

ORIGINAL

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NUCLEAR REGULATORY COMMISSION

COMMISSION MEETING

PUBLIC MEETING

**DKT/CASE NO.**

**TITLE** BRIEFING ON BOARD NOTIFICATION 82-118A - TMI  
SEISMIC CAPABILITY OF THE AUXILIARY FEEDWATER  
SYSTEM

**PLACE** Washington, D. C.

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UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BRIEFING ON BOARD NOTIFICATION 82-118A - TMI SEISMIC  
CAPABILITY OF THE AUXILIARY FEEDWATER SYSTEM

PUBLIC MEETING

Nuclear Regulatory Commission  
Room 1130  
1717 H Street, N. W.  
Washington, D. C.

Friday, December 17, 1982

The Commission convened, pursuant to notice, at  
1:05 p.m.

COMMISSIONERS PRESENT:

- 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:

- S. CHILK
- M. KALSCH
- J. ZERBE
- E. CHRISTENBURY
- D. EISENHUT
- H. DENTON
- R. MATTSON

AUDIENCE SPEAKERS:

- G. LAINAS
- F. MIRAGLIA
- G. HOLAHAN
- P. CLARK

\* \* \*

DISCLAIMER

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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.

4 We are meeting today with the staff to hear a  
5 discussion about a recent Board notification for the  
6 Three Mile Island Unit I restart proceeding.

7 The subject of this notification is the  
8 seismic capability of the facility's emergency feedwater  
9 system. The notification contains the results of a  
10 Lawrence Livermore Laboratory evaluation which concludes  
11 that the system is not likely to withstand the safe  
12 shutdown earthquake. The staff states, however, that  
13 its testimony in the TMI-1 hearing record is not changed  
14 by this information.

15 We have asked the staff to appear before us  
16 today to elaborate on the information in the Board  
17 notification. I am advised that the information  
18 discussed today in the transcript of this meeting should  
19 be served on the parties for any written comments they  
20 wish to submit to the Commission. At the end of the  
21 discussion we should decide on a timetable we wish to  
22 establish for this purpose.

23 Do any of my fellow Commissioners have any  
24 opening remarks they would like to make?

25 (No response.)

1           CHAIRMAN PALLADINO: If not, I will turn the  
2 meeting over to Mr. Denton.

3           MR. DENTON: This particular issue of seismic  
4 qualifications of auxiliary feedwater systems has been  
5 one between the staff and all PWR owners for several  
6 years. We came to the conclusion several years back  
7 that auxiliary feedwater systems needed to be upgraded  
8 both with regard to reliability and with regard to  
9 seismic design.

10           We met with the ACRS several times and sent  
11 out a letter to all PWRs requiring that they upgrade  
12 their systems. We got answers back in. We have hired  
13 Livermore to do a review and this has been going on at  
14 TMI and at the other operating PWRs since that time.

15           COMMISSIONER GILINSKY: Did we specify how we  
16 wanted that system upgraded, or was this just a general  
17 exhortation to improve the auxiliary feedwater systems?

18           MR. DENTON: Darrell can get the letter, but  
19 basically we asked them how close do you come to having  
20 safety grade equipment that can fulfill the safety  
21 function, and everyone wrote back in describing how  
22 close they were to meeting the requirements for today's  
23 OL plant. We have very specific requirements for new  
24 OLs in this area, and you remember the Commission voted  
25 to treat this plant as an OR plant. So in this area it

1 has been treated the same way as the other operating  
2 reactors.

3 COMMISSIONER AHEARNE: Is there an outstanding  
4 requirement for operating reactors' aux feed systems?

5 MR. EISENHUT: I wouldn't say that they be  
6 seismically qualified. The outstanding action is one of  
7 out generic multi-plant actions and it is that they do  
8 an evaluation to see how close their plant compares to a  
9 full safety grade aux feed. That is an outstanding  
10 action on 46 plants.

11 COMMISSIONER AHEARNE: That is definite to do  
12 an analysis, but there is no regulation that says the  
13 system must be seismically qualified?

14 MR. EISENHUT: That is correct. It is a  
15 little bit more fuzzy because the letter asked for them  
16 to identify any proposed upgrades. When I say 46 plants  
17 are outstanding, I think we have completed the review on  
18 something like 22 or 24. Roughly half of those have  
19 determined that they are seismically qualified. Of the  
20 others, some have identified upgrades and some have  
21 not. But there is no requirement that they upgrade. It  
22 was going to be at the end of this program and the  
23 completion of the evaluations.

24 COMMISSIONER GILINSKY: So you have really  
25 done no more than draw their attention to the importance

1 of this system and asked them for analysis and  
2 information.

3 MR. DENTON: In 22 of the 40-odd cases under  
4 review, about half of the cases that have been under  
5 review, the licensee has proposed changes that we  
6 consider fully satisfy the need to show that this system  
7 is seismically qualified.

8 COMMISSIONER AHEARNE: Wait. Now when you say  
9 the "need to show" ---

10 MR. DENTON: That have committed to make the  
11 changes necessary to comply.

12 COMMISSIONER AHEARNE: To comply with what?

13 MR. DENTON: To show that his system can  
14 adequately function during a safe shutdown earthquake.

15 COMMISSIONER AHEARNE: In other words, that it  
16 is seismically qualified.

17 MR. DENTON: That it is seismically qualified  
18 for the parts that need to work for safety purposes.  
19 Now with regard to TMI specifically, after we received  
20 this latest version of the Livermore report, we sent  
21 that to GPU asking them to respond to the concerns that  
22 Livermore had identified in reviewing their submittal  
23 and asked them to respond by December 20th.

24 COMMISSIONER GILINSKY: Let's see, respond to  
25 what now?

1 MR. DENTON: We sent them the Livermore  
2 letter ---

3 COMMISSIONER GILINSKY: How did Livermore get  
4 there?

5 MR. DENTON: They did the review. We had a  
6 consultant review the answers from all the PWRs.

7 COMMISSIONER GILINSKY: And one of them was  
8 from TMI?

9 MR. DENTON: One of them was from TMI. The  
10 consultant then began to work through the answers and  
11 questions as a normal contractor in technical assistance  
12 to see whether the plants had actually demonstrated that  
13 they had a plant that could function during a safe  
14 shutdown earthquake and this kind of thing.

15 Now with regard to TMI, we sent our  
16 consultant's report to the GPU, as we have to all other  
17 plants when we get an individual review done, and we  
18 asked GPU to respond by the 20th of December on whether  
19 or not they agreed with the analysis.

20 COMMISSIONER GILINSKY: Of this year?

21 MR. DENTON: Yes, of this year, and, if not,  
22 what were they going to do to upgrade their system.

23 COMMISSIONER GILINSKY: You say you sent the  
24 report. Is it this technical evaluation report? Is  
25 that what we are talking about?



1 MR. DENTON: Yes, that is the one. There have  
2 been a lot of questions and answers, and let me get to  
3 the bottom line. I understand the company's reply that  
4 comes in on the 20th says that they intend to upgrade  
5 the system to demonstrate the capability that we  
6 originally asked for by the first refueling.

7 COMMISSIONER AHEARNE: Can I get back to my  
8 question again. You say you asked for.

9 MR. DENTON: Yes.

10 COMMISSIONER AHEARNE: My understand from what  
11 Darrell said, and correct me if I am wrong, is that they  
12 were asked to do an analysis and that we have no  
13 requirement.

14 MR. EISENHUT: I want to amplify that answer  
15 and that is what I have been trying to interject. If  
16 you look at the February letter of 1981, it is a little  
17 bit of a gray zone. It asks for two things -- well  
18 really three things.

19 It says the NRC is requesting they conduct a  
20 walkdown of nonseismically qualified portions to  
21 identify any correctable deficiencies.

22 Secondly, that letter said that for plants  
23 with AFW systems that are not seismically qualified  
24 either in whole or in part, our plan involves increasing  
25 the seismic resistance.

1           Finally, on the next page, the operable part,  
2 is that for plants with aux feed systems that are not  
3 seismically qualified we consider that action should be  
4 taken soon to ensure a reasonable level of earthquake  
5 resistance.

6           COMMISSICNER AHEARNE: But you never defined  
7 what reasonable level is.

8           COMMISSIONER GILINSKY: Basically you were  
9 exhorting them to improve their system.

10          MR. EISENHUT: But it is more than just an  
11 evaluation.

12          MR. DENTON: We were jawboning them and the  
13 jawboning is working in the great majority. With regard  
14 to TMI, our letter on November 16th to them said ---

15          COMMISSIONER GILINSKY: November 16th of?

16          MR. DENTON: Of '82. It said the TER  
17 indicates there are identified deficiencies for which you  
18 have not committed to perform appropriate  
19 modifications. While our February 10th, 1981 letter did  
20 not explicitly request AFW system modifications, it did  
21 explicitly express our intent to increase the seismic  
22 resistance where necessary to ultimately provide  
23 reasonable assurance that the system will function after  
24 the occurrence of earthquakes up to and including the  
25 SSE.

1           COMMISSIONER AHEARNE: Is it not correct that  
2 what you are almost explicitly saying is that they are  
3 required to have a seismically qualified aux feed system?

4           MR. DENTON: We are certainly pushing them on  
5 that hard, yes.

6           COMMISSIONER GILINSKY: Well certainly you are  
7 saying that we wanted them to.

8           MR. DENTON: We have succeeded in a number of  
9 cases. GPU is in the audience today and can tell you  
10 what they will probably reply to our request to them.

11           COMMISSIONER AHEARNE: The point I was trying  
12 to understand is whether or not we have a regulation  
13 that requires it. I am not disagreeing with the concept  
14 that the system ought to be seismically qualified. I  
15 had just never seen that we had gone through the debate  
16 and reached that conclusion for a regulation and I  
17 didn't know that it was a regulation.

18           MR. DENTON: Well it really isn't a  
19 regulation. It was a couple of years ago that I think  
20 we came to perceive auxiliary feedwater systems as very  
21 important.

22           COMMISSIONER AHEARNE: Yes, I recall that as  
23 you went through and you saw how unreliable many were.

24           MR. DENTON: So we went down both the  
25 reliability upgrading path and the seismic upgrading

1 path and we had a number of meetings in the 1980 time  
2 frame and embarked on this program to upgrade them.

3 COMMISSIONER AHEARNE: Is it correct to say  
4 that this is not a situation where you have found a  
5 licensee not complying with the regulation?

6 MR. DENTON: That is correct.

7 COMMISSIONER AHEARNE: Instead, it is a  
8 situation where the staff has strongly urged something  
9 to be done and originally your consultant had reached  
10 the conclusion that it was not being done.

11 MR. DENTON: We didn't require that these  
12 systems be safety grade before I guess about the 1975  
13 time frame, and the staff came to a different decision  
14 and consciously decided we would require something  
15 better in the future but we wouldn't automatically  
16 impose it on all the ones in the past, and then we  
17 learned more after TMI.

18 Roger.

19 MR. MATTSON: It was really sort of an  
20 indirect lesson from TMI. In 1976 when the Standard  
21 Review Plan first came out the staff's requirement for  
22 the emergency feedwater system to be an engineering  
23 safety feature was first written down and, as Harold  
24 said, it was a forward fit type of decision because that  
25 is what was done with the Standard Review Plan.

1           After TMI, we have kind of gotten our hands  
2 around the specific lessons from TMI, and you will  
3 remember the five-plant seismic shutdown before TMI.  
4 Scratching our heads we kind of put those two things  
5 together and said there may be some emergency feedwater  
6 systems that aren't fully seismically qualified and are  
7 there such plants and, if so, what should we do about  
8 them.

9           The Division of Safety Technology did a study  
10 and finished it in 1980 saying at the time they felt  
11 there were eight or nine plants that might be in that  
12 category and asked the Division of Licensing, Darrell's  
13 people, to begin a program to look at those old plants  
14 because a number of them fell outside of the SEP program  
15 where this kind of thing is automatically picked up for  
16 the very oldest plants.

17           When Darrell's people got it they said are you  
18 sure it is only eight or nine plants? It looked to us  
19 like since this requirement wasn't issued until 1975 it  
20 could be more plants than that. Then as they thought  
21 about it, they talked to the ACRS and wrote a generic  
22 letter to all PWR licensees, 46 in total, and that is  
23 the number that have come back now with TERs from  
24 Livermore, asking them to look and to walk down their  
25 systems and do the things that Darrell has described.

1 So that was the genesis of the program, to make sure  
2 that there wasn't a seismic problem with the older  
3 plants, and older plants meaning all PWRs in operation.

4 COMMISSIONER GILINSKY: Now what was GPU's  
5 response to the February '81 letter which I presume  
6 Livermore was checking?

7 MR. EISENHUT: There were a number of answers.  
8 Gus Lainas can speak to that.

9 MR. LAINAS: There were a number of responses,  
10 and I count six responses since the February letter was  
11 sent out providing additional clarifying information.

12 COMMISSIONER GILINSKY: Was there any  
13 commitment on their part to upgrade the system?

14 MR. LAINAS: Yes, there were commitments at  
15 that time where they had identified some deficiencies  
16 and were making modifications.

17 MR. MATISON: I believe they have already made  
18 some modifications.

19 MR. LAINAS: And they have made some  
20 modifications.

21 CHAIRMAN PALLADINO: When you say "they" who  
22 are you talking about?

23 MR. LAINAS: The licensee.

24 CHAIRMAN PALLADINO: All licensees?

25 MR. LAINAS: No, we are only talking about TMI.

1           COMMISSIONER GILINSKY: Did they commit to  
2 having a safety grade system or something less than  
3 that? Can you characterize it?

4           MR. LAINAS: Well, they felt a good part of  
5 the system was safety grade at the time. It was already  
6 seismically qualified and adequate at the time.

7           COMMISSIONER GILINSKY: Now is Livermore  
8 discovering that that is in fact not correct, or are  
9 they identifying the parts about which there was no  
10 commitment?

11          MR. LAINAS: I would try to characterize that  
12 as perhaps a need for additional clarification or an  
13 information type of a situation with Livermore because  
14 in discussions we have had with the licensee very  
15 recently they now understand what some of the concerns  
16 were for Livermore and have taken appropriate actions.

17          COMMISSIONER GILINSKY: What does that mean?

18          MR. LAINAS: Well, as an example, there was  
19 some question, and that was indicated in the forwarding  
20 letter that went to them, as to the adequacy of the  
21 walkdown. One of the requirements of the February 10th  
22 letter, or one of the recommendations at the time was  
23 for the licensees to do the walkdown of the nonseismic  
24 portions of the aux feed system and make improvements  
25 that were obvious at the time, and many licensees have

1 done that.

2           One of the issues that Livermore had was the  
3 extent of the walkdown that the licensee had done.  
4 Since last letter that we sent to Hukill, at the time  
5 there was clarification provided as to what we meant by  
6 the boundary of the auxiliary feedwater system and the  
7 licensee is doing walkdowns.

8           COMMISSIONER GILINSKY: Livermore says based  
9 on submitted information we conclude that presently the  
10 AFW system is not likely to withstand an SSE. Now that  
11 doesn't seem to have anything to do with walkdowns.

12           MR. LAINAS: No, that is true. Another aspect  
13 of the thing was it was noted by Livermore that some  
14 parts of the system were located in a non-seismic  
15 turbine building. Their question was how can you assure  
16 operation of the auxiliary feedwater system if at least  
17 components of it were located in that particular  
18 structure. We understand that the licensee is  
19 evaluating this and really doesn't consider these parts  
20 of the system to be necessary for the aux feed system to  
21 function.

22           COMMISSIONER GILINSKY: Let me ask you this.  
23 Is Livermore addressing the part of the problem that the  
24 licensee addressed and are they in effect disagreeing  
25 with the way that was handled, or are they addressing



1 the parts about which there was no commitment and simply  
2 were aside?

3 MR. EISENHUT: The former I think, and it was  
4 simply that Livermore evaluating the original  
5 information on the plant. In fact, in November we sent  
6 that technical evaluation report to the licensee and  
7 asked the licensee to reply, and the licensee in fact,  
8 we understand from discussions, his reply which is due  
9 Monday is containing a commitment to upgrade those  
10 portions where Livermore found deficiencies. Livermore  
11 was not evaluating whether or not they had already  
12 accomplished the deficiencies.

13 MR. DENTON: Is it not my sense that this  
14 licensee has been recalcitrant in these areas. It is  
15 that Livermore has been doing this review on all the  
16 plants and some of them are quite easy for Livermore to  
17 find seismically qualified.

18 In this particular case the main argument  
19 appears to be what parts of the system are essential  
20 from a safety standpoint and are there parts of the  
21 system that are not seismically qualified that don't  
22 have to be, and the licensee and Livermore have argued  
23 those points over.

24 It might be good for the Commission to hear  
25 from GPU, if you would like, what they intend to commit

1 to on Monday, which is one way of resolving this.

2 COMMISSIONER GILINSKY: Is there anyone here  
3 from Livermore?

4 MR. DENTON: No.

5 COMMISSIONER AHEARNE: I am a little puzzled  
6 from what you said as to what information Livermore was  
7 looking at. You sent a letter in February to the  
8 licensee.

9 MR. DENTON: Yes.

10 COMMISSIONER AHEARNE: The licensee then  
11 responded with information.

12 MR. DENTON: Right.

13 COMMISSIONER AHEARNE: Is the Livermore report  
14 a review of that information?

15 MR. DENTON: Plus supplements. We have had  
16 several rounds of questions and answers since that  
17 February letter of '81 trying to clear up this area and  
18 come to some conclusion on it.

19 COMMISSIONER AHEARNE: Could you make a rough  
20 estimate as to the latest state of the information that  
21 Livermore was examining?

22 MR. DENTON: I would have to ask the staff.

23 MR. MIRAGLIA: Frank Miraglia of the staff.

24 The TER has a list of references in it, and I believe  
25 the latest reference in the letter received from GPU was

1 September 29th of 1982.

2 CHAIRMAN PALLADINO: What date?

3 COMMISSIONER AHEARNE: September 29th.

4 MR. EISENHUT: As Frank pointed out, paragraph  
5 3 of the PER ---

6 COMMISSIONER AHEARNE: Now was Livermore  
7 engaged in these back and forth, or was this the staff  
8 engaged in back and forth and then Livermore takes that  
9 information?

10 MR. DENTON: As in any technical assistance  
11 review, Livermore sends in their questions and we  
12 forward them to the staff. Then we do a review of it  
13 and forward it to the company.

14 COMMISSIONER AHEARNE: So is it fair to  
15 conclude that when Livermore says something about that  
16 the present level of the seismic capability of the  
17 initiation control system is less than OPE, that is  
18 their conclusion based on information through the end of  
19 September?

20 MR. EISENHUT: Yes. This is in fact their  
21 document through September. This is not the staff's  
22 document.

23 COMMISSIONER AHEARNE: I understand that.  
24 Similarly then it says the licensee presented no  
25 justification for a couple of items and hasn't indicated

1 any plans to re-evaluate and/or modify the system. That  
2 again is up to the end of September?

3 MR. EISENHUT: That is right, and then this  
4 was formally transmitted on November 3rd with sort of  
5 the question, Mr. Licensee, what are you going to do  
6 about this, and that reply is due next Monday.

7 CHAIRMAN PALLADINO: Does the Commission want  
8 to hear from GPU?

9 COMMISSIONER AHEARNE: Sure.

10 MR. DENTON: I think Mr. Clark is here from  
11 GPU.

12 CHAIRMAN PALLADINO: Any objection from any  
13 member of the Commission?

14 COMMISSIONER AHEARNE: No.

15 COMMISSIONER AHEARNE: No.

16 CHAIRMAN PALLADINO: All right. Then why  
17 don't we have Mr. Clark indicate how they plan to  
18 respond to your latest request. Incidentally, was it  
19 November 16th or was it November 3rd?

20 MR. CLARK: I believe the letter was November  
21 16th.

22 CHAIRMAN PALLADINO: That is what I heard the  
23 first time and then I heard November 3rd.

24 Phil, why don't you identify yourself for the  
25 record.

1 MR. CLARK: I am Philip Clark, Executive Vice  
2 President of GPU Nuclear, the operator of TMI-1.

3 We have, as the staff indicated, reviewed the  
4 seismic qualification of our EFW system in accordance  
5 with the generic letter 81-14 and we have submitted six  
6 or seven letters to the NRC over the last 18 or 20  
7 months with the information.

8 Our conclusion from that review is that at  
9 restart the EFW provides reliable decay heat removal for  
10 seismic conditions, including even the highly unlikely  
11 safe shutdown earthquake, plus single failure.

12 CHAIRMAN PALLADINO: Plus what?

13 MR. CLARK: Single failure. So that it is  
14 seismic plus single failure. We believe that under  
15 those conditions the EFW system does provide reliable  
16 decay heat removal capability which is the safety  
17 requirement.

18 In addition, we have planned EFW seismic  
19 upgrades and have committed to make them during the  
20 first refueling which are aimed to reduce the potential  
21 for spills due to seismic events or to facilitate the  
22 ability to respond to seismic events from an operator  
23 standpoint.

24 We believe the recent NRC contract to  
25 Livermore TER involves a misunderstanding of our plant

1 specific system and procedures and we therefore don't  
2 agree with their conclusion.

3           In particular in a general sense we have three  
4 EFW pumps, two electric and one steam driven. We  
5 believe that the required and desired reliability of EFW  
6 is provided by the two electric feedwater pumps and does  
7 not rely on the third steam driven pump.

8           The majority of the questions raised by  
9 Livermore have to do with the steam driven turbine pump  
10 and some of its controls which are in the nonseismic  
11 turbine building.

12           Our conclusion is that we did not rely and are  
13 not relying on seismic qualification of that turbine  
14 driven pump in order to get feedwater reliability.

15           Nonetheless, if as we pursue this issue with  
16 the staff and with Livermore if need be, it is  
17 determined that additional upgrade should be made, we  
18 would fully intend to make those upgrades during the  
19 first refueling outage. Once they are identified so we  
20 know exactly what it is, we would expect to commit to do  
21 them during the first refueling outage if feasible.

22           We think the completion of the upgrades we  
23 intend and any additional ones during that refueling  
24 outage is consistent with the testimony before the ASLB  
25 and the handling and timing of 0737 required upgrades of

1 the emergency feedwater system.

2 Our letter on Monday will confirm what I have  
3 described above.

4 CHAIRMAN PALLADINO: Phil, you said something  
5 about if feasible. Could you explain what you meant?

6 MR. CLARK: Yes. What I said is that we don't  
7 believe that additional upgrades are needed. We believe  
8 that Lawrence misunderstood our system and our  
9 procedures. However, as we pursue resolution of that  
10 with the staff we intend to complete any additional  
11 upgrades during the first refueling.

12 The "if feasible" came because I don't know  
13 what upgrade might be required. I am unable to commit  
14 in advance that any particular upgrade in fact could be  
15 done during the first outage. That is the only reason  
16 for the hesitation. Our intent is wholehearted to  
17 complete them during the first refueling outage if we  
18 can.

19 CHAIRMAN PALLADINO: That is what I wondering  
20 about. Did the "if feasible" mean if it is feasible to  
21 do it in the first refueling outage or did it imply some  
22 condition on whether or not you were actually going to  
23 try to do it any time.

24 MR. CLARK: When I made this statement I was  
25 thinking timing only. Whether one could postulate a

1 need for an upgrade which would not ever be feasible, I  
2 think is highly unlikely, and that is not what we were  
3 intending and I don't really foresee that.

4 CHAIRMAN PALLADINO: All right.

5 COMMISSIONER GILINSKY: You spoke about the  
6 Livermore remarks on the turbine building. They also  
7 pointed to other areas, piping and what they call  
8 initiation and control systems.

9 MR. CLARK: I think both of those run through  
10 the turbine building. You know, it is very hard to  
11 summarize in a statement without drawings all of the  
12 details.

13 COMMISSIONER GILINSKY: I didn't want you to  
14 deal with it in detail, but did you disagree with their  
15 conclusions in those categories, too?

16 MR. CLARK: We disagree with the scope ---

17 CHAIRMAN PALLADINO: Did those relate to the  
18 steam turbine ---

19 COMMISSIONER AHEARNE: Some of it.

20 MR. CLARK: The bulk of them relate to the  
21 steam turbine and I think in general we disagree with  
22 the scope of system that Livermore assumed was required  
23 to reliably remove decay heat. For the scope of system  
24 we believe that is required to accomplish that purpose  
25 we have made or committed for the upgrades. They have



1 expanded the scope that they say ought to be  
2 considered. We believe that that expansion is based on  
3 misunderstanding.

4 Now in addition despite that, we have since  
5 receiving the TER walked down the nonseismic portions of  
6 the system identified in the Livermore report and have  
7 identified a connection to that system which is not  
8 seismic. Even though we don't believe that system is  
9 required for removal of decay heat, we are going to  
10 remove that connection before restart.

11 So we are trying to deal with what Livermore  
12 raised, although we don't believe that it is a safety  
13 issue with regard to the EFW system's ability to remove  
14 decay heat.

15 CHAIRMAN PALLADINO: Were all the seismic  
16 issues by Livermore Laboratory related to the steam  
17 turbine driven pump?

18 MR. CLARK: We are not quite finished with the  
19 details. So let me say 90 percent of the Livermore  
20 issues were related to portions of the EFW system which  
21 are not required in our view to remove decay heat which  
22 is the safety function. Something can be labeled part  
23 of the EFW system, but you may not need it to remove  
24 decay heat. That is the distinction I am trying to  
25 portray here.

1                   COMMISSIONER GILINSKY: Do you have a view on  
2 the significance of these systems and their need to be  
3 upgraded?

4                   MR. DENTON: We have a view that they do need  
5 to be upgraded. The ACRS has concurred in that view,  
6 but we thought it was one that didn't have to be done  
7 immediately on all operating plants. We thought we  
8 could treat it as an operating action and that is the  
9 way we have treated it to see if we can upgrade them in  
10 a few years and that is what has been underway.

11                   COMMISSIONER AHEARNE: If the difference then  
12 between the staff and GPU not one of what should the  
13 standard be, but rather which systems must meet that  
14 standard?

15                   MR. DENTON: I would like to ask the person  
16 doing the review. Gary Holahan has been supervising  
17 this and can accurately characterize over the last year  
18 and half or so what the differences have been.

19                   MR. HJOLAHAN: I think you have characterized  
20 it correctly. For the TMI case it appears that the only  
21 substantive issues left are exactly what portions of the  
22 system are really needed and it appears we have  
23 commitments to upgrade those as soon as we have an  
24 agreement on exactly what part of th system is required.

25                   COMMISSIONER AHEARNE: All right, but is it

1 correct that you are not yet in agreement as to which  
2 parts of the system have to be upgraded?

3 MR. HOLAHAN: That is correct. I understand  
4 that their December 20th letter that is due to us will  
5 describe what portions they believe require it or not.

6 COMMISSIONER AHEARNE: Right, but, as Mr.  
7 Clark just described, there certainly is a difference of  
8 opinion between GPU and Livermore.

9 MR. HOLAHAN: Yes.

10 COMMISSIONER AHEARNE: So therefore have you  
11 gotten into that discussion yet?

12 MR. HOLAHAN: I don't believe that Livermore  
13 has actively pursued the question of whether the turbine  
14 driven pump was part of the system that needed it or  
15 not. I think that is a relatively new issue and I  
16 consider it open at the moment.

17 CHAIRMAN PALLADINO: Are you saying that  
18 perhaps after you evaluate it that you may not require  
19 that particular system to be seismically qualified?

20 MR. HOLAHAN: That is a possibility. There  
21 are other plants that do only have two emergency  
22 feedwater pumps. However, there are also other plants  
23 which are required to have three. So exactly which way  
24 we will go on this one is still under review.

25 CHAIRMAN PALLADINO: Now did I understand

1 correctly from GPU that if it is decided that the  
2 steam-driven pump would have to be seismically qualified  
3 that you would commit to do it?

4 MR. CLARK: Yes. We would commit to make any  
5 needed upgrades as this issue is resolved and we would  
6 intend to do them during the first refueling provided  
7 that is feasible. We would expect they probably would  
8 be, but we don't know what the upgrade is.

9 COMMISSIONER GILINSKY: The other two pumps  
10 are electrical, by the way?

11 MR. CLARK: Yes, two electrically driven and  
12 one steam driven.

13 CHAIRMAN PALLADINO: Are these seismically  
14 qualified?

15 MR. CLARK: The electrically driven feed pump  
16 system is, yes, and that is our basis for concluding  
17 that we have reliable decay heat removal.

18 I think it is our sense, as the staff person  
19 said just a minute ago, that Livermore really did not  
20 address how much of what is labeled emergency feedwater  
21 system was required for safety purposes. That is our  
22 impression. Now we haven't talked to them directly, but  
23 we don't see any evidence that they did consider it in  
24 that sense and we think that is a likely cause of  
25 misunderstanding.

1                   COMMISSIONER GILINSKY: Let's see, why would  
2 you not include all the pumps again?

3                   MR. CLARK: The purpose of the review and  
4 deciding what modifications were to be made was to  
5 assure that we had a reliable way to remove decay heat  
6 under seismic conditions. We believe that that  
7 reliability is provided by the redundant electrical  
8 feedwater pumps and associated systems and that  
9 therefore we have adequate reliability.

10                   We also have yet another turbine driven feed  
11 pump which provides some additional reliability. In our  
12 view, that need not be seismic in order to have an  
13 adequate system.

14                   COMMISSIONER GILINSKY: But, let's see, why  
15 would you not include all the emergency feedwater pumps?

16                   MR. CLARK: We did include all of them in our  
17 review. We concluded that all of them need not be  
18 seismic in order to have the necessary redundancy for  
19 decay heat removal.

20                   COMMISSIONER GILINSKY: Was that in relation  
21 to some standard or instruction or guidance?

22                   MR. WATTSON: Let me try that question just a  
23 little bit by making it a more generic picture of what  
24 PWRs have today. Remember you are treating this plant  
25 as an operating reactor.

1           TMI has a three-pump emergency feedwater  
2 system. It is an emergency feedwater system with a  
3 design that has a fairly high reliability in the sense  
4 of functioning upon demand in its ability to handle  
5 random failures.

6           You remember after TMI we put in the Standard  
7 Review Plan a reliability criterion for emergency  
8 feedwater systems of ten to the minus four to ten to the  
9 minus fifth unavailability. So for just a pure  
10 reliability point of view, a three-train system or  
11 three-pump system like TMI has is a pretty good system.

12           Compared to other operating reactors there are  
13 - by my count nine PWRs in the United States with two-pump  
14 aux feedwater systems, somewhat less reliability than  
15 what you would expect from the TMI system.

16           COMMISSIONER GILINSKY: With two different  
17 kinds of pumps I would guess.

18           MR. MATTSON: Those nine plants happen to  
19 have, except for three of them, electric and steam. On  
20 the other hand, there are three stations, four units in  
21 the United States with only electric emergency feedwater  
22 systems, Turkey Point, Davis Bessie and Calvert Cliffs.

23           So the question of do the regulations require  
24 diversity of motive power for the emergency feedwater  
25 system following a seismic event, the answer must be no

1 back in history because there are plants that don't even  
2 have steam-driven emergency feedwater systems presently  
3 in operation.

4 COMMISSIONER GILINSKY: Well, that is kind of  
5 a logical answer.

6 (Laughter.)

7 MR. MATTSON: There is a checkered history of  
8 safety grade requirements for the emergency feedwater  
9 system down through the years. Prior to 1975 it was not  
10 treated as a safety grade system in licensing reviews.  
11 After '75 it was treated as a safety grade system for  
12 new plants.

13 Today when a plant gets licensed, it not only  
14 gets a safety grade check, but it gets this  
15 unavailability or reliability check. We went even  
16 beyond the safety grade test for this system and the  
17 seismic check.

18 CHAIRMAN PALLADINO: For new plants do you  
19 need diverse measures for steam and electric?

20 MR. MATTSON: That is right.

21 MR. DENTON: And fully seismically qualified.

22 MR. MATTSON: And generally three pumps.

23 MR. CLARK: Could I comment on that for just a  
24 minute. Our review of the emergency feedwater  
25 reliability obviously went beyond the bulletin and

1 seismic per se. We believe that having the steam as  
2 well as the electrically driven feedwater pump does  
3 provide a diversity and a reliability for many  
4 situations, many accident conditions and many failure  
5 modes. We think it adds to the reliability of our plant.

6 With regard solely to the seismic question, we  
7 believe that the redundancy of the electric feedwater  
8 pump system provides adequate reliability from the  
9 seismic standpoint. We believe that it is proper and we  
10 have considered those two aspects separately.

11 CHAIRMAN PALLADINO: Do you have any questions?

12 COMMISSIONER AHEARNE: Not of Mr. Clark, but I  
13 have a question for the staff.

14 Do you intend in this evaluation to talk to  
15 Livermore?

16 MR. EISENHUT: Oh, certainly. In fact in all  
17 of these Livermore will in fact be doing the follow-up  
18 review with us on this.

19 COMMISSIONER AHEARNE: Mr. Clark's point seems  
20 to be that Livermore did not understand something about  
21 their plan and their approach and obviously one of the  
22 quick ways to address that is to ask Livermore.

23 MR. EISENHUT: That is correct, and in fact if  
24 time had permitted we would of course had them here  
25 today.



1           CHAIRMAN PALLADINO: Darrrell, suppose they  
2 only had had the two electric drives, would Livermore  
3 have come up with any problems on the seismic?

4           MR. EISENHUT: I don't know if we have  
5 reviewed any of these.

6           MR. HOLAHAN: That is a difficult question to  
7 answer. There are some other smaller problems that were  
8 identified and we have commitments to change. Whether  
9 we would have found it acceptable as a whole isn't clear  
10 because I think if it were just a two-train system we  
11 would have to look at the rest of the system, how much  
12 redundancy in valves and whether the system is single  
13 failure proof when it is only a two-pump system versus a  
14 three.

15          CHAIRMAN PALLADINO: But I was asking from the  
16 seismic qualification standpoint.

17          MR. HOLAHAN: It appears that with minor  
18 modifications the two electric driven pumps are a  
19 seismically qualified system.

20          COMMISSIONER GILINSKY: I thought about 80  
21 percent of the plants had three pumps I gather, or more  
22 than 80 percent.

23          CHAIRMAN PALLADINO: I don't mean to  
24 discourage the use of the three pumps. Don't  
25 misunderstand me. I was just trying to address the

1 seismic qualification question.

2 MR. MATTSON: Aside from the nine plants  
3 without two pumps and the three plants without diverse,  
4 there is a generic issue in the operating plant working  
5 its way to the CRGR where my division will recommend  
6 backfit on all of those plants. It is sort of a tidy-up  
7 item from the Bulletins and Orders Task Force. It was  
8 in their final reports and somehow didn't get followed  
9 through on. We are following through on it now and we  
10 should reach the CRGR next spring.

11 COMMISSIONER AHEARNE: And you will be  
12 recommending ---

13 MR. MATTSON: Backfit of the Standard Review  
14 Plan.

15 COMMISSIONER AHEARNE: Of the three pumps and  
16 diverse?

17 MR. MATTSON: Yes.

18 CHAIRMAN PALLADINO: Are there other questions?

19 (No response.)

20 CHAIRMAN PALLADINO: As I understand the  
21 situation with regard to TMI, you are still considering  
22 the questions involved and you are going to work with  
23 Livermore to make sure that there is complete  
24 understanding on what was being analyzed. There will be  
25 an effort made to decide what needs to be done to TMI-1

1 and, if I understood Mr. Clark correctly, GPU after we  
2 have agreed what needs to be done is committed to  
3 upgrading the plant to meet those conditions and would  
4 intend to do that during the first refueling to the  
5 extent it is possible to do that.

6 MR. DENTON: Yes, sir, that is my  
7 understanding of what I have heard to date.

8 COMMISSIONER GILINSKY: I have one more  
9 question. For the plants with three auxiliary feedwater  
10 pumps are you now expecting them to upgrade the entire  
11 system so that it is seismically qualified?

12 MR. DENTON: I think we used the words  
13 "reasonable assurance" to leave a little bit of  
14 flexibility in case you could get the reliability you  
15 were looking for and the seismic resistance you were  
16 looking for without necessarily making everything in the  
17 system upgraded. So I think that is how we selected  
18 those words "reasonable assurance" that it could  
19 withstand the SSE as opposed to just a blanket  
20 requirement that everything be seismically qualified.

21 MR. MATTSON: When we wrote those words we  
22 didn't know for sure what the arguments would be one way  
23 or another. The argument that you needn't have  
24 diversity of power supply after the earthquake is a  
25 novel argument. It is an interesting argument and it

1 ought to be seriously reviewed, but we haven't faced it  
2 before.

3 COMMISSIONER GILINSKY: Well, how have you  
4 interpreted your guidance up to now? Have you expected  
5 everyone to upgrade the entire three-pump system?

6 MR. EISENHUT: Whatever system they had, they  
7 were looking at the capability of how it stands up  
8 against the seismic resistance requirement. There was  
9 no differentiation, as Roger said.

10 MR. MATTSON: I said reasonable assurance.

11 COMMISSIONER GILINSKY: Was that made clear to  
12 the affected licensees or are there other cases in which  
13 the licensee has decided to upgrade two but not three?

14 MR. HOLAHAN: I think the answer to that is  
15 until TMI-1 it had not come up. Other people are  
16 treating their systems as a whole. The two-pump plants  
17 are dealing with the qualification of two pumps and the  
18 three-pump plants are all dealing with the three-pumps.  
19 No one has decided to split it as TMI suggested.

20 MR. MATTSON: But it wouldn't be unreasonable  
21 to expect that there will be other plants with steam  
22 lines in the turbine building that could be similarly  
23 affected. We just may not have seen them yet, in the  
24 nonqualified turbine building.

25 COMMISSIONER GILINSKY: Well, let's see, what

1 does that mean, that there may be cases that we haven't  
2 come upon yet?

3 COMMISSIONER AHEARNE: Gary seems to be  
4 shaking his head no.

5 MR. HOLAHAN: If that situation existed it  
6 should have come up in our review and I don't recall it  
7 having come up.

8 COMMISSIONER GILINSKY: I would also like to  
9 know whether the Livermore report was the first time  
10 that the NRC discovered that TMI was in fact not  
11 upgrading that steam-driven system.

12 MR. DENTON: Since we didn't require the  
13 seismic design we knew generally that none of these  
14 plants were fully seismically qualified if you looked at  
15 them, and I think our original testimony in this case  
16 said that.

17 MR. MATTSON: I am not sure you are saying  
18 this right. TMI hasn't said yet that they are not going  
19 to upgrade it.

20 COMMISSIONER GILINSKY: No, they said they are  
21 going to, but at least they weren't planning to up to  
22 this point, if I understood it correctly.

23 CHAIRMAN PALLADINO: There are two parts to  
24 this package. One is the first part that started with  
25 the February 10th, 1981 letter that asked for

1 information and said identify those items that are  
2 reasonably easy to correct and make a statement about  
3 whether they are going to correct them. I think they  
4 came back identifying what was not seismically  
5 qualified. They showed a few things they could correct  
6 easily, and I think they committed at that time and went  
7 ahead to correct them. There were some things that were  
8 not corrected and, as a result of the Livermore study,  
9 they were further identified and clarified.

10 There was a follow-up letter on November 16th  
11 that told GPU and all the other PWR owners that we would  
12 like them very much to fix this up, and, if I understand  
13 correctly, their intended reply is the one that we just  
14 summarized.

15 MR. MATTSON: That is right, except the  
16 November 16th letter was only to GPU.

17 CHAIRMAN PALLADINO: Only to GPU?

18 MR. MATTSON: Yes. There have been other  
19 letters to other ones.

20 COMMISSIONER GILINSKY: If I understand  
21 correctly, and please correct me if I am wrong, all the  
22 other utilities that had three pumps plan to upgrade the  
23 three-pump system.

24 MR. EISENHUT: The best rack-up I think we  
25 have now is, as Harold said in the beginning, there are

1 46 plants and 24 have been reviewed to date. Of the 24  
2 I think about 12 that, Gary, you and I x'ed off as  
3 saying 12 we found acceptable as they exist. Of the  
4 remaining 12 something on the order of about six or  
5 seven have committed to upgrades everywhere deficiencies  
6 have been found. On the remaining plants there are  
7 cases where they are upgrading some things, but they  
8 still want to discuss other things.

9 COMMISSIONER GILINSKY: I thought Gary said  
10 there was no other utility that was separating out the  
11 pumps ---

12 MR. HOLAHAN: There was no other utility that  
13 was separating out the pumps, but that doesn't mean that  
14 they had already committed to making upgrade.

15 COMMISSIONER GILINSKY: I see. There are some  
16 that we just don't know about?

17 MR. HOLAHAN: That is right.

18 COMMISSIONER GILINSKY: But up to this point  
19 of the ones you have dealt with this is the only one  
20 that has handled the pumps in this way?

21 MR. HOLAHAN: That is correct.

22 COMMISSIONER GILINSKY: Now we just have known  
23 along the way that that is what they were doing. From  
24 the answer I just got a moment ago I gather the  
25 Livermore report was not the first time we discovered

1 that. Did we more or less acquiesce in this or agree to  
2 it, we being the NRC?

3 MR. HOLAHAN: I am not entirely clear on that  
4 point. My recollection is that until recently the point  
5 of not relying on the turbine driven pump was not  
6 brought up and was not part of the Livermore review.

7 MR. EISENHUT: That is certainly my  
8 understanding.

9 MR. MATTSON: We hadn't heard of this until  
10 this week.

11 MR. EISENHUT: In fact, this whole issue has  
12 been evolving very recently. There was an initial draft  
13 from Livermore where we had the same kind of questions  
14 that Phil Clark brought up. We are not sure exactly of  
15 some of the details and it evolved into a Livermore  
16 draft, a Livermore document called "The Technical  
17 Evaluation Report" which we sent to GPU partly for the  
18 interactive effect and is the basis of this correct?

19 We have not heard the arguments presented that  
20 Mr. Clark here mentioned a few minutes ago until this  
21 week. In fact, that is because there is some continuing  
22 dialogue.

23 MR. MATTSON: I would help if you understood  
24 how this review works when you are using a contractor.  
25 It is a little bit complicated for you looking down to



1 see the two of us.

2 (Laughter.)

3 MR. MATTSON: Darrell manages a contract  
4 through this staff at Livermore for some of the  
5 multi-plant OR actions. The contractor in the contract  
6 gets guidance on how to review the licensee's  
7 submittals. They review the stuff submitted by the  
8 licensee, they ask questions and those things are  
9 transmitted back to a project manager in the Division of  
10 Licensing.

11 Finally they reach a point of a draft  
12 technical evaluation report, a draft final product from  
13 the laboratory. Darrell's people send that to the  
14 utility and say this is what we think we understand  
15 about your plant. If it is right, tell us what you are  
16 going to do to fix it and if you want to add any  
17 additional information at this time, or if it is wrong  
18 tell us where we have misunderstood your plant.

19 That is the stage we were at with GPU on  
20 November 16th. Once we get that response Darrell's  
21 people send it back to Livermore and they finish the  
22 TER. They send it back into Darrell's people and then  
23 he sends it over to my division and we write a safety  
24 evaluation report based on the input of the contract.

25 The reason my division writes the safety

1 evaluation report is to make sure it is consistent with  
2 what we are doing on new plants, that they haven't set  
3 new policy or the differences that have had between OLS  
4 and ORs, for example, are the way the Standard Review  
5 Plan and the official guidance of the agency has said  
6 those differences should be.

7           We write an SER, send it back over to Darrell  
8 and then the Division of Licensing formally issues an  
9 SER. So up to this point we really haven't been  
10 involved as a technical review staff to give any signals  
11 to GPU on how this review is going. It has been pretty  
12 much between Livermore and GPU to sort out how the plant  
13 compares to what we were trying to require of the  
14 operating plants and get the facts down straight and we  
15 will make the decisions on what is acceptable given the  
16 generic letter that was sent out in early 1981.

17           MR. EISENHUT: That is the distinction between  
18 the technical evaluation report, which is the  
19 terminology we use for a laboratory technical assistance  
20 product which becomes a safety evaluation by the time  
21 the NRC adopts it as its own document. In a way to save  
22 resources we let this process work itself out hopefully  
23 resolving itself as much as possible. Then if there are  
24 many major disputes, the management would sit down and  
25 decide on the issue. It just hasn't gotten there in

1 this case.

2 MR. DENTON: I would like to turn to another  
3 issue on Board notifications if we are complete with  
4 this .

5 COMMISSIONER AHEARNE: Let me just see if I  
6 can understand. The Livermore document that we have  
7 that went out to the Board, that is their final  
8 document; is that correct?

9 MR. DENTON: I wouldn't say it is final. We  
10 keep them involved. We will get another answer in from  
11 GPU.

12 COMMISSIONER AHEARNE: No, I am saying their  
13 final document.

14 MR. EISENHUT: It is their best technical  
15 advice based on the information they have.

16 COMMISSIONER AHEARNE: Well Frank Miraglia's  
17 memo says final technical evaluation report.

18 MR. MATTSON: Subject to new information  
19 coming back from the licensee.

20 COMMISSIONER AHEARNE: Yes. I was just trying  
21 to get at that I think somebody described that we get a  
22 draft report and send it to the licensee.

23 MR. EISENHUT: No.

24 MR. MATTSON: I know what I meant by using  
25 draft.

1 MR. EISENHUT: Yes, I know what you meant.

2 MR. MATTSON: I meant draft in the sense that  
3 the licensee says Dear Livermore, you have misunderstood  
4 my plant. It is really the following. Then we would  
5 send it back to Livermore to see how that would make  
6 them change their review.

7 MR. EISENHUT: But we do get a draft TER which  
8 we iterate ourselves.

9 COMMISSIONER AHEARNE: But this document is  
10 the same that Frank has called final, the same one you  
11 called draft?

12 MR. MATTSON: The same one I just called a  
13 draft in the sense I just explained.

14 COMMISSIONER AHEARNE: Then that is what on  
15 the 16th was sent out to the licensee?

16 MR. MATTSON: Yes, standard operating  
17 procedure.

18 CHAIRMAN PALLADINO: Did you have more?

19 MR. DENTON: Yes. I did want to mention Board  
20 notifications because in looking at this case I had an  
21 opportunity to go back and look at how we had handled  
22 this Board notification. What I found was that we sent  
23 the original report that came in to the Appeal Board on  
24 November 19th I believe. We did not send it the  
25 Commission at that time.

1           Then Darrell asked Roger and Dick Vollmer to  
2 do an evaluation of it and then that later was sent down  
3 to you as Board Notification 118A.

4           COMMISSIONER GILINSKY: Let's see, when you  
5 send something to the Boards we do not automatically get  
6 a copy?

7           MR. DENTON: That is what I wanted to get  
8 into. Our practice has been that we send Board  
9 notifications to the appropriate Board. In this case  
10 when we do have a Board notification issue, the issue  
11 comes up within the staff where are we litigating this  
12 issue. Well, we are litigating feedwater issues and  
13 auxiliary feedwater and we are providing testimony and  
14 affidavits and this kind of thing to the Appeal Board.

15           So I asked the staff to go back and look at  
16 the Board notifications in TMI during the past year.  
17 What you find then is in this table before you. I  
18 wanted you to focus on this and perhaps provide some  
19 additional guidance.

20           Of these 14 notifications in 1982, nine of  
21 them went to the Atomic Safety and Licensing Appeal  
22 Board only. Now that is because the standard practice  
23 for the past few years has been that you inform the  
24 Board of Board notifications where you are actually  
25 litigating that issue, whether that is the first Board,

1 the Appeal Board or the Commission. So if issues are  
2 before the Commission we notify you as the sitting Board.

3 So in this case where you have undertaken an  
4 immediately effectiveness review it has gotten somewhat  
5 fuzzier. We did notify you of some of the issues you  
6 will notice in this case but not all. So I raise it as  
7 a question of how to draw the line, if one should be  
8 drawn, in your immediately effectiveness reviews because  
9 I don't think we have done anything different in TMI  
10 than we have done in other proceedings.

11 COMMISSIONER GILINSKY: Wouldn't it be  
12 simpler just to send a copy to the Commission and a  
13 copy to the Appeal Board or Licensing Board if that case  
14 is before them or whether that specific issue is before  
15 them or not?

16 MR. DENTON: That might be the simplest answer  
17 and I do have Ed Christenbury here today to maybe  
18 describe this practice, or we could change it if you  
19 like.

20 COMMISSIONER GILINSKY: Is there any  
21 difficulty with that?

22 CHAIRMAN PALLADINO: There may be, yes.

23 MR. CHRISTENBURY: Commissioner, the Board  
24 notification process, as you are probably familiar with,  
25 has evolved over a period of time. We reassessed it a

1 couple of years ago, the concern being expressed  
2 primarily by the Appeal Board, but others, that they  
3 were being innudated with more than they needed to know.

4           If they had a narrow issue before them, or say  
5 on a sua sponte review they are simply reviewing two  
6 issues, they indicated they did not want to be innudated  
7 with matters that were unrelated to any issues on appeal  
8 or any issues that they were looking at.

9           So about two years ago a procedure was  
10 developed with input from the Commission which revised  
11 the procedures so that, as Harold indicated, the Board  
12 notifications are sent to the Board that is considering  
13 the matter on the merits and they relate I can't say  
14 exclusively to the issues in the proceeding because the  
15 policy statement that NRR put out says that, for  
16 example, in CL proceedings they will relate to matters  
17 that may be material or relevant to issues in the  
18 proceeding or issues that could raise a new issue. In  
19 amendment proceedings the Board notification relates  
20 only to those issues in the proceeding.

21           COMMISSIONER AHEARNE: Well, Ed, as I recall,  
22 the Boards said yes, they are being innudated, but the  
23 conclusion wasn't don't send us things. As I recall,  
24 their conclusion said staff, why don't you review those  
25 documents, do an extract and tell us what is important

1 about it.

2 MR. CHRISTENBURY: Well, it was certainly as  
3 you indicate. They did ask for us not to send them just  
4 the questions but to give them the solutions as well.  
5 But if you recall, in the North Anna decision by the  
6 Appeal Board, in fact there they asked us, they said  
7 what was the relevancy of the Board notification we sent  
8 to the issues they had before them. So that was  
9 somewhat of the genesis of the process.

10 COMMISSIONER AHEARNE: And now as I recall,  
11 the direction was that you people had pointed out  
12 correctly that you can't take all the staff time that is  
13 required to do a detailed analysis of each of these and  
14 still make the timeliness requirement.

15 MR. EISENHUT: There is certainly a tradeoff.  
16 It is a big tradeoff.

17 CHAIRMAN PALLADINO: Ed, is there any problem  
18 in the notifications that are sent to the Board also  
19 being sent to the Commission? Is there some ex parte  
20 problem?

21 MR. CHRISTENBURY: No. It could be handled  
22 any way the Commission wants.

23 CHAIRMAN PALLADINO: No, I was thinking from  
24 the legal standpoint is there any problem?

25 MR. CHRISTENBURY: No, sir. I think there is



1 something to consider. Really the only time the  
2 Commission would be reviewing the matter would be say in  
3 a typical operating license proceeding where you are  
4 doing your immediate effectiveness review. There is a  
5 30-day window there where the Commission is reviewing  
6 that.

7 COMMISSIONER GILINSKY: Well, except everthing  
8 is before us at all times and we can step in at any time.

9 MR. CHRISTENBURY: That is certainly correct.

10 COMMISSIONER AHEARNE: We read everything that  
11 comes up, all of us ---

12 (Laughter.)

13 CHAIRMAN PALLADINO: Why don't we let Ed  
14 finish.

15 MR. CHRISTENBURY: What I was starting to say  
16 was except for that 30-day window where you are  
17 considering on immediate effectiveness, the Commission  
18 would not consider a case unless someone petitions for  
19 review and the Commission determines that it presents a  
20 novel question of law, fact or policy and you would  
21 accept it for review. Otherwise, the Appeal Board's  
22 decision would be the ---

23 COMMISSIONER GILINSKY: That is all very true,  
24 but I think you ought to let the Commission decide that.

25 MR. CHRISTENBURY: Certainly whatever the

1 Commission desires can be accomplished.

2 CHAIRMAN PALLADINO: I wouldn't rush into that  
3 because I am not sure that we want to decide on every  
4 issue of whether or not we want to consider it or do  
5 something about it.

6 COMMISSIONER GILINSKY: The choice is whether  
7 you have the piece of paper.

8 CHAIRMAN PALLADINO: Well I wonder if we are  
9 not getting a little farther afield from the purpose of  
10 this meeting because I think we are touching on a  
11 generic problem. I don't mean that it is unimportant.  
12 I think it is very important, but I don't believe we  
13 have the necessary background to treat it in  
14 depth.

15 I was interested in how can you tell from this  
16 table what was sent to the Commission and what was not?

17 MR. DENTON: That is why I brought it up, Mr.  
18 Chairman.

19 COMMISSIONER GILINSKY: Well, I think we do  
20 need to decide whether we want copies of these  
21 notifications or not.

22 CHAIRMAN PALLADINO: We are not prepared to do  
23 that today.

24 MR. DENTON: I wanted to be sure you knew  
25 which ones you didn't get in this case since this has

1 raised this issue, and it is column labeled  
2 "Applicability" that shows who it went to. So on the  
3 first item on the table it went to the Atomic Safety and  
4 Licensing Board because at that time the cheating issues  
5 were still before the lower Board. So that is why that  
6 notification was served on just the lower Board.

7 Then you move up to the second item on the  
8 list and you notice it was served on all B&W Boards, if  
9 there were any, plus the Atomic Safety and Licensing  
10 Appeal Board for TMI. So where we served it on the  
11 Commission you will find the Commission listed then  
12 under the "Applicability" column.

13 The reason for providing this is to give you a  
14 full background on what Board notifications have  
15 occurred in 1982 and you can see the ones that you  
16 received and the ones that you didn't.

17 CHAIRMAN PALLADINO: Now, let's see, I found  
18 the accident precursor report.

19 MR. DENTON: That was served on the Appeal  
20 Board in the case of TMI-1 and served on the Commission  
21 in the case of Susquehanna and Diablo Canyon. You did  
22 receive some of these because you were sitting on other  
23 cases.

24 CHAIRMAN PALLADINO: The next one I see is  
25 semi-scale test and that was Diablo Canyon and Summer.

1 MR. DENTON: Once again, that was served on  
2 the Appeal Board since they have this issue under  
3 jurisdiction and then served on the Commission because  
4 you were looking at several other r lated cases.

5 COMMISSIONER AHEARNE: These are only TMI-1  
6 Board notifications.

7 MR. DENTON: Yes, this is only the TMI-1 Board  
8 notification. I think in total we have served 118 items  
9 over the last year on all Boards.

10 CHAIRMAN PALLADINO: Now on the TMI-1 I see  
11 the one on seismic capability of the auxiliary feedwater  
12 system.

13 MR. DENTON: Well, when it first came in we  
14 served it on the Appeal Board.

15 CHAIRMAN PALLADINO: I understand. I am just  
16 trying to see which ones have you served on the  
17 Commission relative to TMI-1.

18 COMMISSIONER AHEARNE: These are all TMI-1.

19 CHAIRMAN PALLADINO: I am sorry, but I don't  
20 understand yet.

21 COMMISSIONER GILINSKY: Well, no, this is for  
22 the Commission and this is for the Commission.

23 CHAIRMAN PALLADINO: But it wasn't for the  
24 Commission on TMI-1.

25 COMMISSIONER GILINSKY: Yes.

1           CHAIRMAN PALLADINO: That is what I am  
2 asking. I was first told that, for example, on the  
3 accident precursor report, I said now the Commission got  
4 that, and you said no, we got it only on Susquehanna and  
5 Diablo Canyon.

6           MR. DENTON: That is correct.

7           MR. MATTSON: Somebody got it on TMI-1 though.

8           CHAIRMAN PALLADINO: Well, wait a minute, but  
9 did the Commission get the accident precursor report for  
10 TMI-1?

11          MR. DENTON: We didn't send you one labeled  
12 TMI-1. We sent you reports labeled Susquehanna and  
13 Diablo Canyon.

14          CHAIRMAN PALLADINO: The only ones I see here  
15 that relate to TMI-1, and I was trying to find them, is  
16 first the seismic capability of auxiliary feedwater  
17 systems, ACRS Etherington on PWR flow blockage ---

18          COMMISSIONER AHEARNE: Did you miss semiscale  
19 test?

20          CHAIRMAN PALLADINO: Semiscale. I did not  
21 interpret that we got it for TMI-1.

22          MR. DENTON: We have become sensitive as you  
23 have gotten to the last days of this decision that while  
24 the ordinary practice was to serve it on the Board, the  
25 things we have talked to you about we thought you would

1 be interested in. So we have started sending you more  
2 of these just to keep you informed on them. That is why  
3 on the second page you have gotten almost all of the  
4 items, whereas not on the first.

5 CHAIRMAN PALLADINO: Harold, my question is  
6 very simple and I am not saying it is right or wrong,  
7 but which ones of these were we served as relating to  
8 TMI-1? It is not obvious from reading this.

9 MR. DENTON: Unless it says Commission with  
10 nothing in parentheses, or Commission with TMI in  
11 parentheses, you were not served that.

12 COMMISSIONER GILINSKY: There are about four  
13 of them.

14 MR. DENTON: So you were served the last five  
15 of these items formally on TMI.

16 COMMISSIONER AHEARNE: I understand when you  
17 send it to the Board it makes a difference and you put  
18 in parentheses "plant" because there are different  
19 Boards and you want to make sure it gets to the right  
20 Board.

21 MR. EISENHUT: Let me explain the nomenclature  
22 here. It is a tracking system to know what is where at  
23 what point in time.

24 COMMISSIONER AHEARNE: No, I understand that.

25 MR. EISENHUT: For example, when I sent the

1 precursor study to the Commission on Susquehanna and  
2 Diablo Canyon in the heading I knew it was there and it  
3 would be pointless for me to send it back ---

4 COMMISSIONER AHEARNE: That is the precursor.

5 MR. EISENHUT: That is it. There is no other  
6 one.

7 COMMISSIONER AHEARNE: That is right. So it  
8 is the single precursor.

9 MR. DENTON: So you have it even though we  
10 didn't label it TMI-1.

11 CHAIRMAN PALLADINO: When I get something that  
12 says Summer I think of it as Summer. So if it has  
13 broader applications it certainly would be nice for you  
14 to identify them. Some are obvious and some are not.

15 COMMISSIONER AHEARNE: That is true.

16 MR. DENTON: We have tried to do that and it  
17 may not be serving the Commission's interest. The  
18 policy has been that we serve it on whichever Board the  
19 issue is pending under adjudication and we served it on  
20 all the other parties to the proceeding. That is why I  
21 wanted to flag that because a number of these issues  
22 like emergency planning we know of the Commission's  
23 interest and we are discussing it or we think that you  
24 are interested in it. So here of late we have started  
25 serving these on you directly in the TMI proceeding. If

1 you would like to continue that, that is what we need to  
2 know today.

3 CHAIRMAN PALLADINO: I wonder if I might make  
4 a comment. I think there is value in our receiving  
5 them, but they don't necessarily all relate to issues  
6 which concern the immediate effectiveness of the TMI-1  
7 restart. So the issue that comes up and came up when we  
8 got this one was should we investigate it or treat it or  
9 expose it or be briefed by the staff on it to see  
10 whether or not it does apply to our immediate  
11 effectiveness review. I think that is why we undertook  
12 to look at this particular one because there was a  
13 feeling that perhaps it did apply.

14 Now if there are other issues here the  
15 Commissioners feel we ought to treat the same way, I  
16 think we ought to identify them pretty quickly.

17 COMMISSIONER GILINSKY: It seems to me these  
18 things ought to come up and it is the sort of thing that  
19 Jack Zerbe's office ought to take a look at and alert  
20 the Commissioners if they think it has application for  
21 things that are before it.

22 CHAIRMAN PALLADINO: This goes on as a  
23 continuing process while the merit review is going on  
24 and we have the problem of now do we lift the immediate  
25 effectiveness of the shutdown order. We have to know



1 whether or not the Commissioners feel that there are  
2 other issues that ought to be treated and addressed  
3 before we make our immediate effectiveness decision.

4 MR. DENTON: I don't want to complicate the  
5 issue, but in addition to these Board notifications we  
6 are actually adjudicating many of these matters and we  
7 are providing file testimony to some of these Boards  
8 which may be more important than the Board notification  
9 item.

10 OGC is monitoring all this paper and not just  
11 what is filed as a Board notification but what we are  
12 filing as affidavits and ---

13 COMMISSIONER AHEARNE: I think audit is  
14 probably ---

15 (Laughter.)

16 CHAIRMAN PALLADINO: Well, I think if there is  
17 no problem on our getting these things, unless the  
18 Commission wants to deliberate it further, I would say  
19 send them to us.

20 COMMISSIONER AHEARNE: Now in that sending it  
21 to us are you accepting Vic's recommendation that Jack  
22 review them all?

23 CHAIRMAN PALLADINO: I didn't go that far yet.

24 MR. CHRISTENBURY: Mr. Chairman, if I could  
25 seek clarification. Are you suggesting that for just in

1 TMI or all Board notification copies should come to the  
2 Commission?

3 CHAIRMAN PALLADINO: Let me reverse myself.  
4 (Laughter.)

5 CHAIRMAN PALLADINO: I think this is a generic  
6 item that deserves considered Commission treatment and I  
7 suggest we put it on the agenda for separate  
8 consideration.

9 Any more with regard to the Board  
10 notifications and what we were discussing on the seismic  
11 qualification of the emergency feedwater system?

12 (No response.)

13 CHAIRMAN PALLADINO: Well now I understand  
14 that we are to serve these on the parties, or rather  
15 this document and the transcript and ask for any  
16 comments. I was going to suggest that we try to  
17 establish what kind of timetable we want them on. I  
18 don't know if it is feasible to ask for them by the end  
19 of December, but it would seem to me that timewise that  
20 ought to be sufficient.

21 I was interested in whether or not you thought  
22 that was a practical thing to do or did you have some  
23 other suggestion on the timetable?

24 MR. MALSCH: I don't have any specific  
25 suggestion. I think in the past when we have done

1 things of this sort we have issued the transcripts and  
2 asked for comments with a turnaround period usually in  
3 the order of a week, ten days or two weeks. I don't  
4 think we have any set guidelines. I think the end of  
5 December would be consistent with past practice in other  
6 cases and perhaps even the past practice in this case.

7 CHAIRMAN PALLADINO: Would that be reasonable  
8 as far as the Commission is concerned?

9 (Commissioners nodding affirmatively.)

10 CHAIRMAN PALLADINO: Now I think we have  
11 covered the intent or the purpose of this meeting, and  
12 unless there is anything else that should come before  
13 us, I would suggest that we adjourn.

14 (Whereupon, at 2:15 p.m., the meeting  
15 adjourned.)

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NUCLEAR REGULATORY COMMISSION

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

In the matter of: - PUBLIC MEETING - Briefing on Board Notification 82-118  
TMI Seismic Capability of the Auxiliary Feedwater System

Date of Proceeding: December 17, 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.

Mary C. Simons

\_\_\_\_\_  
Official Reporter (Typed)

Mary C Simons

Official Reporter (Signature)

TMI-1

1982

BOARD NOTIFICATIONS

DIVISION OF LICENSING  
BOARD NOTIFICATION TRACKING SYSTEM  
12/17/82

SUBJECT*****	ORIGINATOR		DL	APPLICABILITY	DL	AD	BN		FOLLOWUP
	NAME/ ORGNZTN***	LETTR DATE	DATE (LOGIN)		MEMO DATE	ACTION (NAME)***	*NO.**	**DATE** (LOGOUT)	
TMI-1 RESTART (CHEATING ISSUE)	R. JACOBS	01/11	03/08	ASLB/TMI-1	03/11	NOVAK	82-21	03/15	NO
B&W SMALL BREAK LOCA LANL TRAC CODE ANALYSIS	MATTSON	06/18	06/21	ALL B&W & TMI-1 ASLAB/TMI-1	06/30	NOVAK TEDESCO	82-65	07/09 SSER #1	NO
NRC POSITION ON FEED AND BLEED - TMI-1	MATTSON, THOMPSON	07/01	07/06	ASLAB/TMI-1 ASLAB/RANCHO SECO	07/20	AD/OR	82-71	07/27 07/30	NO NO
ACCIDENT SEQUENCE PRECURSOR PROGRAM REPORT	TEDESCO, HANAUER	07/08	07/12	CPS, OLS, MAINE YANKEE, ASLAB(TMI-1), ASLAB(RANCHO SECO), COMMISSION(SUS- QUEHANNA & DIABLO CANYON)	07/15	AD/OR, AD/L, & EISENHUT	82-75	07/21 08/09 08/09	NO NO NO
INSP. RPT. 82-04, NOTICE OF VIOLATION (INADEQ VENT. SYSTEM MAINTENANCE)	LAINAS, JACOBS	08/02	08/03	ASLAB/TMI-1	08/06	AD/OR	82-83	08/13	NO
INSP. RPT. 82-07, NOTICE OF VIOLATION (TRAINING EXAMS)	JACOBS	08/03	08/03	ASLAB/TMI-1	08/06	AD/OR	82-84	08/17	NO
SEMISCALE TEST	MATTSON	08/30	09/08	PWRS, ASLAB/TMI-1 COMMISSION(FNP, DIABLO CNYN, & SUMNER)	09/09	AD/L AD/OR EISENHUT	82-93	09/24 09/14 09/24	YES YES YES

TMI-1 RESTART HEARING (SEMISCALE FEED & BLEED TEST RESULTS	MATTSON	10/19	10/20	PWRS, ASLAB/TMI-1, COMMISSION(FNP, DIABLO CANYON, & SUMMER)	10/21	AD/OR, AD/L, & EISENHUT	82-107	10/22 11/10 11/10	SFE 82-93 SEE 82-93 SEE 82-93
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SUBJECT*****	ORIGINATOR		DL	APPLICABILITY	DL	AD	BN		FOLLOWUP
	NAME/ ORGNZTN***	LETTR DATE	DATE (LOGIN		MEMO DATE	ACTION (NAME)***	*NO.** (LOGOUT)	**DATE**	
TMI-1 - SEISMIC CAPABILITY OF AFW	LAINAS	11/10	11/10	ASLAB/TMI-1	11/19	LAINAS	82-118	11/22	NO
TMI-1 - SEISMIC CAPABILITY OF AFW	MATTSON	12/03	12/06	ASLAB/TMI-1, COMMISSION	NONE	EISENHUT	82-118A	12/09	NO
ACRS MEMBER H.ETHERINGTON ON PWR FLOW BLOCKAGE	MATTSON	12/03	12/03	ALL PWR CPS & OLS, RANCHO SECO, ASLAB/TMI-1, & COMMISSION(TMI-1 & DIABLO CANYON)	12/06	LAINAS NOVAK	82-125	12/06	NO
SUPPLEMENT TO ETHERINGTON EVALUATION	FRALEY	12/07	12/09	ALL PWR CPS & OLS, RANCHO SECO, ASLAB/TMI-1, & COMMISSION(TMI-1 & DIABLO CANYON)	NONE	EISENHUT	82-125A	12/09	NO
AIRPLANE CRASH COMPUTATIONS	LAINAS	11/30	12/08	ASLAB/TMI-1, COMMISSION(TMI-1)	NONE	EISENHUT	82-129	12/09	NO
INSP.RPT. 82-12, EMERGENCY PREPAREDNESS EXERCISE INSPEC-	MARTIN	12/03	12/15	ASLAB/TMI-1, COMMISSION(TMI-1)	NONE	EISENHUT	82-131	12/16	NO