

ORIGINAL

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the matter of:

DISCUSSION/POSSIBLE VOTE ON FULL POWER
OPERATING LICENSE FOR PALO VERDE - 1

(Public Meeting)

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ANN RILEY & ASSOCIATES
Court Reporters
1625 I St., N.W.
Suite 921
Washington, D.C. 20006
(202) 293-3950

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2 NUCLEAR REGULATORY COMMISSION

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4 DISCUSSION/POSSIBLE VOTE ON FULL POWER
5 OPERATING LICENSE FOR PALO VERDE - 1

6 - - -

7 [Public Meeting]

8
9 Commissioners' Conference Room
10 1717 H Street, N.W.
11 Washington, D.C.

12 Thursday, May 30, 1985

13 The Commission met in open session, pursuant to
14 notice, at 10:45 a.m., Nunzio J. Palladino, Chairman of the
15 Commission, presiding.

16 COMMISSIONERS PRESENT:

17 NUNZIO J. PALLADINO, Chairman of the Commission

18 THOMAS M. ROBERTS, Member of the Commission

19 JAMES K. ASSELSTINE, Member of the Commission

20 FREDERICK M. BERNTHAL, Member of the Commission

21 LANDO W. ZECH, Member of the Commission

22

23

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25

1 STAFF AND COMMISSIONERS SEATED AT COMMISSION TABLE:

2 S. CHILK

3 W. DIRCKS

4 E. CHRISTENBURY

5 T. NOVAK

6 H. DENTON

7 J. CREWS

8 E. LICITRA

9 P. BOLLWERK

10 K. TURLEY

11 E. VAN BRUNT

12 STAFF PRESENT BY CONFERENCE TELEPHONE CALL:

13 J. MARLIN

14 AUDIENCE SPEAKERS:

15 B. SHERON

16 R. BERNERO

17 R. FRALEY

18 T. SPEIS

19 J. KNIGHT

20 H. THOMPSON

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P R O C E E D I N G S

CHAIRMAN PALLADINO: Good morning, ladies and gentlemen.

The purpose of today's meeting is to discuss and, if possible, decide on whether or not a full power license shall be granted for the Palo Verde Nuclear Power Plant, Unit 1.

On October 31, 1984, the NRC issued a low power license for the Palo Verde Nuclear Power Plant, Unit 1, authorizing fuel load, precriticality testing, and low power operation for power levels up to 5 percent of full power.

The NRC Staff has prepared a presentation, and I understand that members of the NRC Staff as well as representatives of Arizona Public Service are available to answer any questions we might have.

I also understand that Jack Martin, the Regional Administrator from Region V, is monitoring today's meeting on the telephone, and he is likewise available to answer any questions which may arise.

At the conclusion of the Staff presentation, I intend to poll the other commissioners on whether we should authorize the Staff to issue Palo Verde, Unit 1, a full power license.

Let me ask at this time if other commissioners have any opening comments.

[No response]

1 CHAIRMAN PALLADINO: Let me also check: Jack, are
2 you on the phone? Jack Martin?

3 [No response]

4 CHAIRMAN PALLADINO: Well, I gather we haven't
5 made communications. Let's check on that.

6 MR. MARTIN: Region V.

7 CHAIRMAN PALLADINO: Jack Martin, are you on?

8 MR. DIRCKS: Jess Crews is here.

9 CHAIRMAN PALLADINO: Why don't we get started, and
10 then when we make contact, we will address questions we have
11 for Jack Martin.

12 COMMISSIONER ASSELSTINE: Did you anticipate hearing
13 briefly from the Applicant right after the Staff?

14 CHAIRMAN PALLADINO: That has usually been our
15 practice and it gives us an opportunity to ask some questions.

16 COMMISSIONER ASSELSTINE: Great.

17 CHAIRMAN PALLADINO: Let me turn the meeting over to
18 Mr. Dircks.

19 MR. DIRCKS: As you know, Jess Crews is here from
20 Region V, so if we lose Jack Martin occasionally, Jess can
21 pick up.

22 Harold Denton. Harold, why don't you introduce your
23 staff and then pick up the briefly.

24 MR. DENTON: The presentation this morning will be
25 given by Tom Novak, on my left. He will be assisted by Manny

1 .Licitra, the Project Manager, at the end of the table on my
2 right. Manny was also the project manager for Palo Verde 4
3 and 5, as some of you may remember, two units that were
4 cancelled.

5 In the audience, Keith Turley, the Chairman of
6 Arizona Public Power, and Ed Van Brunt, the Executive Vice
7 President. You may want to hear from them, especially on some
8 of the incentive plans that are in effect in Arizona and other
9 management issues.

10 Let me turn the meeting over to Tom, then.

11 MR. MARTIN: This is Region V. Can you hear us?

12 CHAIRMAN PALLADINO: We can hear you. Can you hear
13 us? Jack, can you hear me?

14 [No response]

15 CHAIRMAN PALLADINO: I gather they can't. We will
16 let SECY keep working on it and we will go ahead. Can you
17 hear us now? Jack Martin, can you hear us?

18 MR. MARTIN: Mr. Chairman, we can hear you fine now.

19 CHAIRMAN PALLADINO: Good. We will go ahead.

20 MR. DENTON: Tom.

21 [Slide]

22 MR. NOVAK: May we go to slide 2, please?

23 [Slide]

24 Very briefly, this is the outline of our
25 presentation, and I will be discussing the first two issues.

1 I will be talking about the first two issues on the background
2 of the plant and certain selected issues, and Mr. Crews will
3 pick up on inspections and other issues.

4 Regarding the licensing plant background, may I have
5 slide 3, please?

6 [Slide]

7 As you will note, Arizona Power is the operator of
8 the plant and it is shared with six other co-owners. Notable
9 among them is the Southern California Edison Company, which
10 owns about 15 percent of Palo Verde and is the operator of the
11 San Onofre units.

12 The reactor is a System 80 design, and we will be
13 briefly discussing the CESSAR review in a few moments. The
14 architect engineer and constructor for the Palo Verde units
15 was the Bechtel Corporation.

16 As you will note, the site is in a very sparsely
17 populated area. Within a ten-mile radius, there are less than
18 800 residents. It was originally designed as a five-unit
19 site, subsequently cancelled two units, and three units will
20 be constructed and operated.

21 The emergency planning issues. We have a letter
22 from FEMA supporting operation of the plant. We received a
23 letter from the Licensee on May 24th regarding the Gard v. NRC
24 decision, and we will be issuing a supplement supporting
25 operation on the basis that the medical services arrangements

1 are acceptable and the Licensee has committed to fully comply
2 with any requirements that come out of the NRC decision on
3 this issue.

4 COMMISSIONER ASSELSTINE: Tom, how far behind Unit 1
5 are Units 2 and 3?

6 MR. NOVAK: In terms of construction, Unit 2 is for
7 all purposes constructed, but their construction completion
8 date is officially December of 1985. I think Unit 3 is a year
9 off, but the Licensee can fill you in in more detail.

10 COMMISSIONER ASSELSTINE: Fine.

11 MR. NOVAK: May I have the slide on selected issues,
12 please.

13 [Slide]

14 I would like to just briefly run through some of
15 these issues for you. As you know, the Palo Verde plant did
16 reference the CESSAR application. The Staff issued a final
17 design approval in December of 1983, and we did make use of
18 that review in the licensing of the Palo Verde Unit.

19 About a year ago as part of the hot functional
20 testing, there were problems regarding the reactor coolant
21 pump and other components. This caused probably a several
22 month delay in the construction completion date. There was
23 extended testing in Germany in Connecticut and in New
24 Hampshire, as well as additional pre-operational testing at
25 the site. All of the components today are declared operable,

1 and the Staff is satisfied that any design modifications
2 necessary have been made and the testing verifies adequate
3 performance.

4 The fire protection program. We mention that
5 because we think it is a plus for the utility. We had an
6 Appendix R audit of the fire protection program, and we found
7 no violations in their program. So they were given a clean
8 bill of health and we are very satisfied with the inspection.

9 With regard to environmental qualification, the
10 Licensee has requested until November to complete
11 qualification of two specific components. There are some
12 controls on the hydrogen recombiner. He is replacing certain
13 instrumentation. He expects the testing of that equipment to
14 start in June, to be completed in early October, and he
15 expects to be able to install qualified equipment prior to
16 November.

17 Additionally, there are four containment radiation
18 monitors. The equipment now is qualified. It only remains
19 for installation. We don't expect this to be a significant
20 delay in its installation.

21 We want to talk briefly about the depressurization
22 capability. We have reviewed the two recent letters from the
23 ACRS. We are meeting today with their subcommittee on the
24 USI A-45 issue. We will be meeting with the committee during
25 their June meeting, and we expect to continue our discussions

1 on resolution with the ACRS regarding USI A-45.

2 CHAIRMAN PALLADINO: Tom, the ACRS did raise a
3 specific question about the ability for rapid depressurization
4 of the plant, and they also talked about the reliability
5 auxiliary feedwater pumps as a result. Are there any other
6 aspects of this plant that contribute to depressurization? It
7 is my impression that this plant has two redundant pressurizer
8 sprays. Do they offset any of the questions that are being
9 raised?

10 MR. NOVAK: Yes. I think the design of the plant is
11 predicated on the ability to spray water into the steam dome
12 of the pressurizer. As part of a startup test, in fact, at 80
13 percent power they will perform a natural circulation cooldown
14 with pressure control with minimum flow to establish the fact
15 that they can control pressure with spray into the steam dome.

16 Additionally, of course, they can control pressure
17 through the use of the auxiliary feedwater system by removing
18 decay heat, and that matter has been demonstrated before.

19 In terms of the rapidness, to the extent it can be
20 accomplished by spray into the header, that is the design
21 proposed by the Licensee. Now, we are continuing to study
22 that, and I think through our discussions generically on USI
23 A-45 with the committee and the work that we are doing, we
24 will be prepared to make a recommendation to the CRGR by the
25 end of the year regarding USI A-45.

1 CHAIRMAN PALLADINO: How does the rapidity of
2 pressure reduction by the pressurizer sprays compare with
3 other systems?

4 MR. NOVAK: I would like to ask Dr. Sharon of our
5 staff if he has any comment on that.

6 MR. DENTON: Also, Mr. Chairman, I think we provided
7 the Commission a report on this topic around the end of last
8 year. We did an exhaustive look at whether or not PORVs were
9 needed on this class of plants, and decided after looking at
10 all the pros and cons that we couldn't justify requiring one
11 on the plant, but Brian will discuss the --

12 CHAIRMAN PALLADINO: Well, I'm just interested how
13 they compare, if you have such a comparison.

14 COMMISSIONER ASSELSTINE: It would also be helpful
15 to me in doing that if you could highlight what the ACRS'
16 concern is because this sort of flurry of letters that we have
17 been getting from them strikes me as somewhat unusual, that
18 they seem to have a real deep-seated concern here that they
19 are making repeated efforts to bring to our attention.

20 DR. SHERON: To answer your first question, the rate
21 of depressurization using a large PORV could be anywhere from
22 a factor of three to ten times faster in terms of rate of
23 depressurization than the auxiliary pressurizer spray. The
24 difference in the rate between the auxiliary pressurizer spray
25 and an existing CE plant like Calvert Cliffs is perhaps a

1 factor of 3.

2 With respect to the question on what is the ACRS'
3 concern, they have sort of felt, I believe, that the
4 depressurization capability provides an additional enhanced
5 way of getting the pressure down and going on to a feed and
6 bleed type of operation. As you recall, the ACRS wrote a
7 letter approximately a year ago which agreed with the Staff's
8 conclusion that because A-45 was ongoing, it was preferable to
9 defer the decision until that USI was resolved. They agreed
10 with that, and as you know, we briefed the Commission in April
11 of 1984 on that decision.

12 So we have been going along on that assumption. One
13 question they may have is that if they are not seeing the
14 results of A-45 along the lines of what they are thinking, but
15 again, there is a meeting today to discuss that very subject.

16 CHAIRMAN PALLADINO: Let me ask a follow-up
17 question. Based on the use of the pressurizer sprays, is the
18 depressurization fast enough to satisfy the accident analyses
19 that have been made for this plant?

20 DR. SHARON: Yes, it is.

21 COMMISSIONER BERNTHAL: Would it be appropriate to
22 hear something from ACRS on this matter? This thing has been
23 kicking around for about four years now or so, and the ACRS --

24 CHAIRMAN PALLADINO: I do intend to ask them.

25 Could I just get one other piece of background

1 information that will help?

2 COMMISSIONER BERNTHAL: All right.

3 CHAIRMAN PALLADINO: Could you review for us what
4 auxiliary feedwater capability exists on this plant?

5 MR. BERNERO: My name is Bernero, Director, Division
6 of Systems Integration.

7 This plant has what I call a 2-3/4 pump auxiliary
8 feedwater system. It has in the full panoply, safety level,
9 safety requirements, an electric motor driven pump and a
10 turbine-driven pump, and in addition, it has what is often
11 called a startup pump in the turbine building that has been
12 substantially upgraded to act as a third auxiliary feedwater
13 pump.

14 It is not, of course, in the --

15 CHAIRMAN PALLADINO: Is that electrical driven?

16 MR. BERNERO: That is electric driven and it is
17 powered from the other electrical division. So they have an
18 auxiliary feedwater system which the Staff has reviewed
19 thoroughly with them. It has technical specifications and
20 limiting conditions on it. It is treated as the third
21 auxiliary feedwater pump, and in our analysis of reliability,
22 which is provided right in the Standard Review Plan
23 methodology, the plant has satisfactory reliability in its
24 auxiliary feedwater system.

25 CHAIRMAN PALLADINO: Is there one electrical

1 auxiliary feedwater pump for each steam generator?

2 MR. BERNERO: No, they are not usually handled that
3 way. There is one for each electrical power division, and
4 that pump can feed either steam generator.

5 CHAIRMAN PALLADINO: And so can the steam-driven
6 pump.

7 MR. BERNERO: Yes. The typical way to pipe them up
8 is that way.

9 CHAIRMAN PALLADINO: I understand.

10 Why don't we ask the ACRS if they have a
11 representative here who can speak. We would appreciate
12 knowing what the problem is.

13 MR. DENTON: While he is coming up, Mr. Chairman,
14 maybe I can give a little background. This issue was first
15 addressed with the Commission in the licensing of San Onofre,
16 and I think at that time the Staff felt that we should obtain
17 a conceptual design of a PORV from the utility.

18 COMMISSIONER ASSELSTINE: And we stopped you.

19 COMMISSIONER ROBERTS: Absolutely.

20 MR. DENTON: The Commission voted not to adopt that
21 approach but rather to ask the Staff to study the issue
22 further and report back to the Commission. We did study it
23 further and reported back in the report I just mentioned that
24 came to you last year sometime, and we looked at a number of
25 alternatives and found that we couldn't justify backfitting

1 the PORV for this particular plant.

2 We are continuing to look decay heat removal
3 improvements in all plants, and that is the A-45 effort.

4 With that background, I will turn it over to Ray
5 Fraley.

6 CHAIRMAN PALLADINO: Ray, could you identify
7 yourself for the record.

8 MR. FRALEY: Ray Fraley from the ACRS office. I'm
9 the Executive Director.

10 In 1981 the committee first expressed its concern
11 about the elimination of PORVs in this type of plant,
12 CESSAR-80 plant, because it eliminated one way to depressurize
13 the system and also because of the possibility that you were
14 losing a method for feed and bleed cooling.

15 The committee in reports of April 1982 and October
16 1983 did agree that this was an issue that could be resolved
17 in connection A-45 and need not hold up the operation of
18 System 80 plants.

19 In the May 13 memo which the committee just sent
20 you, they did note their intent to continue to examine this
21 issue as part of the A-45 deliberations which are going on
22 today and which we expect will continue, but there were some
23 members of the committee who felt that by realigning of valves
24 or some other operational changes in the Palo Verde plant, it
25 might be possible to improve the reliability of the auxiliary

1 feed system, and they were asked by the committee to take a
2 look at this and will be reporting to the committee at next
3 week's meeting.

4 It is not clear if the committee will suggest some
5 changes at Palo Verde, as I say, along the lines of system
6 realignment or whether they will continue to handle this as an
7 item in connection with the generic resolution of the decay
8 heat removal question; but the committee as a whole still
9 believes that this need not hold up the operation of this
10 plant.

11 CHAIRMAN PALLADINO: Thank you.

12 COMMISSIONER BERNTHAL: How long is this issue going
13 to go on? One gets the sense that -- I don't want to
14 misportray it -- but that ACRS now has been talking about this
15 issue for four years, and it must be longer than that because
16 you reached a conclusion four years ago which you expressed to
17 the Commission in a letter, and yet our Staff, if I understand
18 correctly, is in the process, if they haven't formally done so
19 yet, of approving what is in fact a very, very similar
20 standardized plant design, a plant design that is very similar
21 to this particular plant design.

22 COMMISSIONER ASSELSTINE: Identical.

23 COMMISSIONER BERNTHAL: It is essentially identical,
24 yes. And yet here we are with something that ACRS has been
25 talking about for five years. Where are we on this issue?

1 MR. FRALEY: The committee has had numerous meetings
2 on this and has written one letter, I believe, suggesting some
3 changes in the evaluation of the A-45 program. The Staff was
4 attempting to look at, I believe it was, six plants and
5 characterize them into the various types of decay heat removal
6 systems that are available in nuclear plants.

7 The committee has recommended that the sample be
8 expanded and that they look at some additional plants, on the
9 order of eight, and I believe the Staff is in the process of
10 doing that now. When that is completed, the committee will be
11 prepared to meet with the Regulatory Staff and, I assume,
12 reach some sort of final position on A-45.

13 COMMISSIONER ASSELSTINE: I just wanted to make
14 sure, though, that apart from this question of realignment,
15 perhaps, of the auxiliary feedwater system, the committee is
16 still of the view that A-45 is an appropriate place to address
17 this issue and get it resolved?

18 MR. FRALEY: Yes, sir, that is correct.

19 CHAIRMAN PALLADINO: I was going to ask the Staff if
20 they had any comment on Commissioner Bernthal's question.

21 MR. DENTON: Let me ask T. Speis, who is in
22 resolving A-45, to respond.

23 MR. SPEIS: I'm T. Speis from the Staff.

24 Let me say ~~something~~ that has been said already. We
25 looked at the issue of PORVs very extensively, and if you

1 recall, we presented to you a very thorough report, SECY
2 84-144. We looked at the pluses and minuses both from a
3 deterministic viewpoint and from a probabilistic standpoint,
4 and there were some pluses and minuses, but overall, there
5 was no great benefit to convince us that we should go ahead
6 and do something outside the context of A-45.

7 This, of course, was discussed with the ACRS, and
8 the ACRS went along with us.

9 I think it is also important to point out that we
10 look at the issue of PORVs not only within the design
11 envelope, what it can do more to enhance the capability of the
12 plant given the design basis accidents, but also beyond the
13 design basis accidents, like complete loss of feedwater,
14 talking about beyond the design basis. That is the one area
15 that there are some benefits because it provides some
16 diversity to the decay heat removal system.

17 The A-45 issue, of course, could come up with
18 something that would be more encompassing, more important,
19 more effective than PORV itself, so it didn't make any sense
20 to rush and install PORVs when --

21 COMMISSIONER BERNTHAL: But it sounds like it's a
22 moving target, Tammy. The fact is that, at least if my
23 elementary understanding of this whole issue is even close to
24 the mark, there have been changes made that are reflected, I
25 presume, in what will be the CESSAR, the standardized plant

1 design.

2 For all practical purposes, as Commissioner
3 Asselstine notes, we are talking about this plant when we talk
4 about the CESSAR standardized plant design. There have been
5 changes made in the spray system, for example, so one wonders,
6 since it's a moving target, at least up to the point where we
7 approve a standardized plant design, the target has to have
8 stopped somewhere and we have to make a decision at that
9 point.

10 If we are going to approve a forward-referenceable
11 standardized plant design, then five years is enough, it seems
12 to me, and we ought to reach some resolution of that issue.

13 MR. SPEIS: We are working very hard to complete
14 A-45. We have completed two studies, two plants, Quad Cities
15 and Point Beach, and we are discussing them with the ACRS. We
16 have five more plants to be completed within the next four or
17 five months, and that includes three Westinghouse plants and
18 one CE plant and one B&W plant, two boilers.

19 We think that we will be able to come up with
20 generic resolution based on those seven plants. If we have
21 difficulty, we have two more plants that we might pursue. But
22 as Mr. Denton discussed with you a few weeks ago when he gave
23 you a briefing on generic issues, all plants are different out
24 there and we might have difficulty coming to grips with this
25 issue unless we do a plant-specific study for every plant in

1 the country.

2 COMMISSIONER BERNTHAL: It sounds like or it would
3 appear to me that there is a disagreement here between Staff
4 and ACRS. Maybe I'm wrong. But otherwise, why would Staff at
5 this point essentially have concurred in the CESSAR
6 standardized plant design?

7 MR. DENTON: I think there is a difference,
8 Commissioner, in that the design that we are talking about for
9 all practical purposes would be limited to Palo Verde and
10 WPPSS No. 3. They are the only CESSAR plants still under
11 review. But based on the studies that the Staff has done
12 using today's source term and today's designs -- let me give
13 you a typical example.

14 We took a pressurized water reactor with a large
15 dry containment, such as CESSAR has, and started with a base
16 case for core damage probability -- and I use core damage to
17 mean the typical PRA-calculated core melt scenario, that is,
18 severe core damage with the potential for further degradation
19 and melt through the vessel and that sort of thing -- started
20 with a base case of 2 or 3 x 10⁻⁴, and looked at six
21 alternatives to reduce that number.

22 The alternatives ranged from procedural
23 alternatives, which would do the sort of thing that perhaps
24 could be done at Palo Verde, all the way through additional
25 piping to get water into the primary system, new penetrations

1 in the containment, all the way to a bunkered system.

2 So far, in looking at a wide range of alternatives,
3 we are not able to find a cost-effective way to do a lot in
4 that decay heat removal area.

5 So I think there is a difference. I think the ACRS
6 wants to keep pushing in this area. We have looked hard but
7 are unable to find one that is justified, especially using
8 \$1000 a man rem as --

9 COMMISSIONER BERNTHAL: When you say cost-effective,
10 you mean, in fact, in terms of risk reduction. I think that
11 should be clear.

12 MR. DENTON: That's right. And there are ways to
13 actually reduce risk, but they are very costly, and the
14 overall impact, taking everything into account, it doesn't
15 seem justified. So I think the ACRS maybe hasn't come to that
16 conclusion yet, and they are the types of topics that are
17 being discussed with them.

18 COMMISSIONER BERNTHAL: But isn't it fair to say
19 that if the ACRS is going to reach a conclusion that is
20 timely, and if this Commission is going to approve a
21 forward-referenceable standardized plant design, then they
22 better do so fairly soon, it seems to me.

23 MR. DENTON: Yes.

24 COMMISSIONER ASSELSTINE: You highlight the dilemma,
25 Fred, because in order to give forward referenceability, one

1 must demonstrate that all of these issues have been resolved,
2 and demonstrate that before, in fact, we have reached a
3 resolution on those issues. It is unclear to me as yet how in
4 the case of the two standardized designs, how that
5 demonstration has been achieved for some of these more
6 difficult unresolved safety issues that are still a year or
7 two away from resolution for the existing plants.

8 In fact, I think I sent Bill a memo a week or so
9 ago asking, in the case of GESSAR -- maybe I picked the wrong
10 design -- but asking how that demonstration has been achieved
11 such that the Staff is now prepared to give a forward
12 referenceable approval.

13 CHAIRMAN PALLADINO: Do you have a date for when the
14 USI A-4 will be complete, at least so far as it would impact
15 on the CE plant?

16 MR. DENTON: We had planned to have all the USIs
17 completed by the end of the year, but I think A-45 is proving
18 to be the most difficult to deal with.

19 CHAIRMAN PALLADINO: I am particularly interested
20 with regard to the CE.

21 MR. DENTON: It is easier to resolve some of these
22 for new plant paper designs than for existing plants.

23 MR. SPEIS: Our plan is to go to CRGR at the end of
24 this year on USI A-45.

25 CHAIRMAN PALLADINO: For all the plants that you are

1 looking at or just for the CE?

2 MR. SPEIS: For the generic issue. For all
3 plants. For all plants, including --

4 CHAIRMAN PALLADINO: I see. Thank you.

5 COMMISSIONER BERNTHAL: But the point is, it seems
6 to me, that since this, if it is an argument -- and I don't
7 want to overcharacterize it, but at least this discussion has
8 been going on for four or five years, even though it is
9 somewhat a moving target, and it seems to me that that
10 indicates that it is one of these close call points, and if
11 our Staff has reached a judgment that at least at this point
12 they are unconvinced of the cost-risk-effectiveness, if you
13 will, of including the PORV, it seems reasonable to conclude
14 that this is a close call element, and therefore, under those
15 circumstances, one wonders why the Commission should not
16 proceed -- I don't want to get too much into standardized
17 plant design approval, but this is essentially one of the
18 first of our standardized plant designs, and once the
19 Commission reaches the conclusion that it is forward
20 referenceable, then the threshold, in fact, becomes rather
21 higher than there is an urgent or at least significant
22 question of public health and safety. It doesn't sound so far
23 like we are talking about that.

24 All I am saying is it seems to me that the ACRS
25 needs to make its case quickly and effectively if there is a

1 case to be made, not so much for this plant but for the
2 forward-referenceable plant; that the Commission needs to pay
3 attention to that issue.

4 CHAIRMAN PALLADINO: I think we need to be clear on
5 this plant versus the forward-referenceable plant, as you
6 indicated, because for the forward-referenceable plant, we
7 will want the USI resolved.

8 COMMISSIONER BERNTHAL: That's a good point.

9 CHAIRMAN PALLADINO: For this one we have to have
10 the Staff's word on the fact that its analysis supports
11 reasonable assurance that this plant can be operated safely.

12 COMMISSIONER ASSELSTINE: Coupled with the fact that
13 we got the analysis almost a year or so ago and we have had
14 the opportunity since then, as well as the ACRS, to take a
15 look at it, and we also have the ACRS' view that, at least for
16 this plant, the issue can be addressed in A-45.

17 COMMISSIONER BERNTHAL: No. In fact, I don't want to
18 imply that there is a deficiency in this plant. In fact, I
19 hoped and intended to be able to point out today that this
20 plant represents one of a generation that the Commission has
21 very high confidence in.

22 CHAIRMAN PALLADINO: Okay. Well, are we through
23 with this issue?

24 Tom, go ahead.

25 MR. NOVAK: Let me just briefly touch on the low

1 level waste storage facility. Currently at the site there is
2 a one-month storage capability. The Licensee has completed
3 design studies to build a five-year system if he needs it. He
4 can also break it up in parts. That is, the design permits
5 him to build 2-1/2 years worth of storage if he so chooses.
6 He has not initiated construction yet, and you may want to
7 talk to him specifically about his plans on that issue when he
8 speaks to you directly.

9 COMMISSIONER ASSELSTINE: Does their low level waste
10 go to Beatty?

11 MR. NOVAK: It goes to Hanford.

12 COMMISSIONER ASSELSTINE: Okay.

13 MR. NOVAK: With regard to the corrosion of piping
14 welds in the ultimate heat sink, I would just like to briefly
15 touch on that. We do believe that we understand enough of the
16 situation there to support full power licensing. The Licensee
17 has proposed the daily use of the system. One of the concerns
18 or one of the thoughts behind why this corrosion problem
19 developed was an extended stagnant period with very little
20 water treatment, if any, of the pool itself.

21 They are now treating the pool and they are
22 monitoring its performance. There is in excess of 2000
23 gallons per minute of spray capacity, and the Staff is
24 convinced that this problem does not represent a risk to the
25 health and safety of the public.

1 We do have a petition on this issue and we will be
2 prepared to answer it shortly, but our view is today that it
3 does not represent a risk to the health and safety of the
4 public.

5 CHAIRMAN PALLADINO: Does their monitoring problem
6 assure that the corrosion doesn't progress further and lead to
7 a potential problem?

8 MR. NOVAK: Let me ask Dr. Johnston if he can speak
9 to that, or perhaps Mr. Licitra.

10 MR. KNIGHT: This is Jim Knight for the Staff.

11 Yes, sir, there is a monitoring program both on
12 materials to see if, in fact, the process is continuing, is
13 progressing, and perhaps more significantly, a monitoring
14 program measuring pressure drop in the supply headers to
15 assure that the system is capable of performing its design
16 function at all times during the operation of the plant,
17 regardless of whether or not there may be some continuing
18 process and some eventual changes either in the biocide that
19 is used or some other change in the control of the bacteria,
20 that the safety function is monitored continuously.

21 I want to be careful. I used the word
22 "continuously." Periodically pressure drop is measured, and
23 that would give you the necessary information to determine
24 that you could, in fact, deliver your required flow rates if
25 you need to.

1 CHAIRMAN PALLADINO: So you feel confident that this
2 program will identify if you are in the process of losing
3 significantly the safety function.

4 MR. KNIGHT: It certainly would give you more than
5 adequate warning if the process -- if the measures that are
6 now in place were not effective. There seems to be every
7 reason to believe that in fact they are and that the situation
8 is well in hand, but if that were not to be true, then the
9 monitoring program to discover that early and, as I said, on a
10 continuing basis is in place.

11 MR. NOVAK: Finally, the last issue I would just
12 like to touch on is the plant staffing issue. The Licensee is
13 operating a six-shift rotation. He has on site experienced
14 operators on his own staff to man four shifts. He is using
15 advisers. They do come from Southern California Edison. They
16 were familiar with the San Onofre plant. And we are satisfied
17 that they can provide the experience now to continue operation
18 during the startup program.

19 CHAIRMAN PALLADINO: Will they have an adviser on
20 every shift?

21 MR. NOVAK: No, sir, just two shifts.

22 COMMISSIONER ASSELSTINE: Tom, let me ask you about
23 those two because I saw something in the latest supplement to
24 the SER that led me to believe that those people weren't
25 trained yet. I am looking at page 13-2 of Supplement No. 8,

1 item 2 towards the top of the page, "Shift Adviser Training
2 Program." It talks about the training program, and then it
3 says, "The Staff finds the Applicant's shift adviser training
4 program acceptable. Upon satisfactory completion of the
5 training program, the two Southern Cal Edison individuals
6 described in 1 above will be qualified to act as shift
7 advisers at Palo Verde Unit 1."

8 Are they trained now, and if they aren't, why
9 aren't they?

10 MR. CREWS: Region V has examined the training and
11 qualification and examination of those individuals by the
12 utility. In fact, we witnessed portions of that testing of
13 individuals at the training, in particular the simulator
14 examination of the individuals, and are satisfied that they
15 have undergone the training committed to and are qualified for
16 the position.

17 COMMISSIONER ASSELSTINE: So they have successfully
18 completed the program, and whatever is in the supplement is
19 just out of date.

20 MR. CREWS: And taken the examinations and completed
21 the certification by the utility.

22 COMMISSIONER ASSELSTINE: Good.

23 MR. LICITRA: I would like to add that the
24 supplement is being updated to reflect that.

25 COMMISSIONER ASSELSTINE: Okay, good.

1 CHAIRMAN PALLADINO: With regard to staffing, there
2 has been a vacancy in the position of vice president-nuclear.
3 Maybe I will alert the Licensee that when he comes up I would
4 like to know the status of filling that position.

5 MR. NOVAK: Very briefly, with regard to technical
6 specifications, the Staff did perform the most current reviews
7 of what we have been doing on technical specifications. The
8 Licensee used to a large degree the experience on San Onofre
9 Units 2 and 3. We were very satisfied with the technical
10 specifications.

11 One change was made during this period of low power
12 testing. It was simply an error in the startup time of a
13 containment spray pump. The original number did not account
14 for the time it took to come up to rated speed. We approved
15 the change. It was within the analysis and we were very
16 satisfied with the technical specifications.

17 There will be some small changes made as part of the
18 full power license, basically to provide better clarification
19 and more or less learn from the operating experience of the
20 last several months.

21 COMMISSIONER ASSELSTINE: Did they do a specific
22 review to verify that the tech specs match the as-built plant
23 in the FSAR?

24 MR. NOVAK: Again, they certified that the technical
25 specifications were in conformance with the FSAR and that the

1 technical specifications matched the as-built plant.

2 COMMISSIONER ASSELSTINE: Do you know what kind of a
3 review they did to do that, and to what extent did you audit
4 that review like we have seen in some of the other NTOLs?

5 MR. NOVAK: With regard to the audit, we did have an
6 independent audit of the FSAR versus the technical
7 specifications. The EG&G lab did perform that for us.
8 Additionally, Region V did do an audit of the as-built versus
9 the technical specification. Jess will talk about that as
10 part of his inspection program.

11 COMMISSIONER ASSELSTINE: Okay. The EG&G review, I
12 take it, did not disclose any problems.

13 MR. NOVAK: No major problems that I am aware of.

14 COMMISSIONER ASSELSTINE: Okay.

15 MR. NOVAK: Finally, I want to just briefly discuss
16 the incentive program. As you plan to, you can discuss
17 directly with the Licensee the details of it. Very briefly,
18 there were two plans in effect. Back in October of last year,
19 in the fall, the Licensee did initiate an incentive program to
20 instill performance towards the initial fuel loading of the
21 plant. It was applicable to about 50 management positions.
22 It excluded all quality assurance/quality control individuals
23 and senior management.

24 It resulted in approximately a bonus of one-half
25 year's salary to about 45 individuals.

1 Of course, the Region did put into effect special
2 inspection programs, and our conclusion was that that
3 incentive program did not result in any unsafe construction
4 practices leading to fuel load.

5 COMMISSIONER ASSELSTINE: It could have the opposite
6 effect. Does it have a positive benefit in terms of improving
7 things like safety and reliability, or is it too early to
8 tell?

9 MR. NOVAK: I think what the Licensee will tell you
10 is the program, at least, that is in effect today directs them
11 more to do it right the first time. I think what he is saying
12 is the cost of having to go back and do it a second time is
13 something he will shy away from; but he can speak to that
14 directly.

15 COMMISSIONER ASSELSTINE: Okay.

16 MR. NOVAK: Additionally, the Arizona Corporation
17 Commission did put in an incentive plan. They did solicit
18 proposals. APS did provide a proposal. My understanding is
19 the plan in effect was in many regards similar to the plan
20 that APS did propose. It calls for certain completion of
21 milestones.

22 For example, the current plan would require the
23 Licensee to bring Unit 1 up to 80 percent power and operate
24 continuously for 100 hours by the end of this year. It is
25 those kinds of milestones in terms of operation.

1 There are graduated awards and penalties for the
2 performance. The general consensus is that these are mild in
3 the sense that there are no sharp drop-offs. There are
4 changes that occur on both sides of the 60 to 75 dead-band
5 area, and the penalties and the benefits are equal on both
6 sides. And they can speak to that further.

7 COMMISSIONER ASSELSTINE: Is that done on a yearly
8 basis, Tom?

9 MR. NOVAK: I don't know specifically. We are
10 reviewing this as a 2.206 petition, and we will be prepared to
11 respond to it early next month.

12 MR. DENTON: We don't have any particular problem
13 with what is done here. I think we talked about such plans
14 when San Onofre was licensed. Maybe the Commission needs to
15 consider in some other forum the proliferation of these sort
16 of incentive plans around the country. Many states have
17 them. They differ quite a bit. A lot of positive features,
18 and we are sometimes worried about the negative features.

19 MR. DIRCKS: That is being looked at in the I&E
20 operation on the QA program, so when we come back to talk to
21 you, the QA program will cover this incentive.

22 COMMISSIONER ASSELSTINE: Some of them really bother
23 me, and I have expressed those kinds of concerns to some of
24 the state utility commissioners through NARUC because if you
25 have got a sharp drop-off and you focus on specific periods of

1 time, like every year you have to meet a certain level of
2 performance, I get concerned that that drives towards keeping
3 the plant running even when there might be good reasons not
4 to, in order to achieve some specific line, meet some specific
5 number.

6 MR. DIRCKS: I think those are some of our concerns,
7 too, and we will highlight them when we come back with the QA
8 program. I think there is a special study being done on that
9 aspect.

10 COMMISSIONER ASSELSTINE: Good.

11 MR. DENTON: On this particular plant, we concluded
12 that this did not have an adverse impact on safety, and we
13 will continue to monitor it through the inspection program.

14 COMMISSIONER ZECH: Before you leave this slide,
15 could I ask you a question on the CESSAR review again.

16 How does this plant integrate with the CE final
17 design approval? In other words, does it get updated to
18 CESSAR, or does CESSAR follow the plant?

19 MR. NOVAK: Well, in this case, Commissioner Zech,
20 we approved the CESSAR design as a final design approval in
21 December of '83. Any changes that occurred due to information
22 we learned through pre-op startup testing and so forth which
23 affected the specific characteristics of the Palo Verde Unit
24 was handled then on the Palo Verde docket.

25 So for the purposes of this application, the CESSAR

1 review and its representation as it was represented in the FDA
2 was what we used.

3 Now Combustion Engineering, based on the information
4 that they were able to approve through the pre-op tests of the
5 Palo Verde Unit, will be proposing certain amendment changes
6 to the CESSAR FDA to more or less just pick up on some of the
7 loose ends that you normally would pick up from a pre-op test.

8 COMMISSIONER ZECH: So that the CESSAR will be
9 updated, then, by the operational experience of this plant.

10 MR. DENTON: That should bring the two, then, into
11 congruence, yes.

12 COMMISSIONER ZECH: Thank you.

13 MR. NOVAK: One final note, in your briefing, we did
14 identify a number of license conditions that have been
15 satisfied. They will not be required as part of the
16 full-power license, and they do show up in the proposed
17 full-power draft.

18 COMMISSIONER ASSELSTINE: Tom, I have one question
19 about that.

20 I noticed that you had several license conditions in
21 the low-power license, and I forget what some of them were,
22 but then there was one that had to do with the accident
23 analysis.

24 MR. NOVAK: Yes.

25 COMMISSIONER ASSELSTINE: That one you continue in

1 the full-power license, although you have a similar commitment
2 from the Licensee on that one as well.

3 How do you make a decision on which ones you keep in
4 as license conditions and which ones you drop out? I didn't
5 get a flavor for what your criterion is in making that
6 judgment.

7 MR. DENTON: Commissioner, I'm trying to, as there
8 are fewer and fewer issues remaining for most of these
9 plants, to have no unusual license conditions. So we made a
10 drive in this case, both on the utility's part and the Staff's
11 part, to resolve the ones that were in low-power. And I think
12 what it indicates is, we've resolved them all but that one.

13 I'll let Tom talk in more detail. But I would like
14 to see cleaner licenses for all plants, and so we're trying to
15 get to the full-power license without having any remaining
16 work to be done as a part of the license.

17 COMMISSIONER ASSELSTINE: Okay. So wherever you
18 have a commitment to resolve something, then you drop out the
19 license condition. But on the accident analysis one, you've
20 still got some old --

21 MR. NOVAK: Well, we think we will also be able to
22 remove it as a license condition. We do have a commitment
23 from the Licensee, and where there is really no ambiguity as
24 to what's going to be done, and we have confidence we can
25 expect it to be done, then we will remove it as a license

1 condition and will identify it in this supplement.

2 COMMISSIONER ASSELSTINE: At some point, I would
3 like you to talk a little bit about that one, because just
4 from reading the two licenses, and I guess a little discussion
5 in the SER, it looks like it was kind of interesting that the
6 as-built plant didn't match the envelope or the performance
7 characteristics of the original design.

8 I would like to get a little -- either now or later
9 on --

10 MR. NOVAK: Well, very briefly I can tell you. As
11 part of the final pre-op testing of the Palo Verde Unit, a
12 number of small performance characteristics -- closure times
13 of valves, operation of specific pumps and motors -- became
14 aware, which fell outside of the FSAR.

15 Now what was done prior to licensing was more or
16 less to look at these and do what I would call the bounding
17 calculation -- that is, when you look at all of these small
18 differences, you look at those accidents which would be most
19 affected. That was accomplished. So we had the confidence
20 then that with these changes, we had a basis to go forward
21 with licensing.

22 Now what we were requiring by the license condition
23 was to update the FSAR. There were still a number of analyses
24 contained in Chapter 15 which were not being represented by
25 what the FSAR was intended to show -- that is, the small

1 differences. We are going to still get that done on Chapter
2 15 within the next year. We see no reason to rush to it. We
3 understand the performance, and it's really just the question
4 of getting the FSAR consistent with the as-built plant.

5 COMMISSIONER ASSELSTINE: Okay. But the bounding
6 calculations and analysis that you've done is sufficient to
7 provide assurance that there will be no problems?

8 MR. NOVAK: That's correct.

9 With that, I would like to turn the remainder of the
10 meeting over to Jesse Crews.

11 CHAIRMAN PALLADINO: Maybe this is a good time to
12 see if our telephone communications are working.

13 Jack Martin, can you hear us.

14 MR. MARTIN: Yes, I can hear just fine.

15 CHAIRMAN PALLADINO: Okay, thank you.

16 [Slide.]

17 MR. CREWS: There are three areas shown on this
18 slide which we want to cover, just to highlight some of the
19 features of our inspection program at Palo Verde where we have
20 gone a bit beyond the routine program in some instances, and
21 to talk a bit about the QA organization and its effectiveness
22 at the project. And then we want to dwell a bit on the
23 operational experience and then give you an interim report on
24 the findings of our enhanced inspection program at this
25 facility, wherein we have now been with our staff and some

1 consultants in an effort similar to what we did at Diablo,
2 where we are spending some time around the clock observing the
3 conduct of operations at the facility.

4 [Slide.]

5 The next slide, Slide 7, just summarizes the status
6 of our program, inspection program, and highlights some of the
7 special inspection effort that we've undertaken in
8 construction and pre-op.

9 Our program is complete in all outstanding concerns,
10 which have been satisfactorily resolved. In allegations, a
11 moderate number of allegations is shown, a total of 167 as of
12 May 11th, as indicated. There are approximately 14 that are
13 currently in process or pending. Of that 14, about half of
14 those are Region V responsibilities, technical sort of
15 issues. The remaining are with DI and outside Region V.

16 CHAIRMAN PALLADINO: Have all the other allegations,
17 then, been resolved, except for those 14?

18 MR. CREWS: They have, satisfactorily. We have
19 looked at the ones in the category, pending or underway. We
20 have assessed those sufficiently that we're satisfied that the
21 nature of those are such that we feel comfortable that if
22 found to be substantive and correct, it won't impact on our
23 confidence in the appropriateness of full-power operation. So
24 we feel reasonably comfortable in the area of allegations.

25 Let me just note some of the significant

1 enforcements. We have had -- I think you've been well aware
2 in the past of the contractor electrical termination record,
3 the falsification matter. We held in abeyance the final
4 action on that until DI had completed their part of the
5 investigation in terms of whether there was falsification and
6 the degree of supervisory management involved and that sort of
7 thing. That has been resolved, and that action is complete.

8 We undertook a review by our contractor, Livermore
9 Lab, to look at design control and verification of as-built
10 plant to design. That was a rather comprehensive inspection
11 that initially was intended only to verify conformance to the
12 final design documents. It led us into resolution of some of
13 our concerns into actual design practices, and we found some
14 things that required a fair amount of effort on the part of
15 the Licensee to justify some of the design practices in some
16 instances. But we ultimately were satisfied with the
17 resolution of concerns that came out of that.

18 The pre-op inspection program, again, is complete.
19 We had indicated here an enhanced inspection to look at the
20 transition period between construction and pre-op and starting
21 to get ready for acceptance of the systems from construction
22 and the pre-op, and we found some difficulties in that
23 transition. It led to some pausing on the part of the
24 Licensee to get things in order and better controlled. That
25 aspect of startup, a couple or three months, they have since

1 reorganized the effort, and we're satisfied with the way that
2 did proceed through pre-ops and is continuing through startup
3 testing.

4 COMMISSIONER ASSELSTINE: Jess, that had occurred, I
5 guess, just prior to the time that I visited the plant. Could
6 you describe briefly how they went about correcting that
7 interface problem between construction and the pre-op testing
8 groups where the transfer had not worked smoothly, at least
9 initially?

10 MR. CREWS: Well, part of it was changing
11 management, individuals. Attitude and cooperation was a big
12 factor that they addressed. Giving the idea that the plant is
13 going to be owned and operated by Operations brought them into
14 a major function role in this effort. And beyond that, you
15 know, I think that --

16 COMMISSIONER ASSELSTINE: You are satisfied that
17 those problems are now behind them?

18 MR. CREWS: Yes, we are.

19 CHAIRMAN PALLADINO: By the time I visited the
20 plant, they seemed to have made significant improvement in
21 that area.

22 MR. CREWS: Well, in the startup testing and
23 operational inspection program, as I mentioned earlier, we
24 commenced last Wednesday evening, a week ago now, our full
25 around-the-clock coverage by our special inspection team.

1 This team's composition is very similar to that we used at
2 Diablo -- senior people from our own staff in the Region. We
3 have one individual from NRR, a person procedurally
4 experienced in the Staff Headquarters. We have consultants.
5 In this instance, we've used Battelle, people who are
6 experienced license examiners under contract to us, and we
7 commenced the around-the-clock -- excuse me -- we have a
8 couple of our resident inspectors at the facility also
9 participating in this. They have been dedicated to this
10 effort.

11 Overall, and I'm referring to the summary report I
12 provided to Headquarters staff this week, but overall, we have
13 been particularly impressed with what we would characterize as
14 an unusual cautious and thorough approach to the initial
15 criticality preparations for that and the conduct of the
16 testing at low power.

17 The testing is going well. It's on schedule. I
18 have, as part of this team, an individual we used, in this
19 instance from Livermore, who is a reactor physics, highly
20 experienced person, and looking particularly at test results.
21 They're looking good.

22 The plant is performing well, the machine and the
23 instrumentation. We have taken this opportunity to look for
24 some things we think can better enhance the control room
25 environment in terms of noise level, communications, operator

1 alertness, and there have been a couple of observations that
2 prompted some measures taken by the utility to make some
3 improvements in this area.

4 But overall, notwithstanding the need for some
5 improvements, which we will be looking for as we continue on
6 with this effort over the next couple of weeks, the
7 performance of the operators has been good.

8 I think a couple other things I just want to
9 highlight is that the presence of quality assurance in
10 operational activities is really nowhere in this instance,
11 this utility. These people are -- it's what they call their
12 monitoring effort, which is a program that just observes and
13 witnesses the conduct of operational activities, and they're
14 everywhere. They're in the rad protection, even though at
15 this point that's not, you know, a system that is necessarily
16 challenged, but they're looking for procedural adherence, and
17 they're in the testing program as well as the operator
18 performance itself. And it's unusual that we see QA getting
19 in in a substantive way in the operational activities as we've
20 seen here, and the presence of Licensee management, both at
21 the corporate level as well as plant management to stay
22 abreast of operational activities.

23 So at this point, we're encouraged by what we see in
24 terms of the operator performance and all those important
25 functions supporting operation.

1 COMMISSIONER ASSELSTINE: Just how much more
2 low-power testing do they have to do?

3 MR. CREWS: They have only a day or so remaining.

4 COMMISSIONER ASSELSTINE: Oh.

5 MR. CREWS: This is quite an abbreviated low-power
6 test program as compared to Diablo. In Diablo, they did a lot
7 of natural circulation demonstration testing which each crew
8 was involved in.

9 Here, that will be done during power escalation.

10 CHAIRMAN PALLADINO: I want to ask a question of
11 both the Regional people and our Headquarters Staff.

12 There have been reports of drug use at this plant.
13 Are you satisfied that what's been done is consistent with
14 assuring public health and safety? And if you answer yes,
15 then what is the basis for it?

16 MR. DENTON: Let me ask Hugh Thompson, the Director
17 of the Division of Licensing, who has been heavily involved in
18 this area, to respond.

19 MR. THOMPSON: "Heavily involved," I think, is not
20 quite the right word.

21 [Laughter.]

22 MR. DENTON: Heavily involved in resolving this.

23 MR. THOMPSON: I'm Hugh Thompson, the Director of
24 Licensing.

25 As you know, when we learned that there was some of

1 the offsite drug arrests associated with some of the employees
2 there at the plant, we did a careful look at the fitness for
3 duty program, the drug and alcohol abuse program there at Palo
4 Verde.

5 In particular, we looked at the program as it
6 related to the EEL guidelines of what a program should
7 include. Based on our review, we identified a couple of areas
8 which we believe the program and its implementation by the
9 Palo Verde operating personnel could have some suggestions and
10 improvements.

11 We discussed these with the utility. They agreed to
12 incorporate those suggestions that we had, and we feel that
13 with those changes and improvements to their program, that
14 they will be successful in achieving a drug-free work
15 environment there at Palo Verde.

16 We are satisfied that the program now is an
17 acceptable program.

18 MR. DENTON: You might ask Jack Martin.

19 CHAIRMAN PALLADINO: Yes. I was just going to ask,
20 does the Region have any comment on this, either Jesse here or
21 Jack Martin on the phone?

22 Jack?

23 MR. MARTIN: Well, I think we agree with Hugh's
24 assessment that the utility has taken responsible action on
25 this question, and with the changes that have been agreed to,

1 the improvements that have been agreed to in the last couple
2 of days, the Region is satisfied that the situation is in good
3 shape.

4 CHAIRMAN PALLADINO: All right. Thank you.
5 Are there any other Commissioner questions?

6 COMMISSIONER ASSELSTINE: No.

7 CHAIRMAN PALLADINO: I am going to suggest that we
8 ask representatives of the Arizona Public Service to join us
9 at the table.

10 COMMISSIONER ASSELSTINE: Before we do that, Joe --

11 CHAIRMAN PALLADINO: Oh, I'm sorry. Go ahead.

12 COMMISSIONER ASSELSTINE: I didn't realize that was
13 the end of the Staff's presentation. I've got a couple of
14 questions.

15 CHAIRMAN PALLADINO: Okay.

16 COMMISSIONER ASSELSTINE: Not too many.

17 On the low-power license, I had basically four
18 things I wanted to ask you about. And what I wanted to know,
19 on page 7 of the low-power license, the piping vibration test
20 program, the Guide 2 wear surveillance, and the fuel rod
21 growth, items 10, 13, and 14, if you could just tell me
22 briefly what led to each of those.

23 I understand those are three of the ones that are
24 satisfied by the commitments you now have. What I was sort of
25 curious about is what led to those license conditions in the

1 low-power license?

2 MR. NOVAK: Well, the basis for it was a need to
3 have this information available to the Staff for review.
4 Typically, as we go through our review and prepare our safety
5 evaluations, where information is necessary for us to assure
6 ourselves that the design does satisfy the requirements of the
7 Commission, we will identify license conditions.

8 A number of these are specific to the
9 first-of-a-kind design, for example, and we would follow
10 through on that as a lead plant.

11 Others are generic in nature. The Guide 2 wear
12 surveillance program, fuel rod growth problem, the loose parts
13 monitoring, I think, are more of the first-of-a-kind and
14 CESSAR.

15 The vibration monitoring program, we would consider
16 that to be more, I think -- and Mr. Knight can correct me if
17 I'm wrong -- more of a generic concern that we do have.

18 COMMISSIONER ASSELSTINE: The other question I had
19 had to do with the response to the Salem ATWS event. Item 16
20 lists a number of letters, and then I noticed in the
21 full-power license, it says that there was a new letter, I
22 guess April 19, '85, so I was just curious as to what's
23 happening on compliance with the ATWS requirements.

24 MR. NOVAK: Manny, can you answer that, please?

25 MR. LICITRA: Yes. The basic reason for the change

1 between the low-power license and the proposed full-power
2 license is that we updated the condition to reflect the
3 condition as it exists today. At the time we prepared this
4 condition in the low-power license, there were still some
5 outstanding responses left.

6 We could have been more specific in identifying
7 them, but we wrote it generally. The current condition
8 reflects that they have submitted all of the responses, and
9 there is just one item left for implementation. It has to do
10 with the procedures in place, which they have committed to do.

11 COMMISSIONER ASSELSTINE: Okay. That's all the
12 questions I have.

13 CHAIRMAN PALLADINO: All right, thank you.

14 I wonder if we could have the representatives of
15 Arizona Public Service join us at the table. We are pleased
16 to have you with us. We thought we'd give you an opportunity
17 to make any brief statement you would like to make, and
18 perhaps in the process, discuss any comments you have on the
19 incentive program, and I was interested in the status for
20 filling the Nuclear Vice President.

21 MR. TURLEY: Thank you, Mr. Chairman, and good
22 morning, gentlemen.

23 My name is Keith Turley. I am Chairman of the Board
24 and Chief Executive Officer of Arizona Public Service, the
25 Licensee for Palo Verde.

1 I have Ed Van Brunt with me here this morning. He's
2 Executive Vice President of the Arizona Nuclear Power Project,
3 and with him are several members of his staff as well.

4 Ed has been in charge of Palo Verde since the
5 beginning, for the past thirteen years, and I'm sure that if
6 he can't answer any question, no one can, but he can certainly
7 provide you with responses to any technical questions or
8 issues that you might have.

9 We appreciate your consideration this morning given
10 us to the removal of the five-percent power limitation on
11 Unit 1. I trust that you will agree with us that our plant
12 and our organization is ready to proceed to achieve full-power
13 operation.

14 As the Chief Executive Officer, I have satisfied
15 myself that we are ready. I can make that judgment because I
16 have been intimately involved in the project from its
17 inception. The close involvement of the company's Chief
18 Executive Officer in Palo Verde was the result of the
19 deliberate action taken at the very beginning to maintain a
20 very short chain of command between the project organization
21 and the CEO.

22 At all times, there has been only one level of
23 management between the Palo Verde Project Director and the
24 Chief Executive Officer. The result has been that I have been
25 kept continuously and directly informed and able to make the

1 decision that had to be made on a timely basis.

2 Likewise, this has enabled me to effectively
3 communicate my personal insistence and our corporate
4 commitment to safety, quality and excellence at all levels of
5 work.

6 In my view, this has been a cornerstone to the
7 successful completion of our project in terms of schedule,
8 compliance with NRC regulations, and a good working
9 relationship with the NRC and its Staff.

10 As a key part of this good working relationship, we
11 resolved to live up to all commitments that have been made to
12 the Staff, and in that regard, I am very pleased to announce
13 that we have very recently satisfied the commitment that we
14 made to continue to strengthen our executive management team
15 with senior management experienced in the operation of a
16 nuclear power plant.

17 You may recall that upon the retirement of Mr. Tom
18 Woods on February 28th of this year, Ed was promoted to his
19 position as Executive Vice President reporting to me. Now,
20 after an intensive nationwide search, I am please to announce
21 that only yesterday, Mr. Chairman, to answer your question,
22 our Number One candidate accepted our offer as Vice President,
23 Nuclear Operations, reporting to Ed.

24 And he is Mr. Jerry Haynes, who comes to us from
25 Southern California Edison Company, where he has served as

1 Station Manager of the San Onofre Nuclear Station since 1983.
2 He has been with Southern California Edison since 1959, and
3 has served in various nuclear management roles for most of the
4 past twenty years.

5 In 1985, he received his Nuclear Operator's
6 Certificate. Jerry's qualifications and experience in the
7 operation of San Onofre are recognized by Region V and NRR,
8 and we are very delighted that he has decided to join us at
9 Palo Verde.

10 Now Ed has a few remarks to make, and then we will
11 be glad to address any questions that you might have.

12 CHAIRMAN PALLADINO: Thank you.

13 MR. VAN BRUNT: Mr. Chairman, good morning.

14 As Keith said, I'm Ed Van Brunt, Executive Vice
15 President for the Arizona Nuclear Power Project. I became the
16 project director in March of 1972. I was the first employee
17 hired by the company associated with the Palo Verde project,
18 and I have been responsible for its design and construction
19 since that time, and since January of 1984, for the transition
20 from construction to operation and for operation of the
21 facility.

22 Palo Verde, in my view, has been a good project. It
23 is a well designed and well constructed project. Unit 1 is
24 now ready to proceed for full-power operation.

25 Before I proceed to answer some of the questions

1 that have kind of delegated to me during your interactions
2 with the Staff, I would like to thank Harold Denton and the
3 staff of Region V for their cooperation in the licensing of
4 the Palo Verde project. I think you should be aware that the
5 NRC Staff review at Palo Verde has proceeded in a very timely
6 manner and has not resulted in any delays for this project,
7 and I think that's a significant item.

8 To move to a couple of the things that I jotted down
9 --

10 CHAIRMAN PALLADINO: We're not used to that kind of
11 comment.

12 [Laughter.]

13 MR. VAN BRUNT: It's true in this particular case,
14 sir.

15 CHAIRMAN PALLADINO: Thank you.

16 MR. VAN BRUNT: I jotted down a number of items that
17 you were interested in discussing. There was a question
18 regarding the specific schedule for Unit 2 and Unit 3.

19 Presently, Unit 2 is on the threshold of going into
20 our hot functional test. It is scheduled to start on June
21 4th, which is eight days ahead of our present schedule for
22 that activity. We expect to load fuel in the last quarter of
23 this year, probably in the November/December timeframe, and we
24 would expect to be in commercial operation by the second
25 quarter of 1986.

1 Unit 3 is scheduled for fuel load in the first
2 quarter of '87, and we would expect that it will be in
3 commercial operation in the second quarter of 1987.

4 There was some question raised about the low-level
5 waste facility and where we stood on that. We have, in fact,
6 completed a detailed design for a facility that has up to five
7 years storage capacity. It's a modular type facility. We
8 have the opportunity to build it in a two-and-a-half year
9 module and then add to it a two-and-a-half year, or we can
10 build it as five years all at once. We have the
11 specifications complete. We're all set to go.

12 The construction schedule is estimated to be in the
13 range of fourteen to fifteen months.

14 As you are probably aware, and Mr. Turley has been
15 quite involved in it, there is a bit of legislation being
16 considered right now as it relates to the cutoff date, I guess
17 it is, for shipping to facilities such as Hanford, where we
18 have a contract. We are waiting for some indication as to
19 which way those things are going to go and how new generators,
20 such as ourselves, are going to be treated under that, whether
21 there will be some special allowance for us to ship beyond the
22 end of this year.

23 Once it becomes fairly clear to us which track those
24 proceedings are going down, we will then make a decision on
25 which way to go. We have, certainly, the opportunity to

1 provide temporary storage at our plant, if we should decide to
2 go ahead with the construction. We have, as you are well
3 aware, a rather large site, and we have lots of space
4 available where we can provide for storage.

5 So that's where we stand at this point.

6 The last item that I jotted down that you wish me to
7 discuss had to do with incentive plans. As Mr. Novak
8 indicated to you, we've had two different plans, one that we
9 instituted ourselves, and the other which was instituted by
10 our Public Utility Commission.

11 In May of 1984, APS's Project Manager and operating
12 agent for the Palo Verde project, in conjunction with our
13 partners, determined that we felt that it would be valuable to
14 us to enhance the construction activities at Palo Verde to go
15 into what we called the management incentive program for
16 middle managers at Palo Verde, and I would like to read very
17 briefly from the policy statement that went along with that,
18 exactly what that program was about. And then I would like to
19 also just read the last part of it, which had to do with the
20 administration of the program.

21 The purpose of the program was as follows: "Prompt
22 fuel load of Palo Verde Unit 1 is of paramount importance to
23 the customers and stockholders of the ANPP participants. As
24 such, it is the intent of the Palo Verde Unit 1 fuel load
25 incentive program to maximize the probability of achieving the

1 earliest possible fuel load date consistent with the
2 participants' dedication to quality and safety and consistent
3 with applicable regulations. It is recognized that the
4 project team which APS has assembled to engineer, construct,
5 start up, and operate the Palo Verde Units is dedicated and
6 loyal to the concept of devoting their full attention and
7 energies to the earliest possible fuel load date for Unit 1.

8 "It is further recognized, however, that a financial
9 incentive to each contributing team member is an effective
10 means to assist team management in ensuring a maximum of
11 effort from every contributing team member over the duration
12 of the startup prior to fuel load."

13 I would point out that senior management, including
14 Tom Woods, who was then the Executive Vice President, and
15 myself, my assistant, Don Karner, the Director of QA and the
16 full QA/QC staff were excluded from this program. The
17 program, in our view, has been successful. I think it was a
18 major contributor to a successful completion of fuel load at
19 Palo Verde ahead of schedule, and, I believe, in a high
20 quality manner.

21 The administration, again referring to the policy,
22 it says that "the Administrative Committee," which is kind of
23 like the Board of Directors that I have from our partners,
24 "shall administer the program to assure that safety and
25 quality objectives are achieved, to approve eligible

1 personnel, determine commencement of the fuel load activities
2 of Palo Verde," and then and so on.

3 We made an extensive evaluation, I and my staff,
4 which was reviewed with Mr. Turley and then reviewed with the
5 Administrative Committee as to whether the objectives outlined
6 in this program were, in fact, achieved, and then our partners
7 approved the compensation to the managers involved of roughly
8 fifty percent of their salaries.

9 I think it was a valuable program. We do not plan
10 to continue it for the other units, because we think it's
11 achieved our purpose. I think it brought the team together.
12 Their communications were improved in addition to the various
13 management changes that had occurred prior to that time.

14 So that was one program.

15 The other program is a program that has been
16 instituted by our Public Utilities Commission. It only
17 applies to Unit 1, and it is to be in effect for a minimum of
18 two years. And it kind of has four components to it.

19 There are some commercial operational criteria,
20 which were defined for us, and I'll tell you what that was in
21 just a minute. There is a commercial operational schedule
22 incentive. There is a construction cost incentive, and then
23 there are some operating incentives.

24 The commercial operation criteria is as follows, and
25 I read this: "The specific definition, as adopted, is 95 to

1 100 percent of licensed reactor power for 100 continuous hours
2 for Unit No. 1."

3 This removes uncertainty regarding the definition
4 with our Commission. I think it gives us a clear idea of what
5 we're talking about as far as definition. I think that's to
6 our advantage and to the advantage of the Commission. I don't
7 think that puts any additional burdens on us or causes us to
8 do anything that we wouldn't do otherwise.

9 With regard to the commercial operation incentive --
10 and if you ask me questions about AFUDC, I'll defer to my Vice
11 President and Treasurer that is with me -- forego 100 percent
12 AFUDC equity for each month Palo Verde Unit 1 fails to achieve
13 80 percent license reactor power for 100 continuous hours by
14 December 31, 1985. In other words, we have to reach 80
15 percent for 100 hours by the end of this year. That should be
16 readily achievable, based on our present program and no
17 unusual events.

18 Two, forego 100 percent AFUDC equity is 95 to 100
19 percent of licensed reactor power for 100 continuous hours is
20 not achieved by March 1st of 1986. This current schedule for
21 Palo Verde is clearly within the timeframe there, and I don't
22 believe that it would put any pressure on us or anything else,
23 and in fact, as I think Mr. Novak indicated, it is our opinion
24 that the best thing for us to do is to do the job right the
25 first time in a high-quality manner, and this really is not

1 anything that we wouldn't do to start with.

2 With regard to the construction cost incentive, it
3 has a number of aspects to it. It puts a construction cap of
4 \$2.86 billion -- that's total, including AFUDC and all the
5 rest of it -- on APS's share of the Palo Verde project.
6 Expenditures above that amount would be considered to be
7 imprudent.

8 Our current cost estimate is \$2.73 billion for APS's
9 share, which allows significant contingency between what we
10 expect the plant to cost and what the cap is.

11 That's about it, as far as that one is concerned.

12 With regard to operating incentives, as I said,
13 this is applicable to Unit 1 only, there is a dead-band. It
14 is tied to the capacity factor. There is a dead-band of
15 capacity factor that runs from 60 to 75 percent, which is
16 established with neither a penalty or a reward.

17 Ranges of capacity factor are established for a 50
18 percent sharing of cost savings between ratepayers and
19 shareholders. There is a reward above 75 that goes to 85, and
20 there is a penalty below 50 that goes from 50 to 60 related to
21 fuel costs.

22 Ranges of capacity factor are established for all
23 cost savings to be borne by the shareholders of a 50 percent
24 reward, 85 to 100 percent, and their penalty, 35 to 50
25 percent.

1 Capacity factors below 35 percent trigger a
2 reconsideration of the last case. And the penalty and reward
3 is based on a weight average fuel cost to the remainder of our
4 system, and there is a provision for extraordinary events in
5 the case of unusual circumstances.

6 So that really kind of outlines the program that our
7 Commission has imposed upon us. We don't believe that it will
8 have any adverse effect upon the safety of the plant, the
9 quality of our activities, and in fact, we believe it provides
10 us with a positive incentive to do the job properly the first
11 time around.

12 CHAIRMAN PALLADINO: Okay.

13 MR. VAN BRUNT: Those were the items that I had from
14 your list. If you have other questions, I'll be glad to
15 answer them.

16 CHAIRMAN PALLADINO: All right. Thank you very
17 much.

18 Are there any questions by Commissioners?

19 COMMISSIONER ASSELSTINE: Maybe just one other
20 question.

21 Ed, you mentioned that the Staff had done a good job
22 in terms of the time, that they always processed things on
23 time and hadn't held you up at all.

24 Let me ask you about backfitting. Did you have any
25 significant difficulties in terms of backfitting changes, your

1 three-unit plant that has gone through the post-TMI era?

2 MR. VAN BRUNT: Backfitting is always a problem.

3 CHAIRMAN PALLADINO: I'm sorry. I didn't hear that.

4 [Laughter.]

5 MR. VAN BRUNT: Backfitting is always a problem, and
6 I would be less than honest if I said that we have not had
7 some backfitting. We certainly have.

8 I think that the amount of backfitting that we have
9 had as a result of TMI and other things has probably been less
10 than most, primarily because of our activities related to
11 Units 4 and 5.

12 If you look objectively at the TMI requirements in
13 many areas, many of those were really not related to TMI.
14 They were already in the making, if you like.

15 COMMISSIONER ASSELSTINE: That's right.

16 MR. VAN BRUNT: Hydrogen recombiners is the best
17 example I can think of off the top of my head. And as a part
18 of our 4 and 5 licensing process, where we had gotten all the
19 way to ACRS before we decided to terminate that project, you
20 may remember that we had made a commitment that any new
21 licensing issues that came up on 4 and 5, we would institute
22 into Units 1, 2 and 3.

23 So many of the things that came out of TMI, we had
24 already put in to 1, 2, and 3. Certainly we had to add
25 emergency facilities and those kinds of things and some of the

1 instrumentation.

2 I guess the most significant problem we have had
3 with backfitting probably was related to Appendix R more than
4 the TMI efforts.

5 CHAIRMAN PALLADINO: Okay. Other questions?

6 COMMISSIONER BERNTHAL: Just a brief question, and
7 this is a question that you will have to answer very broadly.
8 It has to do with the earlier point that was raised on drug
9 use and whatnot.

10 I am really only interested because it would only be
11 appropriate here to talk about -- to talk in general terms
12 about your commitment to the industrywide fitness for duty
13 program.

14 As you know, the Commission has -- well, still has
15 before it, I guess -- but this is one of the areas that the
16 Commission has planned to defer somewhat to the industrywide
17 program.

18 Could you outline just very briefly for us exactly
19 how your utility is planning to assure fitness for duty in the
20 broad sense for your personnel?

21 MR. VAN BRUNT: Yes, sir.

22 COMMISSIONER ASSELSTINE: Particularly in light of
23 your recent experience.

24 COMMISSIONER BERNTHAL: Right.

25 MR. VAN BRUNT: I am on the NUMARC Executive

1 Committee.

2 MR. TURLEY: We are committed to that program. This
3 most recent episode enabled us to review our position and our
4 policy. As the Staff has indicated, we have worked with them
5 closely in a couple of areas to strengthen the policy
6 statement. The actions that we took in the recent incident
7 are within the umbrella of this policy statement.

8 Are you going to read it, a little bit of it?

9 MR. VAN BRUNT: I just want to make one or two
10 comments. I will read you a paragraph, and I think that will
11 tell you where we are.

12 As Keith indicated, I have been on the Executive
13 Committee of NUMARC since its institution, and Joe Bynam, our
14 plant manager, and Bill Ide, our Director of QA, are involved
15 in some of the working groups, and we have been intimately
16 involved in these particular activities. We certainly endorse
17 the activities of NUMARC, and in particular, this particular
18 area.

19 In putting our policy in place, we looked carefully
20 at the EEL guidelines and went beyond those in quite a number
21 of areas. In going through what we have gone through over the
22 last two weeks, it certainly was a learning process for us,
23 and there were a few areas which we identified ourselves and a
24 couple of the Staff has identified to us where I think our
25 policy could be strengthened.

1 I think the Staff would agree that generally, even
2 though some of them weren't written in here, that we had
3 covered most of those areas but that we needed to put the
4 words to paper pretty much.

5 Let me just read you the purpose and scope. I think
6 that will give you where we stand as far as this matter is
7 concerned.

8 "It is the policy of the Company that individuals
9 known to use illegal drugs shall not be employed in activities
10 which are or can be critical to the safe operation or
11 maintenance of Arizona Nuclear Power Project. It is also the
12 policy of the Company that the use of illegal drugs and
13 alcohol abuse are not condoned for any ANPP employee.

14 "To implement these policies, the following rules
15 shall be applied as conditions of employment at ANPP. One,
16 any ANPP employee who uses, possesses or sells illegal drugs
17 or alcohol on site will be terminated." And I think we have
18 demonstrated our resolve in that matter.

19 "Any ANPP employee who is known or suspected to be
20 using illegal drugs on his own time or engaged in alcohol
21 abuse shall be subject to investigation, evaluation,
22 indoctrination and rehabilitation as appropriate,
23 reassignment, disciplinary action or termination."

24 And finally, "All ANPP employees will be
25 indoctrinated respecting this policy on the medical effects of

1 the use of drugs and alcohol."

2 That is the commitment that we have to this, and
3 then the rest of it goes on to implementation.

4 We are fairly satisfied that the actions we have
5 taken to identify the problem we had or to even determine we
6 had a problem have been prudent, and I think that we will
7 continue to do that. In fact, I know we will.

8 COMMISSIONER BERNTHAL: Thank you.

9 CHAIRMAN PALLADINO: Thank you.

10 Commissioner Roberts.

11 COMMISSIONER ROBERTS: I have a very personal and
12 subjective observation. When I was back in the real world of
13 the private sector, I spent over a dozen years manufacturing
14 components for nuclear power plants, and I was involved in
15 Palo Verde. I am sure Mr. Van Brunt will tell me he has got
16 the best containment liner in the country. Right?

17 MR. VAN BRUNT: Toughly negotiated.

18 COMMISSIONER ROBERTS: In all seriousness, I was
19 never involved in a project where both the owner and the
20 architect engineer were more concerned about getting a quality
21 job, and it showed from the very beginning. I have never been
22 involved with a better managed project. That is from the
23 perspective of a lower level contractor, but I am not
24 surprised that you have a quality plant because you approached
25 it in that way from the beginning.

1 MR. VAN BRUNT: Thank you.

2 MR. TURLEY: Thank you.

3 CHAIRMAN PALLADINO: Commissioner Zech.

4 COMMISSIONER ZECH: I just have two brief comments.

5 First of all, on your incentive program, I think that is very
6 commendable. On the other hand, I would certainly emphasize
7 that you keep in mind, as you did point out, safety. Public
8 health and safety concerns are primary concerns for us and for
9 you, and although the incentive programs have great merit, at
10 times I think you have to exercise a degree of caution because
11 public health and safety has to come first.

12 The second comment would be on your quality
13 assurance program. I have visited the plant and I have seen
14 what you are doing out there and I have seen what you have
15 done to overcome some earlier difficulties in that area, and I
16 think it is one of the best quality assurance programs than I
17 have seen in any of the utilities.

18 I know that the tape that Mr. Turley puts out and
19 has all employees see, that message, as far as I could tell
20 during my visit, is getting out to your employees and your
21 people and it does have a very positive impact, and I commend
22 you for that program. It is an excellent one, in my judgment.

23 MR. TURLEY: Thank you, sir.

24 MR. VAN BRUNT: Thank you.

25 CHAIRMAN PALLADINO: Any more?

1 COMMISSIONER ASSELSTINE: I would add that it has
2 been a while since I have been out to the site, but I was
3 quite impressed with what I saw when I was out there. You had
4 some problems with the startup program, but it looks like you
5 have addressed those and put them behind you. You had some
6 component problems, too, that weren't necessarily your
7 responsibility; but I have been fairly pleased and impressed
8 with what I have seen of this project and the progress you
9 have made.

10 MR. VAN BRUNT: Thank you.

11 MR. TURLEY: Thank you, sir.

12 COMMISSIONER BERNTHAL: If I could just make a brief
13 comment, again, it has been some time since I was there, too,
14 but unless I am miscalculating or mistaken, my guess is that
15 that is probably the largest civilian construction project
16 ongoing in this country. I can't verify that, but I can't
17 imagine what else would be.

18 MR. VAN BRUNT: Certainly in Arizona.

19 COMMISSIONER BERNTHAL: I don't want to wax overly
20 enthusiastic about what is going on at Palo Verde, or
21 inappropriately enthusiastic, but I also want to place in
22 perspective some of the earlier discussion we heard today on
23 to PORV or not to PORV, for example, and point out to the
24 public that what is going on here is the final stages, I would
25 say, or the final throes of the Commission saying, in effect

1 for Palo Verde but certainly for this particular proposed
2 standardized plant design, that Palo Verde presents the plant
3 of the future.

4 I think that is an important point to keep in
5 mind. It is of a design that is the large dry containment,
6 for one thing, that the source term work recently verified and
7 characterized as being a forgiving and very robust and
8 appropriate design. The plant is very well sited. There are,
9 I guess we were told, 800 people in a ten-mile radius. That
10 is extraordinary. That is a very well-sited plant.

11 I would have to say that that is probably the only
12 site I have seen in this country that, taken in an overall
13 view, bears a good deal of resemblance to some of the French
14 efforts and the French projects. It has been fairly
15 well-handled from the beginning. It is well sited and it
16 represents an advanced technology.

17 COMMISSIONER ASSELSTINE: I would agree with that,
18 and I think that some of the things that you-all have done
19 that we haven't talked about today in the area of
20 standardization, the modeling that you did, the planning for
21 maintenance, the ability to do that by building a number of
22 units exactly the same, are real benefits. I think they show
23 the wisdom of the standardization approach and via the
24 mistakes that we have made all too often in the past.
25 Hopefully, we are pointed in a better direction with the kind

1 of work that you-all have done.

2 CHAIRMAN PALLADINO: Thank you.

3 I, too, was favorably impressed during my visit.

4 Now let me ask the Commission if it is ready to
5 vote, and let me pose the question.

6 The question is: Do you favor authorizing the Staff
7 to issue a full power license for Palo Verde Unit 1?

8 Those in favor, say "Aye."

9 CHAIRMAN PALLADINO: Aye.

10 COMMISSIONER ROBERTS: Aye.

11 COMMISSIONER ASSELSTINE: Aye.

12 COMMISSIONER BERNTHAL: Aye.

13 COMMISSIONER ZECH: Aye.

14 CHAIRMAN PALLADINO: Any opposed?

15 [No response.]

16 CHAIRMAN PALLADINO: Thank you very much.

17 Any other closing comments?

18 [No response.]

19 CHAIRMAN PALLADINO: We stand adjourned.

20 [Whereupon, at 12:20 p.m. the meeting was
21 adjourned.]

22

23

24

25

1 CERTIFICATE OF OFFICIAL REPORTER

2
3
4
5 This is to certify that the attached proceedings
6 before the United States Nuclear Regulatory Commission in the
7 matter of: Commission Meeting - Public Meeting

8
9 Name of Proceeding: Discussion/Possible Vote on Full Power
10 Operating License for Palo Verde - 1

11 Docket No.:

12 Place: Washington, D. C.

13 Date: Thursday, May 30, 1985

14
15 were held as herein appears and that this is the original
16 transcript thereof for the file of the United States Nuclear
17 Regulatory Commission.

18
19 (Signature) Marilynn M. Nations
20 (Typed Name of Reporter) Marilynn Nations

21
22
23 Ann Riley & Associates, Ltd.
24
25

COMMISSION BRIEFING

PALO VERDE UNIT 1

FULL POWER LICENSE

MAY 30, 1985

CONTACT:

E. A. LICITRA

X27200

SLIDE 1

BRIEFING OUTLINE

LICENSEE/PLANT BACKGROUND

SELECTED ISSUES

INSPECTIONS

QUALITY ASSURANCE

PLANT OPERATING EXPERIENCE

2.206 PETITIONS

ALLEGATIONS

INVESTIGATIONS

CONCLUSION

PALO VERDE 1

SLIDE 2

LICENSEE/PLANT BACKGROUND

- LICENSEES

- ARIZONA PUBLIC SERVICE COMPANY (OPERATOR) AND SIX OTHER CO-OWNERS
- CP ISSUED MAY 1976

- PLANT

- REACTOR - CE SYSTEM 80, 3800 MWT, 1270 MWE
- A/E AND CONSTRUCTOR - BECHTEL

- SITE

- LOCATED IN MARICOPA COUNTY, ARIZONA
- 50 MILES WEST OF PHOENIX
- NEAREST TOWN - BUCKEYE (16 MILES, POPULATION 3000)
- SPARSELY POPULATED
- ORIGINALLY 5-UNIT SITE; NOW 3 UNITS (2 UNDER CONSTRUCTION)

- OFFSITE EMERGENCY PLANNING

- EMERGENCY EXERCISE - SEPTEMBER 1984
- FEMA REPORT ON EXERCISE - NOVEMBER 1984 (APPROPRIATE PROTECTIVE MEASURES CAN BE IMPLEMENTED)
- FEMA FINDINGS ON OFFSITE PLANS - MARCH 1985 (OVERALL PLANS ARE ADEQUATE)

SELECTED ISSUES

- FSAR REVIEW
 - CESSAR REVIEW
 - COMPONENT TESTING PROBLEMS
 - FIRE PROTECTION PROGRAM
 - ENVIRONMENTAL QUALIFICATION
 - DEPRESSURIZATION CAPABILITY
 - LOW LEVEL WASTE STORAGE FACILITY
 - CORROSION OF PIPING WELDS - ULTIMATE HEAT SINK
 - PLANT STAFFING
- TECHNICAL SPECIFICATIONS
- INCENTIVE PROGRAMS

PALO VERDE 1

SLIDE 4

INCENTIVE PROGRAMS

- APS FUEL LOAD BONUS PLAN
- ARIZONA CORPORATION COMMISSION INCENTIVE PLAN FOR APS
 - GRADUATED PENALTIES FOR EXCEEDING OPERATING MILESTONE DATES AND CONSTRUCTION COSTS FOR PALO VERDE
 - GRADUATED AWARDS AND PENALTIES FOR PLANT CAPACITY FACTORS OUTSIDE 60-75% RANGE FOR PALO VERDE

PALO VERDE 1
SLIDE 5

REGIONAL EVALUATION

- INSPECTION PROGRAM
- QUALITY ASSURANCE ORGANIZATION AND PROGRAM
- PLANT OPERATING EXPERIENCE

PALO VERDE 1

SLIDE 6

PALO VERDE UNIT 1
INSPECTION PROGRAM

CONSTRUCTION INSPECTION

- PROGRAM COMPLETED. NO OUTSTANDING SIGNIFICANT ISSUES
- RESOLUTION OF MODERATE NUMBER OF ALLEGATIONS - (167 LINE ITEMS AS OF 5/11/85; 153 COMPLETED, 14 PENDING)
- SPECIAL CONSTRUCTION APPRAISAL TEAM INSPECTIONS IN 1981 AND 1983 SATISFACTORY
- ONE CIVIL PENALTY IMPOSED (12/83) - \$40,000 FOR FALSIFICATION OF AN ELECTRICAL TERMINATION INSTALLATION CARD
- NRC CONTRACTOR (LLNL) VERIFICATION OF AS BUILT CONFIGURATION CONTROL FOR PIPE SUPPORTS, DESIGN CONTROL ADMINISTRATION AND IMPLEMENTATION

PREOPERATIONAL INSPECTION

- PROGRAM COMPLETED. NO OUTSTANDING SIGNIFICANT ISSUES
- ONE CIVIL PENALTY IMPOSED (12/83) - \$20,000 FOR INADEQUATE CONTROL OF EARLY PREOPERATIONAL TEST PROGRAM
- SPECIAL TEAM INSPECTION AUGUST, 1984, VERIFIED STARTUP WORK CONTROLS SATISFACTORY

STARTUP TESTING AND OPERATIONAL INSPECTION

- PROGRAM UNDERWAY. NO OUTSTANDING SIGNIFICANT ISSUES
- NO SIGNIFICANT ENFORCEMENT ACTIONS PENDING
- ESSENTIAL SPRAY COOLING SYSTEM CORROSION IDENTIFIED
- SALP EVALUATION FOR APRIL, 1984 - OCTOBER, 1985 - TREND IMPROVING
- SPECIAL INSPECTION OF LOW POWER OPERATING ACTIVITIES CURRENTLY BEING CONDUCTED

QUALITY ASSURANCE ORGANIZATION AND PROGRAM

QUALITY ASSURANCE ORGANIZATION INDEPENDENT OF NUCLEAR PRODUCTION

- QA ORGANIZATION EVOLVED FROM MONITORING A/E (BECHTEL) QA PROGRAM DURING CONSTRUCTION TO FIRST LINE RESPONSIBILITY FOR STARTUP AND OPERATIONS
- CORPORATE QA MANAGER REPORTS DIRECTLY TO EXECUTIVE VP, ANPP
- DEPARTMENT ORGANIZED FUNCTIONALLY (PROGRAMS, PROCUREMENT, AUDIT, AND QUALITY CONTROL DEPARTMENTS)

INDEPENDENT QA EVALUATION IN 1982 BY TORREY PINES TECHNOLOGY

- CONCLUDED THAT QA PROGRAM WAS EFFECTIVE IN CONTROLLING DESIGN ACTIVITIES

QUALITY OF CONSTRUCTION ABOVE AVERAGE

- WELDING
- FIRE PROTECTION SYSTEMS
- ALL PERSONNEL ACTIVELY ENCOURAGED TO IDENTIFY QUALITY CONCERNS

CONSTRUCTION, STARTUP, AND OPERATIONAL QA PROGRAM INSPECTIONS

- NO SIGNIFICANT UNRESOLVED ISSUES
- THOROUGH CORRECTIVE ACTION WHEN DEFECTS OBSERVED
E.G. CARDINAL BOLT REINSPECTION, PREOPERATIONAL TEST PROGRAM RESULTS REVERIFICATION

OPERATING EXPERIENCE PALO VERDE UNIT 1

MAJOR MILESTONES

- RECEIVED LOW POWER LICENSE DECEMBER 31, 1984
- ENTERED MODE 6 (COMMENCED FUEL LOAD) JANUARY 7, 1985
- COMPLETED FUEL LOAD - NO SIGNIFICANT PROBLEMS ENCOUNTERED JANUARY 11, 1984
- ENTERED MODE 5 ($TC < 210F$) JANUARY 27, 1985
- SAFETY INJECTION SIGNAL - CAUSED BY APRIL 17, 1985
- ON SITE ELECTRICAL DISTRIBUTION SWITCHING ERROR DURING SURVEILLANCE TESTING
- ENTERED MODE 4 ($210F < TC < 350F$) - APRIL 21, 1985
- STARTED POST CORE HOT FUNCTIONAL TEST
- ENTERED MODE 3 ($TC > 350F$) APRIL 29, 1985
- COMPLETED POST CORE HOT FUNCTIONAL TEST MAY 15, 1985
- - NO SIGNIFICANT PROBLEMS ENCOUNTERED
- ENTERED MODE 5 TO REPLACE TWO WEEPING PRESSURIZER CODE SAFETY VALVES AND TWO MAIN STEAM SAFETY VALVES MAY 16, 1985
- SINCE LICENSING, SEVERAL PROBLEMS HAVE BEEN EXPERIENCED WITH THE DIESEL GENERATORS. TROUBLE SHOOTING IDENTIFIED PROBLEMS WITH CONTROL AIR SYSTEM (I.E. LEAKS AND DEFECTIVE FUEL CONTROL CYLINDER). CORRECTIVE ACTIONS HAVE BEEN TAKEN AND TECHNICAL SPECIFICATION COMPLIANCE MAINTAINED.
- ESTIMATED CRITICALITY DATE MAY 24, 1985

PALO VERDE 1
SLIDE 9

12/82

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Meeting Title: Dis/Pass Vote on Full PowerOperating License for Palo Verde-1Meeting Date: 5/30/85 Open ☒ Closed ☐

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