factoring it all together to
see what it really means.,

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CHAIRMAN PALLADINO: Are the issues in there new? MR. EISENHUT: Based on a very quick reading reading through the petition it looks like many of the issues relate to material that we have previously -- areas we are previously already addressing.

At least my feeling is, there is some new information, certainly, that we have not seen before. So, we are going to have to go through it rather thoroughly to address what it is. We have not really come to grips with how we are going to mount an effort and what kind of effort to address that problem. But it is clearly one we have to address.

10 COMMISSIONER BERNTHAL: Darrell, I noticed that in your practice here of trying to categorize allegations 11 that when you compare the count as of the 1st of February 12 13 with the count of -- well, I don't know when this previous one was, but suffice it to say some period before -- that 14 15 although the number of allegations under inspection and review has jumped from 96 to 173 in whatever that period of time was, 16 17 the vast majority of those that were or that are not now 18 resolved, you have tossed into categories that in your 19 judgment indicate that they don't impact on criticality or 20 low power operation.

Does that suggest and are we to infer from that that in your view most of these are not particularly serious allegations, that we are getting a flood of things coming in that you are disposing of rather quickly in that manner, or what am I to make of that?

MR. EISENHUT: Well, I'm not sure I can put it in a simple package. There is a number of different kinds of things that we feel because of the potential or the lack of a potential safety significant aspect they don't really relate to going above five percent.

But one of the things we are trying to do, and
that's really what I meant when I said this is sort of a
preliminary listing. One of the things we are going to try
to do is characterize or better define the test we use to
make it in the bin of required product criticality or above,
following five percent.

I should also point out that even in the area of small bore piping which is 9 of the 16 issues identified on our latest chart going above criticality or prior to criticality, a number of those we may very well now conclude go into the bin of following five percent as we continue to review them.

So, there is some continual exchange. This is
pretty much of a very quick look. But these are the kinds of
things where we are focusing the effort. The number is
certainly right, I think it was in January it was up to 175
or 173; now it's up to 185; in December it was roughly
a hundred.

COMMISSIONER BERNTHAL: Yes.

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MR. EISENHUT: So, the number of allegations is

1 growing. We will undoubtedly follow the policy in our 2 recent other SECY paper we sent down-town. We will go through 3 the 2.206 and if there are new issues there which we believe should be characterized as allegations, we will also add 5 those to the list and sort of try to work them as a set.

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COMMISSIONER BERNTHAL: I have to go back, also, just for information, to a question that I raised once before in a situation like this, and that is just how prepared you are and we are, I guess, to deal with these things efficiently.

11 Is this a matter of sort of leafing through lots 12 of paper and are you able quickly to dispose of things that 13 you know you have already done, or are we wasting a lot of time here going over old territory simply because we are not well prepared to deal with the paperwork that is involved?

16 MR. EISENHUT: Well, that is of course a very 17 tough question and ultimately, I think, the Commission is 18 going to have to decide how to handle allegations, what 19 degree to handle them and the policy.

COMMISSIONER BERNTHAL: Well, it's not a question of the degree of handling. I mean, they should be handled in an appropriate manner. It is the efficiency in handling that I am concerned about.

MR. EISENHUT: Well, all right. Certainly, it's 25 a very inefficient process that we are presently undertaking.

# COMMISSIONER BERNTHAL: Why is that?

2	MR. EISENHUT: Only because I think allegations is
3	something reasonably new, certainly in the sense of 185 of
4	them. We didn't really even have a policy on how to approach
5	them and handle them, let alone a procedure for implementing
6	that policy up until very recently.
7	I think probably over the last year is where we
8	first started to see a large number of allegations on a
9	number of plants. Diablo, I think, Diably Canyon is clearly
10	in my mind the lead case. We are using this, developing a
11	lot of the procedures how we are going about doing it.
12	We are not geared up, staffed up administratively,
13	procedurally, to handle this kind of an exercise.
14	CHAIRMAN PALLADINO: However, you did institute a
15	program to gain control and maintain a process that would at
16	least get us through Diablo Canyon.
17	MR. EISENHUT: And as our SECY document said, we
18	are going to do this generically across the board. However,
19	I don't want to leave the impression that we've got it in
20	effect at other plants where we are getting them, that we
21	referred to the last time, Comanche Peak and Waterford,
22	et cetera.
23	CHAIRMAN PALLADINO: We are just thinking Diablo.
24	MR. EISENHUT: We clearly
25	COMMISSIONER BERNTHAL: I am just wondering whether

1	the Commission perhaps could do something in terms of
2	resources or directives that might assist in expediting
3	development of appropriate systems to handle this stuff.
4	CHAIRMAN PALLADINO: Well, I think the EDO has
5	the resources to organize the handling of allegations. I
6	think they certainly made a good first cut. Whether or not
7	it is the most effective, most efficient, I don't know.
8	But at least there is an organization that is
9	bringing about screening and careful evaluation of those
10	that the staff believes merit attention.
11	COMMISSIONER ASSELSTINE: I have a couple of
12	other questions.
13	Darrell, could you talk a little bit about the
14	anchor bolt issue, basically what the problem is; how many
15	bolts are suspect and where you stand in terms of your review
16	of that issue?
17	MR. EISENHUT: Let's see, I can't. Let me
18	COMMISSIONER ASSELSTINE: Okay. I gather the
19	concern is, some bolts may be too short and may not be
20	embedded in the concrete enough.
21	MR. EISENHUT: Yes. It is a question of whether
22	the anchor bolts were adequately embedded in the concrete,
23	deep enough. Whether they were properly embedded.
24	This is one of the issues when we divvied up the
25	issues, so to speak, we ended up with about half in the

1	region and about half in headquarters. This happens to be
2	one that's in the region. It's not dissimilar to what
3	has occurred on a number of other plants, though.
4	COMMISSIONER GILINSKY: Now, this was the subject
5	of Inspection Bulletin in the past.
6	MR. EISENHUT: Yes.
7	COMMISSIONER GILINSKY: Do you know to what extent
8	these inspections have been performed at Diablo?
9	MR. EISENHUT: I just don't. We just don't have
10	the regional staff here today to necssarily answer,
11	address that question. We can certainly get an answer to it
12	and we will be giving you an answer.
13	That is one of the items that has been identified
14	prior to criticality. So, we will be preparing a written
15	evaluation and submitting it, safety evaluation supplement.
16	CHAIRMAN PALLADINO: Okay.
17	COMMISSIONER GILINSKY: Do you know to what
18	extent we even inspected those ourselves?
19	MR. EISENHUT: I just don't.
20	COMMISSIONER GILINSKY: You just don't know.
21	COMMISSIONER ASSELSTINE: Could you refresh my
22	memory on the criteria that you are applying to decide which
23	issues have to be resolved prior to the criticality, which
24	issues have to be resolved prior to five percent, and which
25	fall outside this?

CHAIRMAN PALLADINO: You mean by number, or --COMMISSIONER ASSELSTINE: No, the test. The test they are using, the standard they are using in making that judgment and how they are going about making it.

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5 MR. KNIGHT: Being a good deal more conversant in 6 small bore piping and also a number of other issues that have 7 arisen over the years in Diablo Canyon, we will look at what 8 I would call probably the overall significance that we see 9 coming from the allegations.

10 We may well, for instance, come to the conclusion that -- let's call it -- prudence would dictate that there 11 12 be a review of a certain class of calculations, stemming from the fact that, say, out of 1,800 we can look at, say, 13 20 over a reasonable time period. And if in looking at that 14 20 we see a larger number of errors than we would feel is 15 16 consistent with normal practice, yet those errors do not, 17 when carried through, none of the errors would lead to a finding that the structure itself is inadequate. 18

It may demonstrate that someone should have
looked closer at those calculations, but let's call it the
fundamental engineering that was applied was sound. We
would then be very inclined to say, "There is some additional
work to be done but it's something that can reasonably be
done, say, with low power, while the plant is at a low
power level."

1	In my own view, there are some additional reasons
2	for leaning in that direction. Again, for things like
3	piping and equipment in a number of other areas, there is
4	very good reason if in fact someone lacks what they feel is
5	the full and complete confidence they really want to have,
6	then I believe there is very good reason to say, "Well, let's
7	operate the plant at relatively low power. Let's set
8	full temperature and full pressure. If you are worried about
9	thermal stresses and interference between supports and
10	restraints, let's bring the plant to a low power level and
11	inspect these areas, see if we have some problems."
12	You can do that any time but one might say, "Why
13	not do it in as orderly a process as possible?"
14	CHAIRMAN PALLADINO: May I make an observation?
15	We have representatives from PG&E and the Joint Intervenors.
16	We have used almost half our time for what was supposed to be
17	COMMISSIONER ROBERTS: Twenty minutes.
18	CHAIRMAN PALLADINO: only one part out of
19	fifty.
20	COMMISSIONER GILISHKY: I have a question I want
21	to ask.
22	CHAIRMAN PALLADINO: So, I would suggest as soon
23	as we possibly can we move to the next parties because we
24	would like to hear from them. But, go ahead.
25	COMMISSIONER ASSELSTINE: Maybe one, or two quick

questions.

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2	It seems to me you have three questions on the
3	allegations. One is, is the allegation valid. Two, does it
4	identify a specific safety problem in the plant that would
5	prevent operation or operating above a certain power 'evel
6	and, third, does it identify some underlying problem that
7	could affect other aspects of the plant, even if this
8	particular item is not of safety significance.
9	I guess that last one strikes me as the most
10	difficult of the three and I am not real clear from what you
11	were just saying how you make that judgment.
12	MR. KNIGHT: I think clearly there isn't some
13	finite criterion to apply there. I think one has to look at
14	the overall picture and all of the experience we have had
15	to date, and then look at the substance of the particular
16	issue and, first of all, does it relate to the overall
17	question and secondly, is it of a character which in fact
18	reflects on the overall process.
19	I don't the best we can do, I think, is to put
20	together what we have done and where we see it, and the
21	reason why where we see it going and the reason why we
22	feel that way.
23	CHAIRMAN PALLADINO: Jim, you said even if it's
24	found not to

COMMISSIONER ASSELSTINE: Even if that particular
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1	item, the particular piece of equipment, isn't of safety
2	significance, whatever was done incorrectly. Does the
3	problem itself indicate that there may be a generic problem
4	that would affect other aspects of the plant that could be of
5	safety signficance.
6	CHAIRMAN PALLADINO: Yes, it would depend on how
7	many you find and what's the nature of the errors.
8	COMMISSIONER ASSELSTINE: That's right.
9	MR. KNIGHT: I would say, we certainly are sensitive
10	to that and it certainly is a part of our consideration. It
11	is not being ignored simply because it's difficult to deal
12	with.
13	COMMISSIONER ASSELSTINE: Okay. My last question
14	is, are we going to get a written analysis like Supplement
15	21 that brings us up to date on all of the allegation items
16	that are in here, that shows why you reached the judgments
17	on where they fall in the various bins and for those that
18	do require resolution prior to criticality, the basis for
19	reaching the judgment that that step could be taken.
20	MR. EISENHUT: Certainly, ultimately that is our
21	goal. I want to make sure, though, that we are on the same
22	wave length.
23	What we envision that we can put together is, first,
24	we are working at a written definition of what goes into
25	which bin and how you define that.

COMMISSIONER ASSELSTINE: Right.

MR. EISENHUT: And that largely follows the
classical lines we used for Step 1 and Step 2 in the process,
as to what parts of the plant and what are the pieces and
aspects that are important for various levels.
We would give you the criterion how we put it in
bins plus, then, detailed write-ups, safety evaluation,
on all of the items in the bins prior to each step in the
decision.
COMMISSIONER ASSELSTINE: Okay.
MR. EISENHUT: It is clear, we are using a priority
consideration on which items to work on first. We are
focusing on those that we believe need to be resolved prior
to criticality, prior to five percent.
But the ultimate goal is to resolve them all in a
form of a written-off safety evaluation. Remember, that
is a very, very large effort.
COMMISSIONER ASSELSTINE: Yes. I appreciate that,
but I assume that for each of the ones where resolution is
required prior to criticality, you have that second step
which is, here is how it resolved. But for all of them
you would have the first step which is, here is why we have
determined it goes in each of the bins.
MR. EISENHUT: As a minimum that would be the
piece we would be providing.

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CHAIRMAN PALLADINO: Commissioner Gilinsky?
 COMMISSIONER GILINSKY: Yes, I want to ask how you
 stand on the issue of lack of commercial experience on
 the operating staff.

5 MR. EISENHUT: That is certainly one of the areas 6 we are looking into. You'll recall, we had a meeting with 7 the industry a week or two ago where we flagged this 8 concern to the industry that while this plant and a number of 9 other plants meet everything that we have set in the past in terms of numbers of operators and numbers of operators 10 11 at various levels, while we really didn't have a specific 12 degree of experience they had to have, it is something we 13 are looking at with the industry generically and with this 14 plant as to, how can you get better.

I think the clear objective has got to be, it
would be most desirable to have experience on shift with
individuals who previously held operating licenses with
hot commercial experience.

19 This plant, as you know, did not have that. It
20 has a very limited number of years of previous hot experience
21 and the limited number they have, I think the vast majority
22 of that came from Humbold Bay, if not all.

This plant is very much like another half dozen
plants which I put in sort of the same package. We are
actively working on it. We have a briefing set up with the

1 Commission in the next week or two to --2 COMMISSIONER GILINSKY: Well, what you are saying is, you are sort of putting it in the context of long-term 3 4 straightening out the problems of the industry. 5 MR. EISENHUT: No --6 COMMISSIONER GILINSKY: What are we going to do 7 specifically in this case? 8 MR. EISENHUT: Well, I think it is something we 9 are still developing and working on what our position is in 10 this case. But I personally look at it, you have to have 11 some kind of plan on this plant of how to get the plant --12 COMMISSIONER GILINSKY: Right. 13 CHAIRMAN PALLADINO: But now, the suggestion had 14 been made -- and I think you made it -- that they consider 15 a more gradual approach to power so that people can get an 16 opportunity with decision making at low power levels. 17 Incidentally, I wrote a memo to the staff asking 18 that that be explored. I think that would be something we 19 would want to see before we go beyond. 20 MR. EISENHUT: And we are doing that, sir. 21 COMMISSIONER GILINSKY: Well, I threw that out as 22 something that --23 CHAIRMAN PALLADINO: Well, it was a worthwhile 24 suggestion. 25 COMMISSIONER GILINSKY: -- so that at the very least

1 that ought to get done. But my opinion is that the plant 2 ought not to operate without experienced supervisors on 3 every shift. I think that applies to every plant. 4 While there is not a specific requirement for so 5 many years of experience in the regulations, there is an 6 overall requirement of technical proficiency. So, I don't 7 think there is any difficulty, you know, getting specific 8 on that issue. The question is, what do we think. 9 I guess what I am asking you is, are you comfortable 10 to have a plant -- this or any other plant -- go up to 11 power with a crew that has not had commercial experience 12 at anything remotely relevant? 13 MR. EISENHUT: Well, all I can say is, certainly 14 we have been comfortable in the past and we are certainly 15 re-evaluating that situation. We are exploring a number of 16 things. It is an item that I have already discussed with

the utility, as with a couple of the other utilities, that they clearly are going to have to come in and propose some plan for getting themselves that kind of experience.

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The second aspect was the one the Chairman mentioned. We are exploring ideas along the lines of a gradual ascent to power to get that experience -- and maybe it's a package of all of these things together.

COMMISSIONER GILINSKY: You know, I have to say that, much as I pressed on the seismic issue, one has to say

that that deals with a fairly remote contingency. Here we are talking about 24 hours a day. This is really a much more important issue, it seems to me, from the

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point of view of startup of this plant than the seismic issue, as important as that one is.

MR. EISENHUT: Well, I think the staff agrees with that, and that's why it is something we are re-assessing in light of the fact that there are a handful of plants that were proposing to start up with essentially no hot commercial experience on each shift.

11 I think the staff shares that concern and it is 12 something that we are looking at on a very expedited basis. 13 The industry has formed themselves into two separate groups, so to speak, which I think as of yesterday are melding into one. All the plants expecting a license within the next twelve months are looking at, what really can they do to address this real concern.

18 We are developing a position, is the best I can 19 tell you.

CHAIRMAN PALLADINO: We might want to address --21 COMMISSIONER GILINSKY: Address this too when their 22 turn comes.

23 CHAIRMAN PALLADINO: We might want to ask the 24 representatives of PG&E.

COMMISSIONER GILINSKY: Right. It would be very

1	useful to have them address this subject.
2	COMMISSIONER ASSELSTINE: Yes.
3	CHAIRMAN PALLADINO: Well, again let me make the
4	observation that we have used up over half our time for only
5	one-fifth of the work.
6	COMMISSIONER BERNTHAL: May I just we don't need
7	to ask the question now and answer it. But it's been
8	suggested that this business of slower ascension to full
9	power may not in fact offer any great advantage. In fact, it
10	may offer additional hazards or pose additional hazards.
11	Without asking for an answer right now, I would
12	suggest, though, that that is something that I at least would
13	like to become further educated on.
14	CHAIRMAN PALLADINO: Let me make an observation.
15	I have discussed it with some of the operating people,
16	including Jim Justen, and the point on experience at least
17	as Jim Justen was pointing out to me is the need to get
18	experience in the decision-making process. He went on to
19	explain, by example, the interaction of the operation of the
20	plant and maintenance activities that may go along.
21	This is something you can gain some experience on
22	at low power levels without putting the plant at risks that
23	might ocherwise exist at higher power.
24	This is the kind of experience, I believe, that is
25	most important in the kind of experience we are talking about.

It isn't necessarily just manipulating the control rods or the flows in the plant, but the interaction of various functions that go on simultaneously.

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COMMISSIONER BERNTHAL: Yes, there is no question, you get experience in decision making. The question is whether you introduce new variables in a sort of non-standard mode of operation that wouldn't otherwise be there at full power.

8 CHAIRMAN PALLADINO: And also, we've got to make 9 sure that when we are talking about experience, that we 10 are talking about applicable experience because an individual 11 who comes from one plant, even though he has has that 12 experience there, can't immediately come to another plant and say that the valve alignments are exactly as they were in that plant, or that this item number so-and-so, that has to be looked at.

There is a certain amount of learning, and I think required learning, that the so-called experienced person has to gain with regard to the new plant. And in truth, if you are going to rely on him, he has got to go through the whole process of being just as competent in this plant as he was in the other one. That means examination and the like.

So, I think we are looking for getting the best value out of the experience and I think this is something we might want to discuss with the licensee now.

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43 COMMISSIONER ASSELSTINE: Yes. 1 CHAIRMAN PALLADINO: Now, let me suggest we call 2 on PG&E representatives. 3 COMMISSIONER ROBERTS: Mr. Chairman, what is your 4 5 plan or schedule of this meeting? CHAIRMAN PALLADINO: Well, my plan is that we 6 hear the representatives of PG&E and the Joint Intervenors 7 at least before we adjourn. If it gets very long, we will 8 9 address that question around --10 COMMISSIONER ASSELSTINE: Late lunch time. 11 CHAIRMAN PALLADINC: -- around lunch time. Well, it is interesting, I had two sets of scheduling notes. One 12 said the staff ten minutes and one said the staff 60 minutes. 13 I was told the 60 minutes was an error --14 15 (Laughter) CHAIRMAN PALLADINO: -- but it appears that the 16 17 ten minutes was. 18 Well, good morning, gentlemen. We are pleased to have you here and we look forward to the information you can 19 20 provide us. 21 MR. MANEATIS: Thank you, Mr. Chairman. I am 22 George Maneatis, Executive Vice President of Facilities and Electric Resources Development for Pacific Gas and Electric 23 24 Company. With me today are Howard Friend of Bechtel, the 25 Diablo Canyon Project Completion Manager; Jim Schuyler,

Vice President of Nuclear Power Generation, and Bruce Norton, a Licensing Attorney.

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It is a pleasure for me and my colleagues to have this opportunity to provide you with a brief status report on Diablo Canyon and present our comments on SER Supplements 20 and 21.

After you granted PG&E authority to load fuel and
conduct a precriticality cold system testing, we began fuel
loading on November 15 and successfully completed hot system
testing on December 10.

We are currently making a final assessment of the plant's readiness for heatup and hot system testing. We expect to begin heatup in the next several days. If our current schedules hold, we expect to be ready for initial criticality on March 1, 1984.

16 On this basis, and assuming we receive timely
17 action from the Commission on our request for full reinstatement
13 of our low power license, we anticipate completion of low
19 power testing and readiness for power ascension by the end
20 of March.

I would like now to discuss briefly the experience
and qualifications of our licensed operators and our readiness
to commence operations. /

We have in place an aggressive program to provide
well-trained operators for Diably Canyon. Forty-three of our

people hold senior operator licenses, and 16 hold reactor 1 operator licenses. Forty-two are assigned to shift operations 2 3 as operators, foremen, or shift technical advisors. The 4 remaining licensed personnel are assigned to the plant 5 management staff in engineering, training, or supervisory 6 positions. Twenty-two licensed staff operators are required 7 for our current five-shift rotation. Thus, the number of 8 licensed operators substantially exceeds the regulatory 9 required minimum.

10 Throughout the startup program, the operators on
11 each shift will be augmented by an individual experienced in
12 large pressurized water reactor operation. In addition,
13 a five to eight man plant startup engineering group will be
14 on duty each shift when startup testing is in progress. This
15 group will be composed of supervisory and engineering
16 personnel.

Finally, to assist further with startup operations,
PG&E has contracted with Westinghouse to provide additional
technical specialists including nuclear testing advisors,
instrument and control specialists, and plant chemistry
specialists.

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Licensed operators at Diablo Canyon typically go through non-licensed and licensed training programs. The non-licensed program is designed to be completed in 30 months, although a person can complete it sooner if his experience

and capabilities permit. The non-licensed program familiarizes 1 our operators with power plant fundamentals, equipment, 2 systems, watch-standing practices, administrative controls, 3 radiation protection, and other such topics. During this 4 program, operators are in training one week out of five, and 5 on shift the other four weeks. Portions of this program are 6 accomplished on-shift, and other portions are conducted off-7 shift at company facilities. 8

After successful completion of the non-licensed or 9 equivalent program, operators then begin the 1.2 to 13-month 10 licensed program. Throughout this program, the operator is 11 in training on a full-time basis. The program typically 12 consists of four months of classroom instruction on subjects 13 such as reactor physics, thermodynamics, chemistry, and 14 instrumentation and controls; three months of classroom 15 instructions on plant system and procedures; four months 16 of operating practice, which includes a hundred hours of 17 "hands on" simulator time; and a final two months of pre-18 licensing review. Thus, at the time of licensing, a typical 19 20 operator has two to four years of training.

Upon receipt of a license, an operator immediately
enters the requalification program. During this process,
the operator is on a training shift one week out of each five.
During each training shift, the operator attends classes
which review the material covered in the initial license

training program. At the end of a year, the operator is 1 given a requalification examination covering topics discussed 2 3 during the year. This examination is comparable in scope to 4 the NRC lisensing examination. In addition, each operator 5 is given thirty hours per year of hands-on simulator time.

6 The delays which Diable Canyon has experienced have 7 afforded most of our key personnel an excellent opportunity to observe the construction of the plant and to become 8 9 intimately familiar with its systems and equipment. These 10 people have participated in the pre-operational testing 11 program; one or more of the three hot functional testing 12 programs, and the on-going testing, maintenance, surveillance, 13 and modification programs.

14 Our operations personnel have also had the 15 opportunity to obtain additional simulator experience beyond 16 that required in the training program I just described. 17 Licensed operators at Diably Canyon typically have 200 to 18 300 hours of "hands-on" PWR simulator training at the Westinghouse Zion simulator in Illinois. I should note that an on-site training facility, which will house a plant-specific simulator, is in an advanced stage of construction at Diably Canyon and should be fully operational this summer.

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In summary, we have in place a licensed operator staff and training program which meets all applicable regulations and licensing criteria. We are confident that

1	our operations	staff is	well tra	ined to	start up	and oprate
2	Diably Canyon	in a safe	and effi	cient ma	anner.	

I would like now to comment on SER Supplements 20 3 and 21. With respect to Supplement 20, wehave carefully 4 reviewed it and find that it accurately characterizes the 5 6 status and resolution of the concerns identified in 7 Supplements 18 and 19. We agree that all items required for initial criticality and low power testing -- Step 2 of the 8 9 three-step licensing process -- have been satisfactorily resolved. 10

Further, we agree with the staff that the few 11 remaining action items for Step 3 can be completed prior to 12 full power authorization. Our schedule calls for completing 13 14 the last of these items by the end of this month. These items involve only minor analyses or further documentation 15 16 and will not affect systems or components necessary for low power testing. As such, they will not preclude or otherwise 17 18 interfere with activities associated with low power testing.

With regard to Supplement 21, this Commission is
aware that the staff has received numerous allegations
regarding Diably Canyon during the past two or three months.
The staff has established an orderly and comprehensive
program to investigate all of these allegations. This program
was explained to you on January 23. We are cooperating fully
with the staff in its investigative effort.

PG&E has also initiated a similar program to investigate those allegations which have been communicated to us in sufficient detail to allow a meaningful investigation. We are submitting a substantial amount of detailed information to the staff on such topics as small bore piping, welding inspector qualification, design control procedures, and record retention.

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It has always been and will continue to be PG&E's 8 policy to examine and evaluate all allegations. When 9 questions or concerns are raised, regardless of their source, 10 they will be investigated and resolved. We believe a 11 substantial number of allegations have been and will be 12 resolved as having little or no merit. Others have raised 13 questions or concerns which are answerable and resolvable. 14 We are unaware of any facts evolving from the allegations 15 investigated to date which would preclude the safe operation 16 17 of Diablo Canyon.

As our actions over the last several years have 18 amply demonstrated, PG&E has spared no effort to assure 19 that Diablo Canyon is properly designed and constructed in 20 compliance with its licensing requirements. We are 21 confident that our operations staff is qualified to start 22 up and operate Diablo Canyon safely. We hope the Commission 23 shares our view and will approve our request for full re-24 instatement of our low power license. 25

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1	Thank you for the opportunity to present our
2	comments. I and my colleagues will now respond to any
3	questions you may have.
4	CHAIRMAN PALLADINO: Let me ask one question then
5	I will turn it over to my colleagues.
6	As I indicated on this matter of training earlier,
7	does your training program actually have attention to the
8	interaction of plant operations and maintenance?
9	MR. MANEATIS: Yes, I would say
10	CHAIRMAN PALLADINO: However, nothing that you
11	described herein gives me a feeling that that is covered.
12	MR. MANEATIS: I can ask Mr. Shiffer, our
13	Manager of Nuclear Plant Operations, to respond to that.
14	Jim, can you step up, if you are interested in the particulars.
15	CHAIRMAN PALLADINO: Yes, I would be interested
16	because what we observe is that this is a big source of
17	difficulty during operation and I think it's one of the
18	places where value can be obtained from experience at other
19	plants.
20	MR. SHIFFER: I am Jim Shiffer, Manager of
21	Nuclear Operations for PG&E.
22	The general subject of these types of interactions
23	are covered in the aspects of the training program that
24	deal with our on-site quality assurance/quality control
25	programs. But the general, more generic thing that you are

1 talking about, is a very good point.

I would like to point out to you that over the last, say three years, since 1981, we have been operating under an operating license and those shift foremen particularly, and all of our operators for that matter, have been on shift and they have been working with construction crews, maintenance crews that have numbered in the thousands.

We have been processing, for example, over the 9 last three years, typically a thousand what we call 9 "clearances" a month. Each clearance -- and a clearance is 10 something that is taken when someone wants to modify, test 11 or maintain a piece of equipment. Each one of those 12 clearances requires that the operators research that 13 system; that they write a clearance procedure; that they walk 14 that system down and close every valve, you know, operate 15 every control, that type of thing that is required to place 16 that system in a condition it can be maintained or tested, 17 or whatever is going to be done to it. 18

In addition, you know, they have to review work
packages that are put together for this process and all these
kinds of things.

So, the kind of interaction that you have been
talking about is exactly what our people have been doing since
1981 under the provisions of our operating license, over and
above any training they may have had in this.

1	CHAIRMAN PALLADING. I appreciate that and I think
	think in this is appreciate that and I think
2	it is pertinent. But there are questions that do arise
3	during operation because every night I take home the
4	"Reader" and they are telling me what happened at these
5	plants, and almost daily there is somebody that did something
6	that led to a scram or to something else.
7	So, I think some attention, further, to the
8	interaction during operation might be a appropriate place
9	MR. SHIFFER: That general subject
10	CHAIRMAN PALLADINO: place for you to identify
11	MR. SHIFFER: is covered in our training programs.
12	But I say, we have been putting it to practice, I guess,
13	is what I am trying to say.
14	CHAIRMAN PALLADINO: Did you have a comment, Mr.
15	Friend?
16	MR. FRIEND: No. I was just going to comment
17	along the same lines that during this period of time when
18	we have been modifying the plant, the Operations Department
19	has been fully in control and been in charge of taking
20	systems out of service, returning them to service, getting
21	clearances and all the other things that Mr. Shiffer
22	mentioned, in connection with our restoration program,
23	modification program. '
24	CHAIRMAN PALLADINO: Okay. Questions by other

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COMMISSIONER GILINSKY: Yes, I guess I would like 1 to ask him -- let me start by saying, it is regrettable that ż this issue comes up at this point, and it is unfortunate 3 that it wasn't raised -- on either side of this table -earlier. But in any case, it is something one has to deal 5 with.

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I am also pleased and it is commendable that you 7 have given it the proper emphasis in your statement. I think 8 it is an important issue and I guess you feel so, too, given your statement.

But still, there is a problem with lack of 11 commercial experience in this crew as there is, one has to 12 13 say, in some other cases as well. And from what you say here, I gather that the simulator training was not on a 14 specific simulator, plant-specific simulator, but was on a 15 different simulator. 16

And while I understand that there has been a fair 17 18 bit of experience gained in the course of the activities 19 you have talked about as a result of the delays that have been experienced, people have gotten a certain amount of work 20 on shift, still -- and granted that all analogies are 21 22 imperfect, it's a little bit like taxying on the runway. This is not at full power., And that is really what one is 23 talking about. 24

I must say, I think there is a big difference

between full power and the kinds of activities that have
 been talked about here, while the plant is down or barely up.
 Just wonder, are any steps being taken to obtain experienced
 persons for the staff?

5 MR. MANEATIS: Well, I first in response to your 6 statement and your question, I fully agree with your 7 observations. But in answer to your question, we are taking 8 steps to recruit without, as it were, raiding other plants, 9 people with experience on large pressurized water reactors.

We have engaged a number of them, as I have
indicated. But as was pointed out in the discussion earlier
with the staff, these shift technical advisors, or these
people that come from other plants, do not have that specific
plant experience. They can only be used in a consulting kind
of way. They are of some use.

I personally believe that there is no substitute
for having specific experience with your plant. Having
been in operations myself many years, there is no substitute
for knowing your plant.

Now, I agree that, all things equal, if we had a crew with hot commercial experience, we would be better served. But that is not to say that the crew that I have outlined to you will not adequately serve the purposes.

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Now, with regard to what else are we doing aside from trying to recruit these people, we are on the verge of

operations, Commissioner Gilinsky, right now. So, there is not a great deal we can do by way of -- our operators for extended periods now, before operations. We will do it at every opportunity we have where it is relevant.

But during the low power testing program, which 6 is a protracted program, we will be observing the evolutions 7 carefully. If in our collective judgment -- and we have 8 so many experts and we are going to have a lot of collective 9 judgment of experts -- there is any indication of lack of 10 qualification, lack of training, or lack of attention to some 11 important detail of operation, we will hold and make certain 12 that the operators have the prerequisite experience to go 13 further.

14 And, as I said earlier, there is no better way to 15 make that observation than to go through the five-percent 16 power, up to the five-percent power point. The Commission 17 already has the Step 3 process to go through, which is 18 full power, and we can evaluate where we were as of the 19 five-percent power mode.

20 The real exposure, from a safety standpoint, is minimal up to five-percent power. So, it would appear to me that we all have the same concerns and we will be able to make the accurate assessment at the end of five-percent power.

If we fail the test, we will perform more training,

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maybe hold at five-percent power for some period of time.
 But I am confident that we are going to meet the test
 because of all of these years of intensive training.

COMMISSIONER GILINSKY: When I asked about other
persons that you might be engaging, I meant for the actual
crews themselves rather than advisors.

MR. MANEATIS: Well, I had indicated we are going
to have one additional one on each crew in addition to our
own licensed operators.

10 COMMISSIONER GILINSKY: But I think you were
11 refering to the same thing you referred to when you said
12 throughout the start-up program the operators in each
13 shift will be augmented by an individual experienced in
14 large pressure water reactors.

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MR. MANEATIS: Yes, that's what I am referring to. COMMISSIONER GILINSKY: I meant, are you --

MR. MANEATIS: In addition to that?

COMMISSIONER GILINSKY: -- are you thinking of hiring people for your crews, for the shift crews.

MR. MANEATIS: If they are available, you know, we will hire them. But at the moment -- and we are in the process of doing that, and I can't give you an update because it's a day-to-day thing. We have offers out. We are clearly beating the bushes, Commissioner Gilinsky, to get those kinds of people.

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1	COMMISSIONER ROBERTS: But how can you do that
2	without in your words raiding other people? I'm just
3	curious. I don't understand.
4	MR. MANEATIS: All right. I will answer, that's
5	a very good question, Commissioner Roberts. Some retire,
6	you know, from a utility. As an example
7	COMMISSIONER ROBERTS: You are talking about a
8	retirement?
9	MR. MANEATIS: Yes. We feel that a person is
10	taking early retirement and has signalled that he is no
11	longer affiliated with the utility, that we would make him
12	an attractive offer to come, if he would accept.
13	COMMISSIONER GILINSKY: What sorts of people are
14	the ones that you referred to as augmenting the crews?
15	MR. MANEATIS: I would like Mr. Shiffer to give
16	you a better profile on that, he has been dealing with that.
17	Jim?
18	MR. SHIFFER: Well, okay, they are all people who
19	have had a license either senior operator or an operator
20	license at a large pressurized water reactor for at least
21	a year, and several years of experience.
22	In other words, all of our current people, advisors -
23	by the way, at the present time we are bringing in some
24	new ones, too. At the present time one is a member of our
25	plant staff, three others are not members of the plant staff.

But they are people, they are licensed people on 1 large commercial pressurized water reactors, previously 2 3 licensed.

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COMMISSIONER BERNTHAL: How do you do that without 4 5 "raiding," if I may --

6 MR. SHIFFER: Well, primarily those people come from people like Westinghouse, Quadrex, there are several 7 corporations that have people in their employ that previously 8 9 worked at other plants.

COMMISSIONER GILINSKY: And they are there to be 10 consulted, is that the idea? 11

12 MR. SHIFFER: They will be in the control room and in fact they already are. They work with the operators. 13 14 You know, we don't use them in a capacity where we expect 15 them to take over for the operators, obviously because in 16 my opinion, at least, they don't have the experience and 17 training on our facility that would warrant that.

18 But they are there, they work with the operators. 19 The operators pick their brains, if you will, on things that 20 have gone on in other plants. Things come up, the guy will 21 advise an operator, say, "You ought to take a look at this," 22 or, "Back at such-and-such a plant we had an incident like this and you ought to be agare of it."

So, it's that kind of an --

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COMMISSIONER GILINSKY: I realize we have done this

in other places.

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MR. SHIFFER: Yes.

COMMISSIONER GILINSKY: It grew out of the
experience at Sequoyah when we were sort of right here at
the table and deciding on a license and discovered they were
shy the experience, too.

Since then, my impression is that that has been,
I guess, the results have been mixed at best. I am sure you
know the down-side of all this. The difficulty with getting
consultants is, they just don'g have the same commitment to
the plant. They don't know the plant as well. They don't
learn the procedures as well because they just don't
absolutely have to.

I realize there is some advantage to having sort of an "old hand" around that someone can turn to or can mention something, but it just isn't the same as having the guy on the staff. I'm sure I don't have to explain any of this, you know this better than I.

MR. SHIFFER: That's right.

MR. MANEATIS: That is why we have placed such enormous emphasis on training our own operators and having them familiar with all the evolution. And the simulator is an important aspect of that training, that simulator training.

MR. SHIFFER: Let me make just a general comment. I mean, it would be obviously, as Mr. Maneatis indicated, it

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1 would be ideal if we had this hot operating experience. I
2 mean, we would all liked to have had it and I don't think I
3 need to go through all the circumstances that are involved
4 in our situation.

But let me tell you -- and I have operated plants before personally myself -- that there are two things, there are a lot of things you would like to have -- there are two things you absolutely have to have. One is, you have to know your plant absolutely cold. You have to know where every valve is, every gauge is, every line goes, every switch is. And our people know that as well as anybody I have ever seen.

12 They have been there for years, they have walked 13 that plant down thousands of times. They have been through 14 training program after training program. They have been 15 processing a thousand clearances a month. I mean, they know 16 that plant inside out, upside down.

17 Now, the other thing you have to do -- and you don't get this, really, at a hot operating plant unless it's just 18 19 fortuitous. I mean, you have to know how to handle that 20 control room in upsets and transient conditions. I mean, any 21 reasonably well-trained person can handle the steady-state 22 type of thing, the normal start-up, a small load change, 23 steady-state operation. I mean, you have to be trained for 24 it, obviously, but you know, that's not -- any normal training 25 program ought to take care of that.

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Where you really need it is in that upset when
things go awry. And the only place you really get that
training effectively in my opinion is on the simulator. I
mean, when I operated on the simulator, I mean, I learned more
in a day than I would see in five years of operating a real
plant.

I was just talking this morning at breakfast, for
example, to my site training coordinator who was a licensed
operator for many years at Humbold Bay and he said, "You know,
at Humbold Bay I sat there for two years" -- and because of
the great operating record of Humbold bay to put in a little
plug -- "we never had a reactor trip for two years."

Now, I mean our people, the number that George
Maneatis guoted there, two to three-hundred hours, in some
cases more than three-hundred hours -- I'm not talking about
sitting in class at the simulator facility. I am talking
about standing on that board, operating that facility.

We have taken out in those numbers, we have taken
out all the classroom, background, and all that kind of stuff,
okay? So, we are talking about equivalent weeks of operating
that board under transient conditions, start-up conditions,
every condition you can think of.

Now that, to me,' is much more valuable than sitting at a hot operating plant, as valuable as that is, I am not quarreling that that is not valuable. But I mean that to me,

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coupled with the intimate knowledge of our plant that our
 operators have, is what gives me personally a lot of confidence
 that our operators are well qualified to operate that plant.
 COMMISSIONER GILINSKY: You know, last night I
 gave a speech at the Simulator Conference, telling everybody

how important simulators were, and saying some of the things

7 you just said.

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8 But there still is a difference. I am sure there
9 again I don't have to --

MR. SHIFFER: I understand that, there is a difference and that's why ultimately -- but you still have to operate your own plant, though, to really get the feeling of the difference.

In other words, the difference between even a
plant-specific simulator or the Zion simulator -- which I
might add is very close to Diablo Canyon -- and when we
operate that simulator, we operate it using our own procedures
not Zion's procedures, our own procedures, our own tech specs
and all that type of thing.

But when you get down to your real plant, you are
right, there is a little bit of difference and stuff. But
you only get that by operating your real plant, not anybody
else's plant. Those differences are subtle differences
between the simulation and the real plant that only comes
when you operate the real plant.

1 CHAIRMAN PALLADINO: Well, may I suggest we move 2 on to other topics?

COMMISSIONER GILINSKY: Thank you.

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CHAIRMAN PALLADINO: You have more, Jim? COMMISSIONER ASSELSTINE: A couple of other points on this topic, this is the only one I wanted to pursue.

Like Commissioner Gilinsky, I would commend you for highlighting this particular issue in your statement and 8 9 for the way you have addressed it.

10 I wonder if you would like to comment on the idea of the phased power operation, that is, holding the plant at 12 certain power levels for extended periods of time, whether you think that is something that is a useful way to assure the capabilities of the operators, or also if you would care to address the point that Commissioner Bernthal raised earlier. That is, are you introducing new uncertainties or instabilities by holding the plant at certain levels.

MR. MANEATIS: With regard to, let's say, operating for protracted periods of time at lower power levels, we would only consider doing it if it was -- if the circumstances required it on the basis of our experience through the low power test program.

Whether we know of any down-side potential to operating it at the low power levels or not, that is a topic that can be hotly debated. As an example, depending

upon what you are doing at these low power levels, if
somebody were to suggest a program where we go through a
whole lot of evolutions involving tripping the reactor and
all of that, I would say you most definitely are going to
introduce some potentially hazardous conditions that were
not there before, and it could have a negative impact.

7 If we are just talking about holding it at a
8 particular level and making some minor reactivity adjustments
9 and power levels, one would again be able to debate the
10 value of that, as opposed to proceeding with a deliberate
11 start-up program.

But there is no real simple answer to it, it depends on the kind of program. But I would feel that it would have to depend on the observation of the operators, how they have gone through the planned program, whether it would be warranted to have a protracted operation.

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17 CHAIRMAN PALLADINO: The protracted operation, I 18 don't think you are thinking of trying to scram the reactor. 19 It is to avoid possibly scramming the reactor by doing the 20 work that is required. That is the kind of experience that 21 you might get from this thing at a power level for some 22 period of time.

COMMISSIONER ASSELSTINE: The only concern I had was, my impression was that these plants really are designed to operate in the most stable configuration at

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full power, and if you hold them for a lengthy period of time at a lower power level, in essence you may be operating in a more unstable condition than if you were operating at full power and inviting trips, rather than minimizing the likelihood of them.

MR. MANEATIS: Yes.

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7 COMMISSIONER BERNTHAL: Or even -- if I can inter8 ject -- the terminology that has been batted about a little
9 bit is a slow ascend to power. Clearly, holding at one
10 level, one power level, for an extended period of time in
11 itself becomes a somewhat familiar and stable mode, I
12 suppose, at least in respect to the operators aftar a while.

But if you have an entirely new dynamic of constantly changing and ramping very slowly the power level, it's just not clear to me that that is necessarily a wise thing to do.

MR. SHIFFER: Excuse me, I was just going to make one comment on, would holding at a lower power level introduce a hazard or something like this over and above full power.

Generally speaking, the answer to that would be "no," providing that the level you held at was a level at which everything was on normal automatic. If you were holding right in the transition zone at around, say, 15percent power where you are in the transition between manual control and automatic, then it would be a little dicier. 10.00

1	But if you had moved it up to where everything was
2	on automatic, then it would be roughly the same.
3	COMMISSIONER ASSELSTINE: On the technical advisors,
4	I think all of us recognize that the best situation would be
5	if you had the experienced people on shift.
6	Is there a way to make the technical advisors
7	more useful or more valuable to you, if that's the alternative
8	that we are faced with at the present time?
9	I know, I agree with your comment that generally
10	those people are probably not going to be familiar with the
11	plant. Is there a way, over the next couple of months, to
12	get those advisors more familiar with the plant, perhaps
13	to check out their understanding or knowledge of your
14	particular plant so that if that's the way to build in
15	operating experience in the short term, you really have
16	operating experience that is going to be informed and
17	useful to you in the event that you do run into a problem?
18	MR. MANEATIS; Since we are dealing with that very
19	concern, I am going to ask Jim Shiffer to address that
20	because he is dealing with these shift technical advisors
21	on that particular concern.
22	MR. SHIFFER: Well, this subject, of course, has
23	been raised in the last few days in dealing with this
24	whole idea of experience. We are, as soon as we get back

out of here and to that plant, we are going to sit down and

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1	probably put together some sort of a more formal certification
2	program for our advisors.
3	COMMISSIONER ASSELSTINE: Okay. It strikes me that
4	maybe that's a useful way to address the advisor question
5	and make sure
6	MR. SHIFFER: I agree.
7	COMMISSIONER ASSELSTINE: that they are going to
8	be
9	MR. SHIFFER: Our problem a little bit is that we
10	are going to I can't pull the advisors totally off in a
11	heat-up mode because they are required to be up there
12	advising, suppodedly.
13	COMMISSIONER ASSELSTINE: Yes.
14	MR. SHIFFER: So we have a little bit of a logistics
15	problem here. That is one of the reasons, by the way, why
16	we are bringing in some additional advisors so that we can
17	get more on a rotational training program for our advisors
18	and we don't have them locked into the control-room kind of
19	thing. So, we could implement something like that.
20	I haven't got the details laid out, but we are
21	looking at that and how we would best implement it.
22	COMMISSIONER ASSELSTINE: The only other question I
23	had was, do you need to think perhaps some more as well about
24	allocation of responsibility, what the role of these people
25	really is going to be, particularly as I think you said, it

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seems to me the key time when you want to have that advice 1 2 available is if you run into a problem. 3 MR. SHIFFER: Up to now, of course, the only thing 4 we have done is load fuel and it has been relatively informal. 5 As I said before, our people have just been picking their 6 brains, so to speak. 7 If we get into the operation mode, it is my 8 intention to have these people work as kind of -- at least in 9 any kind of a transient type condition -- as kind of advisors 10 to our PG&E shift technical advisor, so that this group of 11 non-PE&E or the supplemental advisors and our shift technical 12 advisor can meet as a group and give a common, unified 13 story to the shift foreman, so we don't have two or three 14 people running to the shift foreman, giving him potentially 15 conflicting advice. 16 During a normal, steady-state operation, I think, 17 the are relatively informal kind of thing, is no problem. 18 COMMISSIONER ASSELSTINE: Right. 19 MR. SHIFFER: But under those circumstances, I think, 20 we will work it through our existing shift technical advisor, 21 CHAIRMAN PALLADINO: Okay, thank you. Did you 22 have --23

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COMMISSIONER BERNTHAL: I did have a comment or two and a question or two, perhaps. But first I would like to inquire if I may, of the Chairman, what our schedule is here.

CHAIRMAN PALLADINO: Well, I was hoping that we 1 could move on to a discussion, presentation by the Joint 2 Intervenors and target for an adjournment by 12:15. 3 COMMISSIONER BERNTHAL: So, we do intend to finish 4 5 everything, then, before --CHAIRMAN PALLADINO: Yes. My schedule would be 6 7 very discombobulated --8 (Laughter) CHAIRMAN PALLADINO: -- if I had to come back 9 10 after lunch. 11 COMMISSIONER BERNTHAL: Okay, I'm mentally cutting 12 the list here. Well, I won't prolong this inquiry. Let me just say that I think we want to be careful and attentive 13 to where we are here. And the fact that clearly we all 14 15 are learing and sort of approaching, I guess, asymptotically 16 the way we should have been doing these things for some years 17 when we start up new plants and you and others, I guess, 18 have the misfortune of being part of the learing process. 19 CHAIRMAN PALLADINO: But I should remind us that 20 at the beginning there was no experience. 21 COMMISSIONER BERNTHAL: I understand that. 22 (Laughter) 23 CHAIRMAN PALLADINO: We all had to learn, and we 24 learned from each other. There are a lot of different ways 25 to learn. As a matter of fact, I have been impressed with

some of the things that Mr. Shiffer has been telling us
 are going on.

COMMISSIONER BERNTHAL: And in fact, what we are really saying here, it seems to me, when you step back and look at it all is that one really would like to require each new plant to have a plant-specific simulator done ahead of time so everybody has considerable experience on that simulator before a plant ever starts up.

Finally, we also would like to have operators and
perhaps some others with hot operations experience -obviously not on that plant but on another plant. And we
also have to be careful of what requirements may be by
definition requirements that can't be met. You can't have
hot experience on a specific plant before it ever starts.

Having said that, I think I'll just terminate any further comment and, let's move on.

CHAIRMAN PALLADINO: All right. Well, thank you very much, gentlemen.

MR. MANEATIS: Thank you.

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CHAIRMAN PALLADINO: I presume you will be here in case any other questions arise.

I wonder whether at this time we might ask Mr. Devine and Mr. Reynolds to join us at the table.

Gentlemen, we appreciate your being here with us today and we are very much interested in the comments that
1 you are about to give us.

MR. REYNOLDS: Thank you, Mr. Chairman. 2 I am Joel Reynolds, an attorney with the Center 3 for Law and the Public Interest, representing the local 4 citizens and organizations that have intervened in this 5 6 proceeding for over a decade. Appearing with me today is Tom Devine, counsel 7 to the Government Accountability Project which has under-8 taken an investigation of allegations by plant workers of 9 continuing design and construction problems at Diablo Canyon. 10 11 We appreciate very much the opportunity to appear before you today to expres the Joint Intervenors' strong 12 opposition to PG&E's application for re-issuance of its 13 suspended low power license. 14 15 Most of our allotted time will be devoted to a discussion of GAP's investigation and the evidence that it 16 has uncovered. That evidence cannot be squared with PG&E's 17 18 continuing assurances that all is well at Diably Canyon, that everything is being taken care of. 19 20 We have heard those hollow promises too often in 21 the past only to have them discredited by later revelations. 22 We heard them in 1981 before this Commission issued the now 23 suspended low power license. We heard them repeatedly during 24 the past two years, in stark contrast to the continuing 25 series of design and construction flaws disclosed at the

plant, and we heard them in October 1983, prior to re-1 issuance of the fuel loading license and the ensuing flood 2 of worker allegations. 3

Since that time, we have seen mounting evidence that problems remain both with the plant and with PG&E's 5 attitude towards the Commission's quality assurance 6 7 regulations.

We do not believe that Diablo Canyon is ready for 8 licensing. First, in the area of design significant questions 9 remain. The Appeal Board has not yet issued its decision 10 in the re-opened design proceeding, and the evidence provided 11 by Charles Stokes and others has confirmed our contention 12 that the verification effort undertaken during the past two 13 years has failed to provide the requisite assurance for 14 15 licensing.

That recent evidence indicates such practices as 16 manipulation of calculations; numerous modeling errors; 17 destruction of evidence of failing safety-related components; 18 lack of an adequate quality assurance program in the corrective 19 action program, and even intimidation and harassment of 20 workers who questioned PG&E's deficient quality assurance 21 22 and design practices.

23 Second, in the area of construction. Both the 24 Joint Intervenors and the Governor of California have requested review by this Commission of the Appeal Board's

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1 denial of re-opening of the record.

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2	In ALAB 756, the Appeal Board ignored virtually
3	all evidence of deficiencies, relying instead upon the
4	conclusory assurances of PG&E and the staff.
5	The Nuclear Services Corporation audit of Pullman
6	Power was dismissed in a footnote, as weas the entire
7	testimony of the quality assurance experts offered by the
8	Governor and Joint Intervenors.
9	Now, sworn affidavits by plant workers, including
10	Pullman's internal auditor, have established that the NSC
11	Pullman audit was right and that the QA breakdown revealed
12	by it has not been corrected.
13	It seems that PG&E has shown as little regard for
14	QA and construction as it did for QA and design. Simply
15	stated, quality assurance seems to run a poor second to
16	production at PG&E. Workers who questioned this policy
17	are harassed, intimidated, or fired.
18	Now, this brings me to the third area of concern,
19	utility character and competence. This proceeding has been
20	characterized since its inception by failure. As stated
21	by the Washington Post on Monday this week, "Diably Canyon
22	is a textbook example of how not to build a nuclear power
23	plane."

Originally estimated at \$500 million, the cost of construction has risen to \$4.5 billion. The plant was

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mis-sited adjacent to a major active earthquake fault. To
 salvage the facility, redesign was required and the TAL Effect
 was invented, an unprecedented and scientifically unjustified
 theory applied only at Diably Canyon to reduce by 20 percent
 the postulated seismic motion.

The redesign was riddled with flaws, resulting from PG&E's inattention to quality assurance, and its overemphasis on production.

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In November 1981, the low power license was
suspended. Within months, PG&E was cited for material
false statements in violation of the Atomic Energy Act, and
the NRC staff acknowledged in a closed Commission meeting
that PG&E has been a consistent problem, it's management
characterized by arrogance.

In early 1973, PG&E was cited by the staff for a five-month delay in reporting an apparent minimum wall thickness violation in the reactor coolant system piping, and several months later, PG&E was forced to concede its failure to disclose the 1977 NSC Pullman audit, a report directly relevant to licensing hearings in 1977 and 1983, and directly contrary to the testimony offered by PG&E at those hearings.

And, most recently, due to revelations of plant workers, we are learning that PG&E still has failed to establish and implement an adequate quality assurance program,

resorting instead to retaliation and intimidation, manipulation 1 of calculations, and a host of other devices in order to 2 3 expedite production and prevent public disclosure of 4 problems. 5

In short, a substantial question exists whether PG&E is willing or capable of running the Diably Canyon 6 project in a manner consistent with the health and safety of the public and this Commission's regulations.

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9 Mr. Chairman, we believe that each of these areas must be addressed before the Commission considers 10 11 re-issuing a low power license.

12 I would like now to turn over the presentation 13 to Mr. Devine who will address more specifically the 14 allegations.

CHAIRMAN PALLADINO: Thank you.

16 MR. DEVINE: Thank you for the opportunity to 17 appear today.

18 Since November 1983, GAP has been interviewing 19 current and former employees from Diably Canyon. To date, 20 my partner John Clewett and I have spoken with 30 current 21 or former employees, about two-thirds of whom still work at 22 the plant.

We have taken eight affidavits from these workers. In addition, we have forwarded to the staff thousands of pages of documents providing evidence for their allegations.

Although we do not yet have all the details, our 2 preliminary conclusions are clear: in terms of quality 3 assurance, Diablo Canyon equals the worst "lemons" in the 4 nuclear industry.

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The scope and intensity of the break-down rank with those at Zimmer, Midland, and the Three Mile Island cleanup. On February 2nd, a petition under 10 CFR 2.206 was filed by the Mothers for Peace with the first 170 allegations from our on-going investigation. We hope to supplement that record in approximately a week with the results of our most recent efforts.

12 The question has been raised why these allegations 13 have come up so late. We believe that is a valid question 14 and should be more properly asked of Pacific Gas and Electric. 15 In some cases, whistleblowers have spent over two years 16 trying to obtain corrected action from management before 17 turning in desperation to intervenors and the Government 18 Accountability Project.

19 In other cases, the allegations are new because 20 the violations just occurred. In those instances, the 21 Commission should inquire of PG&E why these problems are 22 still being repeated.

In the petition; we requested that you defer any low power licensing decision until completion of:

1. A comprehensive, third-party reinspection

program.

1 2. An independent audit of design guality assurance, 2 including the reliability of conclusions from the seismic 3 design review program. 4 3. Development of a full factual record on PG&E's 5 character and competence to operate this facility, including 6 a) an independent management audit and, 7 b) publication of a report by the NRC Office of 8 Investigations filing a full probe to determine the causes 9 of the construction and design quality assurance violations. 10 Finally, an intensified program of public partici-11 12 pation for the selection and oversight of these remedial measures. 13 Allow me, please, to summarize our findings from 14 that recent investigation. With respect to construction 15 quality assurance, a sample of violations includes: 16 17 1. Uncontrolled welding and weld repairs due to incomplete or unqualified procedures. 18 2. Uncontrolled material such as the use of 19 common hardware metal that, when welded to sensitive nuclear 20 21 grade materials, could cause brittleness or corrosion. 22 3. Uncontrolled installation of structural steel 23 hardware and purchase of the wrong size or shape hardware 24 which was then chiseled into shape or otherwise forced to 25 make due on an ad hoc basis.

1	4. Suspect "approved" procedures which flunked
2	laboratory tests but were resubmitted up to three times
3	until they "passed," meaning that the hardware in the field
4	may not be any more reliable.
5	5. Unreliable Nondestructive Examination regults
6	due to ungualified procedures and references to see a
7	that used and intried procedures, and references to procedures
	that were not even issued when the examinations occurred or
•	manipulation of the results.
9	5. Unreliable tests for the measurement of minimum
10	valve thickness.
11	7. Ineffective quality control for vendor-supplied
12	equipment.
13	8. PG&E management orders not to inspect welds
14	supplied by outside vendors after contractor personnel
15	discovered repeated defects, such as cracks.
16	9. Suspect qualifications for welders and
17	inspectors.
18	10. Hydrostatic tests on piping without guality
19	control oversight, consistent procedures, or the proper
20	temperature and pressure to demonstrate that the piper will
21	hold
22	nord.
22	We believe that these tests must all be redone.
	Perhaps with this corrective action, it would not be necessary
24	to learn the strength of piping and hardware in a "adioactive
25	context through low power testing, as suggested by Mr. Knight.

Finally, consistent management circumvention of reporting requirements to the NRC, from routine nonconformances to significant events, in all departments.

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We believe that the effects on the plant's hardware have been dramatic. Whistleblowers have described, "truly abominable" vendor welds, so ragged that they tear clothing; "pathetic" side welds with backing bars that fall off when lightly tapped with a hammer; undocumented overwelding that increases the stress on piping and systems but has not been factored into engineering design calculations; crooked or loose beam clamps for electrical cable trays, and numerous instances where the hardware is in different locations than specified on the plant's approved drawings.

As one whistleblower told me on Tuesday of this week, the best that can be said is that "they don't know what they've got up there," this causing to question the PG&E representatives' assertion that the operators know the plant inside and out. In our opinion, no one knows the plant inside or out.

I would like to discuss a case study which bridges the gap between design and construction quality assurance. This is called the "Quick Fix" program.

In theory, the "Quick Fix" program, later renamed the Pipe Support Design Tolerance Clarification -- PSDTC -is a field engineering corrective action program. In reality,

whistleblowers have convinced us that it is an uncontrolled 1 underground engineering program with the authority to 2 casually overrule the approved design and to substitute 3 informal repairs for the legal quality assurance reporting 5 and corrective action system.

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Management only issued written instructions on 7 Quick Fix to a handful of participating engineers, and to none of the quality control inspectors affected by this 8 9 extraordinary authority to veto the design. It substituted for the normal nonconformance reporting system throughout the design and construction quality assurance process. This could mask deficiencies from NRC audit and review. The Quick Fix sheets demonstrate significant hardware problems and should be systematically reviewed by the staff.

The Quick Fix authority was abused. It was used to completely redo hanger designs, to delete hangers and to delete weld symbols, all without engineering calculations. The practice of deleting weld symbols was used to override quality control inspectors.

In theory, Quick Fix was subjected to later engineering review. But the reviews were spotty at best and management told whistleblower Charles Stokes who participated in the program that 98 percent of the PSDTCs in his group were approved. To put the program in perspective, a Pullman quality control inspector described it as "one of

1	the worst aspects of the whole system at Diablo Canyon."
2	While the effects of this breakdown are complicated,
3	we believe that the causes are simple: The subordination of
4	quality assurance to construction. Neither PG&E nor Pullman
5	management had the commitment to enforce quality assurance
6	requirements. Quality assurance management presented itself
7	to its inspectors as a support unit for construction, rather
8	than an independent check on quality. There was not even
9	consistent agreement among site management whether there
10	is a commitment to build this plant to 10 CFR 50, Appendix B.
11	The quality assurance breakdown permeated the
12	organization. In some cases, the system of checks and
13	balances broke down at every stage successively for the same
14	work.
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The management philosophy resulted in a loss of 16 organizational freedom. Management failed to provide copies, 17 and in some instances even denied access to personnel seeking 18 professional codes and other necessary research for inspection 19 findings. Pullman quality assurance management ordered 20 inspectors to stop looking at work after problems were 21 identified, to stop issuing reports and to stop tracing 22 where faulty procedures had been used -- in one case after 23 they were traced to the feedwater generator nozzle, for the 24 main steam system.

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Management enforced its restrictions by retaliating

against those who did not know their place. Harassment, 1 2 attempted intimidation, and personnel reprisals covered the 3 entire program. Harassment has been occurring at least 4 since 1978 and has intensified during the last three months with techniques including physical threats by construction 6 employees, threatened job actions, reprimands, denial of 7 raises, isolation, and dismissal.

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We believe it is an understatement to conclude there has been a "chilling effect" from the reprisal crisis at Diablo Canyon. A quality assurance Ice Age would be more appropriate.

12 I hope this helps to explain why it has taken 13 too long for the truth to start coming out. Due to the 14 pervasive repression, an unknown number of deficiencies 15 still have not been reported. As one former auditor 16 explained, "Those who persist in reporting the violations 17 are dismissed, or harassed relentlessly until they resign, 18 or give up trying."

The effects of the breakdown have extended to falsification of records and destruction of documents in the design, construction, and quality assurance program, according to whistleblowers.

At best, management's corrective action has been prospective only. Whistleblowers repeatedly have confirmed this phenomenon. Old work is left as is.

1	We do not believe that it is acceptable to let
2	by-gones be by-gones and pledge to do it right in the future
3	when PG&E says the plant is complete. If anything, the
4	violations may be intensifying.
5	To illustrate. On December 28, 1983, Pullman
6	revised Procedure ESD 223 to fillet weld sizes for
7	pipe supports was modified to add two provisions. Addition
8	D. For existing installations, welding which was performed
9	but not required as part of the design is acceptable.
10	Addition E. For existing installations, welding
11	which was not performed but was required as part of the design
12	is acceptable.
13	In other words, anything is now acceptable. While
14	this approach officially eliminated a nagging problem on
15	welds, it certainly did not solve it.
16	These offenses could not have occurred so
17	systematically without negative leadership from management.
18	Although some of the safety allegations are debatable, a
19	consistent pattern is clear: Management has not wanted to
20	hear about these problems from workers, and it has been even
21	more determined that no one else hear about them. That helps
22	to explain why you are not getting disclosure of these
23	problems from the licensee. The tools for this philosophy are
24	intimidation, retaliation, records falsification, and
25	records destruction. That is now problems remain covered up

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for twelve years. The results are a plant whose quality is
 indeterminate at best.

With respect to design quality assurance, I would
defer to the staff's presentation, but would like to make
two points.

First, the point was made that to date the problems
do not demonstrate fundamental safety significance. That is
true because there have only been conclusions reached with
respect to a few examples. It would be premature from any
measure to say that they yet had demonstrated a fundamental
safety hazard.

Second, with respect to the assertions by PG&E
of extensive operator training. We would question the
thoroughness of their program with respect to the design.
Whistleblower John Cooper fought unsuccessfully for two years
to obtain control room enunciation to alert the operators
when there are spurious closures of residual heat removal
section valves that could damage the pumps.

In that case, the management told him that the problem had been fixed, but it hadn't. They just meant to fix it and they hadn't gotten around to it. I think that you should check their assertions from this morning.

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Finally, we would like to offer our observations about the staff's effective role in overseeing completion of the plant. Based on our experience representing whistleblowers,

we have developed respect for the diligence and intelligence
 of the NRC staff assigned to the case. Despite drastic
 disagreements, we do not question that the disputes are in
 good faith or that mistakes are just that.

However, we must strongly protest practices which
compromise the reliability of the record as the basis for
licensing.

8 The first practice is failure to examine the
9 organizational causes for this breakdown. The case cries
10 out for the full participation of the Office of Investigations.

11 In response to Commissioner Bernthal's question of what the Commission can do to help in these situations, 12 we would recommend giving OI the resources to do its job. 13 14 To illustrate, while we have all been waiting for an ' er-15 staffed OI to begin investigating Mr. Stokes' allegations, 16 whistleblowers have informed GAP of records destruction 17 following visits by the Region V inspection team headed by 18 Mr. Bishop.

We believe it would be premature to make any
further licensing decisions until the allegations of
falsification and retaliation are resolved. These are
directly relevant for any licensing decision under regulations
and case law.

Second, we feel that the staff may be accepting prospective-only corrective action. In our prepared

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statement, we offer an example where this has occurred,
 based on a practice, a reform instituted only in June of
 1983. That cuts out the first 13 and-a-half years of
 construction, which could be just as significant for public
 safety as the last seven months.

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Third, we strongly protest the advance disclosure of proposed violations. In the January 31 public meeting, the NRC distributed handwritten copies of proposed violations and offered the licensee a week to change their mind that this was a barrier to the low power recommendations for operations.

We believe that this goes too far, and that the Commission's policy not to release draft copies of inspection reports should apply to significant portions of those reports, such as findings of illegality.

Finally, we would protest the gag order on a February 7, 1984 plant trou which occurred this week with representatives from GAP and a whistleblower. Due to the objections of PG&E, the citizen representatives were not permitted to speak ti the Commission representative except in response to questions, which were not asked.

This is unfortunate. The whistleblower had come prepared to point out examples of specific defective hardware and welds. We request that another tour be scheduled when the whistleblower has the freedom within the NRC's

1	organization to identify significant safety hazards.
2	In conclusion, we believe that under these
3	circumstances any decision on a low power operating license
4	would be premature.
5	CHAIRMAN PALLADINO: All right, thank you,
6	gentlemen.
7	I wanted to ask you, when you get these allegations,
8	how far do you go into looking into them? Do you make any
э	attempt to screen them, or
10	MR. DEVINE: Yes, sir. We require either
11	confirmation from a second witness or documentary evidence
12	to support the charges. We have received considerably more
13	allegations than we have disclosed simply because they didn't
14	meet those standards.
15	CHAIRMAN PALLADINO: Okay. And your observations,
16	I gather, are based on the allegations as you see them.
17	In other words, you talk about getting the truth. I was
18	wondering whether you equate "truth" with "allegation" or
19	is it the result of your investigation of allegations?
20	MR. DEVINE: In some cases I feel that we can
21	say that the facts are as presented by the whistleblowers
22	because they are backed by documentary evidence.
23	In other cases, we simply have more faith in the
24	description of reality provided to us by the labor force
25	than that provided to you by the utility management. That is

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our perspective. But we feel that their charges are
 serious, they are in good faith, and they deserve to be
 followed through.

CHAIRMAN PALLADINO: I am sure they are offered
in good faith. But even good faith sometimes does not result
in confirmation that the allegations was correct.

MR. DEVINE: We recognize that completely, and
that is why we have asked for these charges to be thoroughly
investigated, rather than recommending against an operating
license on the basis of unproven allegations.

CHAIRMAN PALLADINO: I gather you are familiar
with the allegation management program that the staff has
implemented. Do you have any comments on how you feel that
is working?

15 MR. DEVINE: I feel that you have a staff of very 16 hard workers. They have worked weekends, they have worked 17 late into the nights, and I also believe that Mr. Dircks' comment at the last Commission briefing is well taken, that 18 19 in some respects this is a new ball game and we have all getting 20 to know each other and learning how to work with each other. 21 And I have been impressed with the flexibility and openness 22 of the staff to try new approaches that would get to the 23 bottom of these problems. /

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CHAIRMAN PALLADINO: Do you feel we will get there? (Laughter)

1	MR. DEVINE: I hope so. We will continue to help.
2	MR. REYNOLDS: Mr. Chairman, one comment I have
3	on that, and that is specifically with respect to Allegation
4	68, which is the Pullman audit report.
5	Gne of the things we have been concerned about is
6	the resolution of that, and I addressed the Commission on it
7	before. I understand that the staff has hired an independent
. 8	organization to look further into that, and that there is a
9	report.
10	We are concerned that that report has not been
11	made public, particularly in light of the fact that the
12	staff has reached a so-called resolution of that issue.
13	finding that the Pullman audit concerns are not substantiated
14	In fact, the allegations seem to confer the
15	validity of the NSC audit. We would very much like to see
16	that report made public, and I would request the Commission
17	pursue that with the staff and see if that can't be
18	accomplished.
19	CHAIRMAN PALLADINO: Okay. I was interested in
20	whether you thought the staff approach to management of
21	the allegations was reasonable and will result in a reasonably
22	fair determination on each one of them.
23	MR. DEVINE: Yes, sir. I think that if some of
24	the good habits that are being introduced were institutional-
25	ized, it could be handled even more efficiently.

1	For example, with respect to the problem of weld
2	designs, in SSER 21 the allegation was initially rejected.
3	It was rejected on the basis of inadequate factual
4	information. The staff demonstrated its good faith by its
5	openness to reconsider its tentative conclusions, and two
6	months after the allegation was originally made, we met
7	for many hours with the staff to explain where the process
8	had broken down in pursuing the issue.
9	Had there been a more immediate follow-up, it
10	could have saved some time in resolving that problem. But
11	I think that those are "growing pains" rather than any type
12	of intentional failure to fully develop the record.
13	CHAIRMAN PALLADINO: Okay, thank you. Other
14	questions?
15	COMMISSIONER ASSELSTINE: Just a couple.
16	You mentioned in your statement that you don't
17	have all the details yet on some of this information and
18	that you intend to submit some additional information in
9	about a week.
0	Is your sense that you pretty much have identified
1	the problem areas in the information that we have now or
2	will get, and that what you are providing is additional
3	examples? Do you expect substantial additional information
4	beyond next week, or are you still identifying people who
5	have concerns? What might we expect in the next few weeks?

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1	MR. DEVINE: Commissioner, we have been getting
2	allegations in at the rate of about a hundred a month, and
3	they are coming in faster than we are able to keep up with
4	them with our staff of two on the case.
5	I am confident that if we continue to investigate
6	for another six months, that we would have another six-hundred
7	allegations. In some cases, it might introduce us to new
8	areas. After several years investigating at Zimmer, I was
9	introduced to new systems that it had quality assurance
10	violations.
11	For the most part, I feel that the witnesses will
12	be providing new examples of the types of problems which we
13	have been able to more generally identify.
14	COMMISSIONER ASSELSTINE: In the submittals that
15	you have already provided, have you pretty much provided all
16	the information that you know about now on destruction of
17	records and retaliation?
18	MR. DEVINE: To date, we have we have provided
19	I should qualify that what we thought was reliable enough
20	to merit the Commission's resources in following up.
21	We do disclose this information in two forms. As
22	we receive it, we share it with the staff as soon as we have
23	permission from the witnesses to do so. We are a little bit
24	slower in turning it in to the formal record that we could
25	submit for legal initiatives such as the petition under

1	2.206. Our first priority has been to get the information
2	to the staff and then to start writing it up.
3	COMMISSIONER ASSELSTINE: So, in a sense the
4	affidavits that we are getting are essentially confirmatory
5	of information that has already been supplied to the staff
6	on a more informal basis.
7	MR. DEVINE: That's right.
8	CHAIRMAN PALLADINO: Vic? Fred?
9	COMMISSIONER BERNTHAL: Let me just make a comment
10	or two. First of all, I do want to compliment you on your
11	usual detailed and insightful presentation. I think that
12	your organization has developed a reputation for thoroughness.
13	In spite what sometimes you might feel, I think you perform
14	a very valuable and crucial public service in the efforts
15	you make in this regard.
16	I would hope that you would continue to reflect
17	the attitude that you apparently do, of assisting those of
18	us who work for the government and therefore would try and
19	lend a focus to the body of material that from time to time
20	present to us.
21	Much of what you have given us though not all,
22	I hasten to add I was a little concerned at first, was
23	couched in the past tense. It is really very important to
24	know where we are today, and the issues and allegations
25	that we need to focus on today. So, I would only make that

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plea that you try and assist us in focusing on what you consider to be the real current issues.

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Let me ask just one question. I realize how difficult this probably is to do, but both of you I think must have some overriding perspective on all of the work that you have done and the efforts that you made and continue to make.

But I would like to get some sense of whether you 9 can barely see, or perhaps not at all see, the light at the end of the tunnel here. Therefore, I would like to ask whether you might be able to describe for us -- if it is not premature to do that -- some broad conditions under which you might be satisfied that the plant would be prepared and satisfactory to begin operation.

MR. REYNOLDS: Let me just start this off. We have throughout the long history of this case been involved in numerous issues -- not the least of which has been the seismic area. That is an issue that the Commission has already passed off on, essentially has refused to review the Appeal Board's decision on seismic.

We have not abandoned those concerns, those are continuing ones, and we would certainly like to see some further study of the TAL Effect, for example, and the various other seismic issues.

In the area of construction and design, we have

1	begun to look at design to the Appeal Board hearings in
2	November. The allegations have raised a number of new
3	aspects which did not come out of the hearing but which
4	relate directly to issues that were raised there. For
5	example, the quality assurance program and the corrective
6	actions program, or the adequacy of the as-built drawings.
7	So, there are a number of concerns that we think
8	have not been adequately addressed.
9	In the area of construction, there has been no
10	systematic review. Throughout the history of this case,
11	when we have tried to raise this issue, we have been opposed
12	by the staff and PC&E, and ultimately have not been able to
13	do so. Most recently, the Appeal Board in ALAB 756 rejected
14	our motion to re-open that.
15	Obviously, we have appealed that to the Commission
16	and we think for very good reasons, and we are hopeful that
17	the Commission is going to take that seriously.
18	But those are just the kinds of areas that we think
19	need to be looked at before we can make an assessment that
20	this plant is safe to operate.
21	COMMISSIONER BERNTHAL: Thank you.
22	CHAIRMAN PALLADINO: Any other questions?
23	COMMISSIONER BERNTHAL: Did you want to make a
24	comment?
25	MR. DEVINE: I would first respond to your intro-

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ductory point. We do believe it is a current issue if old
 violations or defects are not fixed. We believe that
 dormant problems can be just as hazardous to public safety
 as fresh ones.

With respect to the inquiry of when the plant
would be ready for operation, basically that is covered by
the recommendations in our 2.206 petition and the core of it
is a comprehensive reinspection program to cover construction
quality assurance violations.

While we believe that there has been an inadequate
record developed on design verification, there has been no
remedial record developed on construction quality assurance.
And it is because, at least in part because, the licensing
process was not open to delve into those types of issues
that the Mothers for Peace called on GAP to come and take
another approach to developing the record.

I think all parties agree that the preferable way to do it would be through the normal legal processes.

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COMMISSIONER BERNTHAL: Thank you.

20 CHAIRMAN PALLADINO: Thank you very much, gentlemen.
 21 We will continue to give attention to the matters you bring
 22 before us.

MR. REYNOLDS: Thank you, Mr. Chairman. MR. DEVINE: Thank you.

CHAIRMAN PALLADINO: Are there any last-minute

1	comments out of staff?
2	COMMISSIONER GILINSKY: I have a 1st-minute
3	observation.
4	CHAIRMAN PALLADINO: You have an observation, all
5	right.
6	COMMISSIONER GILINSKY: You were about to come down
7	with the gavel.
. 8	I just want to make an observation about the
9	exchange we were having earlier about the value of simulators,
10	and I was thinking about that.
11	Just to pursue this aircraft analogy, you know,
12	aircraft simulators are more highly developed at the present
13	than power plant simulators and they simulate the real
14	situation more effectively. That's the opinion of people
15	who make them, make both kinds.
16	And even though, the FAA so far as I know
17	would not allow a pilot to move from simulator to captain of
18	a passenger airliner without some adequate level of
19	experience. And it seems to me we ought to apply the same
20	standard here.
21	CHAIRMAN PALLADINO: I accept your comment. I
22	think there are differences but I don't think the difference
23	ought to interfere with the objective. Okay, anything else?
24	Thank you. We stand adjourned.
25	(Whereupon, at 12:18 p.m. the meeting of the
	Commission was adjourned.)

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# CERTIFICATE OF PROCEEDING

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1	
2	This is to certify that the attached proceedings before the
э	NRC COMMISSION
4	In the Matter of: Coments by Parties on Diablo Canyon
5	Date of Proceeding: 10 February 1984
	Place of Proceeding: Washington, D. C.
7	were held as herein appears, and that this is the original
8	transcript for the file of the commission.
9	
10	Elizabeth Hansen
11	Official Reporter - Typed
12	Elizabeth Hausen
13	Official Reporter - Signature
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2/10/84

## SCHEDULING NOTES

TITLE: COMMENTS BY PARTIES ON DIABLO CANYON CRITICALITY AND LOW POWER OPERATION

SCHEDULED: 10:00 A.M., FRIDAY, FEBRUARY 10, 1984 (OPEN)

DURATION: APPROX 2 HRS.

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PURPOSE: TO OBTAIN COMMENTS BY THE PARTIES TO THE DIABLO CANYON PROCEEDING REGARDING AN NRC STAFF RECOMMENDATION ON REINSTATEMENT OF THE DIABLO CANYON LOW POWER LICENSE TO PERMIT CRITICALITY AND LOW POWER OPERATIONS AT UNIT 1.

SPEAKERS: NRC STAFF (D. EISENHUT) - 10 MIN PACIFIC GAS & ELECTRIC (HOWARD FRIEND) - 20 MIN (BRUCE NORTON) (GEORGE MANEATIS) JOINT INTERVENORS (JOEL REYNOLDS) - 20 MIN (TOM DEVINE) (CHARLES STOKES) GOVERNOR DEUKMEJIAN (MICHAEL STRUMWASSER (T) - 20 MIN



#### UNITED STATES NUCLEAR REGULATORY COMMISSION WASHINGTON, D.C. 20555

DOCHETED

OFFICE OF THE SECRETARY

## '84 JAN 13 P3:26

January 13, 1984

DOCHE FING & SEP THE BRANCH

Robert Ohlbach, Esq. Philip A. Crane, Jr., Esq. Richard F. Locke, Esq. Pacific Gas and Electric Company P.O. Box 7442 San Francisco, CA 94120

Joel R. Reynolds, Esq. John R. Phillips, Esq. Center for Law in the Public Interest 10951 West Pico Boulevard Third Floor Los Angeles, CA 90064

Michael J. Strumwasser, Esq. Susan L. Durbin, Esq. Peter H. Kaufman, Esq. State of California Department of Justice 3580 Wilshire Boulevard Los Angeles, CA 90010

SUBJECT: PACIFIC GAS AND ELECTRIC COMPANY (DIABLO CANYON NUCLEAR POWER PLANT, UNIT 1), DOCKET NO. 50-275, OL-DPR-76

## Counsel:

This letter confirms the notice of scheduling changes provided to your offices by telephone on January 12, 1984. The Commission has rescheduled to Friday, February 10, 1984, the public meeting to receive the staff briefing and the comments of Pacific Gas and Electric Company (PG&E), Joint Intervenors, and Governor Deukmejian regarding the reinstatement of the low-power license for Diablo Canyon Nuclear Power Plant, Unit 1. The briefing and comments should focus on the Safety Evaluation Report, Supplement No. 20 (SSER 20), and any other issues pertinent to criticality and low-power testing, including the results of the NRC investigations contained in SSER 21. Written comments may be submitted by the parties, but must be received by the Commission by Friday, February 3, 1984, to ensure consideration.

The meeting will convene at 10:00 a.m. at the Commission's conference room, 1717 "H" Street, N.W., Washington, D.C. Following the briefing by NRC staff, the remaining parties, PG&E, Joint Intervenors, and Governor Deukmejian, will each be provided twenty (20) minutes to address the

SERVED JAN 15 YES

WITHOUT ATTACHMENTS



SECY-84-3

January 4, 1984

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For: The Commissioners

From: William J. Dircks Executive Director for Operations

Subject: STATUS REPORT ON RESOLUTION OF ALLEGATIONS AND CONCERNS ABOUT DESIGN, CONSTRUCTION AND OPERATION OF DIABLO CANYON NUCLEAR POWER PLANT

- Purpose: To provide the Commissioners with information on the status of the staff's resolution of the subject allegations and concerns as they may apply to the Commission's deliberations on licensing the plant for criticality and low power testing.
- Discussion: During the Commission Meeting on October 28, 1983, you directed the staff to pursue all outstanding allegations to resolution. In addition, you directed the staff to provide a status report "...addressing these matters..." prior to the authorization of criticality and low power testing. In order to respond to your directives in a timely fashion the Region V Regional Administrator, Mr. J. B. Martin, was designated line responsibility to direct the effort. Mr. T. W. Bishop, Region V, was designated to organize the management program and team which would coordinate NRR, IE and OI all outstanding allegations, develop a work plan and schedule for staff resolution, implement the plan and provide the coordination status report prior to Commission consideration of criticality and low power, testing.

The staff has developed the attached documents providing a status report on the allegations as of December 19, 1983. The status report is provided in two parts:

1. SSER No. 21 (Attachment 1) which contains:

(a) A listing of all allegations or concerns, (b) A summary status report and assessment of collective significance of the allegations, (c) An identification of issues requiring action prior to reactor criticality or exceeding five percent power.

Included in an attachment to the SSER is an individual allegation status summary for those allegations or concerns which are resolved or, in the staff's opinion, have very low potential for becoming a significant safety concern.

- A limited distribution document (Attachment 2, Diablo Canyon Predecisional or Sensitive Allegation Summaries) which contains the individual allegation status summaries for those allegations or concerns which:
  - a. Are sensitive issues which are the subject of a potential investigation or inspection wherein disclosure might interfere with the initiation or conduct of such activities, and thus public disclosure would not be appropriate.
  - Involve allegations, whose specific disclosure would cause a confidential alleger to be identified.
  - c. Involve allegations which have just been received and have not been examined by the staff to any significant degree; it was not immediately ascertainable from the incoming document whether confidentiality was requested by the alleger or whether the public disclosure of the information would otherwise impair the Commission's ability to initiate or conduct an investigation or inspection.

The preliminary findings of issues addressed in this limited distribution document have been used by the staff in developing the overall assessments contained in the SSER.

Conclusion:

The allegation management program in place for current and future allegations related to Diablo Canyon has and should continue to provide a procedure for orderly and thorough yet timely examination of each concern raised.

Approximately 75% of the allegations currently received have been examined to a point where it is the staff's opinion that there is no significant safety issue or substantial breakdown of management or quality systems. The remaining allegations have been assigned to various elements of the NRC staff for evaluation and most have been partially examined. Examinations of these remaining allegations in sufficient detail to permit a staff conclusion relative to safety significance is expected to be completed during site inspections scheduled for January 4, 1984 through January 13, 1984. Approximately 15 professional staff will be active in these inspections.

The staff has not, at this time, identified any issue that would preclude authorization for operation up to and including testing at five percent power on the basis of public health and safety. However, there are several areas where our examination of allegations has led us to require additional information. Pending further evaluation of these matters, as a matter of The Commissioners

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prudence the staff has identified in Section 3.4 of SSER No. 21 four actions that we presently believe should be completed prior to authorizing criticality; five other actions have been identified for completion prior to authorizing operation above five percent power.

The status reports and assessments contained in the attached documents are current as of December 19, 1983. It is anticipated that additional allegations will continue to be received. The staff will provide the Commission an updated status of our allegation review prior to our recommendation regarding criticality and low power testing.

J: Dircks

Executive Director for Operations

- \* Attachments:
  - 1. SSER No. 21
  - Diablo Canyon Predecisional or Sensitive Allegation Summaries of 12/19/83

\*Commissioners, SECY, OGC, OPE, EDO only.

DISTRIBUTION: Commissioners OGC OPE OI SECY



February 6 , 1984

SECY-84-61

The Commissione (Information)

For:

From: William J. Dircks Executive Director for Operations

Subject: STATUS REPORT ON RESOLUTION OF ALLEGATIONS AND CONCERNS ABOUT DESIGN, CONSTRUCTION AND OPERATION OF DIABLO CANYON NUCLEAR POWER PLANT

Purpose: To provide the Commissioners with information on the status of the staff's resolution of the subject allegations and concerns as they may apply to the Commission's deliberations on licensing the plant for criticality and low power testing.

Discussion: During the Commission Meeting on October 28, 1983, you directed the staff to pursue all outstanding allegations to resolution. In addition, you directed the staff to provide a status report "...addressing these matters..." prior to the authorization of criticality and low power testing. The staff provided an initial status report on the investigation and inspection into the allegations on January 4, 1984. The January 4, 1984 status report is identified as SSER No. 21, and provided status information on 105 allegations or concerns. The staff has since conducted additional inspections and investigations into the allegations identified in SSER No. 21 and additional allegations which have been received.

> As of February 1, 1984, the staff had received 185 allegations or concerns. The staff has developed the attached documents to provide a summary report of status as of February 1, 1984. The summary report is provided in four parts:

- 1. List of Allegations or Concerns (Attachment 1),
- Diagram of Allegation Status as of February 1, 1984 (Attachment 2), which identifies the quantities of allegations in each status category,
- Table of Allegation Status as of February 1, 1984 (Attachment 3), which identified the allegation or concern item numbers for each status category,
- 4. Status Summary for Allegations or Concerns which Require Resolution Prior to reactor Criticality (Attachment 4).

Conclusion:

The allegation management program in place for current and future allegations related to Diablo Canyon has and should continue to provide a procedure for orderly and thorough yet timely examination of concerns raised.

To date the staff followup on the allegations has involved more that 35 NRC inspectors, engineers, investigators, and contractors, representing all NRC regional offices and Headquarters. Collectively, these individuals have expended approximately 6,000 hours over the past months examining the allegations and concerns. The inspections are continuing. This effort will allow the staff to not only examine the individual allegations, but will provide a substantial data base for making broader conclusions regarding the effectiveness of the Licensees and contractor management over the period of construction, operation, and testing to date.

In the January 4, 1984 status report, the staff indicated that there were several areas where examination of allegations has led the staff to require additional information. Pending further evaluation of those matters, as a matter of prudence, the staff identified four actions that they believed should be completed prior to authorizing criticality. As of February 1, 1984 this position is essentially unchanged, although there have been some changes in which specific allegations or concerns require resolution prior to criticality. These changes are discussed in Attachment 4. It is anticipated that additional allegations will continue to be received. The staff will provide the Commission an updated status of our allegation review prior to our recommendation regarding criticality and low power testing.

William J. Dircks Executive Director for Operations

DISTRIBUTION: Commissioners OGC OPE OI OCA OIA OPA REGIONAL OFFICES EDO ELD ACRS ASLBP ASLAP SECY

Attachment 1

## LIST OF ALLEGATIONS OR CONCERNS

## Allegation

Passing of Contraband 2. Anti-Nuclear Demonstration Seismic Qualification CCW 3. 4. Single Failure Capability CCE 5. Heat Removal Capability CCW I&C Design Classification 6. Feedwater Isolation Classification 6a. Seismic Category I/Category II Interface 7. 8. Seismic Design of Diesel Gen. I and Exh. 9. USI-17 Systems Interaction Generic 10. Seismic Tilting of Containment 11. Classification of Platform (Category I/Category II) 12. HELBA did not meet FSAR, RG 1.46 13. Inadequate Seismic Systems 14. Loads on Annulus Structural Steel not Calculated Properly 15. Inadequate Tornado Load Analysis of Turbine Building 16. High Energy Pipe Break Restraint Inadequate 17. NSSS SSE Load Inadequate 18. QA/QC Allegations Guard Qualification 19. 20. Health Physics Personnel do not Meet ANSI Requirements 21. ALARA Program - Paper Tiger 22. Radiation Monitors Lack Sensitivity 23. OC Inspector Concerns 24. H.P.Foley NCR's Rejected without Good Cause 25. Deficiency in Use of "Red Head" Anchors for Raceway Support 26. Foley didn't Document NCR's Issued by Field Inspectors 27. Welding and QA Deficiency in "Super Strut" 28. Annulus Structure Reverification 29. Pipe Restraints Design Inadequate 30. Inadequate Documentation of Safety Related Equipment 31. QA Procedures for Struct, Analysis Seismic Analysis Containment
 Turbine Building (Class 2) Contains Class 1 Systems and Components 34. Incomplete As-Duilt Drawings 35. Lack of Support Calcs for Fluorescent Light Fixtures 36. Resolution of Fluarescent Light Fixture Interaction 37. Solid State Protection System Relays 38. PG&E Ignoring Spurious Closure of Mot. Valve 39. No Control Room Annunciation of Closed RHR Suction Valve 40. RHR Hot Leg Suction not Single Failure 41. Drawings Inadequate 42. Licensee Management Unresponsive to Problems 43. Licensee Reporting Failure 44. Licensee Improp. Assessment of Design Change Notice

45. Design Inconsistency in FSAR RHR Valves

46. H. P. Foley QA Procedures Voiding NCR's Incorrect 47. Plant P. A. System 48. SI Study and Associated Mods 49. Emergency Sirens not Seismic Qualified 50. Plant Security should have been Retained 51. Risk of Job Action Against Allegers 52. Construction and hrgs in Progress after Fuel Load Inappropriate 53. Welder Qualification 54. Wire Traceability not Evident for Work by PG&E and Foley 55. Bechtel Approved Analysis of Small Bore Pipe by Altering Failed Analysis 56. Pitting of Main Steam and Feedwater Piping 57. Foley used Uncertifiedand Ungualified QC Inspectors Prior to 1983 58. Foley allows "Red Head" Anchors Studs Reported Improperly Installed 59. Foley Lost Cable Traceability 60. Foley Purchased Material through Unapproved Vendors 61. Lack of Document Control 61a. H. P. Foley Used Unapproved Drawing 62. Foley Lacks Adequate Sampling of Cable Pull Activities 63. Foley has Lost Material Traceability through Upgrade of Non Class 1 to Class 1 Grout Test Sampling Based on Special Tests Rather than Field Tests 64. 65. Foley Documents Prior to 1980 Questioned No Review Required Prior to September 1981 License Issuance Date 66. Defective Weld Reports Rejected by Foley Negligence by PG&E Flooding at 55 ft. Elevation Pipe Tunnel 67. 68. NSC Pullman-Kellog Audit 69. Revision of Draft Case Study "C" 70. Inadequate of Response to NRC Notice of Violation 71. Use and Sale of Drugs 72. Audits of PG&E (PAC/EDS) 73. Selling of Drugs 74. Defective Piping Support 75. Discharge Piping too Close to Accumulater 76. U-Bolts have Failed 77. Flange Bent on I-Beam 78. Bracket Bolted to Wall with only Bolt 79. Engineers are Calculating Stresses in Piping in a Variety of Ways 80. Concerns about the Emergency Response Plan 81. Individual Fired for Whistle Blowing 82. Minimal Orientation for New Engrs. at the Site 83. NRC was not Effective in Identifying Problems 84. Lack of Responsiveness by Management to Identified Problems Relating to Design U-Bolt Design 85. "Code-Break Design 86. 87. Calc. Related to "Code Break" Design Destroyed 88. Undocumented Modifications were made Because of Code Break Problems Interference of Pipe Supports (Attempted Use of Uni-Strut as a Pipe 89. Support) 90. Defective Concrete in Intake Structure
- 91. Alleged Cover-up of Defective Material Use
- Flare Bevel Welds are Undersized and do not Comply with Code Dihedral 92. 93.

Inaccurate Depiction of Welds on Drawings (Symbolic)

94. Pullman used Pipe Welding Procedures to make Structural Support Welds

95. Angles of Pipe Support Member are out of Specification

96. Improper Anchor Bolt Spacing ("Hilti" and "Red Head") 97. Site Design Engineers have been Required to Use Uncontrolled Documents

Resulting in Different Assumptions. etc. 98. Possible Non-Adherence of Penetration Seal Procedure

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99. Falsfication of Welding Quality Control Records

100. No Quality Control Program for Coatings

101. Qualification of Welders and Procedures

- 102. Improper References on DCN
- 103. Pullman used ASME IX welders to weld AWS Components
- 104. Pullman Welding Procedure Specification are not Sufficient
- 105. Pullman Weld Joints not Prequalified for AWS and Don't Meet ASME IX
- 106. Pullman Welded Materials are not Listed as Approved for AWS/ASME Welding 107. Pullman Weld Technique Sheets used in Lieu of Welding Procedure Specifications
- 108. Pullman Used QA Vice Engineering to Write a Welding Technique Sheet
- 109, Pullman Used ASME Welders to Weld AWS Welds

110. Pullman Used Weld Procedure Specifications which were not Tested for Notch Toughness as Required

- 111. Pullman Procedure WPS 88/89 Used GTAW for Weld Contrary to AWS D1.1
- 112. Pullman Welder No. N did not Maintain Activity during August-December
- 113. Deficiencies in Pullman Pipe Rupture Restraint Welding Caused Serious Weld Cracking Problems
- 114. Pullman Used Square Groove Welds for Supports and Restraints Contrary to

115. Pullman made Square Goove Welds without a Qualified Welding Procedure

- 116. Pullman used Generic Qualifications for WPS's
- 117. Pullmar. used Copper Chill Bars for Plug Welds of Improperly Divilled Holes
- 118. PG&E may not have Reviewed Deviation from Pullman Spec. 8333XR

119. Pullman Welded Threaded Bolts and Studs to Liner without a Qualified WPS 120. Pullman-Possible Intimidation of Personnel

121. Pullman Inadequacies in Valve Wall Thickness Measurement Activities

122. Pullman Inadequacies in Nondestructive Testing Activities and Audits

123. Improper Acceptance of Welder Qualification Tests

124. Responses to Audits were not Timely

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125. Pipe Rupture Restraint Welds were not Tested per Specification

- 126. PG&F has not Implemented a Consistent set of Weld Symbols for Engineers and Contractors
- 127. Preheat Requirements not Followed for Certain Welds
- 128. Pullman did not Properly Accept Problem Reports
- 129. Improper Activities RElated to Pullman Welding
- 130. Pullman-Possible Intimidation of Personnel

131. Pullman Welded Bolts and Studs to Containment Liner without a Qualified

132. Pullman Welded Plate to CCW Piping While Piping Contained Water 133. Foley did not Properly Accept/Document Properly Reports 134. Foley did not Invoke Part 21 on Vendor Contracts 135. Foley Audits were not Performed for an Extended Period 136. Foley Audit Findings were not Properly Handled 137. Foley did not Audit Procedure Adequacy 138. Foley Lost Wire Traceability for Incore Thermocouple Circuits 139. Foley Improperly Performed Tubing Fabrication (Socket Welding and Bending) 140. Foley Used Material Purchased for One Contract on Another 141. Foley Performed Transverse Welding Across Beams (Installation of Unistrut) 142. Foley Inadequately Installed and Checked Anchor Bolts 143. Foley did not Torque Beam Claps at Installation 144. Foley Installs P1100 Conduit Clamps too Close to Channel Edges may Slip out 145. Foley did not Specify Raceway Materials in Details-Improper Bolt Heads may have been Used 146. Foley does not keep Raceways Free of Damaging Debris 147. Foley Installs Different Nitalities of Systems on a Single Support 148. Foley QC Identifying Unsat. Work in Progress were Told to wait until Completion, then Reject 149. Foley did not Submit HVAC As-built information during 1981/82-as-built may not be checked against Design 150. Foley Production may have Falsified Structural Steel and Tubing Heat Number ecords 151. Foley Installs too many Conduits or Supports; Inspection Reject Rate is too High for Supports 152. Concerns with Installation of P1331 Conduit Clamps (Torque Achievement, Relocation, Excess) 153. Foley Specifies 1/8" Welds on 3/32" Clamp Material 154. Foley does not Specific Adequate Inspection Criteria for Anchor Bolts 155. Welding on Embed Plates Causes Distortion may Damage Plate or Anchors 156. Foley-Possible Intimidation of Personnel 157. Pullman-Possible Intimidation of Personnel 158. Unit 2 Annulus Design-Inadequate Seismic Load Combinations 159. Unit 2 Annulus Design-Steel Members may be over Stressed due to Additions 160. Unit 2 Annulus Design-Bracings Carry Axial Loads and Supports 161. Unit 2 Annulus Design-too many Assumptions of Class II and small Bore Lods 162. Unit 2 Annulus Design-Calculations Changed by Reviewers without Consultation with Originator/Checker 163. Unit 2 Annulus Design-Improper Assumptions Related to Thermal Expansion 164. Unit 2 Annulus Design-Beams not Checked for Tearing Failure Mode 165. Unit 2 Annulus Design-Computer Code Check did not Account for Tortional Stresses 166. Foley allows Correction to Quality Documents by QC with Inadequate Guidelines 167. Foley is not Reviewing all Records in Preparation for Turnover-only Post September 1981 Records

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- 168. Foley did not Properly Grout Base Plate Anchor Bolts
- 169. Pullman Failed to Conduct Support Welds as Required by Procedures
- 170. Pullman Lost Pipe Traceability due to Inadequate Training of Feb Shop Inspectors
- 171. Inadequate Planning and Routing of Cables within the Plant Giving Rise to a Potential for Inadequate Separation of Redundant Safety-reated Cables and Loss of Traceability
- 172. Transfer of Cable to Alternate Reels Short Sections of Cable were Frequently Transferred from their Original Reel to other Reels of Cable as a Convenience Resulting in Confusion regarding Specific Documentation of Cable Characteristics
- 173. Improper Clearing of Cable ways before Pulling Cables. Failure to Adequately Clear the Cable ways could have Resulted in Damage to Cables when they were pulled through the Cable Ways
- 174. Inadequate Control of Tension Levels when Pulling Cables Inadequate Control was Exercised in Pulling Electrical Cable through Cable ways and could have Resulted in Damage to Cables during Installation
- 175. Changes from Interim "As-Built" Drawings to Final Drawing -- Inadequate Control has been Exercised over the Transition from Interim Drawings to Final Drawings of the Station as Actually Constructed
- 176. Anchor Bolts (Torquing of "Red-Heau" Bolts)
- 177. RHR Pump Section Line Valve Control. Potential Damage in RHR Pumps due to loss of Suction as a Result of a Single Failure
- 178. Boron-worth versus temperature curves may be incorrect
- 179. Auxiliary Saltwater Pump flow has not been Verified
- 180. During Testing 3 CCW Heat Exchanger Inlet Valves Failed due to water hammer
- 181. Surveillance Test Records are Incomplete
- 182. CVCS, RHR, RCS and PORV bolts don't meet ASME Specs.
- 183. Alleged Drug Use

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## DIAGRAM OF ALLEGATION STATUS AS OF 2/1/84

### Total Number of Allegations:

### 185

No. Allegations Under Investigation by OI:

No. Allegations Under Inspection/Review:

# 12

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## 173

No Resolved:	No. Not Resolved			No. Resolved	No	No. Not Resolved	
<u>4</u>	<u>8</u>			<u>73</u>		100	
Resolution Required Prior to Criticality:	Resolution Required Prior to Exc. 5% Power:	Resolution Do. not Impact Criticality or or 5% Power:	No. Statas Not Determined:	Resoltuion Required Prior to Criticality:	Resolution Required Prior to Exc 5% Power:	Resolution Does Not Impact .Criticality or 5% Power:	No. Status Not Determined:
1	0	4	3	16	9	<u>72</u>	3

Attachment 2

Attachment 3

### TABLE OF ALLEGATION STATUS AS OF 2/1/84

#### Total No. of 11 legations: 185

- A. No. of allegations under investigation by OI: 12
- B. No. of allegations under inspection/review: 173
- I. Investigation Items: 12
  - A. No. resolved: 4 (Nos. 1, 2, 18, 53)
  - B. No. Not resolved: 8
  - Resolution required prior to criticality and low power testing: 1

     Bostrom-Bergan: 1 (No. 99)
  - 2. Resolution required prior to exceeding 5% power: 0
  - Resolution does not impact criticality of 5% power: 4 (Nos. 19, 23, 70, 81)
  - Resolution status not determined: 3 (Nos. 120, 130, 157)
- II. Inspection/Review Items: 173
  - A. No. Resolved (technical reviews complete, documentation in progress): 73 (Nos. 3, 4, 6, 6a, 7, 9, 10, 11, 14, 15, 16, 17, 22, 27, 28, 29, 30, 33, 35, 37, 38, 39, 40, 41, 42, 43, 44, 45, 49, 50, 52, 54, 59, 61a, 62, 63, 64, 65, 67, 68, 69, 73, 74, 75, 76, 77, 78, 84, 86, 90, 91, 92, 93, 94, 98, 101, 103, 104, 106, 107, 108, 109, 111, 112, 113, 114, 115, 116, 117, 119, 123, 127, 138.
  - B. No. Not Resolved: 100

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- Resolution required prior to criticality and low power testing: 16
  - a. Small bore piping design adequacy: 9 (Nos. 55, 79, 82, 85, 87, 88, 89, 95, 97).
  - b. Anchor bolt adequacy: 6 (Nos. 25, 58, 96, 142, 154, 176)
  - c. Welding symbol implementation: 1 (No. 126)
  - d. Cable spreading room platform adequacy: No specific allegation-detected while review anchor bolt concerns.

- 2. Resolution required prior to exceeding 5% power: 9
  - Tech spec limit relating CCW system to ocean water temperature: 1 (No. 5)
  - b. Modification of diesel exhaust silencer: 1 (No. 8)
  - Verification of as-built drawing accuracy for operators:
     1 (No. 34)
  - Completion of Systems Interaction Study: 3 (Nos. 13, 36, 48)
  - Assessment of controls applied coatings (painting): 1 (No. 100)
  - f. Licensee acceptance review of construction records: 2 (Nos. 166, 167)
- 3. Resolution does not impact criticality and low power testing, or 5% power: 72 (Nos. 12, 20, 21, 24, 26, 31, 32, 46, 47, 51, 56, 57, 60, 61, 66, 71, 72, 80, 83, 102, 105, 110, 118, 124, 125, 128, 129, 131, 132, 133, 134, 135, 136, 137, 139, 140, 141, 143, 144, 145, 146, 147, 148, 149, 151, 152, 153, 135, 156, 158, 159, 160, 161, 162, 163, 164, 165, 168, 169, 170, 171, 172, 173, 174, 175, 177, 178, 179, 180, 181, 182, 183).

4. Resolution status not determined: 3 (Nos. 121, 122, 150)

Attachment 4

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#### SUMMARY STATUS OF ALLEGATIONS OR CONCERNS WHICH REQUIRE RESOLUTION PRIOR TO REACTOR CRITICALITY

- I. Status Summary of Items Requiring Resolution Prior to Criticality and Low Power Testing
  - A. Small Bore Piping Design Adequacy (Allegation/Concerns Nos. 55, 79, 82, 85, 87, 88, 89, 95, and 97)

Staff inspection of this area has included interviews with current and former designers, examination of training records, examination of controlling procedures, technical review of design work packages, and field inspections as appropriate. Two meetings (transcribed) have been held with the alleger to assure proper understanding of the issues. On Janauary 31, 1984, a meeting (transcribed) was held with the licensee to identify staff concerns in this area. The licensee has committed to respond to these concerns in writing (no specific response date was identified). As of February 1, 1984, the staff was awaiting the licensee's reply. In the meantime additional staff reviews are being performed at the licensees facilities.

B. Anchor Bolt Adequacy (Allegation/Concerns Nos. 25, 58, 96, 142, 154, 176)

Staff examination of this area has included examination of controlling procedures, technical review of licensee design data, and field inspection and testing of anchor bolts. The licensee provided a written submittal on this subject on Janaury 30, 1984. Staff comments or the submittal were provided to the licensee on January 31, 1984. As of February 1, 1984, the licensee committed to reexamined this area and submit an additional written response (no specific response date was provided). Staff action on this topic will continue following receipt of the licensees submittal.

C. Weld Symbol Implementation (Allegation/Concern No. 126)

Staff examination of this area has included examination of design and construction or awings, and field inspections, as appropriate. On January 30, 1984, the licensee committed to provide a written submittal on this issue. It was estimated by the licensee that this submittal would be provided by February 3, 1984. Staff action on this topic will continue following receipt of the licensee's submittal.

D. Cable Spreading Room Platform Adequacy (There is no specific allegation related to this topic. A staff concern was identified in this area, which examining documentation related to anchor bolts). Staff Examination of this area has included examination of Licensee's problem reports, related drawings, and examination of the platform. On January 30, 1984, the Licensee committed to provide a written submittal on this issue. It was estimated ty the Licensee that the submittal would be provided by February 3, 1984. Staff action on thjis topic will continue following receipt of the Licensee's submittal.

E. Falsification of Welding Quality Control Documents (Allegation/Concern No. 99).

Staff examination of this topic has included interviews of personnel, examination of quality records, and inspection of installed hardware. In addition, the Licensee has developed an action plan related to this topic, based upon their notification of this issue through the media. The staff has reviewed the Licensee's actions in this area and will monitor the completion of these actions. The Licensee has not identified a specific completion date for their action plan.

The status report provided in SSER 21 identified two other areas which were topics requiring resolution prior to criticalicy. These were:

- (1) Design Change Notice/Drawing Control, and
- (2) Inspectors Certifications

Subsequent examinations of these areas by the staff has allowed the staff to conclude that neither of these proics appear to involve major programmatic breakdowns or significant safety concerns. Therefore, while inspection is continuing on both of these topics it is no longer the staff's opinion that full resolution is required prior co reactor criticality.

12/82 TRANSMITTAL TO: Document Control Desk, 016 Phillips VANCED COPY TO: The Public Document Room 2/13/84 DATE: cc: OPS File FROM: SECY OPS BRANCH C&R (Natalie) Attached are copies of a Commission meeting transcript(s) and related meeting document(s). They are being forwarded for entry on the Daily Accession List and placement in the Public Document Room. No other distribution is requested or required. Existing DCS identification numbers are listed on the individual documents merever known. Meeting Title: <u>Comments by Parties on Diable Congen</u> <u>Citizety and Low Power Operation</u> (1 of each checked) Item Description: copies Advanced Original Duplicate May TO PDR Document be DID\* CODVE TRANSCRIPT 1 1 When checked, DCS should send a copy of this transcript to the LPDR for: W/ Scheduling holes 2. SECY-84-3 3. SECY-84-61 4. 1/13 Scheduling Letter sime by S. Chille PDR is advanced one copy of each document, \*Verify if in DOS, and two of each SECY paper.) Change to "PDR Available."