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NUCLEAR REGULATORY COMMISSION

IN THE MATTER OF:

PUBLIC MEETING

BRIEFING ON RANCHO SECO

Place - Washington, D. C.

Date - Tuesday, 26 June 1979

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

PUBLIC MEETING

BRIEFING ON RANCHO SECO

Commissioners' Conference
Room,
1717 H Street, N. W.
Washington, D. C.

Tuesday, June 26, 1979

The Commission met, pursuant to notice, at 10:00 a.m.

BEFORE:

- DR. JOSEPH M. HENDRIE, Chairman
- RICHARD T. KENNEDY, Commissioner
- VICTOR GILINSKY, Commissioner
- PETER A. BRADFORD, Commissioner

ALSO PRESENT:

Messrs. Gossick, Snyder, Ross, Cunningham, Case, and
Bickwitt, general counsel; Messrs. Thatcher, Johnson, Wilson,
and Israel.

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P R O C E E D I N G S

(10:00 a.m.)

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3 CHAIRMAN HENDRIE: The first order of business
4 this morning is for me to note that the Commission, on June
5 23, published an order in the matter of the Rancho Seco
6 case, which among other things noted that the staff will
7 provide the Commission with an informational briefing as to
8 the basis of its conclusions, prior to permitting restart of
9 the facility.

10 That is informational briefing will be held now.
11 The briefing was announced at the time of the order. It
12 was, however, scheduled on less than one week's notice, and
13 I will first ask my colleagues to join me in voting to hold
14 this meeting on less than one week's notice.

15 All right. Those in favor?

16 (A chorus of ayes.)

17 CHAIRMAN HENDRIE: So ordered.

18 The second item of business is to note that the
19 purpose of this morning's briefing is for the staff to tell
20 us about its bases for its conclusion that the licensee, or
21 Rancho Seco, satisfactorily completed the actions enumerated
22 in subparagraphs A through E of Section 4 of the
23 Commission's May 7 confirmatory order.

24 This briefing is in no fashion intended to
25 prejudice pending adjudicatory proceedings involving Rancho

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1 Seco. Any adjudicatory determinations that may be made in
2 that proceeding, including any determinations on issues
3 related to those that will be discussed today will be based
4 solely on the record developed in that proceeding.

5 However, the Commission is undertaking this rather
6 unusual step of having an informational briefing on a matter
7 which is involved in an adjudicatory proceeding, and due to
8 that fact, if and when the Commission reviews any aspect of
9 that adjudicatory proceeding, any party wishing to plead, to
10 cite, or to refer to the transcript of today's informational
11 briefing, they may do so. And for that limited purpose, the
12 Commission will waive the prohibition against such use
13 contained in 10 CFR 9.103, as was noted in a footnote to our
14 order of June 21.

15 There has, I note, been a request from a party to
16 speak to the Commission in addition to the staff since other
17 parties in the matter have not been contacted and their
18 wishes and ability to address the Commission at this meeting
19 have not been ascertained, it seems to me inappropriate to
20 hear that presentation. And we will, therefore, hear solely
21 from the staff at this meeting.

22 I understand that the party making the request
23 might wish to file a written statement with the Commission,
24 and I don't see any objection to that if the counsel
25 agrees. I presume it would be attached to the transcript

mgc 1 and simply be available as part of the record of this
2 meeting, to be treated in the same fashion and served on
3 other parties, as I assume the transcript of this meeting
4 will be.

5 COMMISSIONER BRADFORD: May I ask the name of that
6 party?

7 CHAIRMAN HENDRIE: It is a representative of the
8 SMUD Repairs Association, Peter, looking past the --

9 COMMISSIONER BRADFORD: When was this request
10 made?

11 CHAIRMAN HENDRIE: Well, I learned about it abo
12 eight minutes after ten this morning.

13 A VOICE: To whom was the request made?

14 CHAIRMAN HENDRIE: As far as I know, the
15 secretary. The secretary informed me.

16 There is one other matter of a sort of practical
17 business here. We normally have a reporter who takes down
18 the proceedings of our meeting. We also typically have a
19 tape as a check on the reporter's transcription. The
20 reporter seems to have not made it to the meeting this
21 morning but may come a little later.

22 There is, however, a tape being made of this
23 meeting so that a transcript can be prepared. In fact, the
24 secretarty tells me it is a double tape system, whatever
25 that may mean.

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1 I mention it because it is particularly important
2 that Commissioners and staff members speak reasonably
3 clearly and have their microphones close at hand so that the
4 tape is clear.

5 I see our problems in the matter may rapidly be
6 alleviated. I nevertheless let stand my request that
7 people keep their microphones close and speak clearly, and
8 perhaps in order that this transcript can be as accurate a
9 one as possible. And we will refrain from an occasional
10 Commission practice of holding two simultaneous
11 conversations, which often leads to confusion in the
12 transcript.

13 I see action over there on the reporter's part.
14 Let us move ahead, then, to the briefing.

15 Lee, please introduce the staff, and let us go
16 forward.

17 MR. GOSSICK: Thank you, Mr. Chairman.

18 I believe Mr. Case has some preliminary remarks he
19 would like to make before Mr. Ross proceeds with the
20 briefing. We have Mr. Cunningham with us representing the
21 Executive Legal Directors.

22 MR. CASE: I would just like to point out, Mr.
23 Chairman, as you all know, we provided you on June 19 with
24 copies of the draft staff safety evaluation and the proposed
25 letter to the licensee concerning their response to the

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1 Commission's order of May 7, 1979. But what we have
2 proposed to do this morning is walk you through the safety
3 evaluation, which will also walk you through the order and
4 indicate what the commitments of the licensee were, and why
5 we are satisfied with the action he has taken.

6 MR. ROSS: We have six viewgraph slides here. May
7 we see the first one?

8 A brief chronology, the SMUD files and commitments
9 on April 27 and agreed in that letter until the short term
10 commitments were done that the plant will be shut down, and
11 in fact was shut down the following day.

12 This was followed by confirmatory order on May 7,
13 issued by the Commission, and as Ed stated about six weeks
14 later the staff prepared a safety evaluation report,
15 including the short term provisions of order had been met.
16 We will look at slide two. At least half of the order
17 concerns the auxiliary feed water system. This rather
18 simplified diagram illustrates some of the key features of
19 the Rancho Seco feed water system.

20 It has two trains. What is labeled as the top or
21 Division B motor driven turbine aux pump is a 100 percent
22 capacity feed water pump with a steam turbine on one end and
23 electric motor on the other.

24 The other train is a motor driven only auxiliary
25 feed water pump.

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1 As you can see, either pump can be tied into
2 either steam generator, and we will get into some subparts
3 of Part A. The normal course of supply is from the
4 condensate storage tank, which contains about a 24 hour
5 supply.

6 You can switch to other sources.

7 COMMISSIONER BRADFORD: When you say "100 percent
8 capacity" in that context what does that mean?

9 MR. ROSS: The analysis showed you need roughly
10 800 GPMs, and either pump can put out that much.

11 CHAIRMAN HENDRIE: Denny, are the electric drives,
12 is that off-site power only?

13 MR. ROSS: No, that is the next thing. If you
14 look at part 1 of Part A -- let's go to the next slide now.

15 (Slide.)

16 The order in paragraph A, subparagraph 1 through
17 9, and if you are keeping track on the SER you are now on
18 page 3, and the first part was concerning the ability of the
19 motor portion of the auxiliary feedwater pumps to be loaded
20 up on the diesel in the event you lost off-site power.

21 The switchover is not automatic. The operator has
22 some procedures to follow in the event he wants to load up
23 either of these motor driven feed water pumps to on-site
24 power, so that is a short term procedural aspect.

25 The long term portion of the order parallels items

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1 one through nine, in subpart A, and to what extent we will
2 ask for further improvements is not yet decided. Maybe we
3 will ask this to be put on diesels automatically on loss of
4 off-site power. We just haven't had those discussions yet.

5 So that you don't load up the system
6 inadvertently, the bypass keys, so that the control room
7 operator has to go to the shift supervisor's office next
8 door to get the keys so he can load either one of these up.

9 COMMISSIONER GILINSKY: May I just ask a
10 preliminary question?

11 I got asked by a reporter in California, the fact
12 that Rancho Seco was shut down and crewing were not
13 immediately — meant that Rancho Seco was less safe to begin
14 with or had less reliable auxiliary feedwater systems.

15 When we started this process, I told him that I
16 thought the answer was no. If anything, it may have been
17 the other way around.

18 Is that the right answer?

19 MR. ROSS: Well, there is a moving target, namely
20 the Oconee auxiliary feedwater system. I think as soon as
21 Oconee opened up the three units and manifolded three
22 turbine pumps to either of the three units, then, as a rough
23 estimate, I would say they had a fairly reliable system at
24 that point.

25 Before that, they opened up a manifold, and they

mgc 1 had one pump for each unit. Then I would say that's a

2 markedly less reliable system than Rancho Seco was or is.

3 But after they opened them up, my feeling is that
4 they would be about the same general order.

5 This has one of the good features, which is that
6 it has diverse motor powers.

7 CHAIRMAN HENDRIE: As I recall the , Peter,
8 that would have been, it seems to me, it was actually during
9 our discussions on the BMW shutdown.

10 MR. ROSS: I think Oconee opened up its three
11 manifolds before the Commission issued its order. The
12 things were moving very fast. Duke Power was doing things
13 in advance of us and the Commission. We found that they had
14 developed the appropriate procedures for loading up these
15 motors on diesels, if needed.

16 The additional concern, part 2 of Part A, was
17 while you are doing a surveillance test, there might be a
18 need for auxiliary feedwater, so we — the order says that
19 the operators should be out at the physical location of the
20 auxiliary feedwater pumps, in communication.

21 Then if a transit comes along and offspeed is
22 needed, the operator has to shut a bypass valve to put the
23 system back in operation.

24 Also, at the end of that test, there has to be an
25 independent verification that the valves have been returned

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1 to the operable position.

2 We found that they had procedures in the -- this
3 is on page four of the order -- and the operator knew what
4 to do in this event. In the long term, perhaps these valves
5 will have to be provided with bypass or inoperable status,
6 like, required by Reg Guide 1.147. Again, we haven't gone
7 into that yet.

8 Part 3 of paragraph A starts on page five, the
9 manual control of the auxiliary feedwater. This is getting
10 the system more independent of the integrated control
11 system. The operator would --

12 I don't want to go back to a slide, but if you
13 will look at your picture from the pump to the steam
14 generator, there are two valves in parallel -- one
15 controlled by the integrated control system. That's an open
16 or shut valve. The other is an electrical infinite position
17 valve, which the operator would call the bypass valve, which
18 the operator would throttle to whatever position is needed,
19 and he would observe the flow rate in the level.

20 And this is how we manually control the auxiliary
21 feedwater system.

22 On page six of the SER, paragraph four at A,
23 "Verification of Off Feed Water Capacity," is what is just
24 what was mentioned by Commissioner Bradford, had to verify
25 that you had at least, in fact, 750 GPMs per train, per

mgc 1 feedwater train. They can calibrate this by pumping in the
2 bypass mode from the condensate storage tank back to the
3 hot well, and then measuring the decrease in inches per
4 minute in the condensate storage tank and converting this to
5 flow rate.

6 The bottom of page seven we notice that this would
7 be reconfirmed in the start of mode.

8 The next slide, now, get's to paragraph five of
9 paragraph A, for some hardware was added to the plant.

10 (Slide.)

11 The order said there should be a way to measure
12 auxiliary flow being delivered.

13 This utility bought what is known as a clamp-on
14 flow meter. You don't have to break the top to put in an
15 orifice.

16 This starts on page eight of our SER where we find
17 that they have bought and installed these systems. As of
18 last Thursday, they were still doing some calibrations.
19 They were moving the clamp-on device from one portion of
20 the pipe down to the other portion. It was on the wrong
21 side of the security fence, and it was kind of hard to get
22 to. Both local -- and then you read out, as well as read
23 out on a new panel, on a new meter put on the panel in the
24 control room.

25 Other facilities, in particular Duke Power, used

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1 orifices put in the line. This -- depending on how this
 2 thing performs over a long period of time, this might be
 3 another item that's updated or improved in the long term
 4 portion of the work.

5 COMMISSIONER BRADFORD: Who does the work?

6 MR. ROSS: It's got a little ultrasonic. I'm one
 7 question deep, then I'll plead ignorance. Mr. Thatcher is
 8 here. I haven't answered that question, but I'll bet he can
 9 explain it.

10 It sends a beam and it bounces off the water. But
 11 if you ask one more question, I'll have to plead nolo
 12 contendere.

13 CHAIRMAN HENDRIE: I'm compelled to ask one more
 14 question.

15 What does it do? What does it sense in the
 16 change-- what change in the beam return does it sense, then?

17 MR. THATCHER: I guess you mean what property in
 18 the fluid?

19 CHAIRMAN HENDRIE: Yes. That is, how do you tell,
 20 how do you distinguish between, how does the beam
 21 distinguish between the static water in the pipe and the
 22 flowing water in the pipe?

23 MR THATCHER: Well, I don't know the internals of
 24 the mechanism, but it has to do with the reflection of the
 25 ultrasonic beam within the fluid itself.

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1 I'm not sure that's exactly what Denny said, but
2 that's -- it can detect the fluid flow, that's a flow meter.

3 COMMISSIONER KENNEDY: What is it that it reports
4 that tells you you have fluid flow?

5 MR. ROSS: I had one conversation with the
6 licensing manager of Duke Power about how the thing worked.
7 It was his and my joint impression that it was all
8 particles, because the theory is that if you had chemically
9 pure water, it wouldn't work, if there were no particles.

10 His concern was that if he had ultrahigh grade
11 feedwater, it might not work as well.

12 CHAIRMAN HENDRIE: Okay. Either particles or
13 turbulence in the flowing fluid, and the degree is
14 scattering the beam signal in proportion to the flow --

15 MR. THATCHER: The change in beam, yes.

16 I didn't realize you were asking about the
17 consistency of the fluid, or whatever.

18 CHAIRMAN HENDRIE: Okay. Interesting.

19 MR. ROSS: This was an off the shelf item. It
20 wasn't developed new for this purpose.

21 MR. THATCHER: I know. You know, I was just going
22 to say, I know in other plants they quite often use these
23 fossil fuel plants for monitoring all different kinds of
24 flow. It's not a new item, but it's -- as far as getting
25 qualified for nuclear power plants, they might not have done

mgc 1 it, and as a result we don't see it in alot of safety
2 systems.

3 CHAIRMAN HENDRIE: Okay. Let's go on.

4 MR. ROSS: Page nine, part six, of paragraph A,
5 the order said that you should review and revise the
6 procedures and training for alternative sources of water.
7 As I mentioned earlier, the condensate storage tank has 24
8 hours, and then switchover to a canal.

9 You notice in about the middle of page nine, there
10 is -- alarms are discussed with -- alert the operator that
11 now is the time to perform the switchover.

12 COMMISSIONER GILINSKY: Were there other sources
13 available before?

14 MR. ROSS: Yes. They didn't add this. The
15 concern had to do with the alarms. The sources were there.

16 In fact, I believe there was another source not
17 even mentioned. I believe the service water is also a
18 source, but you would only use this if you had prolonged
19 loss of off-site power. Otherwise --

20 COMMISSIONER GILINSKY: What is it NRC requires?

21 MR. ROSS: I'm sorry?

22 COMMISSIONER GILINSKY: What is it that NRC
23 requires?

24 MR. ROSS: Oh, the new stuff. To go over the
25 procedures -- I think we noticed a new alarm was put in.

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1 Let me ask Sandy. Was not a new alarm installed
2 here?

3 MR. ISRAEL: Yes, one was installed for the three
4 foot level left in the condensate storage tank, and this
5 would allow greater than 40 minutes before the operator
6 would have to go up and switchover.

7 MR. ROSS: Is -- this is the new aspect?

8 MR. ISRAEL: That is correct.

9 COMMISSIONER GILINSKY: Your concern was what?

10 MR. ROSS: Run the condensate storage tank dry,
11 and you can damage the pump before you switched over.
12 Because there are alot of valves -- most of this equipment
13 is physically outdoors, and you have to go through one or
14 two gates or security fences. It's -- you don't just push
15 buttons and have it done in two minutes.

16 MR. ISRAEL: Denny, I might point out that the
17 condensate storage tank, that the 24 hour supply is sort of
18 unusual. Other plants generally have less.

19 COMMISSIONER GILINSKY: So this was in a better
20 configuration than other plants?

21 MR. ISRAEL: Generally.

22 CHAIRMAN HENDRIE: Please go ahead.

23 MR. ROSS: Okay.

24 Page ten, paragraph seven, the enunciation of
25 off feedwater auto start. The feeling here is that if you

mgc 1 get a signal that the pumps have started, that this would be
2 an alert that verification should be done, which will be
3 covered in the next paragraph.

4 So alarms would be provided -- in the middle of
5 page ten -- if you lose all cooling pumps, main feedwater,
6 or if the manual off feedwater, the motor driven feedwater
7 pump had been started manually, then an alarm would come
8 off.

9 Now that means we have to take that in the context
10 of the next item, as to what do you do, verification. Then
11 you have some immediate actions. Verify that everything has
12 correctly autostarted. The turbine pump is up to speed.
13 It's a single speed pump. Verify that it is up to speed,
14 that you are delivering flow as detected by these new flow
15 meters, then you can control level.

16 It's this thing that you would hope would
17 eliminate part of the TMI-2 sequence where the pump started,
18 but there was no verification that they were delivering
19 flow.

20 Part nine, the last auto, which is on page 11 of
21 the SER, verifies that if -- if there is a failure in the
22 normal ISC integrated control system valves, that they would
23 not fail closed. And at the very last of page 11 and
24 continuing on to the next page, they were supposed to do
25 some tests to verify that the normal flow control valves

mgc 1 would fail in the open position.

2 CHAIRMAN HENDRIE: Are these the ones marked
3 "modulated control"?

4 MR. ROSS: Yes, sir. In fact, that's probably a
5 little misleading. The modulated — these valves actually
6 are quick opening, quick closing, single position — that
7 they don't stop in between, normally. Normally, if you get
8 a low level in the steam generator, the valve opens, and
9 when it comes up to the high control point, it closes.
10 You're losing a few seconds.

11 If one of these valves did fail open, then the
12 operator — and you wanted to go to the bypass level
13 control, which you would want to do then, you would have to
14 send an operator out there to eventually shut the valve or
15 else you would overcool the unit. But they can do it. They
16 have hand wheels, and they can crank the valves shut.

17 COMMISSIONER GILINSKY: I wonder if you could go
18 back, if you have finished going over your list?

19 MR. ROSS: Yes. I guess that's all of Part A.

20 COMMISSIONER GILINSKY: Go back to the diagram and
21 indicate any physical change.

22 MR. ROSS: Go back to slide number two.

23 The alarms were provided at the low level on the
24 condensate storage tank. Alarms were provided to indicate
25 the autostart feature, not shown on the diagram, but

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1 somewhere — in the vicinity of those valves marked
2 "modulated control" would be the new flow meters. So in
3 relation to other, like in relation to Oconee, there wasn't
4 a great number of physical changes made.

5 COMMISSIONER GILINSKY: You mean less?

6 MR. ROSS: There were less here probably. I
7 believe that's all the physical changes. That's it.

8 On page 13 of the SER, Part B of the order, is
9 more detail on manual control of the auxiliary feedwater
10 system. We have already talked about loading the pumps up
11 to the diesel bus, if needed.

12 We have talked about the bypass valve which is
13 controlled manually. The thing we haven't mentioned is that
14 we decided that a test would be needed -- this is the next
15 to the last paragraph on page 13 — with the plant in the
16 steam mode, about 10 to 15 percent of power, to verify that
17 the operator can do what he has to do. We envisioned this
18 as a steady state test, where the operator would jog open
19 the manual bypass valve and demonstrate that he can control
20 level. Of course, that test is yet to be done, and we would
21 inspect -- expect the I&E inspector to witness that test.

22 Incidentally, this plant will have a — a resident
23 has been picked, and he will be on site before 1 September.
24 And in the meantime, the Region 5 mans it on a week by week
25 basis.

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1 The principal inspector, Allen Johnson, is in the
2 audience should questions in that area arise.

3 Okay. Page 14 of the SER -- go to the next slide.

4 (Slide.)

5 Part C of the order which looks very much like the
6 presentation we had for Oconee, anticipatory reactor trips,
7 they did install new trips to detect -- shut the plant down
8 in the event either the turbine trip or you lose both main
9 feedwater pumps.

10 This is covered on page 14, 15, and part of 16.

11 They also commit to a monthly test. To start up
12 the plant, it is necessary to bypass the main feedwater
13 until you get the plant up to a low level in power, and then
14 you go into normal, and all the bypass switches in the
15 bypass position. There is an alarm on the enunciated
16 manual. The circuit is essentially the same as we had for
17 Oconee.

18 In Part D, which starts on page 16, unless the
19 Commission has some interest, I'd like to cover it mostly
20 by saying --

21 Go to the next slide.

22 (Slide.)

23 -- that the generic analysis that BMW did -- that
24 we discussed with you in more detail on Oconee -- applies
25 equally here. There are some variations. I believe that's

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mgc 1 supposed to be .04 square feet instead of .01. So that
2 typo -- it's essentially --

3 CHAIRMAN HENDRIE: So the .04 square feet?

4 MR. ROSS: Right.

5 CHAIRMAN HENDRIE: No core uncovering for breaks of
6 interest, i.e. less than .04?

7 MR. ISRAEL: Let me correct that. .01 is correct.
8 Those are the ones that deal with the PORV. I'm not sure
9 with .04 whether you don't still have core uncovering. But
10 certainly for small breaks, the analysis was acceptable.

11 COMMISSIONER GILINSKY: Would you explain that
12 again, please?

13 MR. ISRAEL: Pardon?

14 COMMISSIONER GILINSKY: Could you explain that
15 again, please?

16 CHAIRMAN HENDRIE: What side is the famous relief
17 valve.

18 MR. ISRAEL: It's 007.

19 So the concern for a stuck open relief valve, you
20 have no core uncovering; therefore, you don't have any fuel
21 damage.

22 So the generic study definitely showed that .01
23 square feet, and below, that you don't have any core
24 uncovering.

25 I'm not sure that at .04 square feet there was

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1 another break that they did do, whether they showed there
2 was no core uncovering. But I'm sure that they did that
3 analysis, that they showed that peak clad temperatures were
4 acceptably low for, so that was not a problem.

5 Core recovery is not a requirement for --

6 MR. CASE: In other words, he is saying the
7 criteria, the ECS criteria, you were satisfied with .04
8 square feet, and not necessarily core uncovering.

9 MR. ROSS: The message that we got on Oconee,
10 which would be applicable here, is that if there was total
11 loss of feedwater for these SMUD breaks, HPI alone would
12 provide core cooling. And conversely, you could use
13 feedwater also, if you got it back in 20 minutes.

14 This is -- picks up on page -- eventually, you
15 need fluid --

16 - CHAIRMAN HENDRIE: That says simply that you can
17 drive -- with the high pressure injection capacity that's
18 there -- you can drive enough fluid up the relief valve or
19 equivalent size freight to carry out the afterheat. Right?

20 MR. ISRAEL: That is correct.

21 MR. ROSS: There is a couple of new matters, and
22 in the middle of page 22, starting about the fourth line
23 down and going all the way down that page until the
24 fourth -- until the fourth line from the bottom -- there is
25 new material in there that was not provided either for

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1 Oconer or for Arkansas.

2 What we did --

3 CHAIRMAN HENDRIE: This is in analysis sense
4 rather than equipment sense?

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1 MR. ROSS: Right. The matters discussed here are
2 generic except for Davis-Besse, and they were equally
3 applicable for all of the plants.

4 CHAIRMAN HENDRIE: Okay.

5 MR. ROSS: What we have done in our thinking is
6 carry the analysis out further in time than we had done on
7 those other plants. The event is either a total loss of
8 feedwater or it could be a very small break with loss of
9 feedwater.

10 But let's follow just the loss of feedwater train
11 of thought. When both HPI pumps come on, there is a period
12 of hours when you are pumping in cold water with the -- at
13 least the potential for having a high pressure cold vessel,
14 so we had a number of discussions with the district, with
15 BMW, we had meetings here and we are still -- in fact we
16 received what we hoped is a last piece of information this
17 morning.

18 What we thought was needed was that the procedure
19 for loss of feedwater, total loss of feedwater, at least
20 that procedure ought to have one additional section in it,
21 and it ought to tell the operator what to do in the event
22 the -- he thinks the vessel has gotten so cold at a high
23 pressure that there is a question of that vessel's
24 integrity.

25 And we have built in that the admonition not to

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1 turn off the high pressure injection. But if we could see
2 at least potential for such instances, where it would be
3 safer turning it off, and by this time probably the core
4 would be adequately cooled.

5 The difficulty -- let's skip the next slide and go
6 to the last slide -- go one more, now. Go one more slide.

7 (Slide.)

8 The difficulty for this event has to do with how
9 do you measure temperature. If you look at the reactor
10 coolant pump, where the little arrow is, and go down about
11 two or three feet, that's the vertical section line that
12 takes -- that feeds water from the steam generator through
13 the elbow at the bottom and up to the pump. The cold leg
14 temperature indicator is in the vertical pipe a few feet
15 down from the reactor coolant pump. So in this postulated
16 sequence, there are no pumps running. There is no coolant
17 reactor flow. The high pressure injection is putting in
18 water over near the vessel. So those cold leg thermometers
19 may not be reading accurately, accurately reading the
20 vessel.

21 Yet that's the thermometer that reactor operators
22 traditionally use to see if they meet Appendix G for
23 pressure vessel integrity.

24 So we worked on different alternates, and we have
25 gotten down now to where we think we have a workable

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1 solution, although we just got a telex this morning and we
2 haven't had a chance to reflect on it. But what we can
3 believe is that we can infer the vessel fluid conditions,
4 because with this sequence there will be at least internal
5 circulation in the vessel, and we think that probably quite
6 a bit of it in early times. So by subtracting an
7 appropriate amount from the outlet, you can get the inlet
8 which is the annulus, and for that you can enter a pressure
9 vessel integrity curve, so that would take care of half of
10 the question.

11 The other half would be for this extreme scenario:
12 what pressure vessel integrity curve should apply? And we
13 kicked around several alternates, and what we think is
14 appropriate would be to remove the factor of two, safety
15 factor on the multiplier for the membrane or hoop stress, to
16 keep the same flaw size and same dynamic properties.

17 We have these materials specialty people here that
18 can discuss this, if you want to get into it any further.

19 We're not through with it ourselves, yet. What we
20 think the work product is would be one more section in a
21 procedure that tells the operator what to do in the event he
22 perceives an ultrachilled vessel.

23 CHAIRMAN HENDRIE: How long does it take to get
24 down -- there's an awful lot of stored energy in that
25 vessel, so it doesn't happen --

mgc 1 MR. ROSS: It's modest. In terms of degrees per
2 hour, it's a relatively modest transient.

3 CHAIRMAN HENDRIE: The flow rate just isn't that
4 high?

5 MR. ROSS: Well, for the first few hours you don't
6 have a cutaway. But the bent valves on the core barrel
7 would be open while the vessel is steaming, and steam will
8 be coming back -- according to BMW's prediction -- and
9 mixing with the cold water and warming it up.

10 CHAIRMAN HENDRIE: Right.

11 MR. ROSS: To what extent it really works, this
12 wouldn't be seen on the vessel --

13 CHAIRMAN HENDRIE: Yes.

14 MR. ROSS: After a few hours of mixing, well, now,
15 because the valve wouldn't be shut, you would be putting
16 warm water, pressurized water, but it wouldn't be steaming.

17 CHAIRMAN HENDRIE: Well, that is just because the
18 steaming rate goes down, and you haven't got it driving.

19 MR. ROSS: Yes, because the pressure, the back
20 pressure is coming from whatever is resisting in the PORV,
21 which has to be open for this transient.

22 CHAIRMAN HENDRIE: Yes, so you come to a place
23 after you have steamed awhile, and the after heat is
24 beginning to tail off, when you might decide that you wanted
25 to either intermittently throttle, more likely throttle than

ngc 1 cut off, throttle the injection flow, and let it get a
2 little warmer in the vessel, or at least keep it from
3 getting colder.

4 MR. ROSS: Now, two points. First, this is
5 unfinished. We haven't finished our work, and it would
6 apply equally to the other plants.

7 Second, the point is a more detailed analysis by
8 BMW, and they've committed to do one. It will take them a
9 month or two. And they show that the whole problem would
10 go away.

11 MR. CASE: It's a non-problem to begin with.

12 MR. ROSS: Absent that, we thought we ought to
13 build in some protection to get the appropriate balance
14 between core cooling and reactor coolant pressure
15 protection.

16 MR. SNYDER: Denny, is your relief capacity that
17 much lower than the HPI injection rate?

18 MR. ROSS: When you are steaming through the
19 relief valve, the pressure drop is higher.

20 MR. SNYDER: You would eventually just be going
21 out with solid water.

22 MR. ROSS: As soon as it starts going solid, the
23 pressure is going to come down. This is a calculated
24 pressure balance between pumps with a certain flow delivery
25 head curve and the pressure drop throughout the system, out

mgc 1 to the PORV.

2 BMW has done some craft calculations, but they
3 want to change the code around and run it out to 10 hours.
4 But that's going to take some time, and to change the code
5 first, and then running it is going to take some time also.

6 To this end, we expect to be working with the
7 owners who will try to get one answer for all. I don't
8 think this will apply to Davis-Besse, because of the lower
9 discharge head on the high head pumps. That's the
10 additional feature of Part D.

11 I did want to mention, since there is no
12 appropriate place —

13 COMMISSIONER BRADFORD: Does that apply to any of
14 the other BMW pumps?

15 MR. ROSS: Yes, except for Davis-Besse. Whatever
16 we do here, I believe, subject to check, BMW has sent these
17 guidelines to all their customers, or else they will.

18 I'd like to mention, since there is no place --

19 CHAIRMAN HENDRIE: Before we leave this, as a
20 matter of curiosity, what does system pressure come down to
21 in this mode?

22 MR. ROSS: As I recall, eight pounds.

23 MR. ISRAEL: I really want to couch everything.
24 We are talking about a very degraded condition. We have no
25 auxiliary feedwater, no heat removal by the steam generator,

mgc 1 and this sort of went beyond whatever we have licensed
2 plants for.

3 CHAIRMAN HENDRIE: Yes.

4 MR. ISRAEL: And my concern was that we were
5 putting the operator between a rock and a hard place. One
6 mode we told him to keep on two HPI pumps in order to
7 preclude the Three Mile Island situation. The other mode,
8 he had these pressure vessel integrity curves which were —
9 really weren't designed for this situation either which he
10 was trying to follow.

11 But to get back to your question, we told him to
12 put on two HPI pumps, worth about 1000 GPMs, down around
13 six, eight hundred psi, and the pressure that BMW estimated
14 going through one square inch PORV would be about 800 psi
15 pressure vessel pressure.

16 MR. ROSS: That's in time three to five hours,
17 right?

18 MR. ISRAEL: Right. That's what the water —
19 they're just discharging water through PORV.

20 CHAIRMAN HENDRIE: In this mode you have sent the
21 PORV a signal to open, so you are not riding against its
22 relief, automatic relief pressure.

23 MR. ISRAEL: That's right. The guidelines speak
24 to two situations where you want the operator to manually
25 open to PORV, and both situations basically speak to having

mgc 1 no heat sink. You are not removing heat from the steam
2 generator, in which case you want to depressurize the plant
3 as best you can, with whatever you have.

4 CHAIRMAN HENDRIE: Yes.

5 MR. ROSS: I think this is as good a place as any
6 to bring up the matter that we had, that developed in the
7 last few days. It's some allegations from a member of staff
8 at Rancho Seco.

9 I received some calls, both here in Bethesda as
10 well as last week when I was at the site, from people who
11 asked -- didn't give me their names -- asked to remain
12 anonymous, and since I don't know who they were it was easy
13 to follow that request.

14 They asserted that there were non-licensed
15 operators at Rancho Seco. They have --

16 COMMISSIONER KENNEDY: They asserted they were?

17 MR. ROSS: They were.

18 COMMISSIONER KENNEDY: They were?

19 MR. ROSS: Yes. I don't have any way of checking,
20 of course. except as events -- as events turned out, I
21 believe that these people were. I don't think they were
22 phonies or anything.

23 There are three types of people out there. There
24 are power plant aides or attendants, equipment attendants,
25 and then I believe auxiliary operators. These -- several

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1 people I talked to were concerned that there was a high
2 turnover in these non-licensed operators, that they didn't
3 get enough training, and that people would be hired in and
4 then after a few months with only minimal training, they
5 would be asked important safety functions. And the concern
6 was that this represented some kind of problem that needed
7 attention.

8 Like we do with any allegations, I&E was
9 immediately notified. I&E did open an investigation. That
10 investigation is continuing, and as of last night it has not
11 been closed.

12 Following these initial allegations, there were
13 some further — the people I talked to by the way out there
14 last week, they called me up in my motel. I listened to all
15 of them, but I also said that for further, for follow-up,
16 "Call Region 5," and I gave them the phone number. This is
17 what Mr. Jessie Cruz and I had agreed on, so that they would
18 have somebody out there to talk to.

19 Late last week there was follow-up on these
20 allegations about concern that the procedures that were in
21 books at local control stations — like out near the
22 auxiliary feedwater pump room or whatever — had pen and ink
23 changes. Some people had made local changes in the
24 procedures, and were — at least the implication is that
25 they were unauthorized changes.

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I&E did investigate last Friday. They looked at these pen and ink changes and concluded that these were not substantive, but merely reminders.

They did talk with the licensee last Friday, and reemphasized that people should follow only official control copies.

COMMISSIONER GILINSKY: Could you give an example of such a change?

MR. ROSS: No. I personally could not. The area we were talking at was in the demineralizer polisher area, and Mr. Cruz that I talked to last night said that the substance of it was just a reminder.

Now, do you have any more detail?

COMMISSIONER GILINSKY: These were not changes in procedure?

MR. ROSS: He said that they were not substantive changes in procedure.

Let me check. Al, do you have any more information?

MR. JOHNSON: No, I don't have any more information, but normally what you will have in operating procedures where the procedures are at the desk, many operators will write reminders, or write notes to themselves on a procedure. It doesn't go to the procedure itself.

For example, they might put: "Make sure you do

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mgc 1 this step first. Make sure you do that last" or something
2 like that.

3 COMMISSIONER GILINSKY: Aren't the steps written
4 out in order?

5 MR. JOHNSON: I haven't personally looked at any
6 of these procedures, because I was out of town last week and
7 haven't been up there since. But this is the type of
8 information I got from talking with Mr. Cruz and
9 Mr. Morrell, who had been there, and Mr. Morrell had
10 reviewed these procedures.

11 And he indicated that they were not really changes
12 in the procedure where you change the mode or sequence of
13 events.

14 MR. ROSS: Let me continue. You may want to
15 return to that theme. I&E has now talked to 12 of the 28
16 non-licensed operators at Rancho Seco. Among other things,
17 they asked each of those 12 two questions. The first was:
18 are any of you aware of an unsafe conditions in the plant?
19 The answer was no.

20 The second questions had to do with: what would
21 you, the operator, do if you were confronted with a
22 situation for which you didn't have a procedure?

23 Of course, they were trying to see if somebody
24 would carry on and make up an ad hoc procedure, and the
25 answer was that they'd stop and go find out and go ask what

mgc 1 to do.

2 They have discussed with the licensee -- made
3 three points with them. They said one or two of the
4 operators who don't have the TMI training -- I think they
5 were in the process of going to the simulator and coming
6 back. I just want to emphasize that these one or two people
7 shouldn't stand watching, the work should be done. I don't
8 have their names.

9 The second point was they talked about the
10 procedures we just talked about, that they should tell
11 everybody to follow only control copy procedures.

12 The third thing they mentioned to the licensee is
13 that some of these non-licensed operators need some more
14 instruction and training. Okay. Now that's the status of
15 the investigation which is not complete. And the way that
16 I&E ordinarily reports, the Commission will get copies when
17 it's done.

18 COMMISSIONER BRADFORD: Weren't there allegations
19 concerning security personnel as well?

20 MR. ROSS: Not really. I made a note that I sent
21 to Mr. Mossely. The only comment that I got on security was
22 for the -- the first anonymous call I had was, the guy said,
23 and I think it's a fair quote: "Security has always been
24 known to be a joke at the site, and now the training of
25 non-licensed operators is being a joke." That's the only

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1 way security was mentioned to me.

2 If there were any other security allegations I
3 don't know about them.

4 COMMISSIONER BRADFORD: I'm just referring to the
5 daily staff notes which I assume were based on whatever.

6 MR. ROSS: None of the recent allegations that I
7 am aware of got into security.

8 But, Al, do you know of any security allegations?

9 MR. JOHNSON: No, I know of none recently.

10 I think it's important to note, however, that
11 these operators of this equipment that you are speaking of
12 is completely non-safety related. It's such as operating
13 the mineralizers, operating this type of thing, and it's not
14 what we usually exercise jurisdiction over, normally review
15 or look into, because it does not involve the safety of a
16 plant in any way.

17 Unless you carry it down through several sequences
18 and you say, "Okay, this, you know, is like the horse you
19 nail; you lose the war," this type thing. I think this is
20 the type of thing we have to recognize.

21 COMMISSIONER GILINSKY: What category do you put
22 auxiliary operators in?

23 MR. JOHNSON: Non-licensed people. And they do
24 not operate safety-related equipment.

25 COMMISSIONER GILINSKY: In the control room?

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1 MR. JOHNSON: No. They are over in the auxiliary
2 building.

3 COMMISSIONER GILINSKY: There are no unlicensed
4 persons operating equipment in the control room?

5 MR. JOHNSON: Under than trainees under direct
6 supervision of licensed operators.

7 COMMISSIONER GILINSKY: Wouldn't they fall into
8 this category?

9 MR. JOHNSON: No, because they have to do things
10 under the direct control of the operator, supervisor. They
11 can be told" "You go turn that valve." And an individual
12 goes and turns the valve.

13 But the licensed operator is the one who's
14 responsible.

15 COMMISSIONER GILINSKY: You sound like you haven't
16 covered the training of the operators. I assume you will.

17 MR. ROSS: Well --

18 COMMISSIONER GILINSKY: Let me just ask a
19 question. You can answer now or later.

20 Do the unlicensed operators come, or operators in
21 training, receive the same training on TMI and related
22 matters?

23 MR. ROSS: I don't think so. I don't think -- I
24 did speak with the training coordinator out there about the
25 training for non-licensed people. They don't go to the

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1 simulator, which is where the licensed people --

2 COMMISSIONER GILINSKY: Is that the case for all
3 the BMW plants?

4 MR. ROSS: I'm sure it is.

5 Now there was some training on the -- on response
6 to the bulletin that was supposed to go to everybody, but it
7 wasn't that detailed.

8 COMMISSIONER GILINSKY: When are these trainees
9 going to pick up that part of their education?

10 MR. ROSS: The new operators?

11 COMMISSIONER GILINSKY: Operators in training, not
12 only at Rancho Seco, but at all of the plants.

13 MR. ROSS: That's not specifically covered by the
14 orders. We will have to make up something for that.

15 Let me just -- I don't think --

16 COMMISSIONER GILINSKY: Because there could be
17 circumstances when you have two operators in the control
18 room one of which has not received his training.

19 MR. ROSS: In time, if you did nothing, then there
20 would be no operators with TMI training, because, you know,
21 disorderly of people up and out.

22 So I'm convinced there will have to be a
23 continuous training program. But right now there is no
24 mechanism that says, that picks up on this long term aspect.

25 MR. CUNNINGHAM: Well, the mechanism would be

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1 issuance of a license to a new operator, which our examiners
2 or licensed examiners would assure that they had TMI
3 training.

4 MR. ROSS: We haven't done anything on it yet. I
5 think it needs to be done. We just haven't done it.

6 To get to the bottom line on the allegations, I
7 asked I&E management what they thought about the allegations
8 with respect to the order. I talked to Mr. Mossely. His
9 inclination was to keep the two things separate.

10 Right now there is no basis in his mind, from the
11 allegations and the investigation, to take any harsh action.
12 His theory was that -- he has a range of actions. They
13 would be appropriate to whatever his investigation turns up,
14 including, if necessary, shutting a plant down.

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1 He did not -- he did not want to mix the two, as
2 far as he was concerned, particularly when there was no
3 particular bad news it turned up in his mind.

4 Since the allegations matter really came up rather
5 late it wasn't discussed in the SER. It really wasn't
6 germane to the SER, but somehow or the other the information
7 has got to come out.

8 Okay. The last part had to do with training. I
9 don't think we need to put a slide up for that.

10 Part E of the order, starting on page 25, as I
11 believe, at the time the order was written, there was a
12 concern -- at least there was an optimistic belief on the
13 part of the district that they could get everything done in
14 the auxiliary feedwater system area, but they might not be
15 able to get all their operators back and get TMI through
16 training. So the short term order and short term
17 commitment said that they would have one senior licensed
18 operator in the short term. And then in the long term which
19 is -- you would have to refer perhaps back to the order --
20 they would have all the people trained. They are now to the
21 point where they can have a complete set in the control room
22 of TMI, two simulated trained people. So they are really in
23 compliance more on the long term portion of this.

24 COMMISSIONER GILINSKY: All of the licensed
25 personnel, then, would have had --

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1 MR. ROSS: Yes. I think there may be one or two
2 in transit. Is that right?

3 MR. JOHNSON: They are all trained, everyone of
4 them.

5 MR. ROSS: There were some --

6 COMMISSIONER GILINSKY: What is the situation at
7 the BMW plant?

8 Let's see, the ones that are operating are the
9 Oconee and Arkansas.

10 MR. ROSS: Rancho was operating. Arkansas was
11 down, I believe for refueling.

12 CHAIRMAN HENDRIE: I remember the Oconee
13 arrangement was that only TMI operators would be allowed to
14 operate the machines, and that if they didn't have enough,
15 they couldn't operate all the units.

16 MR. ROSS: Right. I believe -- this may be the
17 only plant that had that phraseology, as I recall. I
18 believe all the rest of them had everybody trained.

19 CHAIRMAN HENDRIE: And Rancho now has all the
20 licensed operators?

21 MR. ROSS: Right. They have about 22 operators.
22 I think the routine examination -- that is, a test was
23 contrived --

24 MR. CUNNINGHAM: Denny, I think that is what
25 Commissioner Gilinsky wants to talk about: training, new

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mgc 1 procedures, the tests that were given, passing grades and
2 now we verified this.

3 MR. ROSS: Right.

4 The way we had the review set up, the same team
5 that reviewed Ocone also reviewed — it was their turn to
6 review Rancho Seco.

7 So the people in the audience are the same people.

8 We have looked at craft's comparative tests that
9 utilities have come up with. We have looked at the answer
10 key. The same now "cast in concrete" of a grade of 90 has
11 been established. If people don't pass, don't get a grade
12 of 90, they don't get to stand watch.

13 COMMISSIONER GILINSKY: Now, these are tests made
14 up by the utilities themselves?

15 MR. ROSS: That's correct.

16 COMMISSIONER GILINSKY: Do we check them before
17 they are given, or after the fact?

18 MR. ROSS: Not before. I don't believe before. I
19 know — you don't see them until after, do you?

20 MR. WILSON: Afterwards.

21 MR. ROSS: We get copies of the
22 utility-administered test, the utility's opinion of what the
23 answers ought to be, plus all the written — all the tests
24 of all the operators.

25 COMMISSIONER KENNEDY: Are you satisfied that the

mgc 1 test, indeed, is a good test?

2 MR. ROSS: Yes, sir. I think we have provided
3 samples to the Commission in two instances.

4 COMMISSIONER GILINSKY: I've received them in two
5 cases.

6 MR. ROSS: As we have seen in other plants, the
7 initial appraisal was that some of the training had some
8 weakness and we have discussed it and needed more emphasis,
9 both in some of the new procedures as well as some of the
10 TMI-2 .

11 Of the initial tests, I believe 5 out of the 21,
12 or 5 out of the 22 -- I forget which -- didn't make 90 on
13 the first go-around.

14 COMMISSIONER GILINSKY: And there was sufficient
15 management attention to this, in your view, on the part of
16 Rancho Seco management in order to process and oversee it?
17 Because we had that problem in one case before.

18 MR. ROSS: Well, I'm not sure.

19 COMMISSIONER GILINSKY: Not at Rancho Seco, but at
20 Oconee.

21 MR. ROSS: In this instance, what does it -- it
22 required, I think SMUD either concluded or agreed that they
23 needed some external help. So they called on one of
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1 their prior consultants, General Physics, to come in and not
2 only help with the training -- I met one of the fellows last
3 week -- but also to do an independent audit of the results
4 and oral examination.

5 So I think that by themselves they've probably --
6 they wouldn't have done as well. They did have to get some
7 outside help.

8 I think that concludes our direct case, so to
9 speak.

10 CHAIRMAN HENDRIE: Questions?

11 COMMISSIONER BRADFORD: The test consisted of
12 typical situations and, "What would you do with them" kinds
13 of questions?

14 MR. ROSS: All the training, it's really slanted
15 toward new procedures and TMI-2. This was not a broad,
16 "You have got a battleship on the prairie; how are you going
17 to sink it" type thing. That hasn't come yet. I think
18 that's -- that will come.

19 COMMISSIONER BRADFORD: Throughout my scholastic
20 career, a grade of 90 was pretty good to me. But this
21 situation does say that you are getting one out of ten
22 wrong?

23 MR. ROSS: I was just glancing at this. There are
24 six questions with -- three, four, six -- there are really
25 twelve questions on here, subparts.

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mgc 1 COMMISSIONER BRADFORD: I understand that.

2 MR. ROSS: Bruce, let me ask a question. In the
3 training department, do they study for common mode
4 mistakes on tests for use in recall and further lectures?

5 MR. WILSON: On the basis of LERs?

6 MR. ROSS: Yes.

7 MR. WILSON: Yes, these are usually factored into
8 the test by the training period.

9 MR. CUNNINGHAM: Is he apprised of what the right
10 answer is?

11 MR. WILSON: Yes, he is counseled on it.

12 COMMISSIONER BRADFORD: What I'm really after is
13 some feel of what the process is that gives you assurance
14 that even if somebody scores 90 on this test, it doesn't
15 mean that he's going to make one out of ten decisions wrong
16 when he is actually at the controls.

17 MR. WILSON: It's kind of a multi-layered
18 approach... The first thing that we did was ask them to
19 administer their own examination, and they wrote two
20 examinations to cover all of their separate shifts, since
21 they would be coming in at different times.

22 In the case of Rancho Seco, I think we did review
23 the first exam before it was given. But it was not formally
24 sent in: "Review this and approve it before we give it."

25 We judged, in our branch, that we thought his exam

mgc 1 was adequate to cover the situation. This was the first
2 step -- the operator's getting 90 percent on the
3 facility-administered exam.

4 The second step was the audit that we did, myself
5 and the Region 5 inspector, and this was done on 50 percent
6 of the operating, shift operating crews, seven out of 14.

7 The third step was the lecture series and
8 retraining done by General Physics when they came in there,
9 and that covered 100 percent of the operating people.

10 The fifth step was a reaudit by General Physics,
11 which would be a different individual than the one who gave
12 the training.

13 And the final one was a reaudit by eight people by
14 NRC inspectors, so we imagine, after all of these, that they
15 had to get the training somehow.

16 And the conclusion from the Region 5 inspector,
17 who looked at 8 out of the 14 people, was that everything
18 was satisfactory.

19 COMMISSIONER BRADFORD: Where in that chain did
20 they take the tests?

21 MR. WILSON: The 90 percent test was the first
22 step.

23 COMMISSIONER BRADFORD: I see.

24 MR. WILSON: This was only in the case of -- well,
25 except Oconee, because this was kind -- it began with

mgc 1 Ocone, when we went down there and decided to do the audit
2 in the first place, and found deficiencies, and we said:
3 "Well, why don't you administer the test."

4 COMMISSIONER BRADFORD: It applied to Ocone, too,
5 as well, before you actually permitted startup.

6 MR. WILSON: Right.

7 COMMISSIONER GILINSKY: I must say I'm a little
8 concerned that operators in training are not getting the
9 training on TMI and new procedures that licensed operators
10 are getting.

11 COMMISSIONER KENNEDY: They are not? I thought
12 they were.

13 CHAIRMAN HENDRIE: I thought they were.

14 COMMISSIONER GILINSKY: The answer I understood
15 Denny to say was that they were not.

16 MR. ROSS: We have got two different kinds of
17 people: non-licensed operators, if you prefer —

18 COMMISSIONER GILINSKY: Non-licensed operators,
19 yes.

20 MR. ROSS: They don't get the same training,
21 because they haven't been designated yet to be reactor
22 licensed operators.

23 COMMISSIONER GILINSKY: That's true, but at times
24 one of these persons might be one of the two individuals in
25 the control room.

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1 MR. ROSS: I don't think so.

2 MR. WILSON: They can be in control room, but
3 first of all, the regulations say that they are not allowed
4 to operate the controls unless they are in training, in a
5 specified training program. You have to be designated for
6 that training program.

7 Secondly --

8 COMMISSIONER KENNEDY: Excuse me, if they are
9 designated by -- for the training program and are under it,
10 they will get the TMI training?

11 MR. ROSS: Eventually. We haven't set out in
12 some definitive mode what you just said. I'm sure it's
13 true. We don't have any official requirement yet.

14 COMMISSIONER GILINSKY: They haven't had it yet,
15 or at least the licensees have not been required to provide
16 it yet.

17 MR. ROSS: Well, under the terms of this order
18 which, I guess, continue in effect for some period of time,
19 they cannot stand watch until they get a grade of 90. This
20 in turn implies some other stuff.

21 I think your concern is, in two or three years
22 from now.

23 COMMISSIONER GILINSKY: Well, I want to understand
24 this situation. If they are part of the control room crew,
25 will they have received this training?

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1 MR. WILSON: I think that's the misconception
2 right there. They are not considered part of the control
3 room crew. We require two licensed people in the control
4 room. They are not one of them.

5 That's an extra person on shift.

6 MR. ROSS: He is answering a different question.

7 CHAIRMAN HENDRIE: I think it's the right one.

8 MR. ROSS: If you are going to be part of the
9 control room crew, will you have the training?

10 COMMISSIONER GILINSKY: Yes.

11 MR. ROSS: Yes.

12 Can I point to a place in the order where it says
13 that? No.

14 COMMISSIONER GILINSKY: Well, how do you define
15 "control room crew"?

16 As I understand it, we had a discussion about this
17 yesterday, I think, and the operators in training are
18 counted in the complement of three that are required to be
19 present at the reactor.

20 Is that not right?

21 MR. ROSS: Let's ask the inspector.

22 MR. JOHNSON: You can count him as the individual.
23 You need, I believe, it's two licensed operators.

24 COMMISSIONER GILINSKY: But there are times when
25 only one licensed operator may be in the control room.

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1 MR. JOHNSON: That's true. You are only required
2 to have one licensed operator in the control room.

3 COMMISSIONER GILINSKY: So you may have one
4 licensed operator and one individual in training.

5 MR. JOHNSON: That's true, but he cannot operate
6 the controls unless the licensed operator supervises him.

7 COMMISSIONER GILINSKY: Right, but circumstances
8 may arise when you have to rely on him to do important
9 things.

10 MR. JOHNSON: By the rules, you cannot rely on him
11 to do important things.

12 COMMISSIONER KENNEDY: He can only do precisely
13 what he is told to do, and supervised while he is doing it.
14 In other words, -- let me be sure I understand it.

15 He may physically go over and turn a valve on.

16 MR. JOHNSON: That's true.

17 COMMISSIONER GILINSKY: Well, if he's one of the
18 two persons in the control room, that's a pretty big place.

19 MR. JOHNSON: You only need one licensed operator
20 in the control room to operate the plant. That's all you
21 need.

22 MR. CUNNINGHAM: But there are other people there,
23 but they are all under the direction of this licensed
24 operator.

25 MR. ROSS: May I ask a question? One licensed,

mgc 1 senior licensed, and two licensed operators at the plant at
2 all times; right?

3 MR. JOHNSON: When it's operating.

4 MR. ROSS: Correct. Okay.

5 MR. JOHNSON: But not in the control room.

6 MR. ROSS: I understand, but this trainee doesn't
7 take the place of one of these three?

8 MR. JOHNSON: No. But he can be in the control
9 room and he can do the things the licensed operator directs
10 him to do, but he doesn't count, so to speak, unless he is
11 licensed.

12 MR. ROSS: Now, at some point in time, this
13 trainee would get the same training. When? We don't have
14 that "when" defined. A week before he takes his test, a
15 year before he takes his test, we don't have that fully
16 defined yet.

17 CHAIRMAN HENDRIE: But, see, another way of saying
18 this is that the requirements for licensed operators, both
19 on shift and in the control room, are in no way relieved or
20 fulfilled by the presence of a trainee?

21 MR. WILSON: That's true.

22 MR. JOHNSON: That's true.

23 CHAIRMAN HENDRIE: Any place a trainee appears,
24 he is an addition to the normally required minimum shift
25 staff and control room complement?

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1 MR. WILSON: Yes.

2 COMMISSIONER GILINSKY: But it is also true, I
3 think, that he may be one of the two persons in the control
4 room at times and be required to perform important functions.
5 even though they are under the direction --

6 CHAIRMAN HENDRIE: I'm sorry. That's not the
7 case. He may, indeed, be one of the two people in the
8 control room under one licensed operator and one other, but
9 the "one other" is not there to run and turn essential
10 switches, and so on.

11 He is there to holler in case the licensed
12 operator has a heart attack and drops dead before the senior
13 people come back.

14 COMMISSIONER GILINSKY: Well, I'll tell you --

15 CHAIRMAN HENDRIE: In which case, he can be --
16 he's allowed to be an auxiliary operator, equipment
17 operator, and the fact that he is a trainee, in fact, for
18 reactor operator, is an upgrading from that situation, I
19 would suggest, not a downgrading.

20 COMMISSIONER GILINSKY: Well, I guess two persons
21 in the control room doesn't sound to me like a very large
22 number, and I would be more comfortable if they both had a
23 clear idea of what the problems that we ran into at Three
24 Mile Island were and what the new procedures might be.

25 MR. JOHNSON: There is only a requirement for one

mgc 1 person to be in the control room to start with.

2 COMMISSIONER GILINSKY: I don't think that's a
3 very large number either.

4 MR. CUNNINGHAM: One licensed person.

5 MR. JOHNSON: You can have five in there for
6 lunch, or something.

7 COMMISSIONER GILINSKY: Well, we have six be in
8 there.

9 COMMISSIONER BRADFORD: In the situation in which
10 there is a minimum number of people there, how long does it
11 take the other licensed operators plus other people that
12 might be needed, to get there.

13 MR. WILSON: I'd say, on the outside, two minutes.

14 COMMISSIONER GILINSKY: I should make clear that
15 this is a problem not specific to one reactor. It goes
16 across the board.

17 MR. WILSON: Now, in the case of 'cone' --
18 although this is not under consideration at this time --
19 they are requiring, administratively, two people in the
20 control room of Unit 3, which is a separate unit, and three
21 in the control rooms of Unit 1 and 2, which are combined
22 control rooms.

23 CHAIRMAN HENDRIE: Well, it's a generic question,
24 you know, sort of general.

25 Somehow it seems to me you are distinguishing this

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1 as unique to Pancho Saco, and I couldn't see that it is a
2 fair question as a general standard for shift manning and
3 control room manning.

4 Now, let's see. Where do the other questions take
5 us from there?

6 Counsel? OPE? Further from the staff?

7 Okay. Very good. Thank you very much.

8 (Whereupon, at 11:25 a.m., the hearing was
9 adjourned.)

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