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NUCLEAR REGULATORY COMMISSION

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COMMISSION MEETING

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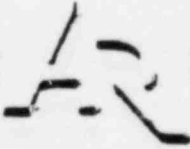
BRIEFING ON SUSQUEHANNA UNIT 1
FULL POWER AMENDMENT

(WITH VIEWGRAPHS)

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BRIEFING ON SUSQUEHANNA UNIT 1
FULL POWER AMENDMENT
PUBLIC MEETING

Nuclear Regulatory Commission
Room 1130
1717 H Street, N. W.
Washington, D. C.
Thursday, September 30, 1982

The Commission convened, pursuant to notice,
at 9:50 a.m.

BEFORE:

- NUNZIO PALLADINO, Chairman of the Commission
- VICTOR GILINSKY, Commissioner
- JOHN AHEARNE, Commissioner
- THOMAS ROBERTS, Commissioner
- JAMES ASSELSTINE, Commissioner

STAFF AND PRESENTERS SEATED AT COMMISSION TABLE:

- W. DIRCKS
- H. DENTON
- D. EISENHUT
- R. PERCH
- R. HAYNE
- J. ZERBE
- S. TRUBATCH
- M. CHRISSENBERRY

1 AUDIENCE SPEAKERS:
2 R. VOLLMER
3 R. MATTSON
4 G. RHOADS
5 E. McCABE
6 J. DURR
7 H. THOMPSON
8 T. NOVAK
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P R O C E E D I N G S

1
2 CHAIRMAN PALLADINO: The meeting will please
3 come to order. I apologize for the delay in meeting.

4 We are meeting this morning to hear from the
5 staff on matters related to the issue of the full power
6 license for Susquehanna Unit 1.

7 An operating license was issued on July 17th
8 of this year, but the license restricted operation to
9 power levels not exceeding 5 percent of full power.
10 Since that time, the staff has received what it believes
11 is sufficient information for them to recommend lifting
12 the 5 percent restriction.

13 I should note at this point that our Office of
14 Investigations is conducting an investigation on
15 allegations concerning small bore pipe hangers at
16 Susquehanna. The Commission was briefed on the status
17 of that investigation this morning. We will be hearing
18 from the staff about the technical aspects at this
19 meeting. The investigation, however, is not yet
20 complete.

21 At this point, I should ask to see if any of
22 my fellow Commissioners have any other opening remarks
23 to be made. If not, I will turn the meeting over to Mr.
24 Dircks.

25 MR. DIRCKS: I think is going to be the one to

4
1 present the licensing case. Ron Hayne is here with his
2 regional staff also.

3 MR. DENTON: I have here this morning Darrell
4 Eisenhut and Bob Perch, the project manager on this
5 facility. Also we have in the audience Mr. Vernon Adler
6 from FEMA who is available to discuss the emergency
7 planning aspects of this review.

8 As you mentioned, Mr. Chairman, we did issue a
9 low power license on July 17th. Since that time, we
10 have followed the activities at the site, and we have
11 completed some of the remaining items that had to be
12 done before we could recommend allowing higher power
13 operation.

14 We now anticipate that all activities required
15 to meet the Commission's requirements for operation
16 above 5 percent power will be completed around the
17 second week in October.

18 What we would like to do today is to discuss
19 with you the key features of our review, and open items
20 that still are pending. Let me ask Darrell Eisenhut to
21 begin.

22 MR. EISENHUT: If I could have the outline
23 slide.

24 (Slide.)

25 As Harold mentioned, we plant today to go

1 through a selected number of items. These are somewhat
2 unique or significant on the plant, and it is actually a
3 pretty thorough list because most of the things have
4 been pretty well wrapped up. This is a follow-up plant
5 to LaSalle review. Some of the items are very similar
6 to those that we discussed.

7 We will have the region present a report on a
8 number of the operating history problems that we have
9 gone through since July 17th. It will also include, as
10 was mentioned, a technical discussion of the
11 allegations.

12 If I could have the next slide.

13 (Slide.)

14 This is sort of a summary of where the plant
15 starts off, and Bob Perch will summarize where we are.

16 MR. PERCH: The utility for Susquehanna is
17 Pennsylvania Power and Light.

18 COMMISSIONER GILINSKY: Would you pull that
19 microphone a little bit closer?

20 MR. PERCH: The utility for Susquehanna is
21 Pennsylvania Power and Light. It has a small interest
22 also financially from the Allegheny Electric
23 Cooperative. The Susquehanna facility, however, will be
24 operated solely by Pennsylvania Power and Light.

25 The site is located 20 miles south of

1 Wilkes-Barre, Pennsylvania, 50 miles northwest of
2 Allentown, where PP&L has their corporate offices, and
3 70 miles northeast of Harrisburg.

4 It is a two-unit site. Unit 2 is currently
5 still under construction, with a scheduled completion 18
6 months behind Unit 1, which should be January, 1984. It
7 is currently two to three months behind that schedule.
8 However, the utility feels that they can make up that
9 time.

10 This is the first facility that PP&L will be
11 operating. However, they have been involved in with
12 other electric utilities in Beach Bottom 1.

13 COMMISSIONER AHEARNE: Is the last line no
14 longer accurate?

15 MR. DENTON: On this slide.

16 MR. PERCH: By current schedule, the utility
17 expects to exceed 5 percent on 11 October.

18 May I have the next slide, please.

19 (Slide.)

20 COMMISSIONER GILINSKY: Are you going to say
21 something about the experience so far at the low power
22 stage?

23 MR. EISENHUT: We have that as part of the
24 regional discussion. The region will summarize that
25 when we get to that portion of the presentation.

1 MR. PERCH: Susquehanna is a BWR-4 Mark II
2 containment.

3 MR. EISENHUT: Let me interrupt for a second,
4 Bob.

5 This plant is very similar to the LaSalle
6 station that we discussed, and the over and under
7 design, remember, that I went through at that time.
8 There is really only two issues that need to be
9 mentioned here, and that is what is referred to as the
10 Humphrey concerns.

11 I am sure you have heard of this. There was a
12 gentleman who resigned from GE and expressed some
13 concerns over some details of the pressure suppression
14 calculations. Actually, it had to do with blowing down
15 the plant.

16 COMMISSIONER GILINSKY: Wasn't he at Grand
17 Gulf?

18 MR. EISENHUT: He sent a letter to Grand
19 Gulf. An extension of that was, we actually contracted
20 with the individual for a couple of days to go through
21 in some detail with him and our technical folk.

22 The actual details of his concerns, there were
23 generic inferences there for Mark Is and Mark IIs,
24 although they were second order. I believe that the
25 Humphrey concerns have been put to bed to our

1 satisfaction on Mark IIs as of this time, at least for
2 the short-term. The BWR owners re doing a reevaluation
3 of what these fine-tunings, so to speak, of the numbers
4 means for the Mark IIs, but we, as I said, think that it
5 is completely second order.

6 CHAIRMAN PALLADINO: Were there any plant
7 modifications made as a result?

8 MR. EISENHUT: As a result of that, no.

9 CHAIRMAN PALLADINO: Mr. Humphrey's concerns.

10 MR. EISENHUT: No.

11 The last item on here is wetwell/drywell
12 vacuum breakers. Also, I believe, in the LaSalle
13 discussion there was a question raised about the vacuum
14 breaker lines that connect the wetwell to the drywell,
15 the top and the bottom of the over/under design.

16 There was a question about the dynamic
17 qualification of those valves, and the same question
18 exists here. On this plant there is an adequate
19 technical basis from developing models at a previous
20 test and some testing of these valves to ensure that
21 they don't slam shut and, in fact, fail, that is, that
22 they would survive.

23 The utility has committed to additional
24 modifications using high strength steel in the valves,
25 for example. He has committed to do that at a later

1 time, and that is the subject of a license condition. I
2 think that it is during the first fuel outage, he is
3 going to upgrade them.

4 The bottom line is that we believe they are
5 satisfactory in the interim.

6 CHAIRMAN PALLADINO: Were there any special
7 concerns at Susquehanna, or is that part of a more
8 general question.

9 MR. EISENHUT: It is sort of a more general
10 question of, these vacuum breakers really, under certain
11 blow down conditions, are they qualified. There were
12 some tests here where a similar valve was tested with no
13 visible damage, no measurable damage. It is an upgrade
14 program aimed at the first refueling outage to upgrade
15 those.

16 Why don't we go on to the next slide.

17 (Slide.

18 This plant uses -- It is sort of a new lead
19 control room design. This plant uses a lot of CRTs in
20 its design. It was designed by the utility as using
21 some of the physical layouts of the more traditional
22 control room design, however, using the electronic
23 aspects of the NUCLEAR-NET 1000, which is the new
24 vintage, small control room, where the operator sits in
25 sort of a horseshoe control wrap-around panel.

1 This was the result of extensive study during
2 the review process because it is certainly an
3 advancement. The utility has stressed quite a point
4 that the CRT systems were built around being an operator
5 aid. In fact, they were modified through the process to
6 be something that the operator can really, all the while
7 recognizing that he has a fall-back to the more
8 traditional pieces of equipment.

9 Another strength of this is, the last point on
10 here, there is an on-site simulator. That on-site
11 simulator is identical to the control room. The
12 operators, to ensure that you don't get in a situation
13 where you are relying too much on the advanced control
14 room indicators and systems, undergo a training program
15 where you postulate that you lose that system.
16 Recognizing all the while that it is a system of
17 multiple CRTs, each of which can pull up a number of
18 displays.

19 It is driven off of four computer systems. It
20 is driven off of emergency power, so it is an
21 uninterruptable power supply. However, it is still
22 designed that if, in fact, he should lose it for
23 whatever reason, there is a fall-back and the fall-back
24 is the traditional pieces of equipment, the traditional
25 instruments, and the operators are trained on that in

1 their simulator.

2 If you would like any more details, we have
3 the technical staff here who went through a rather
4 thorough and detailed review of this. The region has
5 evaluated the procedure, as part of examining the
6 procedures on the off-normal situations, the procedure
7 for going from the loss of CRTs, for example, to the
8 fall-back.

9 All the while, it is our overall feeling that
10 it is clearly heading in the right direction of
11 providing better information for the operators. The
12 operators are very upbeat on this system at Susquehanna,
13 and all the while trying to ensure that there is a
14 clause there to be sure that there is not too much
15 confidence taken in this new system, because it is
16 developmental.

17 MR. DENTON: I think that it is a real
18 advantage. A lot of our comments were focused on what
19 you do when you lose the CRTs, but it probably has more
20 CRT displays than any plant we have licensed in the U.S.
21 yet. It is a hybrid. It does have all the old
22 enunciators and layout type designs, plus the CRTs.

23 CHAIRMAN PALLADINO: Is there any
24 consideration to these CRTs being used to satisfy the
25 SPDS?

1 MR. DENTON: No, that would be an additional
2 requirement.

3 CHAIRMAN PALLADINO: Is there a possibility
4 that they might fit in?

5 MR. DENTON: Certainly, they are display
6 units, and if they had a safety parameter display system
7 that was properly qualified, and these systems were
8 qualified, you could feed into it. At the moment,
9 though, it is designed to aid in improved operations. I
10 think, for myself, it looks like it would aid a lot in
11 accidents.

12 It doesn't hit just those few parameters.
13 They give you a lot of information about each of the
14 systems that it is tied into. They are interchangeable,
15 so that if one CRT tube is down, you can display
16 information on another tube, which is more than you
17 normally have.

18 MR. DENTON: Ron, would you like to comment on
19 your views or your inspector's views of that control
20 room?

21 MR. HAYNE: I will have Gary Rhoads, perhaps,
22 comment on it. He is our senior resident inspector
23 there, and he has seen how the operators have been using
24 it during the power test program, or the initial testing
25 program.

1 MR. RHOADS: Good morning, gentlemen. My name
2 is Gary Rhoads, the senior resident inspector like Ron
3 said.

4 The experience I have had with the CRT during
5 my inspection up there is that it has been a reliable
6 system since it is has been operable. Of course, during
7 the early when they were just getting the bugs out, they
8 did have some problems initially. It is a reliable
9 system. The operators with whom I have discussed really
10 like the CRTs, they feel that it gives them a lot of
11 information.

12 Some aspects of the CRTs that I would like to
13 bring out: If something that is being displayed on the
14 CRT is an alarm condition, the CRT will turn a different
15 color for that parameter. So even from a distance away,
16 the operator can look at that CRT and see that something
17 is alarming in that system. He may have to go closer to
18 find out exactly what that condition is, but it draws
19 his attention to what is alarming in a certain system.

20 Again, the operators have indicated to me that
21 they do like the concept, and think that it is an aid to
22 their operation.

23 Are there further questions?

24 COMMISSIONER AHEARNE: Somewhat related, but
25 not directly related, since you are talking about

1 operators. Do you intend to tell us what the status is,
2 the number of qualified operators they have, seniors and
3 regulars?

4 MR. EISENHUT: We can do that in just one
5 second.

6 There is one other thing that I need to point
7 out on this control room, and that is we did put a
8 license condition on it in the proposed that you should
9 have before you.

10 The license condition asks the utility that at
11 the end of the first cycle of operation, to give us a
12 report of the performance and reliability of this
13 system, because, remember, we are doing the detailed
14 control room design review, the SPDS review as a result
15 of SECY-82-111, and we look at this as sort of an input
16 piece of information going into that, and they
17 interact.

18 So we have, in the new license that you have,
19 added that license condition.

20 CHAIRMAN PALLADINO: Has the licensee
21 committed to comply with all the license conditions?

22 MR. EISENHUT: Yes, he has.

23 MR. DENTON: Let me ask Hugh Thompson to make
24 any comments he would like about the control room, and
25 respond to your question about staffing.

1 In terms of staffing overall, I was quite
2 impressed by the depth of experience that they were able
3 to show for a brand new utility in the nuclear
4 business.

5 MR. THOMPSON: Hugh Thompson, NRC staff.

6 We have evaluated both the procedures and the
7 reactor operators' performance in the control room, and
8 we found that they were very well trained, particularly
9 with respect to the loss of the CRT exercise. We were
10 able to freeze the CRTs on the display, and the
11 operators were fairly quick to pick and move to the back
12 panels in order to continue the operation. In fact,
13 they did it sufficiently well that we went on to other
14 tests of their program.

15 Their training program, they have committed to
16 include this as an integral part of their training
17 program, and we feel that it is a well documented
18 approach right now, at least while we are defining the
19 availability of the system for the reactor operators.

20 Overall, their staffing level is good. They
21 are shooting for a six-shift rotation. They presently
22 are on a four-shift rotation while they are in the
23 start-up phase, but they are committed to be on five
24 shifts by the first of the year.

25 They have 25 senior operators, about 10

1 reactor operators, and we are giving exams the week of
2 the 10th for about seven more.

3 COMMISSIONER AHEARNE: When you say that they
4 have 25 and 10, do you mean that are already qualified?

5 MR. THOMPSON: Who are licensed presently.

6 They have a sufficient number to be on five
7 shifts. They are having kind of an augmented,
8 requalification program during this period of time when
9 they have lots of activity. We feel that it is a good
10 balance between the amount of time spent in the
11 requalification program, which more in the classroom, as
12 to the experience that they will actually get during the
13 start-up. We feel that for this next period, up until
14 the first of January, there is a reasonable balance.

15 COMMISSIONER AHEARNE: Are some of those
16 seniors people who have operated other plants?

17 MR. THOMPSON: Yes, they are. In fact, one of
18 the additional advantages of having the four shifts is
19 that way we do have experienced BRW operators on those
20 four shifts. If you spread it out to the five shifts,
21 you get a little thin in that area. So we feel that it
22 is reasonable approach at this time.

23 COMMISSIONER ROBERTS: I have a question.

24 MR. EISENHUT: Sure.

25 COMMISSIONER ROBERTS: We have imposed a

1 license condition for a report of information that we
2 might use generically?

3 MR. EISENHUT: No, it is really more related
4 to -- Maybe it is a trade-off. We are in the process of
5 doing a detailed control room design review. We are
6 also in the process of doing the SPDS review.

7 To follow up on what was mentioned earlier,
8 the SPDS review, for example, we require a certain list
9 of parameters, those are safety parameters. To avoid
10 the interaction of the safety systems with the
11 non-safety CRT display systems, some of those systems
12 don't appear on the CRTs. So the CRT system can't be
13 the SPDS.

14 One of the things we are trying to look at is,
15 even though it is not a "safety system," that is the
16 display system, if it has a pretty high reliability,
17 which the licensee contends, there may be a benefit, in
18 fact, in doing those other reviews.

19 We are trying to integrate them together, and
20 give the licensee in this case the benefit of the
21 doubt. If he has a reliable system running off these
22 multiple computers, we might be able to factor all that
23 together.

24 MR. DENTON: My reason for that was that we
25 are assuming that the CRTs in the control room will

1 operate the bulk of the time. Therefore, in the
2 training of operators in the simulator, we should focus
3 on having them available.

4 So all we have asked for is a report at the
5 end of the first refueling cycle of how often they were
6 down. So that in case something needs to be changed
7 later on in the 40-life of the license, we could go back
8 and refocus on it. But we are licensing the plant on
9 the basis that this is a highly reliable and highly
10 available system, and we just want to be sure that we
11 check on it after they have been in operation. It would
12 be useful for these other tests.

13 COMMISSIONER ROBERTS: I just have a problem
14 with our having a guinea pig.

15 MR. EISENHUT: It is not a guinea pig.

16 COMMISSIONER ROBERTS: That is not the way you
17 said it the first time either.

18 MR. EISENHUT: No.

19 COMMISSIONER ROBERTS: You misspoke.

20 MR. EISENHUT: If I said that it was generic,
21 it is certainly not the intention. It is the only plant
22 like this, with this control room arrangement.

23 If I could go on to the next slide.

24 (Slide.)

25 The independent design review, as you are

1 aware, on this plant, after we had discussions with the
2 utility, following discussions of their QA program, the
3 experience that we went through, they had contracted
4 with Teledyne to do a review of a segment of the
5 feedwater system.

6 That review had a number of tasks that it had
7 to do, looking at a small segment, to go through and
8 really examine how well was the job done.

9 COMMISSIONER AHEARNE: Who chose that
10 section?

11 MR. EISENHUT: It may have been more of a
12 suggestion from the utility.

13 Dick Vollmer, do you remember how that section
14 was chosen?

15 MR. DENTON: Feedwater systems are shown in
16 studies to be a high contributor to risk. I don't
17 remember exactly how we came in on this one.

18 COMMISSIONER AHEARNE: There was no particular
19 unique reason that you had reason to doubt the way
20 feedwater system acted.

21 MR. DENTON: In several of these, we picked
22 the feedwater system because of its importance to risk
23 reduction. It is a good system to look at.

24 MR. EISENHUT: The bottom line of that
25 evaluation, the report that came in from Teledyne, it

1 had two aspects in it. Teledyne's conclusion said
2 something like, there were two areas they couldn't
3 extrapolate the results of their work to the rest of the
4 plant. One was referred to as reconciliation of the
5 as-built -- in the report it is what it is called.

6 CHAIRMAN PALLADINO: What does that mean?

7 MR. EISENHUT: What that really means, as it
8 turns out, is in Teledyne doing the evaluation, in
9 looking at how Bechtel had done the job, places where
10 Bechtel used engineering judgment, I think it is fair to
11 say that Teledyne's view or the report's view is that it
12 may have been abused, it may have been too used too
13 often.

14 Teledyne did some audit calculations. They
15 audited two or three cases. They found a case where the
16 engineering judgment per se by itself would have given
17 you somewhat of a different result than if you did the
18 calculation. But what they did in that particular case
19 is, they went back, did a calculation, and showed that
20 it is still within the design margins and that
21 particular situation was acceptable on this plant.

22 The generic question was what Teledyne --

23 CHAIRMAN PALLADINO: Did they find any
24 unacceptable?

25 MR. EISENHUT: No, they did not, but then they

1 only had checked two or three cases. They only found
2 one where there was a real difference between the
3 engineering judgment and the actual calculation.

4 So Teledyne's result sort of was that they
5 couldn't reach the generic implications of that.

6 COMMISSIONER AHEARNE: If I read what Teledyne
7 said, they said: "Bechtel defined the process that was
8 used which is quite complete and required the reviewer
9 to address acceptance of individual items on the
10 as-built configuration. However, no records of this
11 detailed review are required to be kept, so review of
12 the process is difficult. Further, review by other
13 departments relies in the judgment of an individual not
14 in those departments."

15 MR. EISENHUT: Right.

16 COMMISSIONER AHEARNE: So they were reaching a
17 conclusion that they couldn't extrapolate.

18 COMMISSIONER GILINSKY: Which finding are you
19 referring to?

20 MR. EISENHUT: Finding one.

21 COMMISSIONER AHEARNE: That is the
22 reconciliation.

23 COMMISSIONER GILINSKY: There is another one
24 that deals with that, isn't there?

25 COMMISSIONER AHEARNE: They had two

1 conclusions.

2 MR. EISENHUT: I was just addressing the two
3 generic conclusions of the report where Teledyne -- I
4 think that it is fair to say that on the plant-specific
5 pieces they evaluated, the things all checked out.
6 However, there were two generic implication questions
7 where they felt they couldn't extrapolate -- I think
8 that those are the kinds of words they used --
9 extrapolate what it meant for the rest of the plant.

10 COMMISSIONER GILINSKY: Let me ask you what
11 the significance of this is, Finding No. 8, which says
12 "This finding is related to the process used by Bechtel
13 in reconciling as-built differences with as-designed.
14 Based on the information available to TES, the weld
15 which has been accepted by Bechtel is inadequate. In
16 general, the reconciliation process does not require
17 documented evidence of acceptable of each item, and this
18 results in the reviewer having to perform calculations
19 to determine adequacy. In some cases, inadequacies
20 exist.

21 MR. EISENHUT: Those are the same situations.
22 That is the one specific calculation where they found
23 that the weld that was done by judgment, because there
24 is no other record to support it, would have said that
25 things are adequate. They went back and have shown that

1 that particular weld in question is acceptable for this
2 particular plant.

3 Then there is a generic question.

4 COMMISSIONER GILINSKY: Who has done that?

5 MR. EISENHUT: Teledyne has performed an
6 independent calculation to show that that weld is, in
7 fact, acceptable. I am sorry, it may have been Bechtel
8 that did the actual calculation.

9 COMMISSIONER GILINSKY: Teledyne says that
10 based on the information they have, it is inadequate.

11 MR. EISENHUT: That is right. The judgment
12 was not the same as -- The results of the judgment would
13 have been different than if they would have gone ahead
14 and done a calculation. You would end up with a larger
15 weld in that case, I believe it was.

16 That is what I meant, there is a question
17 because the judgment would have said the weld would have
18 to be so big. The calculation would have had to say
19 that it would have been bigger.

20 CHAIRMAN PALLADINO: How do you go back and
21 find --

22 MR. EISENHUT: You go back and calculate the
23 smaller weld from a detailed calculation and see whether
24 the margins that are there are adequate to say that it
25 is still acceptable in that particular case, which is as

1 I understand what was done.

2 COMMISSIONER GILINSKY: Why wouldn't the first
3 calculation tell you that?

4 MR. EISENHUT: Let's see, Ron, do you want to
5 comment on that? Or, Dick, do you want to comment on
6 it?

7 CHAIRMAN PALLADINO: If the calculations had
8 indicated that you had to have a big weld, I don't
9 understand based on what you tell me that a smaller weld
10 would have been acceptable.

11 MR. HAYNE: My experience along this line, and
12 in this design, is that you have a set of rocedures, if
13 you will, for these field designers to follow. They
14 have many conservatisms in them because can't anticipate
15 a whole array of systems. So they are extra
16 conservative, if you will.

17 So when the designer goes through and he says,
18 I take a look at this well, this size is adequate, he is
19 not really comparing it, perhaps in his mind, with
20 respect to what the extra conservatism that is required
21 for field calculations.

22 Therefore, I would take a look at those
23 procedures that you are supposed to use for field
24 calculations, and it did not meet that size. However,
25 if I go back and say, what is really needed in this

1 case, what size weld is adequate calculated according to
2 code, then the weld is acceptable.

3 MR. DENTON: That is my understanding, too,
4 that when they sharpened their pencils and looked at
5 that one, they found that weld did not have to be
6 changed. As a result of all this, we have laid on some
7 corrective actions to have them look further.

8 COMMISSIONER AHEARNE: What Teledyne is saying
9 is that when you go and check, the problem they had in
10 extrapolation is that that was a judgmental decision.

11 MR. DENTON: Yes.

12 COMMISSIONER AHEARNE: Although, as you say,
13 when they sharpened their pencils, they found this
14 particular one is correct, Teledyne could not
15 extrapolate because it is difficult to determine a
16 priori whether the judgment is correct.

17 MR. DENTON: That is correct.

18 COMMISSIONER GILINSKY: Is the point that
19 field calculations are supposed to be more
20 conservative?

21 MR. DENTON: I think Teledyne here really
22 questioned whether there shouldn't have been more
23 detailed calculations done and less judgment in this
24 area. It was as a result of Teledyne's concern that we
25 have requested the company to do some additional look in

1 this area, and maybe Darrel could describe this.

2 MR. EISENHUT: The utility proposed, to put
3 this question to bed, to look at two systems inside
4 containment and two systems outside containment -- four
5 systems -- and to analyze 20 hangers. Take those 20
6 hangers, go back to the Bechtel San Francisco office,
7 look at how Bechtel did the evaluation, look where
8 judgment was used, and then follow up with a calculation,
9 and see how many discrepancies, if there are any, that
10 fall out of this.

11 It would give you an indication of how
12 accurate was the judgment, and is the judgment that were
13 making well-founded or not. They are backing that up
14 with detailed calculations on some 20 hangers that are
15 going to be done.

16 The utility proposed this to us, and we felt
17 that it sounded like a reasonable approach to address
18 this generic concern. They would, then, I believe, give
19 these results back to Teledyne to see whether that
20 satisfied Teledyne's concerns.

21 CHAIRMAN PALLADINO: Who is going to do this
22 audit?

23 MR. EISENHUT: The utility.

24 COMMISSIONER GILINSKY: Are we talking about
25 small differences, enlarging one way or the other?

1 MR. EISENHUT: In this case, obviously, we
2 were because the conservatisms that were there handled
3 it, and there was only one such case found. The
4 specific case was the one you were referring to. There
5 was only one as I recall.

6 COMMISSIONER GILINSKY: What is your reaction
7 to their finding No. 3 that they question Bechtel's
8 procedure of excluding from consideration re-analysis of
9 piping supports if the as-built stiffeners than the
10 stiffeners used in the original analysis?

11 MR. EISENHUT: I don't know. I could turn to
12 someone else.

13 COMMISSIONER GILINSKY: Saying that that may
14 get you into trouble.

15 MR. EISENHUT: Can anyone answer that one?

16 I don't think there is anyone here who is
17 familiar with that specific item in the report. Our
18 real emphasis was the two bottom line generic concerns,
19 and those are the ones that we really have the staff
20 here to address today. We certainly can get you an
21 answer to that question.

22 MR. DENTON: This process is still on-going
23 with the independent design review. Teledyne produces a
24 report. The company proposes an action to cope with the
25 problems. We make sure that it is done properly. They

1 respond to Teledyne. Eventually, the intent is that we
2 receive from Teledyne their final conclusion regarding
3 these kinds of areas. So the process is not over
4 with.

5 COMMISSIONER GILINSKY: When will this process
6 come to a conclusion?

7 MR. DENTON: I think that it will be a couple
8 of months from now because we are also looking at the
9 dynamic qualification of the check valves, which was not
10 issue that Teledyne raised.

11 (Commissioner Roberts left the meeting.)

12 MR. NOVAK: Tom Novak. Teledyne and the
13 licensee have promised to report on these additional
14 reviews by the first of November. So the additional
15 work is scheduled to be completed by the first of
16 November.

17 MR. EISENHUT: That is the addendum to the
18 whole process.

19 COMMISSIONER AHEARNE: Is that going to cover
20 the second generic finding, or are you still focused on
21 the first?

22 MR. EISENHUT: The second generic finding is a
23 little bit different. The second finding related to,
24 Bechtel did a calculation one way, and Teledyne did a
25 calculation another way. So there is a question of

1 which way is the right way to do it.

2 In the particular case that was brought up
3 here, Bechtel went back and reaid the calculation and
4 showed that this particular item was acceptable. The
5 generic question then is, what about these differences
6 in calculation. I understand Bechtel is going to be
7 taking this to the ASME Code Committee and they are
8 trying to determine which way to do it by a code case.

9 COMMISSIONER AHEARNE: Can you say a few words
10 about it. Reading this generic finding, it wasn't
11 really clear to me what was the issue, but it seemed to
12 be -- It says, "It is Teledyne's opinion that the
13 requirements of the code have not been properly
14 addressed. Bechtel does not concur with Teledyne." So
15 it sounds that Teledyne is saying that Bechtel is not
16 doing their calculation the way the code requires it,
17 but I wasn't sure of what they were saying.

18 MR. VOLLMER: I think what it amounts to is a
19 question, for a specific scenario, whether it
20 constitutes an upset condition in which over the life of
21 the plant there would be many such conditions, and you
22 would have to consider fatigue in the calculation; or
23 whether it would be considered an emergency condition in
24 which case you don't have to take fatigue analysis into
25 the calculation.

1 COMMISSIONER AHEARNE: I remember that one
2 case in there where the issue was how many times the
3 cycle had occurred. I guess I was drawing a conclusion
4 from the way they said it that they were really raising
5 a more fundamental question.

6 MR. VOLLMER: They are.

7 COMMISSIONER AHEARNE: Whether Bechtel, in
8 general, makes calculations the way the codes would
9 require.

10 MR. VOLLMER: Yes. I think what we have -- We
11 are going back to see, or we are requiring that the Code
12 Committee be queried on this to get their feeling. I
13 think we are looking to see if there are any generic
14 implications of this. It is not something that we would
15 have to be concerned in the short term, since it is
16 really based on the fatigue analysis.

17 COMMISSIONER AHEARNE: I am not yet clear that
18 we understand what Teledyne's concern was. Are you
19 confident you understand Teledyne's concern?

20 MR. VOLLMER: I believe we do. I thought we
21 did.

22 COMMISSIONER AHEARNE: Okay. Would you try
23 once again, then, I am still not. Tell me again what
24 you believe Teledyne's concern was.

25 MR. VOLLMER: As I understand it, Teledyne's

1 concern was that Bechtel had used the wrong
2 interpretation of the application of the code. That is,
3 that they, Bechtel, did not use fatigue analysis in a
4 case where Teledyne felt it should be used.

5 The staff is not fully united one way or the
6 other, it is not a very clear-cut case apparently, but I
7 think we would lean that fatigue analysis would be a
8 conservative and probably a proper way to go.

9 COMMISSIONER AHEARNE: So you are saying that
10 you would tend to agree with Teledyne?

11 MR. VOLLMER: That is right.

12 MR. DENTON: But an interpretation from the
13 Code Committee is being sought to clarify that point.

14 MR. VOLLMER: It is an interpretation or a
15 judgmental matter.

16 COMMISSIONER GILINSKY: Where does this leave
17 us? You are recommending that we go forward, so I take
18 it that you don't regard this as so serious that one has
19 to stop.

20 MR. VOLLMER: It is to be considered if you
21 are concerned about fatigue and the number of cycles.
22 It is not something that would be an immediate safety
23 concern, but perhaps long-term, and we think that we can
24 solve it in plenty of time.

25 CHAIRMAN PALLADINO: Do you get a different

1 answer on the safety implications if you go one way or
2 the other?

3 MR. VOLLMER: You would have to look and see
4 if that particular event would occur enough times that
5 the pipe could fail by fatigue, then you would be
6 concerned. If that event is considered to be one of a
7 very rare nature, you don't have to do fatigue analysis
8 because it is an emergency condition.

9 MR. EISENHUT: In this one case, I believe it
10 was done both ways, and both ways is acceptable.

11 MR. VOLLMER: That is right. Okay, I
12 understand.

13 CHAIRMAN PALLADINO: That is what I was trying
14 to find out.

15 MR. VOLLMER: It was acceptable either way
16 either way, but it has generic implications.

17 CHAIRMAN PALLADINO: I understand the other
18 things.

19 COMMISSIONER AHEARNE: They go on to say,
20 "Teledyne feels the use of a substantial number of
21 references that are not controlled by the preparor of
22 the design specifications can be problematic." What did
23 they mean then?

24 MR. DENTON: Are you reading from the Teledyne
25 report?

1 COMMISSIONER AHEARNE: Yes. This is in their
2 conclusion. They say, "This item was raised during an
3 ASME survey of Bechtel, and resolution proposed to
4 ASME. Teledyne doesn't agree with that resolution."

5 MR. DIRCKS: I guess, when we report back on
6 the November 1st findings, let's try to get a clear
7 answer to that, too.

8 MR. DENTON: I think what we have here is what
9 we intended to get. We have two professional
10 organizations who do this job. They have different
11 interpretations down in the fine structure. We don't
12 see any of these differences, with some possible
13 exceptions here about dynamic loads and so forth, and
14 the one regarding the judgment issue, as being the kind
15 of thing that would us not to go ahead while we
16 straighten it out.

17 COMMISSIONER AHEARNE: Your statement there
18 does focus on what I have as a fundamental question.
19 You put in as condition in the 5 percent power license,
20 what you said, "Prior to exceeding 5 percent of full
21 power, PP&L shall have conducted an independent
22 review." They went ahead and did that.

23 Now the independent review has come up with a
24 conclusion. They say, "We are concerned with two areas
25 that do not allow us to make any extrapolation to the

1 total plant design and QA process."

2 So you are in a situation of having required
3 an independent review prior to the 5 percent. The
4 independent review comes back and says that they cannot
5 extrapolate beyond their narrow area. Where does that
6 leave us?

7 They have raised generic questions, and I
8 guess what I can't understand is, if we thought the
9 independent review was necessary in order to give us
10 confidence to go beyond, and the independent review
11 people come back and say that they cannot express
12 confidence, how can we, therefore, conclude, yes, we
13 have confidence.

14 MR. DENTON: Let me explain that.

15 We thought, based on the inspection record,
16 the history, the organization, the attention that they
17 have been giving to quality in this plant, it did not
18 warrant the full-blown type of treatment that we have
19 given, say, Diablo Canyon or San Onofre, for instance.
20 We are reasonably happy with this plant without a
21 detailed look.

22 When you get a detailed look, and you look at
23 the kinds of things that you find, it is not surprising,
24 I think, to the staff that in some of detail issues
25 there are differences between professional

1 architect-engineers and how they interpret codes, and
2 welds, and so forth.

3 There are two areas that did both us, and we
4 have a remedial programs on those. The question is a
5 judgment based on what we know about this plant, and we
6 think that it is as well in conformance to the
7 Commission's regulations as any.

8 It doesn't say that Bechtel reviewed a plant
9 designed by Stone and Webster that they wouldn't find
10 the same kinds of things. I think that we ought to
11 encourage this kind of professional focusing on
12 differences and resolutions with code committees, but
13 not let that kind of difference, unless it rises to a
14 big level, say that we don't go ahead with this case.

15 In fact, as Commissioner Roberts said, this is
16 going to become the guinea pig in which we resolve some
17 differences between professional architect-engineers.

18 CHAIRMAN PALLADINO: I get a little bit of
19 comfort, at least on the specifics that were examined,
20 that when you calculate it both ways, you find the
21 design adequate. That doesn't resolve the generic
22 problem --

23 MR. EISENHUT: That is right. But then there
24 is a remedial program.

25 CHAIRMAN PALLADINO: It gives me confidence

1 that perhaps the generic problem is something you can
2 treat separately.

3 MR. EISENHUT: Right, but then there is a
4 program. I think without some follow-up activities in
5 each of these two generic areas, it is certainly left
6 wide open. In fact, that is why we have these wrap up
7 pieces on both of these questions.

8 Teledyne just said that they can't make a
9 conclusion about the rest. So we felt that there had to
10 be something to get that conclusion about the rest.
11 While we were doing that, we felt these two issues did
12 not rise to such a magnitude as to stop the process.

13 COMMISSIONER AHEARNE: You see, I guess part
14 of my concern is, in answering my first question in this
15 area, I asked why did you choose this. You didn't say
16 that this is where you had your biggest concern.
17 Therefore, if you had, and you went through it and you
18 reached a conclusion that it is all right, but you
19 couldn't extrapolate. One would say, but nevertheless,
20 you have resolved the area of largest concern. You
21 didn't.

22 You just said that you had chosen this area,
23 so it is like an audit. In an audit when you choose
24 something randomly, and you look at it, and your
25 conclusion is that you can't extrapolate beyond that

1 audit, that raises into the question the purpose of
2 doing the audit. If the purpose is to have confidence
3 over the whole spectrum, you haven't got there.

4 MR. DENTON: I don't see this as the end of
5 the process. We are continuing, and we may turn up
6 further things, as the audit goes on, that require
7 expansion.

8 COMMISSIONER AHEARNE: Do you --

9 MR. DENTON: I think that it is wrapped up in
10 the whole issue of how do we provide quality assurance
11 in these plants when there is a tendency that as we peel
12 the onion to finer structure, we find things that we
13 don't like.

14 COMMISSIONER AHEARNE: I understand that. I
15 am just trying to, I guess, to gulp a better feeling for
16 what it is you have in mind when you ask the licensee to
17 do an independent design review.

18 MR. DENTON: it varies.

19 COMMISSIONER AHEARNE: How do you intend to
20 use those conclusions?

21 MR. VOLLMER: Could I, Harold?

22 MR. DENTON: Yes.

23 MR. VOLLMER: As we discussed yesterday, I
24 think one of the major features of the design review
25 process is to see that the design process is

1 controlled. That is managed and controlled such that
2 people are focusing on the important design elements,
3 are conducting their design process, it is being
4 checked, that the interfaces that appropriate, and so
5 on.

6 I think if you look at the board and see the
7 various items that were conducted by TES, many of those
8 are elements which are important to the design process
9 itself. The features that were found to be deficient,
10 if you will, are based on somewhat local, individual
11 judgments which could be characterized, without looking
12 further, as not perhaps generic, but rather localized,
13 in error of judgment, or just based in judgment.

14 I think, if I would characterize the design
15 process, at least based on Teledyne's findings, I would
16 say that it is pretty good, because they didn't find any
17 features such as the numbers you see up there, which
18 were generically deficient. That would give me comfort
19 that the design is probably all right. But it did raise
20 issues, and I think we have to look further to see that
21 they are localized in nature.

22 MR. EISENHUT: If we could have the next
23 slide.

24 (Slide.)

25 The next slide is somewhat of a smaller

1 issue. Actually, it is one that is still a license
2 condition, but is being resolved. There is a natural
3 gas line that goes near the site. One of the questions
4 that came up during the review process is what would be
5 the maximum accident and its effects if the gas pipeline
6 should detonate.

7 The utility's evaluation and our review of it
8 concluded that if the pipeline flow was restricted to 39
9 cubic meters per second, there would not be a problem.
10 The current flow rate through this line, which is a
11 relatively new line, is something on the order of 27 or
12 28, something less than 30, cubic meters per second.
13 Therefore, we concluded that today there is no real
14 safety problem.

15 The line's capability, however, goes up
16 higher. So we have put in a license condition that has
17 the utility either work out an arrangement to have a
18 flow restriction that limits it to 39 cubic meters per
19 second, or to move this segment of the line.

20 COMMISSIONER GILINSKY: Why is the flow
21 referred to?

22 MR. EISENHUT: It is the density.

23 MR. DENTON: I think that it defines the size
24 of the cloud and, therefore, eventually the
25 over-pressure if it is assumed to ignored.

1 COMMISSIONER GILINSKY: To see what kind of
2 leak would be my guess.

3 CHAIRMAN PALLADINO: What are they going to
4 do? Have they decided?

5 MR. EISENHUT: They haven't decided. The
6 license condition is, you will either put in flow
7 restrictors at 39 cubic meters per second, or you will
8 negotiate to move the line.

9 CHAIRMAN PALLADINO: Who owns that line?

10 MR. EISENHUT: I don't know.

11 MR. PERCH: Pennsylvania Gas and Water
12 Company.

13 CHAIRMAN PALLADINO: It is a different
14 company?

15 MR. PERCH: Yes.

16 CHAIRMAN PALLADINO: Over which we have
17 control, or is it somebody else?

18 MR. EISENHUT: The utility will have to do
19 some negotiation.

20 CHAIRMAN PALLADINO: Right now, they are using
21 the line at some lower level.

22 MR. EISENHUT: Something less than 30 cubic
23 meters per second.

24 CHAIRMAN PALLADINO: But there is no guarantee
25 that they can't go up.

1 MR. EISENHUT: That is right, and that is why
2 we asked for a resolution of this by a fixed, which I
3 believe is April --

4 MR. PERCH: December.

5 MR. EISENHUT: In the next few months.

6 CHAIRMAN PALLADINO: In the interim, is there
7 any agreement on restricting the flow rate?

8 MR. EISENHUT: I think there may actually be
9 some limitations on its real capabilities today. It is
10 a 400-pound line, and I don't know of any specific
11 limitations on it, but it is certainly the understanding
12 that before it goes up --

13 CHAIRMAN PALLADINO: Has the licensee
14 attempted to negotiate, say, to get settled
15 administratively to control the flow rate?

16 MR. PERCH: The utility is in the process of
17 negotiating a contract with the gas company concerning
18 the limitation and flow restrictions on that line, and
19 also that they would be informed of any modifications to
20 it.

21 MR. EISENHUT: If I could have the next
22 slide.

23 (Slide.)

24 In the environmental qualification there are a
25 couple of issues that are sort of non-traditional

1 issues. This plant has the additional issue that they
2 have got to qualify equipment by some fixed date. That
3 fixed date in the plant proposed by the utility is the
4 first refueling outage. The issue here that is
5 remaining stems out of the KEOD report of a year or so
6 ago about breaks in the scram discharge header.

7 The resolution of that was that you have to be
8 able to say that the equipment that would be exposed,
9 given a break in the scram discharge header -- the
10 safety related equipment -- would survive the
11 environment such that you could safety shutdown the
12 plant, and you would have to qualify it to 212 degrees,
13 100 percent humidity, et cetera.

14 The owners group took the approach, the BWR
15 owners group, to calculate the probability of a rupture
16 and its consequences, and submitted a PRA to us.

17 It is fair to say that our preliminary look at
18 that, we believe that it is the same basic information
19 that we evaluated when we did this issue a year or so
20 ago, and that is that there is no new information that
21 would tell us that you shouldn't have to qualify this
22 equipment to be able to shut down the plant to, whatever
23 the numbers are, I think it is 212 and 100 percent.

24 So we told the utility that you shouldn't be
25 holding off having a lot of confidence in the fact that

1 this PRA is now going to convince us, when it didn't a
2 year or so ago. The utility has stated that he has a
3 program, and he proposing to qualify the equipment. He
4 proposes that it now be qualified on the same schedule
5 as the rest, and that is the first refueling outage. We
6 find that acceptable. It is a license condition in this
7 proposed license.

8 CHAIRMAN PALLADINO: Is the licensee's
9 equipment qualification program completed, except for
10 the scrame discharge volume?

11 MR. EISENHUT: I don't believe so.

12 CHAIRMAN PALLADINO: Why is this one
13 highlighted?

14 MR. EISENHUT: Only because it is a license
15 change from the previous license. There had been a
16 condition that said that it had to be done by 5
17 percent. Based on follow on discussion, this piece of
18 equipment has been put in the rest of the program.

19 MR. VOLLMER: Equipment qualification in
20 general, the licensee is committed to complete that by,
21 I believe, the first refueling outage. So those items
22 of electrical equipment that are not qualified to a
23 harsh environment have been identified by the staff.

24 (Commissioner Roberts returned to the meeting.)

25 There has been a review of acceptability of

1 operation in the interim, basically the same process
2 that we have gone for other NTOL and operating plants.
3 The staff has concluded interim operation is acceptable,
4 and the licensee has agreed to get everything fixed by
5 the first refueling outage, which actually would precede
6 the date currently being considered in the proposed
7 rule.

8 COMMISSIONER GILINSKY: Let's see, did you say
9 that there was equipment which was not qualified, or is
10 it a question of documentation?

11 MR. VOLLMER: There are usually several types
12 of examples. Some were clearly not qualified, based on
13 data that we looked at very carefully and make sure that
14 there is something else available to meet that function,
15 or that the function is not needed for the particular
16 scenario that it experienced.

17 In other words, some equipment may not be
18 qualified. For example, scram equipment may have to
19 operate for the first few seconds, and the environment
20 is not significant for a few seconds.

21 COMMISSIONER GILINSKY: Why would we then be
22 requiring more?

23 MR. VOLLMER: The way the equipment
24 qualification things are written is that the
25 qualification is required based on times generally much

1 longer than if you consider a scenario by scenario,
2 specific case by case basis. They are rather general.
3 The safety equipment is taken as a whole, and you
4 identify an environment, and you say you will qualify
5 it, I think to one hour plus the time it needs to
6 operate, or something like that, the time plus a
7 margin.

8 When you go down and look at a very specific
9 scenario and a specific piece of equipment, you may be
10 able to exempt that in the interim because it is not
11 necessary to rely on it for that specific scenario.

12 COMMISSIONER GILINSKY: What you are saying is
13 that you are accepting it with less safety margin, in
14 effect.

15 MR. VOLLMER: That would be one way of putting
16 it, yes.

17 COMMISSIONER GILINSKY: Until the time when
18 they will replace it with equipment --

19 MR. VOLLMER: Or demonstrate qualification.

20 In many cases, the records are not there. There is
21 evidence that it is adequately qualified, but you can't
22 really back it up very well.

23 Things are qualified, things that are not
24 qualified, and things that the documentation is not
25 adequate and there is argument as to whether it is

1 qualified.

2 COMMISSIONER GILINSKY: I am pleased to see
3 that they are going to do this earlier than the schedule
4 actually demands. But I also wonder why at this late
5 date are we dealing with new plants that have equipment
6 which is not qualified. After all, this subject has
7 been around for quite some time, and we have been
8 pressing on it.

9 Are these things that were purchased a long
10 time ago, or what?

11 MR. VOLLMER: In some cases, there is a fairly
12 significant lead-time for qualification tests. In some
13 cases, I don't think the equipment that is even being
14 purchased off-the-shelf now, some of it is involved in
15 qualification testing by our current requirement, and it
16 is not completed.

17 So the equipment does not have the pedigree
18 that we are looking for, that is the qualification test
19 data to back up that it will operate in that specific
20 environment. I think that is the reason you can't test
21 to the qualification in all cases, even in new plants.
22 They can't go out and buy equipment that will have that
23 particular pedigree.

24 MR. DENTON: I think that it is mainly the
25 timeframes. I was under the impression, Dick, that

1 Comanche Peak that comes in --

2 MR. VOLLMER: Comanche Peak is the first plant
3 that will be qualified to the category I requirements,
4 IEEE 373-1974, assuming that all the qualification
5 testing is done. When they come up for licensing, there
6 may be a few items which have failed qualification
7 testing, that is a possibility, and we are going to have
8 to face that when we get to it.

9 COMMISSIONER GILINSKY: When does their
10 schedule call for them to come up?

11 MR. DENTON: Comanche Peak, I don't know.

12 MR. EISENHUT: It is a year or so away, at
13 least. I think, in fact, the plant has been delayed,
14 and it is a year-and-a-half way, Comanche Peak.

15 Commissioner, I think the point is, though,
16 you are certainly right. This equipment was purchased a
17 long time ago. It has been installed, and they have
18 been undergoing pre-op testing for probably generally
19 the last year before they would get a license.

20 The equipment has been installed even before
21 that, and purchased even before that. So I think you
22 will see on a lot of these plants that have been
23 essentially built for a long time, it is taking a long
24 time to put the final package together. I expect that
25 you will see this on a number of plants.

1 That basically concluded the portions from the
2 overall licensing standpoint that we are going to
3 present. If I could, then, I would turn over to Region
4 I who is going to go through a number of aspects,
5 including the operating history.

6 MR. HAYNE: To assist me today, I have Gary
7 Rhoads, whom you met earlier. He is our senior resident
8 inspector at Susquehanna. I am going to call on Gary to
9 supply some information about the events and enforcement
10 actions that have occurred since the issuance of the
11 operating license.

12 Also with me is his supervisor, Ebe McCabe,
13 and I will be calling on Ebe to discuss with us the
14 readiness for full power operation from the region point
15 of view, and also Jack Durr. Jack is the section chief
16 who really supervised the investigation of the technical
17 aspects of allegations that we received, including the
18 allegation having to do with small bore piping and some
19 hanger supports.

20 (Slide.)

21 On this first slide, there are a couple of
22 items that I would like to address, if I may. The one
23 item that occurred on 7/19, refilled reactor vessel
24 after radiographing recirculation system riser double
25 welds. I might clarify this a little bit.

1 What this entailed was, during the original
2 construction of the facility, these recirc loop risers
3 were installed, and then the licensee removed them so
4 that he could make modifications to the piping to reduce
5 the susceptibility to stress corrosion cracking. Then
6 when he reinstalled them, he ended up with a double
7 weld, if you will, where the previous riser had been
8 cut-out.

9 As such, when we were going through and taking
10 a look at the preservice inspections in accordance with
11 Section 11 of the code, which is usually done by
12 ultrasonic means, there were some indications that could
13 be explained. Also, the testing technique was
14 difficult, again because when you do things to decrease
15 the susceptibility to stress corrosion and cracking, you
16 do make the UT technique a little bit more difficult.

17 Actually, what they did here was to do an
18 overlay, if you will, on the inside of the pipe and then
19 did some solution annealing. That there were multiple
20 material boundaries that the sound had to go through.

21 COMMISSIONER AHEARNE: You say that there were
22 some indications, indications of what?

23 MR. HAYNE: There were indications of
24 defects. Then what we did, through our inspection
25 program --

1 CHAIRMAN PALLADINO: Do you mean voids,
2 cracks?

3 MR. HAYNE: Well, they are called indications
4 to begin with, as everyone hides out on that to begin
5 with.

6 (General laughter.)

7 MR. HAYNE: What we do in a case like that is
8 then go back and review the original radiographs, and
9 see if we can see if they show on the original
10 radiographs for code acceptability.

11 Again, we did take a look at those and the
12 person who did the disposition of those indications,
13 they were there, classified them as inside surface,
14 which is an acceptable condition according to the code.

15 CHAIRMAN PALLADINO: They were called what?

16 MR. HAYNE: Inside surface conditions, which
17 is an acceptable condition.

18 However, we were actually not satisfied, so we
19 requested the licensee to reradiograph these welds
20 coming from a slightly different angle, so we could get
21 a better resolution of what the defect was, or the
22 possible defect was that was there. Of course, to do
23 this radiograph, we had to drain the vessel and drain
24 the piping, and this, of course, delayed fuel loading.

25 But when we did do the recheck, then we went

1 back and we did find that, yes, there were indications
2 in a couple of the risers or riser welds, and it looked
3 like small bits of lack of fusion, which is code
4 rejectable. So then we required was repairs to be
5 initiated and taken care of.

6 The only reason why I mention this to such an
7 extent as I did is because this is one thing that did
8 delay fuel loading after the original license was
9 issued. Actually it delayed five or six days.

10 We had satisfied ourselves, when taking a look
11 at the rest of pre-service examination results, that
12 this was not a generic problem or issue.

13 COMMISSIONER AHEARNE: So they did repair
14 these.

15 MR. HAYNE: Yes, they did repair these, and
16 they were acceptable.

17 Another item on that first slide I might speak
18 to a little bit is this business about the electrical
19 fire in the emergency service water pump house. We will
20 talk about this a little bit more later. I will ask
21 Gary about that a little more later.

22 To me, since the license was issued, this was
23 the most significant event, if you will, that has
24 occurred. What was involved here actually was -- This
25 is a pump house that is out by the heat sink pond, and

1 there were two electricians that were doing some
2 modifications, and they pulled in a lead wire across
3 some hot buss wires and shorted them out.

4 Fire is perhaps an over-statement. It was
5 really a short circuit, which cause the buss bars to
6 fail at 480 volts. This was one of two redundant
7 systems. It really disabled the motor operators on some
8 valves on one of the emergency service water loops. The
9 other remained available.

10 The arching was quickly taken care of, in a
11 couple of minutes, however, under the emergency plans
12 that are in effect, if you have a fire in an emergency
13 area, then you go to an alert classification. So an
14 alert was declared at the facility, and then shortly
15 thereafter it was downgraded and went into the recovery
16 mode.

17 CHAIRMAN PALLADINO: Was it more than arching,
18 though?

19 MR. HAYNE: No. It is best described as
20 arching.

21 CHAIRMAN PALLADINO: Nothing got in the flame,
22 and started to smolder.

23 MR. HAYNE: No, and the reason why I say that
24 is because the amount of smoke was very low and also the
25 smoke detectors in this area did not alarm. When we

1 went up and did our follow up on this, an investigation,
2 this is one of the things we found, that the smoke
3 detectors did not alarmed; why? Is this Appendix R
4 working for us.

5 In this particular case, it is a very tall
6 ceiling building, I understand, and the smoke detectors
7 are located up in the ceiling. There was also some
8 scaffolding in there that more or less impeded the air
9 flow.

10 Again, the main reason, we concluded, is that
11 there really wasn't that much -- There wasn't smoke that
12 was really generated. It was really arching for a short
13 period of time. This did cause some damage, of course,
14 to the switch gear and it had to be repaired and new
15 units put in.

16 I will say on this, though, from what I found
17 there that the licensee handled this particular event
18 quite well. He did show knowledge of his emergency
19 plans, and did make notifications and kept us informed.
20 He handled the event quite well.

21 With respect to the start up test results,
22 they have actually been going quite well since the
23 initial criticality in our view. The up to 5 percent
24 testing, what is involved in that includes, not on the
25 initial criticality, but the shutdown margin tests, and

1 the control rod drive friction and scram test, and what
2 have you, and neutron transportation.

3 All of these types of things have been coming
4 along quite well. In fact, the loss of schedule that
5 resulted because of the weld rework was actually made up
6 by the licensee on his schedule for this period.

7 Could we go to the next slide please.

8 (Slide.)

9 On the causes of delay since the license was
10 issued, I did talk of the radiograph and repair. The
11 other one that did impact for about three days was the
12 small pipe hanger inspections and repairs. This came
13 about as a result of our investigation and the licensee's
14 investigation of allegations that were received the
15 night of the day of the issuance of the license.

16 COMMISSIONER ROBERTS: What was the source of
17 the allegation?

18 MR. HAYNE: The source of the allegation was a
19 person who worked at the site. It was anonymous, but it
20 was a person who worked at the site in engineering, or
21 it sounded like engineering because he had that type of
22 detailed knowledge.

23 COMMISSIONER ROBERTS: An anonymous phone
24 call?

25 MR. HAYNE: It was an anonymous phone call,

1 yes, but we did the follow up on that. I will ask Mr.
2 Durr to speak more to that in detail in just a moment,
3 if I may.

4 As I show there on that schedule, the original
5 licensee's schedule was for the license of 7/15, and he
6 actually got it on 7/17. They were off some days on
7 beginning of the fuel load, but those have since been
8 made up. According to the licensee, he is going to
9 complete the 5 percent testing on 10/3 and short outage
10 to do some modifications, if you will, before he goes
11 ahead and is ready to go ahead and resume operation
12 above 5 percent, which now in his view he will be ready
13 by 10/11, October 11.

14 COMMISSIONER AHEARNE: Ron, could I ask you a
15 question?

16 MR. HAYNE: Surely.

17 COMMISSIONER AHEARNE: On an earlier version
18 of this slide, under cause of significant delays between
19 license issuance and initial criticality, there is an
20 item SBT system inoperable, delayed control rod drive
21 testing and initial criticality. What was that?

22 MR. HAYNE: That is the standby gas treatment
23 system, and they said it was inoperable. Those two
24 things by now, and I will call on Gary for details, my
25 understanding is that there was leakage through

1 dampers.

2 CHAIRMAN PALLADINO: What does SBT mean?

3 MR. HAYNE: Standby gas treatment system,
4 which is the system that is used to treat the air from
5 the reactor building in the event of an accident. It is
6 a high efficiency particulate filters, as well as
7 charcoal filters. So that if there is an accident,
8 there is a potential for some leakage from the primary
9 containment out into the secondary containment. Then to
10 assure that there is an elevated discharge of any
11 fission gases or products that would come into the
12 secondary containment, then they have the standby gas
13 treatment system that holds the building slightly
14 negative, clean up the gas, if you will, and so forth,
15 before it discharges from the stack.

16 What had happened was that because there is
17 charcoal and high efficiency filters, there is just so
18 much capacity that is available on this system. You
19 assume also in the design that you can pull the whole
20 secondary containment of the reactor building a quarter
21 of an inch negative, and that has to be done with a flow
22 rate that is on the order of one or two building
23 change-outs of air per day. In this case about 2,000
24 standard cubic feet per minute, I think, is the type of
25 flow rate that we are talking about.

1 Of course, if there are any dampers or leakage
2 into the secondary containment, then one would not be
3 able to get the quarter-inch negative with the given
4 flow rate of 2,000 standard cubic feet per minute. So
5 that was why it was inoperable. They had to go through
6 and found the source of the leakage, which was some
7 dampers, tightened it up, and repaired it.

8 Similar things have happened in the past at
9 operating facilities, and there are technical
10 specifications on this and there are routine tests any
11 time before you go into fuel handling, so that you do
12 assure the operability of the standby gas treatment
13 system in the secondary containment.

14 CHAIRMAN PALLADINO: Did you want Gary to add
15 anything?

16 MR. HAYNE: Gary, did I mess it up?

17 MR. RHOADS: No, sir. I wouldn't know if you
18 did.

19 One other thing that did cause the delay with
20 the standby gas treatment was that there was an
21 incorrect calculation on the secondary containment total
22 air flow. The text spec number originally, I think, was
23 2,300 cubic feet per minute air flow. PP&L discovered
24 during their review that the actual number should have
25 been around the 2,000 number that Ron talked about.

1 So they went in the conservative direction and
2 declared the system inoperable until they got the tech
3 spec changed to the lower air flow number. The tech
4 specs required them not to do any type of rod movement
5 with the standby gas treatment system inoperable.

6 So there was a short delay waiting for the
7 tech spec change to come back down. But in the overall
8 schedule, and the reason that we really took it out,
9 they maintained their overall schedule, although there
10 was a delay for a while.

11 MR. HAYNE: I think that the small pipe hanger
12 problem was going at the same time.

13 Gary, while you up, would you go ahead with
14 the next slide.

15 COMMISSIONER GILINSKY: Excuse me. Before you
16 go on, could you say something about the extent to which
17 NRC follows this process of testing beyond 5 percent
18 power ascension. What sort of resources do we bring to
19 bear, and to what extent do we review their plans or
20 changes in plans?

21 MR. HAYNE: Fine. If I may, let me call on
22 Gary and Ebe McCabe.

23 MR. RHOADS: I will tell you briefly what we
24 have done to this date as far as inspection resources.

25 Really since they started going critical, we

1 have an estimate of roughly three people on site since
2 that time, usually at least one of the resident
3 inspectors, and two of the region-based resources.

4 We plan on continuing pretty much in that same
5 vein passed 5 percent, with one or two of the residents
6 watching the start test program, augmented, depending on
7 what they are doing during that particular time, by one
8 or two people from the region. Again, the people from
9 the region are going to change depending on what type of
10 testing is going on also.

11 We have a rough schedule on what we expect to
12 do at what times. We will normally have two to three
13 people there.

14 MR. McCABE: That schedule has been predicated
15 upon the type of activities in progress. We considered
16 initially 24-hour day coverage, and we originally
17 concluded that that was not appropriate. We might want
18 to have two people there at one time, or three people
19 there at one time, depending on the activity.

20 So we have covered by the resident,
21 supplemented by the region, by a specialist, and keeping
22 to things like initial criticality, be there during the
23 start up of the reactor. To be there during the
24 friction test to observe the things that we consider
25 most important and keeping to that.

1 So what we are getting is the equivalent of
2 three-man weeks. We are not doing 24-hour coverage. We
3 are doing selective coverage of the critical items as we
4 see them.

5 COMMISSIONER GILINSKY: Do you look at the
6 plans for the various tests before-hand?

7 MR. McCABE: We do look and review the plans
8 for various tests. Both the residents look at them, and
9 the region-based specialists look at them.

10 MR. HAYNE: To use that as an example, the
11 region-based specialist, for example, prediction of
12 critical is often one that we look at in detail. We
13 take a look at the licensee's method of calculation,
14 which is equations and his assumptions. In this
15 particular case, we found that the inspectors and
16 specialists --

17 COMMISSIONER GILINSKY: Your inspectors hit it
18 on the nose.

19 MR. HAYNE: Right. The licensee was
20 estimating critical at step 102, and it actually came in
21 at step 82. Our independent calculations and review had
22 predicted 82 step, to the exact knot.

23 We do take a look at the assumptions that they
24 have in their equations to satisfy ourselves that they
25 are appropriate, and work it out.

1 COMMISSIONER GILINSKY: I was thinking more in
2 terms of beyond 5 percent, because we tend not to see
3 the plant after that.

4 MR. HAYNE: No, all of these like the loss of
5 power test, and all these major tests, we follow those
6 and provide specialists.

7 COMMISSIONER GILINSKY: That is basically your
8 procedure for all of the plants in your region?

9 MR. HAYNE: Yes, during this power test
10 phase.

11 COMMISSIONER GILINSKY: So we will be going
12 through at each stage of operation?

13 MR. HAYNE: Yes. That is why also, in our
14 budgeting process, if you will, as we go through, we
15 budget two resident inspectors at a site while they are
16 in the pre-operational test phase. And that carries
17 right on over into the start-up phase because there is a
18 lot of work going on, and we have to keep on top of it
19 minute by minute, and it is supplemented by our region
20 specialists.

21 MR. DIRCKS: I think that is an important
22 point. The regional specialists that you do send out at
23 intervals -- There have been some discussions about
24 dispersing more people to the sites, but, I think, Ron,
25 you and the other regional people advocate keeping a

1 region based group there to send out on special
2 assignments.

3 MR. HAYNE: You see, I could not really
4 afford, if you will, that degree of expertise,
5 especially assigned full time at a site, because they
6 have to cover the Seabrookes, the Shorehams, and the
7 Susquehannas, and so forth.

8 MR. McCABE: The resident provides a unique
9 site-specific experience and perspective, and the
10 region-based specialist provides a different
11 site-specific discipline, expertise across the regional
12 plants. We need to marry the two.

13 COMMISSIONER GILINSKY: Okay, thank you.

14 MR. HAYNE: Go to the next slide, please.

15 (Slide.)

16 Gary, I would like to call on you, if I may.

17 MR. RHOADS: I will briefly talk about the
18 reports that the licensee has made since they got their
19 license, and then see if you have any questions.

20 As you can see there has been a total of 17
21 LER that they have sent to date with the breakdown on
22 the board.

23 CHAIRMAN PALLADINO: Your earlier version
24 showed eight.

25 MR. RHOADS: That version was made at the

1 beginning of September, which is when we started to make
2 the data, and we just updated it finally this week to
3 bring it up to date.

4 Are there any specific questions? I could go
5 through each LER, but I don't see any use in that. I
6 guess an overview of that is that we have had some minor
7 problems along the line, what I consider minor problems,
8 nothing of real significance.

9 COMMISSIONER AHEARNE: Is this an unusual
10 number, or about the normal number for a plant?

11 MR. HAYNE: If I may speak to that, Gary.

12 Actually, from my experience along this line,
13 is that really the frequency and severity of these items
14 that we have looked at really do not indicate any
15 unusual problem. In fact, it is the contrary. This is
16 less than what I would normally expect.

17 MR. DENTON: Ron, I think it might be well
18 just to mention for the Commission the need for the use
19 of watchmen

20 CHAIRMAN PALLADINO: The use of what?

21 MR. DENTON: The use of watchmen in their
22 security program, because they were having some
23 difficulties with the door operating system, and they
24 seem to be overcoming those.

25 MR. HAYNE: I was going to talk a little bit

1 about that last.

2 CHAIRMAN PALLADINO: I am interested on the
3 impact of security on safety.

4 MR. HAYNE: Gary, why don't you talk about
5 that.

6 MR. RHOADS: We will talk about the security
7 next.

8 When the licensee first got their license,
9 they experienced a number of alarms in the computer
10 system, an abnormal number, and one that they couldn't
11 really respond to. When we took a closer look at it,
12 some of the things that they were calling alarms
13 wouldn't be typical of alarm conditions at other
14 plants.

15 They basically put an idealized system
16 together --

17 CHAIRMAN PALLADINO: What kind of alarms are
18 these? Are these security alarms?

19 MR. RHOADS: Security alarms going into the
20 security computer. For example, if a person punched a
21 wrong number into his access, they would get an alarm.
22 If he goes back and punches in again, then it is okay.
23 But every time somebody punched a wrong number, they
24 were getting an alarm in the computer system.

25 If a door stayed open for a greater than a

1 certain period of time, they would get an alarm. When
2 the door finally went shut, they would get another alarm
3 indicating that the door was shut again. Examples like
4 this were giving them an abnormal amount of alarms.
5 They took corrective action.

6 Their initial security system is made up of
7 security officers, all with the capability of bearing
8 arms. They did get watchmen then at some of these high
9 access areas trained just for access control, with
10 communication to the security system. I am not how much
11 we really should talk about that in this instance.

12 MR. HAYNE: One view I would like to bring out
13 because, Commissioner, you and I were up there. You
14 have to key-card in and key-card out of these areas. If
15 something slips up in the meantime, you can't key-card
16 out. You are limited on where you go.

17 CHAIRMAN PALLADINO: Do you mean that your
18 card gets stuck in there?

19 MR. HAYNE: No, you pulled your card out, but
20 if didn't register properly, then you are wrong. You
21 have done something wrong, and you can't get out, you
22 can't get into another place.

23 So, because of this, they did put watchmen at
24 places because until they get the system more
25 straightened out, the security inhibits access more so.

1 CHAIRMAN PALLADINO: Do the watchmen record
2 when you come in and out?

3 MR. HAYNE: Yes.

4 CHAIRMAN PALLADINO: Are they armed?

5 MR. HAYNE: No, the watchmen are not armed.
6 They are not security officers.

7 MR. RHOADS: The watchmen are only there in
8 case there are problems. It is not a manual system
9 where they are logging in everybody in and out the
10 door. If somebody has a problem getting through a door,
11 then they contact the security organization and try to
12 get it straightened out.

13 MR. HAYNE: The question that comes up is
14 that, have you really impacted negatively on the safety
15 of the plant to have access to these various places, and
16 what the licensee has found is that, as Gary said, he
17 more or less had an idealized system to begin with, to
18 where he has several distinct vital access areas, which
19 is nice to have if you are trying to chase down an
20 insider, perhaps. But what happens in the real case is
21 that normal people. they just can't get from here to
22 there without a lot of hassle.

23 What they did, then, to compensate for this,
24 really is to enlarge in some direct vital areas, not
25 have so many distinct, as I understand, vital areas,

1 besides going through the training process with people.

2 I know that this is something that you are
3 paying particular attention to. It is difficult. We
4 talked to the licensee specifically and said: If there
5 were an emergency, how do you cope during an emergency?

6 The plans they have there, of course, because
7 they are not going to be watchmen standing there to let
8 you in and out the door, they do have keys available to
9 the operating personnel, and you have key override in
10 these various areas. That is how the people would get
11 through the building.

12 CHAIRMAN PALLADINO: In mid-August, I wrote to
13 Mr. Dircks asking him to conduct a re-analysis of the
14 NRC physical security requirements at nuclear power
15 plants, with a particular emphasis on the interaction of
16 safety and security. I was wondering, do we have any
17 progress on this that helps in this particular
18 situation?

19 MR. DIRCKS: I think we have put together a
20 group to come in with some proposals to you. As you
21 know, we had a rule that was pending, at least at the
22 staff level, to come down here on this whole business of
23 the insider rules.

24 We are taking a fresh look at that. It may be
25 that we may want to come back and discuss with you

1 certain other requirements or positions taken several
2 years ago as far as the threats and so go.

3 CHAIRMAN PALLADINO: You do have the study
4 underway?

5 MR. DIRCKS: Yes.

6 CHAIRMAN PALLADINO: You expect to give us a
7 report on this soon?

8 MR. DIRCKS: Yes. I did send something down
9 about two weeks ago, laying out a due date.

10 CHAIRMAN PALLADINO: It has not caught up with
11 me.

12 COMMISSIONER AHEARNE: The extensive key-card
13 computer control system that they have at Susquehanna,
14 is that beyond what we would have required, or is it
15 just what we would have required?

16 MR. HAYNE: In my experience it is beyond what
17 many licensee have at the present time. I think that it
18 is something that we lead licensees toward, and that to
19 be able to key in and key out of various doors that are
20 precisely qualified. I think our tendency has really
21 led the people toward this type of rather sophisticated
22 and complicated system.

23 MR. DIRCKS: It has led them in several
24 directions. It has led them to this highly
25 sophisticated computerized system. It has led another

1 licensee to a rather substantial manning of the guard
2 system with several hundred people.

3 COMMISSIONER AHEARNE: Has anyone, either the
4 region or NRR, looked at the hazards associated with not
5 being able to get through some of those gates and doors
6 in the time required to handle some of the accidents?

7 MR. HAYNE: The fact that the keys are
8 available to the operating crews does permit them
9 access.

10 COMMISSIONER AHEARNE: Are available, does
11 that mean that they carry them with them.

12 MR. HAYNE: They are in the control room, it
13 is my understanding.

14 CHAIRMAN PALLADINO: We think that this ought
15 to be part of the overall survey.

16 MR. DIRCKS: It will be.

17 COMMISSIONER AHEARNE: It is specific to this
18 plant.

19 CHAIRMAN PALLADINO: I appreciate that.

20 COMMISSIONER AHEARNE: I guess I am not sure
21 of the answer to the question, but are you saying that
22 you have looked at it and have concluded that there
23 would be no problem? Or, you haven't you looked at it,
24 but you are convinced because there are keys available,
25 there would be no problem.

1 MR. HAYNE: A little bit of both, really. We
2 haven't really gone through and taken a very pragmatic,
3 systematic look of every little detail, as far as I
4 know.

5 However, we do take a look and see the actions
6 that the licensee has taken to decrease the number of
7 vital areas in the access and the training of his
8 people, and we feel that that is appropriate. We do not
9 really have a concern about the safety impact at this
10 point.

11 MR. McCABE: I think it is fair to say that
12 during the time when all the problems were existent,
13 that access by the people who needed to get back and
14 forth was there. There has been a major reduction in
15 the number of the false alarms and conditions, and a
16 great improvement since then, indicating that there is
17 even a significant margin over and above what they have
18 for normal operations.

19 We do know qualitatively that there is a
20 margin of accessibility over and above their need for
21 routine operations, and we have not made a detailed
22 survey to say that in all emergency conditions that will
23 continue.

24 CHAIRMAN PALLADINO: Why do they use
25 electronic devices rather than keys in some of these

1 areas?

2 MR. McCABE: I think the answer to that is
3 that the electronic device gets back to the computer,
4 and the computer maintains the listing of access, who
5 went in and who went out.

6 MR. HAYNE: It is an identifier.

7 COMMISSIONER AHEARNE: They have watched Star
8 Wars, and all these new things.

9 (General laughter.)

10 MR. McCABE: The key-card access identifies an
11 individual.

12 CHAIRMAN PALLADINO: I know, but maybe they
13 don't need to know all of those things.

14 MR. HAYNE: It is when you get into the
15 insider that it is important.

16 CHAIRMAN PALLADINO: I don't mean to treat it
17 so cavalierly.

18 MR. HAYNE: Gary, you might talk a little bit
19 more about --

20 CHAIRMAN PALLADINO: Incidentally, I would
21 liket to see if we can't adjourn by 11:30. I know that
22 we do have a number of questions.

23 MR. HAYNE: Okay, let me go ahead and get on
24 over to the allegations, if I may.

25 Jack, pull up the supplemental slide, please.

1 MR. DURR: Good morning, gentlemen. I am Jack
2 Durr of the regional staff.

3 MR. HAYNE: I asked for some of these
4 supplemental slides to show the details about the small
5 bore piping hanger allegation, but Jack was the one who
6 supervised the technical investigation.

7 MR. DURR: If you would prefer, I would like
8 to treat these in a systematic way, as I have them laid
9 out. We will eventually get to this particular slide.

10 We have received a series of allegations, in
11 most cases anonymous, since March. Some of these are
12 technical in nature, and my section has been responsible
13 for pursuing the technical aspects. The non-technical
14 aspects were pursued by the Office of Investigation more
15 appropriately.

16 The first allegations were received on May the
17 3rd, 1982, in an anonymous letter, and essentially
18 consisted of two allegations. One consisted of an
19 allegation that stress intensification factors, as
20 prescribed by the ASME code for small bore pipe systems,
21 were limited to 1.3, and the allegor felt that in some
22 cases you could experience values greater than 1.3.

23 We contacted MEB, the Mechanical Engineering
24 Branch, and asked for assistance in resolving this
25 particular one. A pipe stress analyst and the

1 licensee's people, through a series of discussions, a
2 review of data, the Mechanical Engineering Branch
3 concurred with the licensee's approach to using these
4 stress intensification factors.

5 The second allegation in that letter concerned
6 the disposition of nozzle loads on this equipment. The
7 alleged felt -- Apparently he came from the site and had
8 intimate knowledge of the workings at the site. He felt
9 that the analyses that were performed at the site never
10 accounted for nozzle loads on equipment, small bore pipe
11 nozzle loads specifically. He felt that the had not
12 been properly addressed.

13 Again, the Mechanical Engineering Branch was
14 requested to come in and evaluate the licensee's
15 practices regarding nozzle loads on equipment. It later
16 came to light that nozzle loads on equipment were
17 considered.

18 Specific pieces of equipment were identified,
19 either by the manufacturer -- a lot of times, the
20 manufacturer will identify that nozzle loads shouldn't
21 exceed certain values. In the cases where they were
22 specified by a manufacturer, the licensee did compare,
23 but this was done back at the home office in San
24 Francisco, not at the site.

25 In other cases, where the licensee determined

1 that nozzle loads could be significant, they were also
2 compared, and this was a judgmental kind of thing based
3 on the piece of equipment involved, and the criticality
4 of it.

5 Thirdly, it was determined that because of the
6 mechanism by which, the method by which the stress
7 analysis was performed, the simplified method had
8 built-in conservatism in it such that the nozzle loads
9 on equipment were limited.

10 Based on these findings, the Mechanical
11 Engineering Branch of NRR concurred with the licensee's
12 practices in this case.

13 The only thing that they did take issue with
14 was on socket welds and a device called Welderlet on
15 branch connections, how the licensee had treated these
16 relative to an interpretation of the code.

17 COMMISSIONER AHEARNE: The licensee or the
18 licensee's contractor.

19 MR. DURR: The licensee's contractor. When I
20 say licensee, I am speaking of his A-E.

21 We determined that if the licensee could show
22 either compliance with some of the more rigorous
23 requirements of Section 3, and/or compliance with
24 another part of the paragraph, that it would be
25 acceptable for these Welderlet connections.

1 The licensee has gone back, and he has done an
2 analysis to show that he can satisfy the ASME code. We
3 have reviewed those and accepted them.

4 COMMISSIONER AHEARNE: Are you saying that the
5 original concern was that the A-E's approach was in your
6 view not consistent with the code requirements?

7 MR. DURR: That is correct. It is an
8 interpretational thing here again. Specifically for
9 Welderlets, which are branch connections on large bore
10 piping, the code really doesn't describe accurately that
11 particular geometry for that. It is a trade name,
12 Welderlet.

13 So there was discussion. There are six
14 representations in the code of acceptable branch
15 connections, and there was some discussion of which one
16 of these six should the licensee have used. The
17 difference of opinion was ultimately resolved, but that
18 was the question that came about.

19 COMMISSIONER AHEARNE: And the as-installed is
20 satisfactory?

21 MR. DURR: The as-installed is satisfactory.

22 Then on July 19, we received another series of
23 allegations. Here again this was in a telephone
24 conversation between the NRC duty officer at
25 headquarters, and the resident inspector was branched in

1 on the conversation. The allegor gave us about eight
2 allegations, if we would quantify them, although he did
3 not enumerate these as such.

4 Do you want the details of the allegations
5 are, or do you want me to generalize?

6 The generalization, and you can almost
7 summarize three or four of these in one area, and that
8 is with this slide that is presented here. This is a
9 small bore pipe angle, and it is supposed to provide
10 tri-axial restrain of the piping.

11 Because of fabrication tolerances and
12 installation practices, it was not capable of clamping
13 or gripping the pipe. The allegor pointed this out. We
14 went out and confirmed that in some cases this was the
15 fact.

16 The licensee initiated corrective actions, and
17 these have been completed. We have gone back and
18 reinspected this particular aspect on a sampling basis,
19 and we found it to be acceptable.

20 COMMISSIONER AHEARNE: Was that something that
21 you would have expected that the normal I&E inspection
22 or your own regional inspection should have picked up?

23 MR. DURR: Here, again, you realize that we do
24 inspection from the region -- Let me address the
25 regional aspect first. We do inspection on a sampling

1 basis.

2 COMMISSIONER AHEARNE: Correct.

3 MR. DURR: We look at programmatic hardware
4 kinds of things, and when you start talking about one
5 hanger detail being singled out by the region and being
6 identified, that might have some probabilities
7 associated with it.

8 MR. DENTON: I think the answer must be no, if
9 we put in less than one-man year per year in inspecting
10 these plants.

11 COMMISSIONER AHEARNE: I would have thought
12 that would be the answer.

13 (General laughter.)

14 MR. DURR: The answer is, no we couldn't get
15 there from here.

16 MR. HAYNE: What we do, of course, we select
17 the things that have the most impact on safety.
18 Frankly, a small bore piping hanger is pretty low on the
19 scale with respect to impact on risk compared to many
20 other things that we inspect.

21 Jack, you might want to show them the ears
22 now.

23 MR. DURR: The next slide please.

24 (Slide.)

25 This is a representation of a pipe and a pipe

1 clamp which grips the pipe, and a seismic restraint that
2 is obviously for seismic purposes. Any time that the
3 seismic restraint operates is during an event or a rapid
4 acceleration of the piping system.

5 The clearance between, if you will, the ears
6 on the pipe and the shoulder on the snubber was supposed
7 to be such that the pipe had five degrees of axial
8 movement in any direction. This clearance was less than
9 that prescribed by the specification. This was
10 identified by the allegor, and subsequently confirmed by
11 our inspection.

12 The licensee has, here again, taken corrective
13 action, gone out and done 100 percent inspection of
14 these things, and made the necessary corrections for
15 those clearances.

16 COMMISSIONER AHEARNE: The same question, and
17 the same answer?

18 MR. DURR: The same question, which is?

19 COMMISSIONER AHEARNE: Can you detect it?

20 MR. DURR: Yes. Here again, we look at these
21 things, but, no, I wouldn't expect us to single out that
22 particular thing.

23 If we move on from that general category of
24 allegations which were directed toward pipe clamps, then
25 we also have one on May the 14th, which was sent to the

1 licensee and to us -- in fact, it was directed to the
2 Commissioners, I believe -- which alleged several
3 things, but primarily the only one of safety
4 significance as far as we were concerned was that there
5 were possible improprieties in upgrading the welders, or
6 retaining and recertifying a welder's qualifications.

7 This alleged was the welder, and he alleged
8 that the system is that every 90 days, a welder has to
9 be recertified. He has to weld in the process, or he
10 has to go back and be requalified. Normally what they
11 do, they make sure that the welder welds in that process
12 within that time limit.

13 The way that Bechtel does this is by reviewing
14 the weld withdrawal slips, because the welder has to
15 have an authorization to withdraw the welding rod, and
16 based on this authorization slip, they determine that
17 they did, in fact, utilize the process during that
18 period.

19 It came to light, the alleged said, that he
20 drew welding rod, didn't use it, returned it, but based
21 on that the slip did not, and he said that it
22 intentional by his supervision that this took place.

23 We went out and investigated, and we
24 determined that this system is weak in that respect. It
25 does diddle out this kind of thing. However, we could

1 not substantiate the fact that there was a malice or
2 forethought on anybody's part on this.

3 The welder drew welding rod for a job, and
4 this often occurs where they go out to work, and for
5 some reason the job doesn't come off, and he has to turn
6 in welding rod again. That job did exist that he drew
7 the welding rod for, and the authorization was there.
8 So we could not substantiate that there was any
9 collusion, malice or forethought on the licensee's part
10 in this.

11 MR. RHOADS: We did require that corrective
12 actions to be taken to strengthen that system to avoid
13 any problems with on-going work at Unit 2.

14 MR. HAYNE: Jack, thank you.

15 I think, in the interest of time, I might --

16 COMMISSIONER AHEARNE: Are you --

17 CHAIRMAN PALLADINO: Go ahead.

18 COMMISSIONER AHEARNE: There are on the chart
19 in your package of slides other allegations.

20 MR. HAYNE: Okay.

21 COMMISSIONER AHEARNE: There are two
22 additional ones.

23 MR. HAYNE: I was going to talk about those
24 just briefly.

25 The other two allegations on that chart are

1 piping and electrical installations. This had to do
2 with interferences when you do a heat up on a plant,
3 this pipe will be hot, and maybe there is electrical
4 cable too close that could cause damage to the
5 installation, or the pipe will grow and will interfere
6 with another component.

7 When we heard that allegation, the licensee
8 was aware of these types of concerns and, in fact, was
9 doing a check out program for this very thing, which is
10 normal in the start up of a plant. I think this is
11 where the folks became aware of it and then told us
12 about this type of thing.

13 The other thing was alcohol and drug abuse,
14 and what this really was was an allegation about an
15 individual who supposedly was peddling dope at the
16 plant. We turned that over for proper review, and we
17 informed the licensee. So this is being taken care of.

18 Frankly, with respect to the alcohol part, we
19 do have our inspectors go through the plant to take a
20 look at any evidence of alcohol usage, bottles and that
21 type of thing. This is a clean plant compared to -- It
22 is a clean plant.

23 CHAIRMAN PALLADINO: Compared to what?

24 COMMISSIONER AHEARNE: Compared to a specific
25 one?

1 MR. HAYNE: Compared to the way it used to be
2 some years ago, okay, when I used to do construction.
3 Notwithstanding the problems that we do see, we have made
4 considerable progress in controlling construction.

5 CHAIRMAN PALLADINO: Ron, with regard to the
6 allegations that you have received so far, do you feel
7 that you have resolved them from a technical
8 standpoint?

9 MR. HAYNE: Yes. I have queried the staff on
10 that. We do not have any outstanding concerns. We feel
11 that they have been properly positioned, and we do
12 have confidence in the construction. We are satisfied
13 that there is not a generic problem. They did not
14 indicate any other generic problems. We are satisfied.

15 The last slide please.

16 (Slide.)

17 If I may, I know we are short on time, so I
18 will just run through that quickly.

19 Mr. McCabe did go through and take a look at
20 the specific license conditions that were placed on the
21 licensee of which we in the region could do confirmatory
22 check out, and so forth. We have either verified that
23 the licensee has met the original conditions of the
24 license at this point, or that he will. Of course, the
25 5 percent testing is not done yet.

1 Also with respect to the compliance with the
2 TMI action items that were assigned to the region, we
3 have satisfied ourselves that he has either met them or
4 he is going to meet them in accordance with the
5 conditions of the license.

6 Finally, the construction status, any of you
7 who have been up there, certainly I know Commissioner
8 Gilinsky was up there, it is essentially complete. In
9 fact, this plant is more complete than many have been at
10 this point, and ready for fuel loading. I think that
11 has really evidenced itself, if you will, by the good
12 progress that they have made during the power test
13 program so far.

14 MR. DENTON: I will second that. While we
15 focused on the problems and deficiencies, if you stand
16 back and look at this, the people in the plant are
17 extremely well qualified for operation. It shows in
18 many areas. There are very positive features about the
19 plant. Today we chose the ones which are negative.

20 COMMISSIONER GILINSKY: I might add, as Ron
21 said, I visited the plant in his company. I went
22 through it and met with the staff and the management,
23 and I came away with a favorable impression, a very
24 favorable impression.

25 CHAIRMAN PALLADINO: Does that complete your

1 presentation?

2 MR. DENTON: Yes, it does.

3 CHAIRMAN PALLADINO: Are there further
4 questions.

5 COMMISSIONER AHEARNE: Yes.

6 CHAIRMAN PALLADINO: You have to leave?

7 COMMISSIONER GILINSKY: Yes. I understood
8 that we were not, however, going to take a vote this
9 morning.

10 CHAIRMAN PALLADINO: Based on indications from
11 at least two of the Commissioners, who said that they
12 were not prepared to vote, until they could reflect or
13 examine more carefully these allegations --

14 COMMISSIONER GILINSKY: Since I am one of
15 them, perhaps I will say a word about it.

16 This morning, as the Chairman indicated
17 earlier, we had a meeting and the staff raised with us
18 some matters dealing with investigations that are going
19 on, which I heard about for the first time. I think
20 they should have been brought to us earlier.

21 CHAIRMAN PALLADINO: I might add that I think
22 it was the first time for any of the Commissioners.

23 COMMISSIONER GILINSKY: Yes, definitely. I
24 wasn't suggesting anything else than that.

25 I am inclined to think that they are not

1 significant enough to affect our decision. On the other
2 hand, I also want to reflect on their significance and
3 to asses them. I would like to have some time to do
4 that. I would propose that we have a meeting next
5 week.

6 CHAIRMAN PALLADINO: We can settle on a
7 convenient time at the agenda session which I believe is
8 this afternoon.

9 While I would feel prepared to vote, I think
10 in deference to the wishes of the Commissioners I would
11 wait and join in waiting for a week or thereabouts, or
12 until that we are satisfied that we are ready to vote.

13 COMMISSIONER AHEARNE: Can I ask my questions
14 now?

15 CHAIRMAN PALLADINO: All right.

16 (Commissioner Gilinsky left the meeting.)

17 COMMISSIONER AHEARNE: Harold or Darrell, this
18 is really with respect to some items that I found in the
19 5 percent license which I would like to get some
20 understanding on.

21 If you look on pages 5, 6, and 7, there are
22 some discussions about seismic systems analysis. You
23 are asking them to do a seismic system analysis. You
24 are asking PPA to essentially have a recheck of all
25 calculations. These would be done, and I guess they are

1 now completed.

2 You also then later asked them to provide a
3 complete description of the analytic methods, along with
4 the analytic results. This was on seismic and loss of
5 coolant accident loads.

6 I think my question really is, this sound to
7 me like a fairly substantial amount of detail that I was
8 surprised that you would be asking for this late in the
9 process. I wondered whether it was either (a) that you
10 had found some problems that led you to a concern that
11 you wanted a recheck on, or (b) whether you had not had
12 time to get to your normal review.

13 MR. DENTON: I think it was the first
14 situation. Maybe Dick would like to discuss it. We had
15 largely completed our initial review, and the new
16 information came to light that prompted this area.

17 MR. VOLLMER: These things came to light as a
18 result of some internal auditing that Bechtel did, and
19 they found what they felt were some modeling errors or
20 some incorrect assumptions made in the analysis input.

21 COMMISSIONER AHEARNE: Who found these?

22 MR. VOLLMER: This was as a result of some
23 Bechtel internal audits.

24 COMMISSIONER AHEARNE: You had done the
25 original calculations?

1 MR. VOLLMER: Bechtel.

2 COMMISSIONER AHEARNE: Say that again.

3 MR. VOLLMER: Commissioner, in the process of
4 doing an engineering turn over from Bechtel to PP&L,
5 these mistakes in calculations surfaced.

6 COMMISSIONER AHEARNE: They were mistakes made
7 by?

8 MR. VOLLMER: Bechtel. Bechtel brought it to
9 our attention and that is when we started to look into
10 it in depth, not only on the particular model that they
11 looked at, or they found it on, but in subsequent models
12 as well.

13 COMMISSIONER AHEARNE: What kind of mistakes
14 were these?

15 MR. VOLLMER: It involved differences in
16 spring stiffnesses. I think in one particular case the
17 spring stiffness was left out. Beyond that I don't have
18 the specific details.

19 COMMISSIONER AHEARNE: Is my reading correct
20 that you were asking for a fairly substantial
21 re-analysis?

22 MR. VOLLMER: On the model that had the
23 errors, yes. We then asked for a recheck of other
24 models to assure ourselves that that same problem didn't
25 exist in the other models. The response was that they

1 did not.

2 COMMISSIONER AHEARNE: The recheck has been
3 completed?

4 MR. VOLLMER: Yes, it was.

5 COMMISSIONER AHEARNE: The recheck was
6 satisfactory?

7 MR. VOLLMER: Yes, it was.

8 MR. DENTON: As I recall, this area has the
9 potential for making some large changes in the response
10 spectrum at certain frequencies.

11 MR. VOLLMER: That is correct.

12 MR. DENTON: The question was whether or not
13 there was any equipment or structures that were in those
14 frequencies and involved a lot of relooking at that
15 issue.

16 COMMISSIONER AHEARNE: The schedule on which
17 you had asked them to response ended up having PP&L
18 provide to the NRC, it looks like, a fairly large amount
19 of material by the en of August. Have you reviewed
20 that?

21 MR. PERCH: Yes, we did. We did receive those
22 responses within the period specified. It is document
23 in the SER.

24 COMMISSIONER AHEARNE: On page 9 in this, you
25 talked about school district emergency plan, and

1 municipality transportation resources. It talks about
2 findings that Harold had to make prior to exceeding 5
3 percent of full power.

4 "All school districts within the plume
5 exposure pathway emergency planning zone have completed
6 written emergency plans, and the Director, in
7 consultation with FEMA, and all municipalities within
8 the plume exposure pathway emergency planning zone have
9 completed their response plans." Have you made those
10 two findings?

11 MR. DENTON: I don't think I have made those
12 yet. I would make them before going above 5 percent.

13 Let me ask the people from emergency planning
14 as to where they stand. Normally I receive a formal
15 document in this, and I have not really looked for it in
16 this case.

17 Let me ask Bob, whoever would like to respond,
18 where it stands.

19 COMMISSIONER AHEARNE: There is a FEMA person
20 here?

21 MR. DENTON: Yes. Vernon Ailer of FEMA is
22 here.

23 MR. ADLER: Could you restate the question?

24 COMMISSIONER AHEARNE: Yes. There were two
25 findings that were required. The first was, all school

1 districts within the plume exposure pathway emergency
2 planning zone have completed written emergency plans.

3 MR. ADLER: It is my understanding that that
4 has been done.

5 COMMISSIONER AHEARNE: All the school
6 districts have completed them.

7 MR. ADLER: There was a schedule, and to the
8 best of my recollection, the schedule was set some time
9 ago and met. I think I would like to verify that that
10 has in fact been the case.

11 COMMISSIONER AHEARNE: The second was that all
12 municipalities have completed their emergency response
13 plans on transportation resources.

14 MR. ADLER: That was a part of the same
15 original understanding, and I don't have written
16 verification in my mind about it, but I will check.

17 What was the date of that letter?

18 VOICE: June 30.

19 MR. ADLER: It is a June 30 letter of Mr. Krim
20 from FEMA to Brian Grimes of the staff, attaching a June
21 28th document which states that -- I will read two
22 sentences: "Insofar as each school district received
23 FEMA's comments, and FEMA's Region III office concurs
24 with them, no further discussion is necessary."
25 Concerning the municipal plans, it states: "All 27

1 municipal plans and both county transportation annexes
2 are found to be adequate in terms of the persons names,
3 the resources and their allocation."

4 COMMISSIONER AHEARNE: It is a letter that you
5 got on June 30?

6 MR. RHOADS: Yes, it is.

7 COMMISSIONER AHEARNE: Then I am puzzled
8 because what I am reading is a document you signed July
9 17th.

10 MR. EISENHUT: But there is an easy
11 explanation for that.

12 COMMISSIONER AHEARNE: Two and a half weeks
13 later.

14 MR. EISENHUT: Because the ASLB initial
15 decision stated that they must license conditions, so
16 even though they were items that we had under
17 evaluation, they were findings in the initial decision
18 of the Board.

19 MR. RHOADS: Commissioner, really I think this
20 was properly for caution. The Licensing Board's order
21 provided that these two items would be placed as
22 conditions in the license. The Licensing Board order
23 did not address whether they were completed before the
24 license. But because that was a directive to us in the
25 order, they were placed in the license to comply fully

1 with the Board's order.

2 COMMISSIONER AHEARNE: You are saying that, I
3 gather, Mr. Adler, you are confident, or based upon that
4 letter would you agree that they have been met?

5 MR. ADLER: We have Mr. Hopkins from the
6 region who was closer to the matter. Let me ask him to
7 clarify it.

8 MR. HOPKINS: I am Steve Hopkins. I am with
9 FEMA Region III, and I have been involved with reviewing
10 the state level planning with respect to the Susquehanna
11 facility. It is my understanding that we have reviewed
12 the school plans, the transportation plans, and found
13 them to be adequate as was just stated. We did advise
14 our headquarters of this back last summer, in June.

15 COMMISSIONER AHEARNE: All right. Thank you.

16 You also mention seismic and dynamic
17 qualification, this is number 23 on page 9. You are
18 talking about PP&L should complete any modifications or
19 replacement of equipment found necessary as a result of
20 the licensee's fatigue evaluation program.

21 That sounds to me like something related more
22 to the previous Mark II unresolved safety issues. Is
23 that correct?

24 MR. EISENHUT: I am not sure. I will have to
25 defer on this.

1 MR. VOLLMER: The team, during the inspection,
2 they looked at the dynamic analysis or with their views
3 of the dynamic analysis on various parts of the plant.
4 They felt that the balance of plant had adequate margin,
5 but they were concerned about certain elements in the
6 NSSS as being adequate to meet the fatigue
7 requirements. So they asked them to go back and look at
8 that.

9 Since this again is a long-time item, and
10 depending on multiple blow-downs, they felt that the
11 analysis did not have to be done right away.

12 COMMISSIONER AHEARNE: Was a Mark II generic
13 question, or a Susquehanna specific question?

14 MR. VOLLMER: I believe it is Susquehanna
15 specific, and I believe it is possibly just that the
16 right documentation was not available for the Team to
17 look at.

18 COMMISSIONER AHEARNE: Dick might be the right
19 person for this last question.

20 On page 11, there is an item about
21 instrumentation protection and inadequate core cooling.
22 It says that PP&L --

23 MR. VOLLMER: I will pass that to Roger.

24 MR. ADLER: PP&L shall submit a report
25 addressing the analysis regarding additional

1 instrumentation relative to inadequate core cooling and
2 it shall implement the staff's requirements.

3 I guess I have missed the fact that we were
4 concerned about BWR's having inadequate core cooling
5 instrumentation.

6 MR. MATTSON: No, BWRs were always in the
7 basket for inadequate core cooling.

8 What we had proposed a couple of years ago was
9 thermal couples in BWR to be diverse and redundant to
10 the level indicators in BWRs.

11 About a year ago, the BWR owners, all classes
12 of BWRs, convinced us to the level Harold Denton level
13 of NRR that what we had hoped to get from those thermal
14 couples, we probably couldn't get.

15 They undertook, then, a restudying of what
16 could be provided for inadequate core cooling indication
17 to be diverse to the level indicators. They have
18 promised us a generic report to that extent earlier in
19 the year, and it kept dragging and dragging.

20 So it seemed the right thing to do to let new
21 licensees know that we needed to address that subject
22 before we finished the licensing process. So a license
23 condition was put on Susquehanna.

24 The generic report was finally delivered, and
25 it says that they have looked at other methods and, if

1 my recollection is correct, they don't need any others.
2 We are still reviewing that as a document.

3 COMMISSIONER AHEARNE: You have got the
4 report?

5 MR. MATISON: Yes.

6 COMMISSIONER AHEARNE: What this does is
7 commit them to put in place whatever you require? It
8 says, "Shall implement the staff's requirements."

9 MR. MATISON: The BWR owners have agreed to
10 look seriously at the need for diverse indication of
11 inadequate core cooling. A good faith effort to decide
12 what is the right thing to do for these machines. Their
13 opinion seems to be that nothing more is required, or
14 nothing reasonable can be added. We may eventually come
15 to that conclusion with them, but we are still giving it
16 a hard try.

17 COMMISSIONER AHEARNE: Thank you.

18 CHAIRMAN PALLADINO: I have one remaining
19 question. On page 3 of amendment 3 it says, "PP&L shall
20 report any violations of the requirements contained in
21 Section 2," item so and so, and after that, "inform
22 within 24 hours by phone and confirm by mail-o-gram."
23 What is the necessity for putting that in there? Are
24 our regulations deficient? Is this a change?

25 MR. CHRISSENBERRY: Mr. Chairman, the origin

1 of this is back when Commissioner Bradford was here. We
2 have a similar provision in the tech spec which would
3 require these to be put on. Mr. Bradford raised the
4 question.

5 Starting with Sequoyah, which was the first
6 plant that we licensed after TMI, we started putting
7 more conditions in the license. The point he raised,
8 which we thought had merit, was if you have such
9 reporting provisions for violations of your tech specs,
10 since we have many conditions in the license, why
11 shouldn't they be advised if there is any violations of
12 these conditions.

13 So it was at Commissioner Bradford's
14 suggestion that we added a similar to that --

15 CHAIRMAN PALLADINO: So in a sense our
16 regulations are sort of deficient in this area.

17 MR. CHRISSENBERRY: I am not sure that that is
18 the case. I think this probably makes it absolutely
19 clear.

20 CHAIRMAN PALLADINO: Yes. If they were not
21 deficient, I presume, we wouldn't have to put that in.

22 Tom, do you have any questions?

23 COMMISSIONER ROBERTS: No.

24 CHAIRMAN PALLADINO: I gather we will defer
25 voting, and schedule it so that we can examine the

1 allegations.

2 Thank you all for coming. We stand

3 adjourned.

4 (Whereupon, at 11:50 a.m., the meeting

5 adjourned.)

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NUCLEAR REGULATORY COMMISSION

This is to certify that the attached proceedings before the
COMMISSION MEETING

in the matter of: Briefing on Susquehanna Unit 1 Full Power Amendment
PUBLIC MEETING

Date of Proceeding: September 30, 1982

Docket Number: _____

Place of Proceeding: Washington, D. C.

were held as herein appears, and that this is the original transcript thereof for the file of the Commission.

Patricia A. Minson

Official Reporter (Typed)

Patricia A. Minson

Official Reporter (Signature)

COMMISSION BRIEFING
SUSQUEHANNA UNIT 1
FULL POWER AMENDMENT

SEPTEMBER 30, 1982

BRIEFING OUTLINE

SUSQUEHANNA UNIT 1 FULL POWER OPERATING LICENSE

- . PLANT DESCRIPTION/LOCATION
- . STARTUP SCHEDULE
- . SELECTED ITEMS OF REVIEW
 - MARK II CONTAINMENT
 - ADVANCED CONTROL ROOM DESIGN
 - INDEPENDENT DESIGN REVIEW
 - GAS PIPELINE NEAR SITE
 - EQUIPMENT QUALIFICATION
- . REGION I REPORT
 - OPERATING HISTORY
 - STARTUP TEST PROGRAM
 - DELAYS AND CAUSES
 - EVENTS AND ENFORCEMENT ACTIONS SINCE OPERATING LICENSE ISSUE
 - ALLEGATIONS
- . PROPOSED FULL POWER AMENDMENT
 - CONDITIONS/OUTSTANDING ISSUES

PLANT DESCRIPTION/LOCATION

- . UTILITY: PENNSYLVANIA POWER & LIGHT COMPANY
 - . LOCATION: LUZERNE COUNTY, PENNSYLVANIA
 - . REACTOR TYPE: BWR - 1050 MWE/3293 MWT
 - . ENGINEER/CONSTRUCTOR: BECHTEL
 - . CONTAINMENT TYPE: MARK II, INERTED
-
- CONSTRUCTION PERMIT ISSUED: NOVEMBER 2, 1973
 - CONSTRUCTION COMPLETED: JULY 1, 1982
 - OL ISSUED: JULY 17, 1982

STARTUP SCHEDULE

- . STARTED LOADING FUEL - JULY 27, 1982
- . FUEL LOADED & HEAD TENSIONED - AUGUST 25, 1982
- . INITIAL CRITICALITY - SEPTEMBER 10, 1982
- . EXCEED 5% POWER - WEEK OF OCTOBER 4, 1982

MARK II CONTAINMENT

- . SECOND MARK II REACTOR THROUGH LICENSING PROCESS
- . CONTAINMENT IS STEEL-LINED REINFORCED CONCRETE STRUCTURE
- . OVER-AND-UNDER CONFIGURATION
- . DESIGN PRESSURE - 53 PSIG
- . INERTED ATMOSPHERE
- . HUMPHREY CONCERNS
- . WETWELL/DRYWELL VACUUM BREAKERS

ADVANCED CONTROL ROOM DESIGN

- . PP&L/GE/BECHTEL CONFIGURATION STUDY (1971)
- . PROVIDE DESIGN TO IMPROVE OPERATOR RESPONSE CAPABILITY
 - REDUCE BENCHBOARD LENGTH
 - SIMPLIFY DISPLAY AND CONTROL DEVICES
 - MINIMIZE SPACE REQUIREMENTS
 - CRT'S AS OPERATOR AID
 - INFORMATION IN SYSTEMIZED MANNER
- . ON-SITE SIMULATOR

INDEPENDENT DESIGN VERIFICATION

- . REVIEW OF MECHANICAL AND STRUCTURAL DESIGN OF FEEDWATER SYSTEM INSIDE CONTAINMENT CONDUCTED BY TELEDYNE ENGINEERING SERVICES (TES)

- . MAJOR TASKS CONDUCTED BY TES
 - DESIGN PROCESS AND CONTROL
 - DESIGN PROCEDURES
 - REVIEW INTERFACE PROCEDURES
 - IMPLEMENTATION OF DESIGN AND INTERFACE PROCEDURES
 - DETERMINE AS-BUILT CONFIGURATION
 - DESIGN DOCUMENTS VS FSAR
 - QA PROCESS AND AUDIT FINDINGS

- . TES FINAL REPORT: AUGUST 23, 1982
 - RESULTS: . ONE INCORRECT TRANSIENT CLASSIFICATION
 - . NO GENERIC CONCLUSION REGARDING RECONCILIATION OF AS-BUILT CONDITIONS

- . PP&L RESPONSE

GAS PIPELINE NEAR SITE

- . CURRENT LICENSE CONDITION REQUIRES PP&L TO IMPLEMENT ADMINISTRATIVE CONTROLS ON GAS PIPELINE
- . RECENT INFORMATION PROVIDED BY PP&L ON GAS PIPELINE CONFIGURATION AND PROPOSED MODIFICATIONS
- . CHANGE LICENSE CONDITION

EQUIPMENT QUALIFICATION

. SDV PIPE BREAK ENVIRONMENTAL QUALIFICATION

REGION I REPORT

OPERATING HISTORY

- 7/17/82 OPERATING LICENSE ISSUED.
- 7/19/82 REFILLED REACTOR VESSEL AFTER RADIOGRAPHING RECIRCULATION SYSTEM RISER DOUBLE WELDS AND REPAIRING INDICATIONS FOUND DURING THE R/T REQUIRED BECAUSE OF PROBLEMS WITH PRE-SERVICE INSPECTION.
- 7/27/82 BEGAN LOADING FUEL.
- 8/8/82 COMPLETED FUEL LOAD (IN 12 DAYS - 20 DAYS WERE ALLOTTED).
- 8/25/82 ENTERED MODE 4 (COLD SHUTDOWN).
- 8/30/82 COMPLETED PRIMARY BOUNDARY LEAKAGE TEST.
- 9/10/82 INITIAL CRITICALITY.
- 9/22/82 ELECTRICAL FIRE IN ESW PUMP HOUSE RESULTED IN "ALERT" CONDITION.

STARTUP TESTS RESULTS

- 9/30/82 TESTING AT APP. 4% POWER, NO SIGNIFICANT TESTING PROBLEMS HAVE DEVELOPED.

CAUSE OF SIGNIFICANT DELAYS SINCE LICENSE ISSUANCE

- RADIOGRAPH AND REPAIR INDICATIONS ON RECIRCULATION RISER PIPE (DELAYED FUEL LOAD COMMENCEMENT BY SIX DAYS)
- SMALL PIPE HANGER INSPECTIONS AND REPAIRS (DELAYED FUEL LOAD COMMENCEMENT BY THREE DAYS)

<u>ITEM</u>	<u>INITIAL LICENSEE SCHEDULE</u>	<u>ACTUAL</u>
OPERATING LICENSE ISSUED	7/15/82	7/17/82
BEGIN FUEL LOAD	7/16/82	7/27/82
COMPLETE FUEL LOAD	8/8/82	8/8/82
COMPLETE 5% TESTING	9/25/82	10/3/82 (E)
BEGIN >5% TESTING	10/17/82	10/11/82 (E)

EVENTS AND ENFORCEMENT ACTIONS
SINCE OPERATING LICENSE ISSUE

A. LICENSEE EVENTS REPORTS (LER'S)

- PERSONNEL ERROR	4
- PROCEDURE INADEQUACY	3
- COMPONENT FAILURE	4
- DESIGN/CONSTRUCTION ERROR	<u>6</u>
TOTAL	17

B. 10 CFR 50.72 REPORTS

IN ADDITION TO THE LER'S, 12 REACTOR PROTECTION SYSTEM ENS NOTIFICATIONS WERE MADE. NINE REPORTED REACTOR PROTECTION SYSTEM ACTUATIONS WITH THE CONTROL RODS ALREADY FULL INSERTED. THREE INVOLVED ACTUAL SCRAMS DURING LOW POWER TESTING. ANOTHER ENS NOTIFICATION WAS MADE FOR THE ELECTRICAL FIRE IN THE ESW PUMP HOUSE.

C. 10 CFR 73.71 REPORTS

THREE SECURITY REPORTS WERE MADE. COMPENSATORY MEASURES INVOLVED WERE REVIEWED AND ACCEPTED BY THE REGION.

D. UNUSUAL EVENTS

THE 9/22/82 ESW PUMP HOUSE FIRE EXCEEDED UNUSUAL EVENT CLASSIFICATION AND WAS CLASSIFIED AS AN "ALERT" CONDITION.

E. ENFORCEMENT ACTIONS

ONE (AS OF 9/29/82); NOT PERFORMING REQUIRED SECOND CHECK OF VALVE LINEUP. ALSO, THE FOLLOWING ARE BEING CONSIDERED FOR POSSIBLE ENFORCEMENT ACTION.

- (1) SMALL PIPE HANGER DISCREPANCIES.
- (2) SMALL PIPE HANGER DESIGN CHANGE NOT ISSUED TO THE FIELD.
- (3) INADEQUATE QC CRITERIA FOR HANGER INSPECTION.
- (4) UNAUTHORIZED TRIMMING OF PIPE CLAMP "EARS".
- (5) INSUFFICIENT PIPE SUPPORT CLEARANCE.

ITEMS (1) - (5) ABOVE DEVELOPED INCIDENT TO INVESTIGATION OF ALLEGATIONS RECEIVED ON 7/17/82. CORRECTIVE ACTIONS HAVE BEEN COMPLETED.

ALLEGATIONS

- . SMALL BORE PIPE SOCKET WELDS AND NOZZLE LOADS
- . SMALL BORE PIPE CLAMPS
- . WELDING TESTS AND WELDER QUALIFICATION RECORDS
- . PIPING AND ELECTRICAL INSTALLATIONS
- . ALCOHOL AND DRUG ABUSE

READINESS FOR FULL POWER OPERATION

1. INSPECTION PROGRAM - CURRENT
2. COMPLIANCE WITH LICENSE CONDITIONS - VERIFIED*
3. COMPLIANCE WITH TMI ACTION ITEMS ASSIGNED TO REGION - VERIFIED*
4. CONSTRUCTION STATUS - ESSENTIALLY COMPLETE

* EITHER COMPLIANCE HAS BEEN DEMONSTRATED OR STATUS IS SUCH THAT COMPLIANCE CAN BE ACHIEVED WHEN REQUIRED.

FULL POWER AMENDMENT

- AUTHORIZE FULL POWER
- DEFERS FULL QUALIFICATION DOCUMENTATION ON CONTAINMENT VENT AND PURGE VALVES TO DECEMBER 1982
- CHANGE IMPLEMENTATION OF INTERIM GAS PIPELINE PROCEDURES TO DECEMBER 1982
- ADDS IMPLEMENTATION OF DESIGN MODIFICATIONS TO WETWELL/ DRYWELL VACUUM BREAKERS TO BE COMPLETED BY STARTUP FOLLOWING FIRST REFUELING OUTAGE
- DEFERS EQUIPMENT QUALIFICATION FOR EQUIPMENT COVERED BY SECTION 5.3 OF NUREG-0803 FOR SDV BREAK ENVIRONMENT WHILE UNDER NRC STAFF REVIEW
- ADDS SCHEDULE FOR CORRECTIVE ACTION ON EMERGENCY PREPAREDNESS FINDINGS
- ADDS EVALUATION AND APPLICATION OF THE INPLANT SRV TEST CONDUCTED AT LASALLE, UNIT 1



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

PENNSYLVANIA POWER & LIGHT COMPANY
ALLEGHENY ELECTRIC COOPERATIVE, INC.
DOCKET NO. 50-387
SUSQUEHANNA STEAM ELECTRIC STATION, UNIT 1
AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 3
License No. NPF-14

1. The Nuclear Regulatory Commission (the Commission or the NRC) having found that:
 - A. The application for a license filed by the Pennsylvania Power & Light Company and the Allegheny Electric Cooperative, Inc. (the licensees) complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's regulations set forth in 10 CFR Chapter I,
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the regulations of the Commission;
 - C. There is reasonable assurance: (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, the license is amended by changes in Technical Specification 4.8.1.1.2 and in paragraphs 2.C.(1), 2.C.(5), 2.C.(13), 2.C.(16), 2.C.(18)(a), 2.C.(20), 2.C.(23), 2.G.(a) and the addition of paragraphs 2.C.(18)(d), 2.C.(18)(e), 2.C.(18)(f), 2.C.(29), 2.C.(30) and 2.C.(31) to the Facility Operating License No. NPF-14 to read as follows:
 - (1) Maximum Power Level

Pennsylvania Power & Light Company (PP&L) is authorized to operate the facility at reactor core power levels not in excess of 3293 megawatts thermal in accordance with the conditions specified herein and in Attachment 1 to this license. The preoperational tests, startup tests and other items identified in Attachment 1 to this license shall be completed as specified. Attachment 1 is hereby incorporated into this license.
 - (5) Qualification of Purge Valves (Section 6.2.4, SSER#1; 22, SSER#4)
 - a) PP&L shall block valves HV-15703 and HV-15713 so as not to permit opening by more than 50 degrees and shall lock-close all other nonqualified vent and purge valves in lines greater than 2-in. in

diameter, pending satisfactory qualification of the affected valves.

- b) By December 31, 1982, PP&L shall submit purge valve qualification documentation which shows the maximum opening of 18-in. and 24-in. valves for which the top pin shear stress will be within conservative allowables ($<0.4 S_y$) during the maximum torque loads of a LOCA and seismic event. PP&L shall implement the staff's requirements after the completion of the staff's review of these documents.

(13) Nearby Facilities (Section 2.2.2, SSER#3, SSER#4)

- (a) PP&L shall submit a complete report for NRC review and approval delineating interim gas line flow restrictions to $39 \text{ m}^3/\text{sec}$ of natural gas.
- (b) By December 31, 1982, the approved interim gas line flow restrictions and procedures addressing system configuration changes shall be implemented.
- (c) By February 28, 1983, PP&L shall submit a report for NRC review and approval describing either:
 - (1) Permanent modifications which limit flow to $39 \text{ m}^3/\text{sec}$, or
 - (2) Relocation of the pipeline to a safe distance from the facility.
- (d) By September 30, 1984, the selected modification or relocation of the pipeline shall be completed.

(16) Wetwell to Drywell Vacuum Breakers (Section 6.2.1.8, SSER#3, SSER#4)

Prior to startup following the first refueling outage, PP&L shall implement design modification on the wetwell/drywell vacuum breaker valves that include:

- a) installation of new disc assemblies, new shaft bearing caps; and
- b) replacement of the shaft, keys and turnbuckle with stronger materials.

(18) Environmental Qualification (Section 3.11, SER, SSER#1, SSER#2, SSER#3, SSER#4)

- (a) PP&L shall complete all actions related to environmental qualification of equipment on a schedule specified in Section 3.11 and Appendix 3.B of Supplement No. 3 of the Safety Evaluation Report with the exceptions of Section 3.11.5.(1) and Section 3.11.5.(2)(e).

- (d) By October 5, 1982, PP&L shall implement the maintenance and surveillance schedule for components requiring maintenance and surveillance during the first year of operation.
- (e) By April 15, 1983, PP&L shall implement the maintenance and surveillance schedule for components requiring initial maintenance and surveillance after the first year of operation.
- (f) Prior to startup following the first refueling outage, PP&L shall implement the required equipment qualifications for equipment pursuant to Section 5.3 of NUREG-0803 for and SDV break environment.
- (20) Emergency Preparedness (Appendix D, SSER #1, SSER #2; 13.3, SSER #4)
 - By March 1, 1983, PP&L shall certify to the NRC staff the completion of the following offsite emergency preparedness items:
 - (a) Adequate supplies of KI for offsite emergency workers are obtained by the State of Pennsylvania to fulfill the existing State plan or a contingency plan is developed that reflects the inability to obtain supplies to support the existing State plan.
 - (b) Adequate supplies of dosimetry for offsite emergency workers are obtained by the State of Pennsylvania to implement the existing State plan or the State plan is revised accordingly.
 - (c) State and county plans are modified as necessary to account for the abandonment of the field Emergency Operations Center concept.
- (23) Seismic and Dynamic Qualification (Section 3.10, SER, SSER#1, SSER#3, SSER#4)
 - (b) Prior to commencement of the first refueling outage, PP&L shall perform the nonlinear analysis to qualify the In-Vessel Rack (F22-E006) to the SQRT criteria and provide the qualification documentation to the NRC staff for review and approval.
 - (c) By December 31, 1982, PP&L shall provide the completed final qualification report for Main Steam Isolation Valve Actuator (HV-1F022A through D, HV-1F028 A through D) to the NRC staff for review.
 - (d) PP&L shall implement the NRC staff's requirements after completion of the staff's review of the final qualification report for the Main Steam Isolation Valve Leakage Control System Heater (1E-203 A through D).

(e) Before the 10-cycle operational limit is reached, PP&L shall replace Recirculation Discharge Valve assembly (HV-1F031 A and B) with fully qualified new assemblies including a new Limitorque actuator. The replacement actuators shall be wired for torque seating type operation.

(f) Prior to startup following the first refueling outage, PP&L shall fully qualify the following items to the SQRT criteria and provide the final qualification reports to the NRC staff for review.

- 1) CRD vent and drain valves (C12-F010/F011)
- 2) Power Range Monitor Cabinet (H12-P608)
- 3) Level Switch (E41-N014)
- 4) Level Switch - Condensate Storage Tanks, Suppression Pool, HCPI Turbine Exhaust Drain Pot (E41-N002/N003, N015, N018)
- 5) High Pressure Coolant Injection Turbine (15-211)

(29) SRV Inplant Test (Section 6.2.1.8, SER; 6.2.1.5, SSER#1)

Within 90 days following the staff receipt of the report providing the results of the inplant SRV test at the LaSalle, Unit 1 facility, PP&L shall furnish the results of its evaluation and application of the LaSalle data to assure that for Susquehanna Unit 1, the T between bulk and local pool temperatures will not exceed 10 F.

(30) Dynamic Testing and Analysis of Systems, Components, and Equipment (Section 3.9.2, SSER#4)

(a) By April 1, 1983, PP&L shall provide to the NRC staff detailed analysis or testing results which demonstrate that the feedwater isolation valves can adequately perform their intended function and satisfy the requirements of General Design Criteria (GDC) 54 and 55 following a feedwater line break outside containment.

(b) Prior to exceeding five percent of full power, PP&L shall verify that all check valves relied upon for containment isolation, either within or outside containment, are dynamically qualified or PP&L shall provide a basis for continued operation and a program for qualifying such valves.

(31) Control Room Design Review (Section 22, SSER #4)

Prior to startup following the first refueling outage, PP&L shall provide a report discussing the experience, including demonstrated reliability, of the Display Control System.

G. Reporting to the Commission:

- (a) PP&L shall report any violations of the requirements contained in Section 2, Items C(1), C(3) through C(31), and F of this license within twenty-four (24) hours by telephone and confirmed by telegram, mailgram, or facsimile transmission to the NRC Regional Administrator, Region I, or designee, not later than the first working day following the violation, with written followup report within fourteen (14) working days.

- 3. This amendment is effective as of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Darrell G. Eisenhut, Director
Division of Licensing
Office of Nuclear Reactor Regulation

Date of Issuance:

ATTACHMENT TO LICENSE AMENDMENT NO. 3
FACILITY OPERATING LICENSE NO. NPF-14
DOCKET NO. 50-387

Replace the following pages of the Appendix "A" Technical Specifications with enclosed pages. The revised pages are identified by Amendment number and contain vertical lines indicating the area of change.

REMOVE

3/4 8-5
3/4 8-6

3/4 8-7
3/4 8-8

INSERT

3/4 8-5
3/4 8-6

3/4 8-7
3/4 8-8

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

7. Simulating a loss of offsite power in conjunction with an ECCS actuation test signal, and:
 - a) Verifying deenergization of the emergency busses and load shedding from the emergency busses.
 - b) Verifying the diesel generator starts on the auto-start signal, energizes the emergency busses with permanently connected loads within 10 seconds, energizes the auto-connected loads through the load timers and operates for greater than or equal to 5 minutes while its generator is loaded with the emergency loads. After energization, the steady state voltage and frequency of the emergency busses shall be maintained at 4160 ± 400 volts and 60 ± 3.0 Hz during this test.
 - c) Verifying that all automatic diesel generator trips, except engine overspeed, generator differential and engine low lube oil pressure, are automatically bypassed upon loss of voltage on the emergency bus concurrent with an ECCS actuation signal.

8. Verifying the diesel generator operates for at least 24 hours. During the first 2 hours of this test, the diesel generator shall be loaded to greater than or equal to 4700 kw and during the remaining 22 hours of this test, the diesel generator shall be loaded to 4000 kw. The generator voltage and frequency shall be 4160 ± 400 volts and 60 ± 3.0 Hz within 10 seconds after the start signal; the steady state generator voltage and frequency shall be maintained within these limits during this test. Within 5 minutes after completing this 24-hour test, perform Surveillance Requirement 4.8.1.1.2.d.4.b).*

9. Verifying that the auto-connected loads to each diesel generator do not exceed the 2000-hour rating of 4700 kw.

10. Verifying the diesel generator's capability to:
 - a) Synchronize with the offsite power source while the generator is loaded with its emergency loads upon a simulated restoration of offsite power,
 - b) Transfer its loads to the offsite power source, and
 - c) Be restored to its standby status.

* If Surveillance Requirement 4.8.1.1.2.d.4.b) is not satisfactorily completed, it is not necessary to repeat the preceding 24 hour test. Rather, the diesel generator may be operated at 4000 kw for one hour or until operating temperature has stabilized.

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

11. Verifying that with the diesel generator operating in a test mode and connected to its bus, a simulated ECCS actuation signal overrides the test mode by (1) returning the diesel generator to standby operation, and (2) automatically energizes the emergency loads with offsite power.
12. Verifying that with all diesel generator air start receivers pressurized to less than or equal to 240 psig and the compressors secured, the diesel generator starts at least 5 times from ambient conditions and accelerates to at least 600 rpm in less than or equal to 10 seconds for the first 2 starts and accelerates to at least 600 rpm in less than or equal to 19 seconds for the remaining 3 starts.
13. Verifying that the fuel transfer pump transfers fuel from each fuel storage tank to the engine-mounted day tank of each diesel via the installed cross connection lines.
14. Verifying that each diesel generator loading sequence timer shown in Table 4.8.1.1.2-2 is OPERABLE with its setpoint within + 10% of its design setpoint.
15. Verifying that the following diesel generator lockout features prevent diesel generator starting and/or operation only when required:
 - a) Engine overspeed.
 - b) Generator differential.
 - c) Engine low lube oil pressure.
- e. At least once per 10 years or after any modifications which could affect diesel generator interdependence by starting all diesel generators simultaneously, during shutdown, and verifying that all diesel generators, accelerate to at least 600 rpm in less than or equal to 13 seconds.
- f. At least once per 10 years by:
 1. Draining each fuel oil storage tank, removing the accumulated sediment and cleaning the tank using a sodium hypochlorite or equivalent solution, and
 2. Performing a pressure test of those portions of the diesel fuel oil system designed to Section III, subsection ND of the ASME Code in accordance with ASME Code Section 11 Article IWD-5000.

4.8.1.1.3 Reports - All diesel generator failures, valid or non-valid, shall be reported to the Commission pursuant to Specification 6.9.1. Reports of diesel generator failures shall include the information recommended in Regulatory Position C.3.b of Regulatory Guide 1.108, Revision 1, August 1977. If the number of failures in the last 100 valid tests, on a per nuclear unit basis, is greater than or equal to 7, the report shall be supplemented to include the additional information recommended in Regulatory Position C.3.b of Regulatory Guide 1.108, Revision 1, August 1977.

TABLE 4.8.1.1.2-1

DIESEL GENERATOR TEST SCHEDULE

<u>Number of Failures in Last 100 Valid Tests*</u>	<u>Test Frequency</u>
≤ 1	At least once per 31 days
2	At least once per 14 days
3	At least once per 7 days
≥ 4	At least once per 3 days

*Criteria for determining number of failures and number of valid tests shall be in accordance with Regulatory Position C.2.e of Regulatory Guide 1.108, Revision 1, August 1977, where the last 100 tests are determined on a per nuclear unit basis. For the purposes of this test schedule, only valid tests conducted after the OL issuance date shall be included in the computation of the "last 100 valid tests." Entry into this test schedule shall be made at the 31 day test frequency.

TABLE 4.8.1.1.2-2
UNIT 1 AND COMMON
DIESEL GENERATOR LOADING TIMERS

<u>DEVICE TAG NO.</u>	<u>SYSTEM</u>	<u>LOCATION</u>	<u>TIME SETTING</u>
K116A	CS pp 1A	1C626	10.5 sec
K116B	CS pp 1B	1C627	10.5 sec
K125A	CS pp 1C	1C626	10.5 sec
K125B	CS pp 1D	1C627	10.5 sec
• 62X-20104	Emerg Switchgear Rm cooler A & RHR SN pp H&V fan A	0C877A	60 sec
62X-20204	Emerg Switchgear Rm cooler B & RHR SN pp H&V fan B	0C877B	60 sec
62X1-20304	Control Structure Chillwater System	0C877A	3 min
62X1-20404	Control Structure Chillwater System	0C877B	3 min
62X2-20304	Control Structure Chillwater System	0C877A	3.5 min
62X2-20404	Control Structure Chillwater System	0C877B	3.5 min
62X3-20304	Control Structure Chillwater System	0C877A	60 sec
62X3-20404	Control Structure Chillwater System	0C877B	60 sec
62X-20310	Control Structure Chillwater System	0C876A	3 min
62X-20410	Control Structure Chillwater System	0C876B	3 min
62AX2-20108	Emerg SW	1A201	40 sec
62AX2-20208	Emerg SW	1A202	40 sec
62AX2-20303	Emerg SW	1A203	53 sec
62AX2-20403	Emerg SW	1A204	57 sec
62X-516	DG Rm Exh Fan A	0B516	2 min
62X-526	DG Rm Exh Fan B	0B526	2 min
62X-536	DG Rm Exh Fan C	0B536	2 min
62X-546	DG Rm Exh Fan D	0B546	2 min
62A-20102	RHR Pump 1A	1A201	3 sec
62A-20202	RHR Pump 1B	1A202	3 sec
62A-20302	RHR Pump 1C	1A203	3 sec
62A-20402	RHR Pump 1D	1A204	3 sec

SAFETY EVALUATION
AMENDMENT NO. 3 TO NPF-14
SUSQUEHANNA STEAM ELECTRIC STATION, UNIT 1
DOCKET NO. 50-387

Introduction

The licensee proposed changes to the Technical Specifications of the operating license for Susquehanna Steam Electric Station, Unit 1 which are as follows:

- (a) In Specification 4.8.1.1.2.d.12, change the diesel surveillance requirement for the initial start in less than or equal to 10 seconds and the subsequent four starts in less than or equal to 25 seconds.
- (b) In Table 4.8.1.1.2-2 to Specification 4.8.1.1.2, change the four emergency service water pump time settings from 55 seconds to 40 seconds, 40 seconds, 53 seconds and 57 seconds, respectively.

Evaluation

a) Diesel Surveillance Requirement

In Specification 4.8.1.2.d.12, the licensee requested a change in the requirement by the addition of "for the initial start and less than or equal to 25 seconds for each subsequent start.", to the end of the present statement.

In support of this request, the licensee provide a letter dated September 24, 1982 which reiterated a previous proposal requested in a letter dated July 9, 1982. Supplemental information was provided by the licensee on July 14, 1982. The staff did not agree with the initial proposal, but deferred the effective date of Specification 4.8.1.1.2.d.12 to after first exceeding 5% of rated thermal power and requested additional information from the licensee on July 22, 1982. The licensee responded to this request in a letter dated September 2, 1982. The starting times provided by the licensee in the letter of July 14, 1982 were compared against the assumptions used in the FSAR ECCS analyses for Susquehanna. The first two start times provided in the July 14, 1982 letter satisfy the ECCS analysis assumptions. From the information available in the letter of September 2, 1982, the fifth start of the diesels was accomplished in less than 19 seconds. The licensee has not provided an updated ECCS analysis to support start times up to the proposed 25 seconds. The staff evaluated diesel generator starting times up to 19 seconds in the ECCS analysis which indicated the maximum peak clad temperatures will not be exceeded. Therefore, diesel generator starting times up to 19 seconds or less are acceptable for Susquehanna. On this basis, the staff has revised Specification 4.8.1.1.2.d.12 with the addition of "for the first 2 starts and accelerates to at least 600 rpm in less than or equal to 19 seconds for the remaining 3 starts.", to the end of the present statement.

b) Emergency Service Water Pump Time Settings

In Table 4.8.1.1.2-2 of Specification 4.8.1.1.2, the licensee requested a change to the timer settings for the Emergency Service Water (ESW) pumps which previously started simultaneously at 55 seconds after a diesel start, to a staggered start with A and B ESW pumps started at 40 seconds, the C pump started at 53 seconds and the D pump started at 57 seconds after a diesel start. The licensee requested the change to mitigate water hammer effects on the ESW system through a more gradual filling of the system. The licensee stated the staggered start of the ESW pumps does not increase the probability of occurrence or the consequences of an accident or malfunction of equipment related to safety as previously evaluated. Based on review of plant voltage studies and the diesel generator load sequence study, the licensee stated the proposed change does not affect the integrity of the equipment being cooled and does not adversely affect the diesel generator loading or the 4kV system if offsite power is available. The staff has reviewed the licensee's justification and finds the changes to the ESW pump timer settings acceptable.

Environmental Consideration

We have determined that this amendment does not authorize a change in effluent types or total amount nor an increase in power level and will not result in any significant environmental impact. Having made this determination, we have further concluded that this amendment involves action which is insignificant from the standpoint of environmental impact, and, pursuant to 10 CFR Section 51.5(d)(4), that an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of this statement.

Conclusion

We have concluded, based on the considerations discussed above, that: (1) because the amendment does not involve a significant increase in the probability or consequences of accidents previously considered, does not create the possibility of an accident of a type different from any evaluated previously, and does not involve a significant decrease in a safety margin, the amendment does not involve a significant hazards consideration, (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (3) such activities will be conducted in compliance with the Commission's regulations and the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Dated:



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

Pennsylvania Power & Light Company
Allegheny Electric Cooperative, Inc.
Docket No. 50-387
Susquehanna Steam Electric Station, Unit 1
Facility Operating License

License No. NPF-14

1. The Nuclear Regulatory Commission (the Commission or the NRC) having found that:
 - A. The application for a license filed by the Pennsylvania Power & Light Company and the Allegheny Electric Cooperative, Inc. (the licensees) complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's regulations set forth in 10 CFR Chapter I, and all required notifications to other agencies or bodies have been duly made;
 - B. Construction of the Susquehanna Steam Electric Station, Unit 1 (the facility), has been substantially completed in conformity with Construction Permit No. CPPR-101 and the application, as amended, the provisions of the Act, and the regulations of the Commission;
 - C. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the regulations of the Commission;
 - D. There is reasonable assurance: (i) that the activities authorized by this operating license can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations set forth in 10 CFR Chapter I;
 - E. The Pennsylvania Power & Light Company* is technically qualified to engage in the activities authorized by this operating license in accordance with the Commission's regulations set forth in 10 CFR Chapter I;

*The Pennsylvania Power & Light Company is authorized to act as agent for the Allegheny Electric Cooperative, Inc. and has exclusive responsibility and control over the physical construction, operation and maintenance of the facility.

- F. The licensees have satisfied the applicable provisions of 10 CFR 140, "Financial Protection Requirements and Indemnity Agreements", of the Commission's regulations;
 - G. The issuance of this license will not be inimical to the common defense and security or to the health and safety of the public;
 - H. After weighing the environmental, economic, technical, and other benefits of the facility against environmental and other costs and considering available alternatives, the issuance of Facility Operating License No. NPF-14 subject to the condition for protection of the environment set forth herein, is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied; and
 - I. The receipt, possession, and use of source, byproduct, and special nuclear material as authorized by this license will be in accordance with the Commission's regulations in 10 CFR Parts 30, 40 and 70.
2. Based on the foregoing findings and the Initial Decision issued by the Atomic Safety and Licensing Board on April 12, 1982, regarding this facility, Facility Operating License No. NPF-14 is hereby issued to the Pennsylvania Power & Light Company and the Allegheny Electric Cooperative, Inc. to read as follows:
- A. This license applies to the Susquehanna Steam Electric Station, Unit 1, a boiling water nuclear reactor and associated equipment (the facility), owned by the licensees. The facility is located in Luzerne County, Pennsylvania, and is described in the licensees' Final Safety Analysis Report as supplemented and amended through Amendment 48, and the licensees' Environmental Report as supplemented and amended through Amendment 48.
 - B. Subject to the conditions and requirements incorporated herein, the Commission hereby licenses:
 - (1) Pursuant to Section 103 of the Act and 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities", Pennsylvania Power & Light Company (PP&L) and the Allegheny Electric Cooperative, Inc. to possess, and PP&L to use, and operate the facility at the designated location in Luzerne County, Pennsylvania, in accordance with the procedures and limitations set forth in this license;
 - (2) PP&L, pursuant to the Act and 10 CFR Part 70, to receive, possess, and use at any time special nuclear material as reactor fuel, in accordance with the limitations for storage and amounts required for reactor operation, as described in the Final Safety Analysis Report, as supplemented and amended through Amendment 48;

- (3) PP&L, pursuant to the Act and 10 CFR Parts 30, 40, and 70, to receive, possess, and use at any time any byproduct, source and special nuclear material as sealed neutron sources for reactor startup, sealed neutron sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required;
- (4) PP&L, pursuant to the Act and 10 CFR Parts 30, 40, and 70, to receive, possess, and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components; and
- (5) PP&L, pursuant to the Act and 10 CFR Parts 30, 40, and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.

C. This license shall be deemed to contain and is subject to the conditions specified in the Commission's regulations set forth in 10 CFR Chapter I and is subject to all applicable provisions of the Act and to the rules, regulations and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:

(1) Maximum Power Level

Pennsylvania Power & Light Company (PP&L) is authorized to operate the facility at reactor core power levels not in excess of 3293 megawatts thermal in accordance with the conditions specified herein and in Attachment 1 to this license. The preoperational tests, startup tests and other items identified in Attachment 1 to this license shall be completed as specified. Attachment 1 is hereby incorporated into this license. Pending Commission approval, this license is restricted to power levels not to exceed five percent of full power.

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, both of which are attached hereto, are hereby incorporated in this license. PP&L shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

(3) Conduct of Work Activities During Fuel Load and Initial Startup

PP&L shall review by committee all facility construction, Preoperational Testing, and System Demonstration activities performed concurrently with facility initial fuel loading or with the facility Startup Test Program to assure that the activity will not affect the safe performance of the facility fuel loading or the portion of the facility Startup Program being performed. The review shall address, as a minimum, system interaction, span of control, staffing, security and health physics, with respect to performance of the activity concurrently with the facility fuel loading or the portion of the facility Startup Program being performed. The committee for the review shall be composed of a least three members, knowledgeable in the above areas, and who meet the qualifications for professional-technical personnel specified by section 4.4 of ANSI N18.7-1971. At least one of these shall be a senior member of the Assistant Superintendent of Plant's staff.

(4) Thermal and Hydraulic Design (Section 4.4, SER)

- (a) PP&L is prohibited from power operation under natural circulation conditions.
- (b) Prior to startup following the first refueling outage, PP&L shall provide, for NRC review and approval, a new stability analysis, indicating the results for appropriate exposure core conditions.

(5) Qualification of Purge Valves (Section 6.2.4, SSER #1)

- (a) Until such time as qualification data for purge valves are provided to and approved by the NRC, operation of the purge and vent containment isolation valves by the licensee shall comply with the requirements of the interim position as stated in the attachment to II.E.4.2 in NUREG-0737. As part of the interim position, the purge and vent valves shall be blocked to a maximum opening of no greater than 50 degrees.
- (b) Prior to exceeding five percent of full power, PP&L shall provide purge valve qualification documentation to the NRC for review and approval.

(6) Fire Protection Program (Section 9.5, SER, SSER#1, SSER#2, SSER#3)

PP&L shall maintain in effect and fully implement all provisions of the approved Fire Protection Review Report, as amended through Revision 1 dated March 1981. In addition, PP&L shall maintain the fire protection program set forth in Appendix R to 10 CFR Part 50.

(7) Battery Room Area (Section 9.5.4, SER, SSER#1, SSER#3)

Prior to exceeding five percent of full power and subject to NRC review and approval, PP&L shall either conduct at an approved testing laboratory an ASTM E-119 test of the as-installed one-hour cable wrap configuration or install an automatic fire extinguishing system.

(8) Operation with Partial Feedwater Heating at End-of-Cycle (Section 15.1, SER, SSER #1)

Prior to operation with partial feedwater heating, PP&L shall provide for NRC review and approval, analyses which show a more limiting change does not occur in the minimum critical power ratio than that obtained using normal feedwater heating.

(9) Initial Test Program (Section 14, SER, SSER #1)

PP&L shall conduct the post-fuel-loading initial test program (set forth in Section 14 of the licensee's Final Safety Analysis Report, as amended through Amendment 48) without making any major modifications of this program unless modifications have been identified and have received prior NRC approval. Major modifications are defined as:

- (a) Elimination of any test identified as essential in Section 14 of the licensee's Final Safety Analysis Report, as amended through Amendment 48;
- (b) Modifications of test objectives, methods or acceptance criteria for any test identified as essential in Section 14 of the licensee's Final Safety Analysis Report, as amended through Amendment 48;
- (c) Performance of any test at a power level different from that described in the program; and
- (d) Failure to complete any tests included in the described program (planned or scheduled for power levels up to the authorized power level).

(10) Inservice Inspection Program (Section 5.2.4 and 6.6, SER, SSER#1, SSER#3)

By June 30, 1983, PP&L shall submit a revised inservice inspection program for NRC review and approval.

(11) Seismic System Analysis (Section 3.7.2, SSER#3)

By the dates indicated, PP&L shall provide documentation to the NRC for review which states the results of recheck of all calculations associated with calculating masses, section

properties, and spring stiffnesses used in stick models for the following structures:

- | | |
|--|-----------------|
| (a) Containment | July 30, 1982 |
| (b) Reactor/Control Structure
(Vertical model) | August 25, 1982 |
| (c) Diesel Generator Building | August 25, 1982 |
| (d) Engineering Safeguard Service
Water Pumphouse | August 25, 1982 |

(12) Radon (ASLB Initial Decision, Paragraph 223)

This license will be subject to the ultimate outcome of the consolidated radon proceeding currently underway before the Appeal Boards in Docket Nos. 50-277, 50-278, 50-320, 50-354 and 50-355.

(13) Nearby Facilities (Section 2.2.2, SSER#3)

- (a) PP&L shall provide notification to the NRC prior to any modifications to the orifice in either the principal or secondary flow lines, shown on Transcontinental Gas Pipe Line Corp. drawing number MB-1P-1 and 34-3452MB-1P-1, Rev. 1, exceeding 2 inches in diameter. Prior to any restrictor modifications which increase the effective orifice diameter greater than 2 inches the facility shall be placed in a cold shutdown condition.
- (b) Prior to exceeding five percent of full power, PP&L shall implement administrative controls which will preclude both lines referenced in Transcontinental Gas Pipe Line Corp. drawing number MB-1P-1, Rev. 1, being simultaneously open, and shall submit a copy of the administrative controls to NRC for review.
- (c) By February 28, 1983, PP&L shall submit a report for NRC review and approval that describes either:
 - 1. a passive 2 inch flow restrictor to be installed in the gas pipeline in proximity to the nuclear station, or
 - 2. relocation of the pipeline to a distance where unrestricted flow in the pipeline would not be hazardous to the safe operation of the nuclear plant.
- (d) By September 30, 1984, the option chosen by PP&L and approved by NRC shall be fully implemented.

(14) Seismic and Loss-of-Coolant Accident Loads (Section 4.2.3, SSER #3)

By August 30, 1982, PP&L shall submit to NRC a complete description of the analytical methods along with analytical results with regard to fuel bundle liftoff. This submittal should contain information equivalent to that to be included in the General Electric Topical Report (NEDE-21175-P) regarding fuel bundle liftoff.

(15) Control Room Design Review (Appendix F, SER, SSER#3)

By September 1, 1982, PP&L shall complete correction of the following human engineering discrepancies as noted in Appendix F of the Safety Evaluation Report:

- 2.a.(3) Left/right convention on all controllers.
- 6.f. Unconventional labeling.

(16) Wetwell to Drywell Vacuum Breakers (Section 6.2.1.8, SSER #3)

Thirty days prior to operation in excess of five percent power, PP&L shall provide the results of its vacuum breaker performance evaluation program for NRC review and approval.

(17) Scram Discharge System Piping (Section 4.6, SER, SSER#1, SSER#2, SSER#3)

- (a) Within 60 days of the issuance of the BWR Owner's Group Report regarding modifications to the Emergency Procedure Guidelines, the licensee shall submit a report addressing the Emergency Procedure Guidelines with regard to Scram Discharge Volume (SDV) pipe breaks. PP&L shall implement any required system or procedural modifications on a schedule acceptable to the NRC staff.
- (b) Prior to startup following the first refueling outage, PP&L shall incorporate the following additional modifications into the scram discharge volume system:
 - (1) Redundant vent and drain valves, and
 - (2) Diverse and redundant SDV instrumentation for each instrumented volume, including both delta pressure sensors and float sensors.

(18) Environmental Qualification (Section 3.11, SER, SSER#1, SSER#2, SSER#3)

- (a) PP&L shall complete all actions related to environmental qualification of equipment on a schedule specified in Section 3.11 and Appendix 3.8 of Supplement No. 3 of the Safety Evaluation Report.

- (b) Complete and auditable records must be available and maintained at a central location which describe the environmental qualification methods used for all safety-related electrical equipment in sufficient detail to document the degree of compliance with NUREG-0588, "Interim Staff Position on Environmental Qualification of Safety-Related Electrical Equipment," Revision 1, dated July 1981. Such records shall be updated and maintained current as equipment is replaced, further tested, or otherwise further qualified to document compliance with NUREG-0588.
- (c) Prior to startup following the first refueling outage, PP&L shall be in compliance with the provisions of NUREG-0588 for safety-related electrical equipment exposed to a harsh environment.

(19) Assurance of Proper Design and Construction (Section 17.6, SSER #3)

Prior to exceeding five percent of full power, PP&L shall have conducted an independent review of the mechanical and structural design of the feedwater system located inside containment extending from the Reactor Pressure Vessel nozzles to the containment penetration. This verification review shall consider design, installation, inspection, testing, and any other aspects necessary to ensure conformance with the design. This review shall be performed independently of PP&L and its contractors who perform design and construction activities for the Susquehanna Steam Electric Station.

(20) Emergency Preparedness (Appendix D, SSER #1, SSER #2)

Prior to exceeding five percent power, PP&L shall demonstrate that the state of offsite preparedness, which has been determined to be acceptable for operation at up to five percent power, provides assurance that adequate protective measures can and will be taken in the event of a radiological emergency during operations in excess of five percent power. The use of 10 CFR 50.54(s)(2) to specify a period within which corrective actions must be taken to assure an adequate state of emergency preparedness will include instances where I.C. finds that the lack of progress in completion of the procedures in the Federal Emergency Management Agency's proposed rule set forth in 44 CFR Part 350 is an indication that major substantive problems exist in achieving or maintaining an adequate state of preparedness. Any corrective period specified will relate to substantive problems identified by the Federal Emergency Management Agency.

(21) School District Emergency Plans (ASLB Initial Decision, Paragraph 223)

This license will be subject to a finding (prior to operation at power levels exceeding five percent of full power) by the Director of Nuclear Reactor Regulation, in consultation with the Federal Emergency Management Agency, that all school districts within the plume exposure pathway emergency planning zone for the Susquehanna Steam Electric Station have completed written emergency plans to respond to fixed nuclear facility accidents.

(22) Municipality Transportation Resources (ASLB Initial Decision, Paragraph 223)

This license will be subject to a finding (prior to operation at power levels exceeding five percent of full power) by the Director of Nuclear Reactor Regulation, in consultation with the Federal Emergency Management Agency, that all municipalities within the plume exposure pathway emergency planning zone have completed their emergency response plans on the transportation resources and program.

(23) Seismic and Dynamic Qualification (Section 3.10, SER, SSER#1, SSER#3)

- (a) Prior to startup following the first refueling outage, PP&L shall complete any modifications or replacement of equipment found necessary as a result of the licensee's fatigue evaluation program. In the interim, PP&L shall document the occurrence of every safety relief valve discharge into the suppression pool; the associated cumulative damage factors shall be calculated for typical representative equipment and kept up-to-date; and PP&L shall report to NRC any malfunction of equipment that occurs or should be suspected to have occurred due to any safety relief valve discharge.
- (b) PP&L shall complete all actions related to seismic and dynamic qualification of equipment identified in section 3.10 of Supplement No. 3 of the Safety Evaluation Report on the schedule specified therein.

(24) Containment Purge System (Section 6.2.4, SER)

Prior to startup following the first refueling outage, PP&L shall install design features (e.g. screens) on the containment purge system to prevent blocking of the purge and vent valves by debris produced in an accident.

(25) Additional Instrumentation and Control Concerns (Section 7.7.2, SER, SSER #2)

Prior to startup following the first refueling outage, PP&L shall resolve the following concerns to the NRC's satisfaction:

- (a) whether common electrical power sources or sensor malfunctions may cause multiple control systems failures, and
- (b) whether high energy line breaks will result in unacceptable consequential control system failures.

(26) Surveillance of Control Blade (Section 4.2.3, SER)

Within 30 days after plant startup following the first refueling outage, PP&L shall comply with items 1, 2, and 3 of IE Bulletin No. 79-26, Revision 1, "Boron Loss from BWR Control Blades", and submit a written response on item 3.

(27) Emergency Diesel Engine Starting Systems (Section 9.6.3, SER)

Prior to startup following the first refueling outage, PP&L shall install air dryers upstream of the air receivers.

(28) NUREG-0737 Conditions (Section 22, SER)

PP&L shall complete the following conditions to the satisfaction of the NRC. These conditions reference the appropriate items in Section 22.2, "TMI Action Plan Requirements for Applicants for Operating Licenses," in the Safety Evaluation Report and Supplements 1, 2 and 3, NUREG-0776.

(a) Nuclear Steam Supply System Vendor Review of Procedures (I.C.7, SER, SSER #1)

Prior to beginning low-power testing, PP&L shall assure that the General Electric review of the power ascension test procedures has been completed and the General Electric recommendations have been incorporated.

(b) Special Low Power Testing and Training (I.G.1, SER, SSER#3)

During the first fuel cycle, PP&L shall perform Simulated Loss of All AC Power Test. At least four weeks prior to the test, PP&L shall provide a safety analysis and test procedure to NRC.

(c) Post Accident Sampling (II.B.3, SER, SSER#1, SSER#3)

Prior to startup following the first refueling outage, PP&L shall provide to NRC a revised procedure for core damage estimation to incorporate the requirements in Section 22.2, II.B.3 of Supplement No. 3 of the Safety Evaluation Report.

(d) Instrumentation for Detection of Inadequate Core Cooling (II.F.2, SER, SSER #1, SSER#3)

(i) By August 31, 1982, PP&L shall submit a report addressing the analysis performed by the BWR Owners Group regarding additional instrumentation relative to inadequate core cooling and shall implement the staff's requirements after the completion of the staff's review of this report.

(ii) By October 31, 1982, PP&L shall submit its proposal for conforming with item II.F.2 of NUREG-0737 in view of the BWR Owners Group report.

(e) Modification of Automatic Depressurization System Logic (II.K.3.18, SER, SSEK #1, SSER #2, SSER #3)

(a) By October 1, 1982, PP&L shall evaluate the alternative design modifications of the BWR Owners Group relative to the logic for the automatic depressurization system, submit such evaluation, and propose modifications to the NRC for review and approval.

(b) Prior to startup following the first refueling outage, PP&L shall implement the approved alternative logic modification of the automatic depressurization system.

(f) Effect of Loss of Power on Alternating Current Pump Seals (II.K.3.25, SER, SSER #1)

Prior to startup after the first refueling, PP&L shall provide an emergency power supply to the cooling system for the recirculation pump seals.

(g) Upgrade Emergency Support Facilities (III.A.1.2, SER, SSER#1, SSER#2)

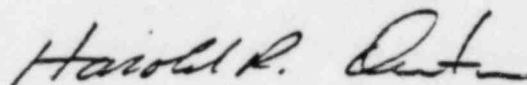
PP&L shall complete its Emergency Response Facilities as follows:

- | | |
|-------------------------------------|--------------------|
| (1) Safety Parameter Display System | September 30, 1983 |
| (2) Emergency Operations Facility | October 1, 1982 |
| (3) Technical Support Center | October 1, 1982 |

- D. PP&L shall maintain in effect and fully implement all provisions of the Commission approved physical security, and guard training and qualification plans; including amendments made pursuant to the authority of 10 CFR 50.54(p). The approved plans, which contain 10 CFR 73.21 information, are collectively entitled: "Susquehanna Steam Electric Station Physical Security Plan" (which includes response to security contingencies as Chapter 11) dated March 14, 1978 with the following changes; Change A dated July 31, 1978, Change B dated February 15, 1979, Change C dated August 15, 1979, Change D dated September 28, 1979, Change E dated May 22, 1980, Change F dated March 27, 1981, Change G dated May 29, 1981, Change H dated June 26, 1981, Change I dated March 19, 1982, Change J dated April 1, 1982, and Change K dated May 4, 1982, Change L dated July 9, 1982, and including Chapter 11 revision dated June 5, 1981; and "Susquehanna Steam Electric Station Security Training and Qualification Plan" dated May 27, 1980, as revised April 30, 1981.
- E. Exemptions from certain requirements of Appendices G and H to 10 CFR Part 50 are described in the Safety Evaluation Report and Supplements 1 and 2 to the Safety Evaluation Report. In addition, an exemption was requested until receipt of new fuel for first refueling from the requirements for criticality monitors in the spent fuel pool area, 10 CFR Part 70.24. These exemptions are authorized by law and will not endanger life or property or the common defense and security and are otherwise in the public interest. Therefore, these exemptions are hereby granted. The facility will operate, to the extent authorized herein, in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission.
- F. This license is subject to the following additional condition for the protection of the environment:
- Before engaging in additional construction or operational activities which may result in a significant adverse environmental impact that was not evaluated or that is significantly greater than that evaluated in the Final Environmental Statement and its Addendum, PP&L shall provide a written notification to the Director of the Office of Nuclear Reactor Regulation and receive written approval from that office before proceeding with such activities.
- G. Reporting to the Commission:
- (a) PP&L shall report any violations of the requirements contained in Section 2, Items C(1), C(3) through C(28), and F of this license within twenty-four (24) hours by telephone and confirmed by telegram, mailgram, or facsimile transmission to the NRC Regional Administrator, Region I, or designee, not later than the first working day following the violation, with a written followup report within fourteen (14) working days.

- (b) PP&L shall notify the Commission, as soon as possible but not later than one hour, of any accident at this facility which could result in an unplanned release of quantities of fission products in excess of allowable limits for normal operation established by the Commission.
- H. PP&L shall have and maintain financial protection of such type and in such amounts as the Commission shall require in accordance with Section 170 of the Atomic Energy Act of 1954, as amended, to cover public liability claims.
- I. This license is effective as of the date of issuance and shall expire at midnight on July 17, 2022.

FOR THE NUCLEAR REGULATORY COMMISSION



Harold R. Denton, Director
Office of Nuclear Reactor Regulation

Attachments:

1. Attachment 1
2. Appendix A - Technical Specifications (NUREG-0931)
3. Appendix B - Environmental Protection Plan

Date of Issuance: July 17, 1982

ATTACHMENT 1

1. OUTSTANDING ITEM TO BE ACCOMPLISHED PRIOR TO LOADING FUEL

- a. Ground Reactor Protective System Cabling and Cabinetry as stated in Construction Deficiency Report 80-00-28 and conduct necessary testing.

2. OUTSTANDING ITEMS TO BE ACCOMPLISHED BEFORE INITIAL CRITICALITY

- a. Demonstrate recirculation loop riser double weld configuration acceptability.
- b. Demonstrate acceptability of loadings on equipment nozzles and of stress intensification factors on weld components.
- c. Verify and document proper seismic mounting of safety-significant temperature sensors.
- d. Verify and document that the instrumentation supplied by the NSSS vendor has the requisite accuracy in accordance with the design specifications.
- e. Provide for verifying operating activities in accordance with NUREG-0737 item I.C.6 and FSAR Section 18.1.13.
- f. Verify installation of additional post-accident monitoring instrumentation in accordance with NUREG-0737 item II.F.1 and FSAR Section 18.1.30.
- g. Implement a program for reducing leakage from potentially radioactive systems in accordance with NUREG-0737 item III.D.1.1 and FSAR Section 18.1.69.
- h. Verify installation of radioactive Iodine monitoring equipment inplant in accordance with NUREG-0737 item III.D.3.3 and FSAR Section 18.1.70.
- i. Verify that Unit 2 equipment used in Unit 1 is qualified and properly identified.
- j. Complete walkdown of welds requiring in-service-inspection and assure required accessibility has not been compromised by other equipment.
- k. Establish specific controls that assure calibration of equipment required by the Technical Specifications.
- l. Upon issue of the Operating License Technical Specifications, verify that specified conditions, setpoints, and action points in facility procedures are consistent with those Technical Specifications.
- m. Replace deficient Agastat GP relays in safety systems with qualified relays in accordance with the commitment documented in Inspection Report 50-387/82-17 Detail 2.

- n. Demonstrate that stress analyses consider the effect of grouted pipe penetrations and show acceptability of the as-built configuration.
- o. Evaluate vendor-supplied personnel monitoring equipment to assure appropriate equipment is being supplied to personnel in accordance with 10 CFR 20.202.
- p. Establish a personnel neutron exposure monitoring program in accordance with 10 CFR 20.202.
- q. Establish a whole body counting program, including thyroid calibration, in accordance with 10 CFR 20.201.
- r. Establish controls to assure calibration of portable radiation monitoring equipment in accordance with 10 CFR 20.201.

3. OUTSTANDING ITEM TO BE COMPLETED BEFORE EXCEEDING 5% POWER

- a. Correct the Emergency Service Water water hammer reported by Pennsylvania Power and Light Company letter PLA 1129 dated June 18, 1982.



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

PENNSYLVANIA POWER & LIGHT COMPANY
ALLEGHENY ELECTRIC COOPERATIVE, INC.
DOCKET NO. 50-387
SUSQUEHANNA STEAM ELECTRIC STATION, UNIT 1
AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 1
License No. NPF-14

1. The Nuclear Regulatory Commission (the Commission or the NRC) having found that:
 - A. The application for an amendment filed by the Pennsylvania Power & Light Company, dated August 18, 1982; August 23, 1982; September 1, 1982; and September 2, 1982 complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the regulations of the Commission;
 - C. There is reasonable assurance: (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and paragraph 2.C.(2) of the Facility Operating License No. NPF-14 is hereby amended to read as follows:

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 1, and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the license. PP&L shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This amendment is effective as of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

for *L L Kintner*
B. J. Youngblood, Chief
Licensing Branch No. 1
Division of Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: SEP 3 1982

ATTACHMENT TO LICENSE AMENDMENT NO. 1
FACILITY OPERATING LICENSE NO. NPF-14
DOCKET NO. 50-387

Replace the following pages of the Appendix "A" Technical Specifications with enclosed pages. The revised pages are identified by Amendment number and contain vertical lines indicating the area of change.

<u>REMOVE</u>	<u>INSERT</u>
3/4 6-31	3/4 6-31
3/4 6-32	3/4 6-32
3/4 7-3	3/4 7-3
3/4 7-4	3/4 7-4
3/4 7-7	3/4 7-7
3/4 7-8	3/4-7-8

CONTAINMENT SYSTEMS

3/4.6.5 SECONDARY CONTAINMENT

SECONDARY CONTAINMENT INTEGRITY

LIMITING CONDITION FOR OPERATION

3.6.5.1 SECONDARY CONTAINMENT INTEGRITY shall be maintained.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, 3 and *.

ACTION:

Without SECONDARY CONTAINMENT INTEGRITY:

- a. In OPERATIONAL CONDITION 1, 2 or 3, restore SECONDARY CONTAINMENT INTEGRITY within 4 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.
- b. In Operational Condition *, suspend handling of irradiated fuel in the secondary containment, CORE ALTERATIONS and operations with a potential for draining the reactor vessel. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.6.5.1 SECONDARY CONTAINMENT INTEGRITY shall be demonstrated by:

- a. Verifying at least once per 24 hours that the pressure within the secondary containment is less than or equal to 0.25 inches of vacuum water gauge.
- b. Verifying at least once per 31 days that:
 1. All secondary containment railroad access hatches are closed and sealed or the railroad bay access door is closed.
 2. At least one door in each access to the secondary containment is closed.
 3. All secondary containment penetrations not capable of being closed by OPERABLE secondary containment automatic isolation dampers and required to be closed during accident conditions are closed by valves, blind flanges, or deactivated automatic dampers secured in position.
- c. At least once per 18 months:
 1. Verifying that one standby gas treatment subsystem will draw down the secondary containment to greater than or equal to 0.25 inches of vacuum water gauge in less than or equal to 60 seconds, and
 2. Operating one standby gas treatment subsystem for one hour and maintaining greater than or equal to 0.25 inches of vacuum water gauge in the secondary containment at a flow rate of less than or equal to 2885 cfm from Zone I and Zone III.**

*When irradiated fuel is being handled in the secondary containment and during CORE ALTERATIONS and operations with a potential for draining the reactor vessel.

**2000 cfm while the secondary containment interim barrier is installed in Zone III.

CONTAINMENT SYSTEMS

SECONDARY CONTAINMENT AUTOMATIC ISOLATION DAMPERS

LIMITING CONDITION FOR OPERATION

3.6.5.2 The secondary containment ventilation system automatic isolation dampers shown in Table 3.6.5.2-1 shall be OPERABLE with isolation times less than or equal to the times shown in Table 3.6.5.2-1.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, 3 and *.

ACTION:

With one or more of the secondary containment ventilation system automatic isolation dampers shown in Table 3.6.5.2-1 inoperable, maintain at least one isolation damper OPERABLE in each affected penetration that is open and within 8 hours either:

- a. Restore the inoperable damper to OPERABLE status, or
- b. Isolate each affected penetration by use of at least one deactivated damper secured in the isolation position, or
- c. Isolate each affected penetration by use of at least one closed manual valve or blind flange.

Otherwise, in OPERATIONAL CONDITION 1, 2 or 3, be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

Otherwise, in Operational Condition *, suspend handling of irradiated fuel in the secondary containment, CORE ALTERATIONS and operations with a potential for draining the reactor vessel. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.6.5.2 Each secondary containment ventilation system automatic isolation damper shown in Table 3.6.5.2-1 shall be demonstrated OPERABLE:

- a. Prior to returning the damper to service after maintenance, repair or replacement work is performed on the damper or its associated actuator, control or power circuit by cycling the damper through at least one complete cycle of full travel and verifying the specified isolation time.
- b. During COLD SHUTDOWN or REFUELING at least once per 18 months by verifying that on a containment isolation test signal each isolation damper actuates to its isolation position.
- c. At least once per 92 days by verifying the isolation time to be within its limit.

*For Zone III dampers when irradiated fuel is being handled in the secondary containment and during CORE ALTERATIONS and operations with a potential for draining the reactor vessel.

PLANT SYSTEMS

ULTIMATE HEAT SINK

LIMITING CONDITION FOR OPERATION

3.7.1.3 The spray pond shall be OPERABLE.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, 3, 4, 5 and *.

ACTION:

- a. With the groundwater level at any spray pond area observation well greater than or equal to 663' MSL, in lieu of any other report required by Specification 6.9.1, prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 10 days outlining the cause of the high groundwater level and the plans for restoring the level to within the limit.
- b. With the spray pond otherwise inoperable:
 1. In OPERATIONAL CONDITION 1, 2 or 3, be in at least HOT SHUTDOWN within 12 hours and in COLD SHUTDOWN within the next 24 hours.
 2. In OPERATIONAL CONDITION 4 or 5, declare the RHRSW system and the emergency service water system inoperable and take the ACTION required by Specifications 3.7.1.1 and 3.7.1.2.
 3. In Operational Condition *, declare the emergency service water system inoperable and take the ACTION required by Specification 3.7.1.2. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.7.1.2 The spray pond shall be determined OPERABLE by verifying:

- a. The average water temperature, which shall be the arithmetical average of the spray pond water temperature at the surface, mid and bottom levels, to be less than or equal to 88°F at least once per 24 hours.
- b. The water level at the overflow weir is greater than or equal to 677' mean Sea Level USGS (MSL), at least once per:
 1. 12 hours when water level is \leq 677'6" MSL, and
 2. 14 days when water level is $>$ 677'6" MSL.
- c. The groundwater level at observation wells 1, 3, 4, 5, 6, and 1113 to be less than 663' MSL at least once per 31 days.

*When handling irradiated fuel in the secondary containment.

PLANT SYSTEMS

3/4.7.2 CONTROL ROOM EMERGENCY OUTSIDE AIR SUPPLY SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.2 Two independent control room emergency outside air supply system subsystems shall be OPERABLE with each subsystem consisting of:

- a. One makeup fan, and
- b. One filter train.

APPLICABILITY: All OPERATIONAL CONDITIONS and *.

ACTION:

- a. In OPERATIONAL CONDITION 1, 2 or 3 with one control room emergency outside air supply subsystem inoperable, restore the inoperable subsystem to OPERABLE status within 7 days or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.
- b. In OPERATIONAL CONDITION 4, 5 or *:
 1. With one control room emergency outside air supply subsystem inoperable, restore the inoperable subsystem to OPERABLE status within 7 days or initiate and maintain operation of the OPERABLE subsystem in the pressurization mode of operation.
 2. With both control room emergency outside air supply subsystems inoperable, suspend CORE ALTERATIONS, handling of irradiated fuel in the secondary containment and operations with a potential for draining the reactor vessel.
- c. The provisions of Specification 3.0.3 are not applicable in Operational Condition *.

SURVEILLANCE REQUIREMENTS

4.7.2 Each control room emergency outside air supply subsystem shall be demonstrated OPERABLE:

- a. At least once per 31 days on a STAGGERED TEST BASIS by initiating, from the control room, flow through the HEPA filters and charcoal adsorbers and verifying that the subsystem operates for at least 10 hours with the heaters OPERABLE.
- b. At least once per 18 months or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) following painting, fire or chemical release in any ventilation zone communicating with the subsystem by:
 1. Verifying that with the subsystem operating at a flow rate of 5810 cfm \pm 10% and exhausting through the HEPA filters and charcoal adsorbers, the total bypass flow of the system to the facility vent, including leakage through the subsystem diverting valve, is less than or equal to 1% when the subsystem is tested by admitting cold DOP at the system intake.

*When irradiated fuel is being handled in the secondary containment.

PLANT SYSTEMS

3/4.7.3 REACTOR CORE ISOLATION COOLING SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.3 The reactor core isolation cooling (RCIC) system shall be OPERABLE with an OPERABLE flow path capable of taking suction from the suppression pool and transferring the water to the reactor pressure vessel.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, and 3 with reactor steam dome pressure greater than 150 psig.

ACTION:

With the RCIC system inoperable, operation may continue provided the HPCI system is OPERABLE; restore the RCIC system to OPERABLE status within 14 days or be in at least HOT SHUTDOWN within the next 12 hours and reduce reactor steam dome pressure to less than or equal to 150 psig within the following 24 hours.

SURVEILLANCE REQUIREMENTS

4.7.3 The RCIC system shall be demonstrated OPERABLE:

- a. At least once per 31 days by:
 1. Verifying that the system piping from the pump discharge valve to the system isolation valve is filled with water by:
 - a. Venting at the high point vents.
 - b. Performance a CHANNEL FUNCTIONAL TEST of the condensate transfer pump discharge low pressure alarm instrumentation.
 2. Verifying that each valve, manual, power operated or automatic in the flow path that is not locked, sealed or otherwise secured in position, is in its correct position.
 3. Verifying that the pump flow controller is in the correct position.
- b. At least once per 92 days by verifying that the RCIC pump develops a flow of greater than or equal to 600 gpm in the test flow path with a system head corresponding to reactor vessel operating pressure when steam is being supplied to the turbine at 920 + 140, - 0 psig.*

*The provisions of Specification 4.0.4 are not applicable provided the surveillance is performed within 12 hours after reactor steam pressure is adequate to perform the test.

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- c. At least once per 18 months by:
1. Performing a system functional test which includes simulated automatic actuation and restart and verifying that each automatic valve in the flow path actuates to its correct position, but may exclude actual injection of coolant into the reactor vessel.
 2. Verifying that the system will develop a flow of greater than or equal to 600 gpm in the test flow path when steam is supplied to the turbine at a pressure of 150, + 15, -0 psig.*
 3. Verifying that the suction for the RCIC system is automatically transferred from the condensate storage tank to the suppression pool on a condensate storage tank water level-low signal.
 4. Performing a CHANNEL CALIBRATION of the condensate transfer pump discharge low pressure alarm instrumentation and verifying the low pressure alarm setpoint to greater than or equal to 113 psig.

*The provisions of Specification 4.0.4 are not applicable provided the surveillance is performed within 12 hours after reactor steam pressure is adequate to perform the tests.

SAFETY EVALUATION
AMENDMENT NO. 1 TO NPF-14
SUSQUEHANNA STEAM ELECTRIC STATION, UNIT 1
DOCKET NO. 50-387

Introduction

The licensee proposed changes to the Technical Specifications of the operating license for Susquehanna Steam Electric Station, Unit 1 which are as follows:

- a) In Specification 4.7.1.3.c, delete observation well Number 2 from ultimate heat sink surveillance requirements
- b) In Specification 4.7.3.c, correct a typographical error on the setpoint for the low pressure alarm instrumentation on the condensate transfer pump discharge
- c) In Specification 4.6.5.1.c.2, change the test flow rates to bring the values back within the assumptions used in the LOCA offsite dose analysis, and clarify the volumes associated with the secondary containment surveillance testing.

Evaluation

a) Observation Well Number 2

In Specification 4.7.1.3.c, the licensee requested a change in the groundwater measurements from "at each of the seven observation wells" to read "at observation wells 1, 3, 4, 5, 6, and 1113". The licensee has also requested deletion of footnote**. In support of this request the licensee provided in a letter dated August 3, 1982, an analysis on the high water level in piezometer Number 2. In this analysis, the licensee indicated the southwest portion of the spraypond is cut into bedrock and the remainder of the spraypond is supported on soil. The piezometers are monitored to assure that remedial actions are taken if groundwater elevations around the spraypond rise to levels high enough to present a liquefaction potential in the event of an earthquake. Liquefaction relates only to granular soil. The six wells identified in the proposed technical specification are located in soil and are thus relevant to the purposes of the technical specification. Since piezometer Number 2 is located in an area where the spraypond is supported on bedrock, the licensee concluded that piezometer Number 2 cannot be used to assess the possibility of liquefaction occurring. The staff has evaluated and concurs with the licensee's analysis. High groundwater levels have been observed at this well. However, high groundwater levels at this location are irrelevant to the purpose of the technical specification. Therefore, deletion of piezometer Number 2 from surveillance requirements for groundwater measurement is acceptable.

b) Condensate Transfer Pump Discharge Low Pressure Alarm

In Specification 4.7.3.c.4, the licensee requested a change to the low pressure alarm setpoint from "less than or equal 113 psig" to read "greater than or equal to 113 psig". The current specification setpoint is a typographical error and is inappropriate for a decreasing pressure alarm. The setpoint for the low pressure alarm on the condensate transfer pump discharge is correctly stated in Specification 4.5.1.c.5. Therefore, the staff finds this change to be acceptable.

c) Standby Gas Treatment System Test Flow Rates

In Specification 4.6.5.1.c.2, the licensee requested a change to the test flow rate from "3050 cfm + 10%" to read "less than or equal to 2885 cfm", and a change to the associated footnote from "2300 cfm" to "2000 cfm". The offsite dose analysis assumes a 100% air change per day in the secondary containment. The licensee has identified the 3050 cfm and the 2300 cfm values to be based on preliminary rather than final calculations. The proposed flow rates of 2885 cfm and 2000 cfm correspond to the free air volumes of Unit 1 secondary containment (Zone I and III) and Unit 1 interim secondary containment (Zone I and with the interim barrier installed in Zone III), respectively, for a 100% air change per day. Since the bases for the requested changes are consistent with the rationale and justification used in the formulation of the original technical specification, the staff finds the change to the test flow rates to be acceptable.

In Specification 4.6.5.1.c.2, the licensee also requested a change from "for both Units 1 and 2" to read "from Zone I and Zone III", and a change to the associated footnote from "while Unit 2 secondary containment is isolated from Unit 1 secondary containment" to read "while the secondary containment interim barrier is installed in Zone III". The proposed changes clarify the intent of secondary containment testing of Unit 1 with and without the interim barrier in Zone III. Testing of the Unit 2 secondary containment will be covered by Unit 2 Technical Specifications. The staff has reviewed the licensee's justification and analyses and finds the changes clarifying the secondary containment for Unit 1 acceptable.

Environmental Consideration

We have determined that this amendment does not authorize a change in effluent types or total amount nor an increase in power level and will not result in any significant environmental impact. Having made this determination, we have further concluded that this amendment involves action which is insignificant from the standpoint of environmental impact, and, pursuant to 10 CFR Section 51.5(d)(4), that an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of this statement.

Conclusion

We have concluded, based on the considerations discussed above, that:
(1) because the amendment does not involve a significant increase in the probability or consequences of accidents previously considered, does not create the possibility of an accident of a type different from any evaluated previously, and does not involve a significant decrease in a safety margin, the amendment does not involve a significant hazards consideration, (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (3) such activities will be conducted in compliance with the Commission's regulations and the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Dated: September 3, 1982



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

PENNSYLVANIA POWER & LIGHT COMPANY
ALLEGHENY ELECTRIC COOPERATIVE, INC.
DOCKET NO. 50-387
SUSQUEHANNA STEAM ELECTRIC STATION, UNIT 1
AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 2
License No. NPF-14

1. The Nuclear Regulatory Commission (the Commission or the NRC) having found that:
 - A. The application for an amendment filed by the Pennsylvania Power & Light Company dated August 20, 1982 complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the regulations of the Commission;
 - C. There is reasonable assurance: (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, the license is amended by changes in paragraph 2.C.(9) of the Facility Operating License No. NPF-14 to read as follows:
 - (9) Initial Test Program (Section 14, SER, SSER #1)

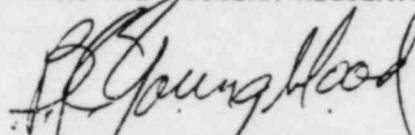
PP&L shall conduct the post-fuel-loading initial test program (set forth in Section 14 of the licensee's Final Safety Analysis Report, as amended through Amendment 50 and modified by PP&L letter dated August 26, 1982, (PLA-1257)) without making any major modifications of this program unless modifications have been identified and have received prior NRC approval. Major modifications are defined as:

 - (a) Elimination of any test identified as essential in Section 14 of the licensees' Final Safety Analysis Report, as amended through Amendment 50 and modified by PP&L letter dated August 26, 1982, (PLA-1257);
 - (b) Modifications of test objectives, methods or acceptance criteria for any test identified as essential in Section 14 of the licensee's Final Safety Analysis Report, as amended through Amendment 50 and modified by PP&L letter dated August 26, 1982, (PLA-1257);

- (c) Performance of any test at a power level different from that described in the program; and
- (d) Failure to complete any tests included in the described program (planned or scheduled for power levels up to the authorized power level).

3. This amendment is effective as of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



B. J. Youngblood, Chief
Licensing Branch No. 1
Division of Licensing

Date of Issuance: SEP 8 1982

SAFETY EVALUATION
AMENDMENT NO. 2 TO NPF-14
SUSQUEHANNA STEAM ELECTRIC STATION, UNIT 1
DOCKET NO. 50-387

Introduction

The licensee proposed an amendment to license condition 2.C.(9) to the operating license for Susquehanna Steam Electric Station, Unit 1 to utilize the Susquehanna Final Safety Analysis Report (FSAR), as amended through Amendment 49 to conduct the post-fuel-loading initial test program as set forth in Section 14 of the Susquehanna FSAR.

Evaluation

In Amendment 49 to the FSAR, Section 14, the licensee revised the "Shutdown from Outside the Main Control Room" test description to state that the test would be initiated by a reactor trip and main steam isolation valve (MSIV) closure from within the control room. The staff position, as stated in Regulatory Guide 1.68.2, is that the hot shutdown demonstration portion of the test including all initiating actions, be accomplished from outside the control room. While tripping the reactor, and shutting of MSIV's prior to control room evacuation may be a more likely and realistic event, and is consistent with written emergency procedures, the emergency procedures include alternate instructions for tripping the reactor and shutting the MSIVs from outside the control room. The staff position is that testing should be performed to demonstrate the capability to perform these actions from outside the control room. In a letter, dated August 26, 1982, the licensee committed to modify start-up test procedure ST-28, "Shutdown from Outside the Main Control Room" to include verifying that the reactor can be scrammed and the MSIVs can be closed from outside the main control room. On this basis, the staff finds the requested changes in Amendment 49 to Section 14 of the FSAR consistent with the criteria in the Standard Review Plan, Section 14.2. Amendment 50 to the Susquehanna FSAR was provided by PP&L letter, dated July 13, 1982. Amendment 50 made no changes to Section 14 of the FSAR, but is incorporated into the amended license condition 2.C.(9) for administrative purposes only. Therefore, the change to license condition 2.C.(9) to the operating license for Susquehanna Steam Electric Station, Unit 1, to utilize the Susquehanna FSAR, as amended through Amendment 50 is acceptable.

Environmental Consideration

We have determined that this amendment does not authorize a change in effluent types or total amount nor an increase in power level and will not result in any significant environmental impact. Having made this determination, we have further concluded that this amendment involves action which is insignificant from the standpoint of environmental impact, and, pursuant to 10 CFR Section 51.5(d)(4), that an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of this statement.

Conclusion

We have concluded, based on the considerations discussed above, that: (1) because the amendment does not involve a significant increase in the probability or consequences of accidents previously considered, does not create the possibility of an accident of a type different from any evaluated previously, and does not involve a significant decrease in a safety margin, the amendment does not involve a significant hazards consideration, (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (3) such activities will be conducted in compliance with the Commission's regulations and the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Dated: SEP 8 1982

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Meeting Title: Discussion & Possible Vote on Full Power
Operating License for Sequoyanna - 1

MEETING DATE:

9/30/92

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