

ORIGINAL

In the Matter of:

BRIEFING OF COMMISSIONER GILINSKY AND THE
PUBLIC ON DIABLO CANYON

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

PUBLIC MEETING:

BRIEFING OF COMMISSIONER GILINSKY AND THE PUBLIC ON
DIABLO CANYON

Room 1167
1717 H Street, N.W.
Washington, D.C.
Friday, 28 August 1981

The meeting was called to order at 10:12 a.m.,

Commissioner Gilinsky, presiding.

PRESENT:

COMMISSIONER GILINSKY

ALSO PRESENT:

Samuel J. Chilk, Leonard Bickwit, Rick Parrish, Ed
Abbott, Steve Hanauer, Robert Tedesco, Frank Miralgia,
Tolbert Young, Bart Buckley, Jim Knight, Bill Olmstead, and
Glenn Kelly.

* * *

1 PROCEEDINGS

2 (10:12 a.m.)

3 COMMISSIONER GILINSKY: This was going to be a
4 little meeting in my office, and it seems to have expanded.

5 (Laughter.)

6 COMMISSIONER GILINSKY: I wanted to go over some
7 of the items discussed in the Commission's meeting on the
8 uncontested issues, or at least issues which are not in the
9 proceeding at the present time. Particularly what we want
10 to talk about is the operators' staffing and experience. We
11 will discuss that again, and we want to get Ed Abbott
12 involved in the discussion. He was not here yesterday. He
13 has experience in the area, and I want to pursue it with him
14 present.

15 We are keeping a transcript in order that all of
16 the parties can be informed of what was said here. I guess,
17 Len, you said it would be sent to the various parties and
18 they will be asked to comment, if they wish to do so?

19 MR. BICKWIT: That is right, by the same deadline
20 set yesterday, for yesterday's comments.

21 COMMISSIONER GILINSKY: Well, as far as I am
22 concerned, we will be pleased to have any comments. If they
23 come in in time to be taken account of, they will be.

24 I believe you also notified the people that this
25 meeting would take place?

1 MR. BICKWIT: That is right.

2 COMMISSIONER GILINSKY: The various parties?

3 MR. BICKWIT: That is right.

4 COMMISSIONER GILINSKY: Okay. Steve, I wonder if
5 you could just give a capsule version of the staffing
6 situation just so Ed Abbott, who at this point knows nothing
7 about it--

8 MR. HANAUER: Let me use the viewgraphs I used
9 yesterday.

10 MR. ABBOTT: I have a copy.

11 MR. HANAUER: Okay. Staffing involves a lot of
12 people and, in general, is satisfactory. The area of
13 difficulty is in Senior Reactor Operators which is a
14 post-Three Mile Island requirement.

15 They plan to go on four shifts --

16 COMMISSIONER GILINSKY: Let me just stop you,
17 Steve. That is an industry-wide requirement?

18 MR. HANAUER: Yes, sir. It is presently required
19 of all new plants. It is required of plants which were
20 operating in '79 to be implemented by June of 1982; but for
21 new plants we require it to be implemented by Licensing.

22 MR. ABBOTT: And that is reflected in Table 6.21
23 of the Tech Specs?

24 MR. HANAUER: Yes, sir. Now that says that since
25 they are working four shifts for the initial operation, that

1 they need eight Senior Reactor Operator licenses. There are
2 13 people with valid licenses as members of the plant's
3 staff, so on first blush they have plenty of such people.

4 However, if you look at the assignments, the job
5 titles of assignments of the 13, you discover that only 7 of
6 them are really available for shift duty; and that the other
7 6 are members of the management engineering and training
8 staff. These numbers are different than the ones we used
9 two weeks ago, and I explained at some length yesterday what
10 those differences are. I can go over them again if you want.

11 The result is that they have today 13 fully
12 licensed, fully qualified people, only 7 of whom are
13 available for long-term shift duty because the other six are
14 fulfilling essential management training and engineering
15 functions that we are unwilling to see vacated for any
16 significant period of time.

17 During the initial startup period between
18 licensing and attainment of full power which is about half a
19 year, we do not want these members of the management
20 engineering and training staff diverted to shift operations;
21 we want the plant manager to manage the plant, and we want
22 the operations superintendent to supervise operations and so
23 forth.

24 They are therefore short of the number of people
25 required to go into the operating modes and still maintain

1 the qualified people in the management slots.

2 Now there are two reasons why this is a potential
3 problem rather than an actual present problem. One is that
4 for the cold shutdown mode and for the fuel loading mode,
5 only one senior is required because the risk is so low and
6 the operations being conducted are so different. That means
7 they need four rather than eight during that time. Plus,
8 while they are actually moving fuel they need another senior
9 operator actually supervising the movement. So that the
10 seven people they have are ample for fuel loading and for
11 the nearly two-plus month period during which they will be
12 in cold shutdown during and after fuel loading.

13 So the problem only arises after about 60 days
14 after licensing, and the pipeline has additional people in
15 it. We are out at the plant next week giving
16 re-examinations to six senior operator candidates who failed
17 the previous examination; and if any reasonable number of
18 these people pass, the problem will be greatly alleviated.
19 If they do not, then they will not have enough people and we
20 will not let them go into the operating modes.

21 COMMISSIONER GILINSKY: How long will they run on
22 four shifts?

23 MR. HANAUER: I do not know exactly when they plan
24 to go to five or six. Typically it is some months.

25 Bart, do you know when they plan to do that?

1 MR. BUCKLEY: I do not know offhand, but it will
2 depend upon when they get a full-power license, also. We
3 believe four shifts -- and correct me if I am wrong -- is
4 adequate for low-power operation. And then of course it
5 would be some time before five or six were required for
6 full-power operations. That is some way down the road right
7 now.

8 MR. HANAUER: Four shifts mans the station
9 adequately. Five and six provide for vacations and
10 training. So we require that they start their requal
11 program three months after licensing. So they will have to
12 go on five or six shifts a few months after licensing. I do
13 not know their plan.

14 MR. ABBOTT: You are allowing them to perform fuel
15 load in a four-shift rotation?

16 MR. HANAUER: Pardon me?

17 MR. ABBOTT: You are allowing them to load the
18 fuel in a four-shift rotation?

19 MR. HANAUER: Yes. And if they run out of
20 qualified people in accordance with our overtime rules, they
21 cannot shuffle fuel for a shift or two.

22 MR. ABBOTT: When will they do their training
23 during this time?

24 MR. HANAUER: They won't. Training is suspended
25 during this intense period of activity getting the plant

1 started up, except for the people who are not yet
2 qualified.

3 MR. ABBOTT: Are they required to have a Senior
4 Reactor Operator supervising the refueling operations?

5 MR. HANAUER: Yes.

6 MR. ABBOTT: And a Senior Reactor Operator in the
7 control room?

8 MR. HANAUER: Yes.

9 MR. ABBOTT: So that is two Senior Reactor
10 Operators?

11 MR. HANAUER: That is two while they are actually
12 moving fuel -- one out at the fuel moving, and one in the
13 control room or on the station; I cannot tell you.

14 MR. YOUNG: In the control room.

15 MR. HANAUER: In the control room.

16 COMMISSIONER GILINSKY: Let's see. They can do
17 that with their complement of four, do you think?

18 MR. HANAUER: Yes. They cannot go on indefinitely
19 that way if they have only seven, but you are not shuffling
20 fuel every minute during your fuel load, either.

21 COMMISSIONER GILINSKY: Could you just run over
22 those seven? Because a couple of them seemed that they were
23 in a grey area. They had come from the supervisor's office,
24 and you thought that was okay?

25

1 MR. HANAUER: I am now giving you some information
2 we have from the Applicant which is contained in a letter
3 dated August 25th, and in a discussion we had with them
4 Wednesday.

5 What they told us was that these seven people
6 consist of, first, the four that we told you about some
7 weeks ago who have the title "Shift Foreman," "Shift
8 Senior"-- they have various titles in the company.

9 Then there is the fifth one who had an Assistant
10 Training Coordinator title a few months ago, but they hired
11 several additional training people and have simply
12 transferred him to the Operations.

13 MR. ABBOTT: He is now permanently in the
14 Operations Department?

15 MR. HANAUER: He is now permanently in the
16 Operations Department.

17 MR. ABBOTT: And his training obligations are
18 ended?

19 MR. HANAUER: That is what they said.

20 COMMISSIONER GILINSKY: Are ended?

21 MR. HANAUER: Are ended. There is no written
22 guarantee he will not be transferred back some day, but he
23 is now a full-time Operations Staff member.

24 The sixth and seventh people are the ones we had
25 our long discussion with them about on Wednesday. Their

1 titles are "Senior Operating Engineer" and "Operating
2 Engineer." We had questioned whether they were truly
3 available for shift work, or whether they ought to be doing
4 operating engineering work.

5 The answer is that the titles "Operating Engineer"
6 and "Senior Operating Engineer" are titles that they use for
7 Operations people who have degrees and who are therefore
8 engineers; and that they are not on the Plant Engineering
9 Staff; they are legitimately on the Plant Operating Staff;
10 and that they are fully available for shift work; and that
11 they are not intended to be staff office supervisor types.

12 We had a long discussion with them on that, which
13 I did not attend, so I am parroting. However, Mr. Buckley,
14 Mr. Tedesco -- you were not at that one, were you, Mr.
15 Young?

16 MR. YOUNG: No.

17 MR. HANAUER: Mr. Buckley --

18 MR. MIRALGIA: What they explained to us on
19 Wednesday, Steve --

20 MR. HANAUER: Yes. Mr. Miralgia was there, also.

21 MR. MIRALGIA: -- is that these are degreed
22 engineers. They have engineering degrees, and they also
23 have qualified Senior Reactor Operator licenses. Their
24 normal function would be to supplement and augment the shift
25 staffing. In any event, they would be in the control room

1 and would be on shift duty as part of their normal function.

2 So the fact that they would be on shift filling
3 this complement, they conceded that this was deviating from
4 the substantive function that these individuals were to be
5 performing in any event.

6 COMMISSIONER GILINSKY: What would they normally
7 be doing?

8 MR. MIRALGIA: To supplement and to monitor the
9 operations of the facility. They would be--

10 MR. HANAUER: To be extra SROs.

11 MR. MIRALGIA: That is right.

12 COMMISSIONER GILINSKY: I find that a little odd
13 to have degreed people who are backing up operators. I
14 would have thought it would be the other way around. They
15 have no other duties?

16 MR. HANAUER: Let me read what they said in their
17 August 25th letter. I am on page four: "During major test
18 programs their normal function would be to supplement the
19 shift operating crews. Accordingly, their on-shift duty
20 during this period does not deviate from normal practice."

21 Now to complete the picture --

22 COMMISSIONER GILINSKY: But what does that --

23 MR. HANAUER: -- they also proposed the Operations
24 Supervisor to be their eighth SRO on shift duty. We have
25 not accepted this, and proposed a license condition to

1 forbid it during the initial test operation.

2 COMMISSIONER GILINSKY: Are these other people
3 basically assistants to the Operations Supervisor?

4 MR. HANAUER: They claim not. They claim that at
5 least a major portion of their assigned duties is to stand
6 shift as seniors.

7 MR. ABBOTT: It seems rather odd --

8 MR. HANAUER: It is.

9 MR. ABBOTT: -- that that would be their assigned
10 duties, when in fact in the organizational chart they are
11 separated out, if that is the person you are talking about.
12 There is a block on the organizational chart which says,
13 "Operations Engineer." I assume that block has a specific
14 job description that goes along with it which is part of the
15 administrative procedures. I do not quite understand.

16 MR. HANAUER: Neither do we, quite. That is why
17 we had such an extensive discussion with them. We went into
18 this discussion with the tentative position that these
19 people should not be counted as part of the shift
20 complement, and they convinced us that we were wrong and
21 that they should be.

22 MR. ABBOTT: Then why are they on the
23 organizational chart the way they are? Something does not
24 make any sense.

25 MR. MIRALGIA: The rationale that was discussed

1 with PG&E at the meeting on Wednesday went along the lines
2 that PG&E has undergone a substantial recruiting program.
3 What they have done is they have tried to bolster "an
4 engineering group" in every function.

5 Now this is not to supplant the overall
6 engineering staff effort; it is to give each unit some pool
7 of engineering talent. So that this Operations Engineering
8 Group is a rather new structure, and is being bolstered to
9 add engineering talent to Operations. They have a similar
10 engineering staff within the Maintenance organization, and
11 it is an effort with the utility to bolster engineering
12 talent at the various divisions in Operations of the plant
13 staff.

14 MR. ABBOTT: Well, under normal conditions, then,
15 if they had a full complement of operators, those people
16 would probably be reviewing things like operating
17 procedures, surveillance tests, results of surveillance
18 tests, and things like that?

19 MR. MIRALGIA: That is correct.

20 MR. ABBOTT: If they are on shift, they will be
21 unable to do that.

22 MR. MIRALGIA: They would be unable to do that;
23 but there will also be a -- if the people who do not pass
24 the candidacy test, then, who do not go to Operations, they
25 can use those people to fulfill those functions.

1 MR. ABBOTT: But those people supposedly would be
2 in a retraining program to retake the exam. I mean, again
3 you are requiring a person to do two jobs at the same time.

4 MR. HANAUER: They are somewhat shorthanded.
5 There is no getting around that.

6 MR. ABBOTT: I agree.

7 COMMISSIONER GILINSKY: It looks as if the
8 Operations Engineer is a direct supervisor of the Shift
9 Technical Advisor.

10 MR. HANAUER: That is correct.

11 MR. YOUNG: They are in the same pool with the
12 Shift Technical Advisors reporting to the Operations
13 Supervisor. The engineering staff required to do
14 surveillance testing work for the Power Plant Engineer.
15 They do not work for the Operations Supervisor.

16 MR. ABBOTT: Do you mean the surveillance tests
17 are done by another group other than operators?

18 MR. YOUNG: The surveillance tests of the core,
19 the people who keep a record of that, they all work for the
20 Power Plant Engineer who is a Technical Supervisor.

21 MR. ABBOTT: Fine. I understand. But there are
22 routine surveillance tests on pumps and valves which is
23 normally done by operators, and in turn the results from
24 those tests are reviewed by the Shift Supervisor and the
25 Operations Superintendent. I would anticipate the

1 Operations Engineer would be supporting a review function
2 and rewrite of procedures. That is the way it looks to me.

3 MR. BUCKLEY: But they do point out in here that
4 the existing Shift Supervisors who are not licensed are
5 there to -- let me just read it: "In this scenario, the
6 existing Shift Supervisors who are not licensed at the time
7 will be available to assume the duties of the Operations
8 Engineers."

9 MR. ABBOTT: Then they will not be in retraining
10 for taking the licensing exam.

11 MR. BUCKLEY: That is a possibility -- That is
12 correct.

13 MR. ABBOTT: Unless they are requiring them to do
14 two things at the same time.

15 MR. BUCKLEY: No, I do not believe that --

16 MR. ABBOTT: That is, retraining and fulfilling
17 the Operating Engineers' function.

18 MR. BUCKLEY: I do not believe they are.

19 MR. YOUNG: They are going to be retested next
20 week.

21 MR. BUCKLEY: The six SROs.

22 MR. ABBOTT: And if they flunk, they will -- I
23 guess I am still not clear.

24 COMMISSIONER GILINSKY: Well, if the whole bunch
25 of them passed the test and they are way over the required

1 numbers, then this problem will go away. But we are talking
2 about --

3 MR. MIRALGIA: That is right. We are talking the
4 worst-case scenario --

5 COMMISSIONER GILINSKY: And we are talking about
6 the situation as it is today.

7 MR. MIRALGIA: -- where there is zero -- Yes, as
8 it exists today and if the results of the tests next week
9 produce no licensed Senior Operators.

10 MR. HANAUER: Or not enough.

11 MR. MIRALGIA: Or not enough.

12 MR. HANAUER: That is right --

13 MR. MIRALGIA: There are other candidates --

14 MR. HANAUER: -- if they use the people who did
15 not get licenses for this function, then during that time
16 their retraining will be suspended or diminished.

17 MR. ABBOTT: Eliminated.

18 MR. MIRALGIA: No. I think their intent is that
19 if they had to, they would use overtime for training
20 purposes.

21 MR. BUCKLEY: But this is only for a short period
22 of time, too. They are not talking about a very, very long
23 period of time.

24 MR. ABBOTT: Six months?

25 MR. BUCKLEY: Well, the program itself --

1 MR. MIRALGIA: There are another group of
2 candidates that will be ready for testing in December, apart
3 from the individuals we are talking about here.

4 COMMISSIONER GILINSKY: Well, you have to deal
5 with what is in front of us. If they get a whole bunch more
6 operators, or senior operators, then the situation will be
7 different.

8 MR. HANAUER: This plant, like many plants, is
9 having difficulty keeping enough people in their licensed
10 operating staff. We are roughly doubling the number of
11 plants licensed to operate in recent past and the next few
12 years. We have substantially increased the number of
13 licensed people required. We have increased the difficulty
14 of the licensing hurdle. We have increased the
15 qualification and experience requirements of the people.
16 All of these things have created somewhat synergistically a
17 shortage nationwide of qualified people to be licensed
18 operating crews in all the plants.

19 Some plants are pirating qualified people one from
20 another. There is a general shortage of such people; and in
21 plants such as Diablo and more recently, for example, Salem,
22 this creates problems of significance. Whether we finally
23 get to some plant where getting the right number and
24 adequate crew is the critical path, I think it is probably a
25 matter of time. I think we will find such a plant one of

1 these days.

2 COMMISSIONER GILINSKY: How are these kept up?

3 MR. HANAUER: They do not seem to have a lot of
4 trouble recruiting into programs. Salaries have increased.
5 Most companies, including Pacific Gas & Electric, now pay a
6 substantial bonus for people for getting licenses.

7 MR. BUCKLEY: For example, a SRO gets a
8 \$400-a-month bonus per month and a 10 percent raise every
9 year.

10 MR. ABBOTT: Is this a union plant? Are the
11 operations under --

12 MR. YOUNG: Yes, IBEW.

13 MR. ABBOTT: Where is the breakoff between
14 management and union?

15 MR. YOUNG: The Senior Control Room Operators'
16 level.

17 MR. ABBOTT: The Senior Control Room Operator--

18 MR. YOUNG: Is a member of the union.

19 MR. ABBOTT: -- is a member of the union. He
20 holds an SRO?

21 MR. YOUNG: Yes.

22 COMMISSIONER GILINSKY: What is the significance
23 of that?

24 MR. ABBOTT: I was just curious.

25 (Laughter.)

1 MR. ABBOTT: One other thing is that sometimes
2 when plants get tight on operators -- and this is a tight
3 plant -- the union expresses some concern over it. That is
4 another question that could be asked: Has the union
5 expressed any concern over this four-shift rotation?

6 The four-shift rotation makes it difficult for
7 people to go on vacation. If people are sick, then you have
8 to work overtime. There is no slack whatsoever. You have
9 three shifts to cover and a day off. That is four shifts.

10 MR. MIRALGIA: I think believe it is their intent
11 to be on five shifts by that time, by the time of full
12 power.

13 MR. ABBOTT: That is in six months, though.

14 MR. YOUNG: I know they plan to go to five
15 shifts. The exact time they are going to five shifts I am
16 not sure, but I would expect it would be around December.

17 MR. ABBOTT: That was more of a comment than
18 anything else. Four shifts are rough.

19 MR. YOUNG: The union is in agreement with PG&E on
20 this arrangement.

21 MR. ABBOTT: Fine.

22 MR. HANAUER: We have had one plant on three
23 shifts, which is rougher, and they have now just gone to
24 four, and we are now surveying those people to see how tired
25 they got, and also looking at the plant data to see if we

1 can see any significance to that period.

2 COMMISSIONER GILINSKY: Was this Salem?

3 MR. HANAUER: Yes.

4 MR. BUCKLEY: But from the time they pull a few
5 control rods, I would say, and complete their low-power test
6 program, you are talking about a period of about six weeks,
7 I would imagine.

8 MR. ABBOTT: That is a very intense time, though.
9 The refueling is an intense time.

10 MR. BUCKLEY: But they will have --

11 MR. ABBOTT: Full-power testing is an intense
12 time. You are going through evolutions that have never been
13 performed in the plant before, and to have people stretched
14 thin I do not think is a good idea.

15 MR. BUCKLEY: But seven or eight of their startup
16 engineers have participated in the low-power test program at
17 other plants.

18 MR. ABBOTT: Well, there is a difference between a
19 startup engineering and an operator. A startup engineer is
20 a kind of a cabitser. He sits back and looks over the
21 operators' shoulders. The ultimate responsibility for what
22 is done there is the operator's; it is not the shift
23 technical engineer.

24 MR. BUCKLEY: That is correct.

25 MR. ABBOTT: So he cannot really take credit for

1 the shift test engineer, other than to say he may correct a
2 mistake or assist in the interpretation of some particular
3 evolutions. As far as doing the work, that is done by the
4 operator; that is his responsibility. The valves are opened
5 and shut by the operator. The pumps are turned on and off
6 by the operator. The recording of test results is done by
7 the operator in some cases.

8 MR. YOUNG: The recording of test results will not
9 be done by the operator at Diablo Canyon. That will be done
10 by the startup engineer who works for General Construction.

11 MR. ABBOTT: Fine. But the actual performance of
12 the test will be done by the operator?

13 MR. YOUNG: The operation of the plant will be
14 done by the operator; yes.

15 MR. ABBOTT: Okay.

16 COMMISSIONER GILINSKY: The other point you raised
17 yesterday was the matter of experience. You might say
18 something about that, the condition that you propose to
19 apply.

20 MR. HANAUER: The experience of the senior
21 operators is shown on this table that we discussed
22 yesterday. A number of them have power reactor operating
23 experience, but none of them has operating experience with a
24 large pressurized water reactor. We therefore plan to --

25 COMMISSIONER GILINSKY: As I remember, none of the

1 ROs would, either?

2 MR. HANAUER: We think that is right, although we
3 have not indexed it in quite as straightforward a way.

4 COMMISSIONER GILINSKY: I see. I thought you had
5 told us that.

6 MR. HANAUER: I think that is correct. We
7 therefore propose a license condition that is part of
8 yesterday's handout that until the plant gets to 100 percent
9 power level, or for the first year if they have trouble,
10 they have to augment each shift with a person experienced in
11 large pressurized water reactors -- "experience" being
12 either a year of experience in PWR operation, or have
13 participated in the startup of at least three large
14 pressurized water reactors.

15 COMMISSIONER GILINSKY: And what is he or she
16 going to do?

17 MR. HANAUER: He or she will be an extra person in
18 the control room, kind of an advisor, which is not the best
19 arrangement but it is what you have to do in situations like
20 this.

21 COMMISSIONER GILINSKY: Sort of like a shift
22 technical advisor?

23 MR. HANAUER: It will be -- and this is one of the
24 downsides of this arrangement -- it will be another kind of
25 shift technical advisor; that is right. I would expect that

1 they would assign these people some operating duties that
2 would not interfere with their monitoring of operations, but
3 would not be license duties since they are not licensed.

4 On the turnkey plants, we used to actually license
5 startup crews from the vendors, because they had the
6 operating responsibility; but that is not the case here.

7 COMMISSIONER GILINSKY: So would they be sort of
8 consultants available if the operators wanted to get advice?

9 MR. HANAUER: I would --

10 COMMISSIONER GILINSKY: Or I suppose they could
11 speak up if they saw something?

12 MR. HANAUER: I would think they would have the
13 mandate to speak up, whether they were consulted or not.

14 MR. ABBOTT: But they cannot supplement the actual
15 work that is being done?

16 MR. HANAUER: Not the actual licensed manipulation
17 of the controls; that they cannot do.

18 MR. MIRALGIA: This is to augment in terms of
19 experience, and this would be in addition to the normal
20 complement of startup engineers that PG&E has. They have
21 their own startup engineering group, and they have indicated
22 to us that their startup engineers from their group have
23 participated in and gone to say Salem, and North Anna, and
24 some of the recently licensed facilities to observe the
25 startups of those facilities, the fuel loading of those

1 facilities, and also the low-power test programs at their
2 facilities. These are their own engineers.

3 COMMISSIONER GILINSKY: Did you discuss this
4 condition with PG&E?

5 MR. MIRALGIA: Yes.

6 MR. HANAUER: Yes.

7 COMMISSIONER GILINSKY: And what was their
8 reaction?

9 MR. MIRALGIA: They said they had no problem with
10 it. They have contracted with Westinghouse to provide this
11 experience, up to and including up to 100 percent power.
12 They had already entered into this contract.

13 MR. HANAUER: We told them some time ago we would
14 require this.

15 MR. MIRALGIA: We would require that, and
16 Supplement No. 12 of the SER indicated that we had discussed
17 it with them; they committed to it, and we said we would
18 require it as a license condition reflecting that commitment
19 and that was a requirement that was in that SER supplement.

20 MR. YOUNG: And they have already signed a
21 contract for it.

22 MR. BUCKLEY: In addition, they have a similar
23 contract with Bechtel Corporation. They also have a
24 Westinghouse contractor, Rad Chemistry and Instrumentation
25 support, also.

1 MR. ABBOTT: I take it in the second sentence of
2 the license condition, "These individuals shall have at
3 least one year of experience in PWR operation," do you mean
4 commercial PWR operation?

5 MR. HANAUER: Yes, sir.

6 COMMISSIONER GILINSKY: But not necessarily
7 license.

8 MR. HANAUER: "Commercial" is the wrong word. We
9 mean large PWRs. "Commercial" is a contract term they use.
10 The difference between operation before the plant is
11 declared in "commercial operation" and afterwards is not --

12 MR. ABBOTT: Would Navy experience count in that
13 sense?

14 MR. HANAUER: No, sir. A lot of these people have
15 Navy experience.

16 MR. ABBOTT: But not only Navy experience?

17 MR. HANAUER: Some of them have only Navy
18 experience.

19 MR. YOUNG: Are we talking about Westinghouse?

20 MR. ABBOTT: I am talking about the second
21 sentence in the license condition.

22 MR. MIRALGIA: He is talking about the augment.

23 MR. HANAUER: We mean "large pressurized water
24 reactors," not "Naval reactors."

25 MR. ABBOTT: Maybe it should say that.

1 MR. HANAUER: I think it does. It says --

2 MR. ABBOTT: It says, "These individuals shall
3 have at least one year of PWR operation."

4 MR. HANAUER: Operation of large PWRs.

5 COMMISSIONER GILINSKY: And what passes for
6 "experience," since you do not require them to have been
7 previously licensed?

8 MR. HANAUER: We do not insist that it be licensed
9 because these Westinghouse people are not currently
10 licensed, and some of them have participated in operation in
11 various ways which gives them, we think, the necessary
12 understanding and experience of the operation of these
13 plants.

14 COMMISSIONER GILINSKY: But you do not require
15 them to have been previously licensed?

16 MR. HANAUER: No, sir, we do not. Some of them
17 are, some of them are not. Some of them are startup
18 engineers who have been through this process several times
19 and participated intimately, but not as a licensed person.

20 MR. ABBOTT: What about the nonlicensed
21 operators? How many nonlicensed operators in the plant?

22 MR. BUCKLEY: Auxiliary operators?

23 MR. ABBOTT: Right.

24 MR. BUCKLEY: I think they have -- I am guessing,
25 but about 40. It is way up -- 35 or 40.

1 MR. ABBOTT: How many is that per shift?

2 MR. BUCKLEY: I am not --

3 MR. ABBOTT: You do not happen to have a shift
4 schedule, do you?

5 MR. YOUNG: Initially they will have two per
6 shift, and then they will have three per shift.

7 MR. ABBOTT: So when they start out they will have
8 two auxiliary operators and three licensed operators?

9 MR. YOUNG: Two auxiliary operators per shift, and
10 then in about two months they will add a third one when the
11 activity picks up.

12 MR. ABBOTT: Why the delay?

13 MR. YOUNG: They will not be heating up for about
14 60 days after they get a license.

15 MR. BUCKLEY: The number "37" sticks in my mind.
16 They have a large number of auxiliary operators, and if I am
17 wrong, I will get back to you.

18 MR. MIRALGIA: The Tech Specs for the facility
19 requires two AOs.

20 MR. ABBOTT: That is the minimum requirement?

21 MR. MIRALGIA: Right. For modes one, two, and
22 three.

23 MR. ABBOTT: What is the experience there? Do you
24 know?

25 MR. MIRALGIA: We can explore that with you. I

1 would guess that many of them come out of the commercial
2 operations of PG&E. They have a lot of fossil fuel
3 stations. They also had Humboldt Bay experience.

4 MR. HANAUER: The short answer is: We do not
5 know.

6 MR. MIRALGIA: We really do not know.

7 MR. YOUNG: Well, I do know.

8 (Laughter.)

9 MR. HANAUER: Let's give him a chance to say.

10 MR. YOUNG: The auxiliary operators have a
11 journeyman training program that they must go through within
12 PG&E which is two years long. So all of the auxiliary
13 operators will have at least two years of experience.

14 MR. ABBOTT: That is for the entry-level position
15 in the Operations staff?

16 MR. YOUNG: That is entry-level position.

17 MR. ABBOTT: So he has two years' of experience in
18 the PG&E system prior to becoming the lowest level auxiliary
19 operator?

20 MR. YOUNG: That is right.

21 MR. ABBOTT: Is there a nonlicensed operator
22 program? What is the next level up?

23 MR. YOUNG: The next level, according to the Tech
24 Specs, would be control room operator, which is a licensed
25 position.

1 MR. ABBOTT: If there are two auxiliary operators,
2 are they at the same journeyman level?

3 MR. YOUNG: Well, yes, because one would work the
4 secondary section of the plant, and the other one would work
5 the auxiliary building in the plant.

6 COMMISSIONER GILINSKY: I think we have exhausted
7 that subject.

8 MR. ABBOTT: Yes.

9 COMMISSIONER GILINSKY: Is there anything else?

10 MR. HANAUER: I can talk a little about the
11 control room. There is nothing remarkable about it. I can
12 talk a little about the procedures. There is nothing
13 remarkable about them. They are in both cases similar to
14 those of other Westinghouse plants recently licensed -- not
15 remarkable good, and not remarkably bad.

16 COMMISSIONER GILINSKY: We spent a day going
17 through them.

18 MR. HANAUER: Actually, the control room is pretty
19 good on the scale. It is conventional, but it actually came
20 off rather well in our view.

21 MR. ABBOTT: The work that is going on in Unit 2,
22 in the control room -- I guess the two panels for Unit 2--
23 how are they going to prevent work going on in Unit 2 from
24 interfering with the low-power testing and startup of Unit
25 1?

1 MR. YOUNG: Most of the hardware is in plant in
2 the Unit 2 control panel. The bulk of what is going to be
3 happening there is the pulling of wires into the control
4 room from the room downstairs, the cable-spreading room, and
5 the testing of the panel and with the system being tested.

6 MR. ABBOTT: That means there may be a lot of
7 alarms going off?

8 MR. YOUNG: There will be some alarms going off,
9 but the alarms -- wherever you are in the control room in
10 the operating area of the control room, you can decide very
11 distinctively which panel the alarm is coming from. So this
12 would not interfere with the operation of Unit 1. I spent
13 many hours in the control room in hot functional testing in
14 Unit 1 three times --

15 MR. ABBOTT: Would you say an alarm from Unit 2
16 would be a distraction to an operator in Unit 1?

17 MR. YOUNG: No.

18 MR. ABBOTT: Not at all?

19 MR. YOUNG: Well, he would of course hear it, but
20 it would not sound as if it was coming from Unit 1.

21 COMMISSIONER GILINSKY: Does it sound different?

22 MR. YOUNG: The sound is not different, but it is
23 coming from a different location. And between the control
24 panels there are probably 50 or 60 feet.

25 MR. ABBOTT: Let me ask the question a different

1 way. Will there be any administrative controls placed on
2 the operation of the Unit 2 control room during this
3 low-power testing to prevent interference from Unit 2 into
4 the Unit 1?

5 MR. YOUNG: The numbers of people in the control
6 room will be controlled. The work that is going on in Unit
7 2 control room will be controlled, because Unit 2 will be in
8 the security area. The Unit 2 control room will be in the
9 Unit 1 security area. There is a security barrier between
10 Units 1 and 2 to prevent construction workers on Unit 2 just
11 waltzing over into the Unit 1 side. So that work will be
12 controlled administratively, yes.

13 MR. ABBOTT: Okay. There are some common systems
14 in the plant, right, between Unit 1 and Unit 2? I think the
15 waste building is common?

16 MR. HANAUER: Yes.

17 MR. ABBOTT: During this test program, extending
18 that question out from the control room into the rest of the
19 plant, what sort of administrative controls will be placed
20 on evolutions in Unit 1 that may in fact cause something to
21 happen -- I mean, the other way around.

22 MR. YOUNG: All of the common systems in the plant
23 will be in the Unit 1 security area administratively
24 controlled by the shift supervisor on the shift in Unit 1.
25 There will be nothing that anybody can do over on the Unit 2

1 side that is not under security that will affect the Unit
2 1's operations.

3 COMMISSIONER GILINSKY: I think we have some
4 lawyers worked up over the fact that we are talking about
5 physical security; right?

6 MR. PARRISH: Absolutely, and in waste disposal at
7 the plant.

8 MR. OLMSTEAD: I just want you to be aware that
9 the security of the plant is protected information.

10 COMMISSIONER GILINSKY: You are raising the point
11 that security information --

12 MR. OLMSTEAD: When you got started talking about
13 talking about the security plan, I just wanted you to be
14 aware that you should stay away from the details of the
15 plan, as opposed to -- I was not having problems with the
16 discussion you were having, but it was starting to move in
17 that direction.

18 COMMISSIONER GILINSKY: You are afraid we are
19 going to reveal details of the plan?

20 MR. PARRISH: As well as the fact that the
21 decision--

22 MR. ABBOTT: Let me rephrase the question, then.
23 Are there common service support equipment such as
24 closed-loop cooling systems, or service-water systems which
25 are common to both facilities that operations on Unit 2 may

1 affect operations on Unit 1? Are those going to be
2 administratively handled to prevent such an occurrence,
3 without addressing the security?

4 MR. YOUNG: Some of those systems are
5 interconnected, yes. All the systems that are
6 interconnected will be controlled by the shift supervisor on
7 duty in Unit 1.

8 MR. ABBOTT: Is there something, equipment tag-out
9 or some sort of equipment procedure, which divides those
10 common systems down so that if you are draining a
11 service-water pump on Unit 2, it is not going to drain the
12 service-water system on Unit 1?

13 MR. YOUNG: That is correct. They have a tagging
14 system, and all those interconnecting valves will be tagged
15 out.

16 MR. ABBOTT: That answers my question.

17 COMMISSIONER GILINSKY: Let's see. I had one sort
18 of general question. When we were there visiting the plant,
19 they demonstrated a number of computer systems and they had
20 some trouble getting some of them working. I wondered
21 whether these were some they were still debugging? And has
22 this process continued? Are these sorts of things getting
23 worked out?

24 MR. YOUNG: Well, first of all, the people who
25 were trying to operate them were not the operators; those

1 were plant management people, and they did not understand
2 how it worked.

3 (Laughter.)

4 COMMISSIONER GILINSKY: That's the reason why.

5 MR. YOUNG: The system is still being debugged
6 right now. The operators are being taught how to operate
7 them; yes.

8 COMMISSIONER GILINSKY: And is this something that
9 we check?

10 MR. YOUNG: Yes. As a matter of fact, most of
11 that was a part of -- I guess we are getting into the
12 emergency plan now.

13 COMMISSIONER GILINSKY: Well, part of it was.
14 Part of it was just getting, for example, temperature data
15 in the core. In another instance, they were demonstrating
16 their retrieval system for documents and the --

17 MR. YOUNG: Tech Support Center?

18 COMMISSIONER GILINSKY: -- Tech Support Center.
19 In all of these areas, they seemed to have difficulty making
20 the computer system work.

21 MR. YOUNG: Well, the week you were there was
22 about the first week that that equipment had been
23 operational, so it still had some bugs in it. They are
24 continually debugging it, and I would expect it is going to
25 work much better.

1 COMMISSIONER GILINSKY: Well, are these things
2 that-- you were along at least for most of that, and the
3 resident inspector was, too. I would hope that they would
4 pursue that and check to see whether you felt they had
5 gotten them working.

6 MR. YOUNG: I do not know. I cannot say right now
7 that they have gotten them working, but I know they will be
8 working by the time they are licensed.

9 MR. KELLY: Those are not required to be working.
10 Those are not safety-grade pieces of equipment, and they are
11 not covered by Tech Specs. If they work or do not work,
12 they are not under any type of license conditions to require
13 that they be operational.

14 MR. ABBOTT: From a practical viewpoint, if you
15 break a seal on a main coolant pump, and you cannot find a
16 print in order to repair it, that is kind of a problem is it
17 not?

18 MR. BUCKLEY: Yes. But you have to take the
19 corrective action before --

20 MR. ABBOTT: Yes, I know. Never mind.

21 MR. BUCKLEY: I was going to say --

22 MR. ABBOTT: Granted if you retrieve a print on a
23 specific piece of equipment which has been known to break on
24 other plants, and being unable to find it indicated a
25 problem; that is all.

1 MR. YOUNG: This is a second record retrieval
2 system that is being set up. They have a hand-drawn
3 retrieval system that you can find a print and go pull it by
4 hand.

5 MR. ABBOTT: We did not see that.

6 MR. YOUNG: You were not in the administration
7 building; you were in the tech support center.

8 MR. ABBOTT: Okay, what information is available
9 to the operator for performing equipment markups, tagouts?

10 MR. YOUNG: He goes to the record management
11 system, the hand-drawn system right now --

12 MR. ABBOTT: That is in the admin building?

13 MR. YOUNG: Yes.

14 MR. ABBOTT: That is not in the control room?

15 MR. YOUNG: No. He has some PNIV, a book of PNIVs
16 in the control room, yes. But if he wants a print of some
17 particular system, he may have to go to the record
18 management system and retrieve it.

19 MR. ABBOTT: Are those just piping and
20 instrumentation drawings?

21 MR. YOUNG: That is what the PNIVs are, yes.

22 MR. ABBOTT: And that is it? That is the only
23 thing in the control room?

24 MR. YOUNG: That, along with the FSAR, the tech
25 specs, and a number of other things; but the control room

1 operator does not --

2 MR. ABBOTT: There are no logic diagrams or
3 instrumentation --

4 MR. YOUNG: Yes, logic diagrams; diagrams of each
5 instrument; the alarms on the annunciator --

6 MR. ABBOTT: How about the electrical on-line
7 diagrams? Are they there, too?

8 MR. YOUNG: Yes. The things that an operator
9 needs; but if he has a seal that has to be -- a pump that
10 has to be repaired or something like that, he does not have
11 that there. He would not be doing that work, anyway.

12 COMMISSIONER GILINSKY: But it does seem that in
13 the tech support center they gone to some trouble to get a
14 lot of expensive equipment, and it does not seem to make
15 sense to have it and not have it function as smoothly --

16 MR. YOUNG: I am sure it is going to be
17 functional, sir. I just cannot say when, or if it is now,
18 even. It may be right now, because they were continually
19 working on it.

20 COMMISSIONER GILINSKY: And it does seem to me
21 that retrieving the temperature data in the core, that that
22 is something that is required.

23 MR. BUCKLEY: Right. That is in the control
24 room. Were they having difficulty obtaining that?

25 MR. KELLY: There are manual procedures whereby

1 they can pull it out. There is nothing -- the computer is
2 not safety grade, and the inputs to the computer are not
3 safety grade. I am not even sure whether they are powered
4 off of a IE bus or not.

5 COMMISSIONER GILINSKY: Obviously they could not
6 get temperature data because they were not operating. They
7 could not retrieve the right program.

8 MR. KELLY: They have a manual way that they can
9 go and treat it, even if they have to go and take a volt
10 meter and read the voltage across the inputs in the back
11 panels. They can do that, and then they can interpolate
12 from that. That is their backup procedure if the computers
13 do not operate.

14 COMMISSIONER GILINSKY: I understand that, but I
15 thought there was a requirement that you be able to retrieve
16 information.

17 MR. HANAUER: There is a requirement. In fact,
18 there is a redundancy requirement. The operative date is
19 January 1st, 1982, on the redundancy requirement. What they
20 have is, first, the computer system; and secondly, a
21 hard-wired gadget at the moment. It is one of the
22 old-styled Westinghouse bullwheels.

23 COMMISSIONER GILINSKY: We went by all that.

24 MR. HANAUER: By January 1st of '82, that will
25 have to be upgraded as regards temperature span and so on to

1 be a fully useful backup to the computer system.

2 COMMISSIONER GILINSKY: Okay. I do not have
3 anything further at this point. Thank you very much.

4 (Whereupon, at 11:00 a.m., the meeting was
5 adjourned.)

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NUCLEAR REGULATORY COMMISSION

This is to certify that the attached proceedings before the

in the matter of: BRIEFING ON COMMISSIONER GILINSKY AND THE PUBLIC ON
DIABLE CANYON

Date of Proceeding: August 28, 1981

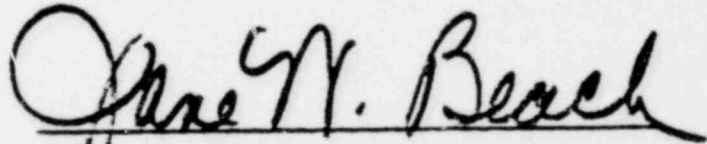
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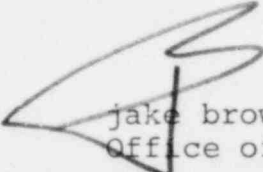
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1. Transcript of: Briefing for Commissioner Gilinsky on Diablo Canyon, August 28, 1981 (1 copy)


jake brown
Office of the Secretary

