

BEFORE THE FACT FINDING TASK FORCE  
OF THE NUCLEAR REGULATORY COMMISSION

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Re: :

Davis-Besse event :

of June 9, 1985 :

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P R O C E E D I N G S

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Proceedings before the Nuclear Regulatory  
Commission Fact Finding Task Force in regard to the  
aforementioned event, held at Conference Room 209,  
Davis-Besse Nuclear Plant, Oak Harbor, Ohio,  
commencing on Wednesday, June 19, 1985, at 11:22  
o'clock a.m.

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1 PRESENT:

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3 J. T. Beard

4 E. Rossi

5 Walt Rogers

6 Nick Jackiw

7 John Wood

8 Steve Wideman

9 Larry Grime

10 Dennis Mominee

11 Jim Helle

12 Matt Raynes

13 Tom Hiss

14 Phil Hildebrandt

15 Randy Kies

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Wednesday Morning Session

June 19, 1985

11:22 o'clock a.m.

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P R O C E E D I N G S

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MR. ROSSI: We're back then to talk about the action plan on the turbine bypass valve. And I guess, let me start. I got a couple --

MR. BEARD: The record should show that the steno has been given a copy to be placed in the record. And you want to mention the exact title of the document or something so it can be identified?

MR. ROSSI: You'll identify it as an exhibit, right? Fine. I just wanted to point out that this is one where I understand Region 3 is going to provide us pictures of the valve. I just talked to your senior resident, Walt Rogers -- oh, you're right there. I didn't see you. Okay. And he agreed to get us some pictures of it, and they'll be following that.

And also this is one where saving the broken parts will really be a meaningful item of what you need to do. And then I have a general

1 question on water hammer. Presumably water hammer  
2 is what caused this. And to what degree have you  
3 reviewed the industry-wide, the INPO and NRC IE  
4 Information Notices on this general subject of water  
5 hammer, because, you know, there have been a lot of  
6 things put out to give people the benefit of  
7 descriptions of experience with water hammer. And  
8 have you done that at this plant? I mean, maybe not  
9 as part of this action plan, but has that been done?

10 MR. WOOD: I'm not sure we have the right  
11 people in the room that could answer that at this  
12 point. We have dealt with some water hammer  
13 situations at the plant previously. We have a  
14 auxiliary feedwater header whereby we had some  
15 review of industry problems and ended up putting an  
16 external ring header on our steam generators as  
17 opposed to our internal header, and that got us  
18 quite involved with some hammer problems and some  
19 industry discussion at that point.

20 And we currently have active -- I'm not  
21 sure water hammer is the right term, but a water  
22 phenomenon on the aux. feed pump steam supply lines.  
23 To answer your specific questions, I'm not sure that  
24 we have the people in the room that could fully

1 address that.

2 MR. WIDEMAN: We do on IE Information  
3 Notices as a part of our policy here is to provide a  
4 written evaluation of that information notice and  
5 how it pertains to Davis-Besse if it does.

6 MR. ROSSI: Okay. Then I had on Page 3  
7 one specific question on hypothesis No. 2, and  
8 that's the valve internals being assembled in the  
9 fashion to inhibit proper operation and the fact  
10 that you indicate that the most likely cause of the  
11 problem was a combination of hypothesis 1 and 2.  
12 And I was wondering if you could expand on what you  
13 believe the involvement of item No. 2 to have been  
14 in this?

15 MR. WOOD: Okay. I'd like to direct your  
16 attention to the other side of the table who are the  
17 people who will be answering questions regarding  
18 this action plan. We have starting in the corner  
19 there in the striped shirt Matt Raynes, Tom Hiss,  
20 Phil Hildebrandt, who you have met, and Randy Kies.  
21 Just for further introduction, Matt Raynes is in our  
22 maintenance department, Tom Hiss in our engineering  
23 department, Phil, of course, consulting, and Randy  
24 Kies from Bechtel Corporation.

1 MR. ROSSI: Could one of you then expand  
2 on what you believe the involvement of the valve  
3 internals being assembled in a fashion to inhibit  
4 proper operation, exactly what that means with  
5 respect to this event?

6 MR. RAYNES: Okay. Page 2 on hypothesis,  
7 on visual inspection of the valve, the main things  
8 that we got for differences are mentioned here and  
9 on the letter of the walkdown. At this time we  
10 don't have the right drawings to address this  
11 properly. We don't have the dimensional drawings.  
12 They're coming in from Fisher.

13 But for the basis of our hypothesis now,  
14 we're going with the evidence that we see the  
15 biggest difference between this valve and any others,  
16 and the other five.

17 MR. BEARD: Excuse me, are you referring  
18 to the statement where it says the deals with the  
19 valve stem thread dimension and continues on to  
20 mention the pin connector was in contact with the  
21 sleeve assembly, is that what you're referring to?

22 MR. RAYNES: Yes, I am.

23 MR. ROSSI: So you believe that that might  
24 have been a factor in damaging the valve where this

1 valve got damaged and others didn't; is that --

2 MR. RAYNES: Yes, yes.

3 MR. ROSSI: Okay. I understand, I think,  
4 what you mean. J.T.

5 MR. BEARD: This turbine bypass valve  
6 write-up or action plan, I guess we're calling them,  
7 seems to have in the summary of data some  
8 information about when the thing may have failed and  
9 under what conditions. I'm just trying to  
10 understand it because a lot of this is new  
11 information to me personally.

12 We had some perception that maybe a bypass  
13 valve related to the dearator spray regulator was  
14 open, and I guess I had the perception that may have  
15 contributed to the source of water that would have  
16 ultimately led to a water hammer. And I guess I'd  
17 be curious, it's not really a comment, but I'm just  
18 curious if you could sort of help me understand what  
19 we are talking about here.

20 MR. RAYNES: All right. On the first  
21 aspect, the power of the desuperheater backing up  
22 into the line, on inspection of the PNIDs and the  
23 drawings, that is on the other header, that  
24 connection.



1 MR. BEARD: On the other header.

2 MR. RAYNES: Yes. So that would be on the  
3 B header. This is on the A header. So we had to  
4 dispel that.

5 MR. BEARD: Now ruled out as the cause.

6 MR. RAYNES: Right.

7 MR. ROSSI: Okay. So now we're to the  
8 point where we aren't sure what the basic cause of  
9 the water hammer was.

10 MR. RAYNES: Under investigation with Phil,  
11 he can fill you in on some of the information we  
12 have correlated. He can probably tell you more  
13 about looking at the water hammer.

14 MR. HILDEBRANDT: The sequence of events  
15 that appears to have occurred, the MSIVs were closed.  
16 The header having the turbine bypass valves on them,  
17 on it, was isolated and cooling. We have  
18 temperature data which shows the A header went down  
19 to about 140 degrees below steam temperature. The B  
20 header, which was the one with the undamaged valves,  
21 stayed up close to steam temperature. Why the  
22 difference we have no answer at this particular  
23 point.

24 Upon deciding to further cool the plant



1 then to go to Mode 5, the bypass around MSIV is  
2 opened, a small line, one inch line. The drains are  
3 closed to facilitate pressurizing the turbine bypass  
4 header. And steam then is admitted. And presumably  
5 the hypothesis is that that steam condensed. We had  
6 water sitting in the header.

7 The drains are reopened by the procedure  
8 prior then to opening turbine bypass valves. We  
9 only have a suspicion at this point, but believe at  
10 least one of the two drains is not operable, and  
11 another one may or may not be operable. So there is  
12 a possibility of water remaining in the header. And  
13 at the time there when the turbine bypass valve 13A2  
14 was opened, we believe the water hammer occurred at  
15 that point in time.

16 MR. ROSSI: Okay. Now, so now the issue  
17 on what caused the water hammer really may be back  
18 with a couple inoperable drains?

19 MR. HILDEBRANDT: Yes, sir.

20 MR. ROSSI: Have those drains been added  
21 to the quarantine list? I mean, I assume there's  
22 going to be a troubleshooting --

23 MR. BEARD: May want to ask the licensees  
24 instead of the consultant.

1 MR. ROSSI: I'm asking the room.

2 MR. WOOD: No, they have not been. They  
3 have not altered the equipment freeze list. And, in  
4 fact, we had hoped to discuss, I guess, the turbine  
5 bypass valve arrangement in the context of removing  
6 it from the freeze list with our impression that the  
7 bypass valve failure occurred in a time frame  
8 sufficiently removed from the sequence of events  
9 that were, I guess, under close scrutiny of the  
10 other activities that are ongoing that it justified  
11 removing it from the equipment freeze list.

12 MR. ROSSI: Well, I guess I would say that  
13 it shouldn't be. My feeling is you've got the plan  
14 here. You ought to keep the records, find out what  
15 caused the water hammer. But my feeling is the  
16 drain valves -- I assume you're going to do a  
17 troubleshooting of the drain valves. I mean, it may  
18 actually be a problem with the drains just didn't  
19 work.

20 MR. RAYNES: They're actually steam traps.

21 MR. ROSSI: Or steam traps actually just  
22 didn't work, and that may be the problem. I think  
23 in the spirit of finding out what the root cause of  
24 all the things that were relatively closely

1 associated with the transient are that you ought to  
2 add those to the quarantine list and do your  
3 troubleshooting the same way you're doing this, the  
4 other troubleshooting for the equipment.

5 As for this particular plan, you got it  
6 developed. And the only thing that I would see that  
7 taking it off the quarantine list might do is it  
8 might lose the careful records and the pedigree of  
9 doing the troubleshooting so that when you get done,  
10 we don't have an explanation to what happened. And  
11 I don't feel comfortable with that.

12 MR. WIDEMAN: I guess our point was that  
13 it was after the event and did not cause an  
14 initiation of the event or significantly contribute  
15 to the event, so that's what our reason was.

16 MR. BEARD: I think you're right, that it  
17 may be, the safety significance of this occurrence,  
18 the bypass valve failure may not be large, but  
19 it is certainly a part of the event. And it, if  
20 nothing else, added confusion to the things that the  
21 operators had to deal with. And, you know, in that  
22 context, that the safety significance of it may be  
23 small, but I'm not certain in understanding the  
24 totality of the event that it ought to be dropped

1 in terms of following it carefully.

2 MR. ROSSI: Yes. That's my feeling too.  
3 I think in looking for root causes around the  
4 circumstances of this event, that one of the things  
5 we're going to do is look at the root cause that you  
6 find with each of the number of pieces of equipment  
7 that failed or worked improperly, and then there's  
8 also going to be a careful look by this team at the  
9 totality of the failures and problems that you had  
10 as to the root cause of those problems.

11 I mean, is there a maintenance problem  
12 that had affected the totality of the equipment.  
13 And that's why I think you ought to keep this on the  
14 list and add the drain lines to the list, do these  
15 things carefully so that we know, you know, the root  
16 cause of the totality of problems as well as the  
17 root cause of each individual one.

18 MR. WOOD: Okay. We will identify the  
19 steam traps by number then, add those to the  
20 equipment freeze list.

21 MR. BEARD: So you'll add those to the  
22 freeze list?

23 MR. WOOD: Yes.

24 MR. BEARD: So we would expect to see in

1 some short period of time some revised equipment  
2 freeze list.

3 MR. WOOD: Yes. And we will inform the  
4 equipment supervisor.

5 MR. HELLE: Was an alternative to that  
6 possibly to include the inspection of other steam  
7 traps and drain valves associated with the line and  
8 the valve in the -- in the troubleshooting and  
9 investigation plan, and make it a part of the  
10 troubleshooting program for that turbine bypass  
11 valve rather than adding the specific items to the  
12 thing?

13 MR. ROSSI: I'd be perfectly happy with  
14 that. That would have the advantage that what we  
15 really want is you to keep careful records of what  
16 you find there. And I'm not sure that we need to  
17 get into the details of what you're going to do with  
18 the drains, but that ought to be a part of this.  
19 And so that's fine with me.

20 MR. HELLE: To include it as part of the  
21 investigative work and troubleshooting work  
22 associated with the bypass valve.

23 MR. BEARD: I think we would be  
24 comfortable if on your own you folded that into this

1 program, and we would be provided a copy of that  
2 revised thing. But I don't see at this point it  
3 would be necessary to convene another meeting to  
4 discuss it.

5 MR. HELLE: Okay.

6 MR. ROSSI: That sounds good.

7 MR. BEARD: Along that same line, would it  
8 be then your intent to include a revised action plan  
9 addressing the matter of the temperatures on the  
10 headers that the gentleman referred to earlier of  
11 apparently for reasons that are unknown at the  
12 moment that temperature did fall for some 140  
13 degrees, and I get the gist that the condensation  
14 that may have resulted could have been the source of  
15 the water that led to the water hammer. Is that  
16 your intent or -- I do not want to put words in your  
17 mouth.

18 MR. HELLE: No. I think that that would  
19 be a good idea, to include the observations that  
20 Phil made regarding that header differential  
21 temperature in the possible generation -- or being  
22 the source of the condensate would be a good idea.

23 MR. BEARD: Because this ties right into a  
24 comment I was going to make a little later but it

1 seems appropriate to bring it up now.

2 MR. HELLE: So we'll include those two  
3 items in the discussion of the header differential  
4 temperature and the possible development of  
5 condensate in the one header, and also include in  
6 the troubleshooting action plan the investigation of  
7 the traps and drains associated with this valve.

8 MR. WOOD: That's correct.

9 MR. ROSSI: J.T., do you have any other  
10 comments on the plan?

11 MR. BEARD: Let's see. I guess we got  
12 into this discussion because I was intrigued by this  
13 additional information about why it may have  
14 occurred or precisely when and whatnot, but let me  
15 go on here.

16 MR. RAYNES: I'd like to just add  
17 something on the reopening of the traps and drains.  
18 We haven't had a chance yet to talk to the operators  
19 on exactly how they do that, so that would be  
20 another -- something to look at, you know. If one  
21 steam trap on that header was working, then that  
22 might be sufficient drain-off, but if they had not  
23 opened it prior to actuating the valve, that might  
24 be something to take into consideration.



1 MR. ROSSI: That would be a part I think  
2 of what you do in your action plan, to find the root  
3 cause of the problem with the valve.

4 MR. BEARD: Let's see. I guess over on  
5 the attached detailed action plan, there are two  
6 steps. First one dealing with the disassembly  
7 inspection and comparison to the design information.  
8 It seems to me that in the intent of retaining  
9 documentation or providing documentation of the  
10 damage here, I wanted to ask if it was your intent  
11 to take photographs started before and at stages  
12 during the disassembly process?

13 MR. RAYNES: Yes. We already have  
14 contacted the photographer for that, and we have  
15 a -- going to keep a log.

16 MR. ROSSI: And you'll save the broken  
17 parts so that they can be --

18 MR. WOOD: Further analyzed if need be.

19 MR. WIDEMAN: J.T., I was down looking at  
20 the investigative work that was going on on AF 608,  
21 and we did have a photographer there. In the time  
22 that I was there, which was approximately 45 minutes,  
23 I think he took approximately 10 to 15 --

24 MR BEARD: 40.

1 MR. WIDEMAN: No, not quite that many.  
2 Maybe 10 to 15 different views of the setup of the  
3 troubleshooting. And I wasn't there when they  
4 initially came down, but I -- again, there was no  
5 real damage on that valve, so --

6 MR. BEARD: I was just coming from the  
7 point of view that if my memory is correct, the  
8 general guidelines that we're working under had some  
9 language in there that spoke to the idea of taking  
10 photographs and recording the as-found conditions  
11 through photographs. And I didn't see that  
12 mentioned in here. And I wanted to make certain  
13 that that's part of your plan. We could have  
14 avoided this entire question if there had been some  
15 words here about photographs.

16 MR. WIDEMAN: All right.

17 MR. BEARD: The second part of that  
18 question on item No. 1 is really a detailed comment,  
19 but it would seem to me that if I were the person  
20 involved in this disassembly, that I would want to  
21 know which design and assembly information documents  
22 that the person who wrote this plan was referring to.  
23 What did he have in mind, and how do I go about  
24 carrying this thing out.

1           And I'd think you might want to consider  
2 being a little bit more specific in terms of what  
3 you had in mind as best you can. I understand you  
4 said something about some more drawings are coming.  
5 But give the guy as much help as you can.

6           MR. RAYNES: Okay.

7           MR. BEARD: Don't be presumptuous that he  
8 knows everything that we know. Those are the only  
9 comments that I had.

10          MR. ROSSI: Walt?

11          MR. ROGERS: I guess I've got a couple.  
12 What made this event different than any other time  
13 you've had closure of the main steam isolation  
14 valves and then going back and going through your  
15 normal cooldown that would have caused the water  
16 hammer. Do you all have any -- from what you've  
17 seen or what you've -- if you've interviewed the  
18 operators, talked to them, find out if there was  
19 anything different in the way they did business this  
20 time than the other time?

21          MR. RAYNES: In the interviews on Sunday,  
22 they said that they had gone by the procedures this  
23 time. And I asked if there's any way of going back  
24 and finding out when the last time they used that

1 and the last time they did it. And they said that  
2 it would take a while to find that, but we could go  
3 back and look. I don't know what would make it  
4 different this time, no.

5 MR. ROSSI: Well, Walt brings up a good  
6 point, because I think when we talk about looking  
7 for root causes, that it's one thing to fix the  
8 valve and look at the broken parts and conclude that  
9 that was caused by water hammer, but I'm not sure  
10 that that's really the root cause. That's just a  
11 step on the -- that's something that has to be done.

12 And that may be the root cause for the  
13 valve problem, but you really ought to be working  
14 back to the previous root cause, which is what  
15 caused the water hammer on this particular event and  
16 how do you make sure that it doesn't occur again.  
17 And so we're talking about adding the drain valves,  
18 adding the question of what happened with the  
19 temperatures of the lines, and that. And you really  
20 got to direct this thing, focus it to the real root  
21 cause of why did you get a water hammer in the first  
22 place during this event that caused the valve damage.

23 MR. BEARD: I was just going to say in  
24 follow up to what Ernie said, you could find out. I

1 mean, it's possible to find out that there's a  
2 procedural improvement that would be appropriate.  
3 And I think that in the general tone of doing a  
4 change analysis, which I understand you folks had  
5 presented to us as your general approach, that the  
6 procedures involved here may be very relevant.

7 MR. HILDEBRANDT: Two observations. One,  
8 the time before cooldown via the turbine bypass was  
9 accomplished is longer than generally encountered in  
10 the plant. That's an observation by the operators.  
11 It was delayed by time taken to reestablish  
12 condenser vacuum which is required for a cooldown  
13 via the turbine bypasses.

14 Secondly, the specific conditions of the  
15 drains may be different, a hypothesis we've already  
16 discussed. And thirdly, the cooling that apparently  
17 occurred on the one header might not have occurred  
18 in the past. We just don't know that. That  
19 information is not readily available.

20 MR. ROGERS: That's also what I'm  
21 interested in. Have you all gone back to look at  
22 previous data to see if this asymmetric cooling was  
23 taken down or this one header dropped down before  
24 the other one or this is normal and the other header

1 actually being a little higher temperature is an  
2 abnormal condition of some sort of weepage or  
3 something like that, keeping that line heated up.

4 I guess I'm kind of concerned about this  
5 abnormal temperature, asymmetric temperature that  
6 you saw in the headers in terms of where it came  
7 from in case it means one of your MSIVs or one of  
8 the --

9 MR. HILDEBRANDT: That's a valid question  
10 that will need to be answered, yes, sir.

11 MR. ROGERS: Was weeping some. Okay.

12 MR. ROSSI: Okay. So you need to get  
13 those into your action plan. I think this action  
14 plan needs some further work before you implement it  
15 to direct it towards the real root cause as well as  
16 the partial root cause of it.

17 MR. BEARD: In terms of we're looking back  
18 at the experience, I think there are several  
19 comments in that area.

20 MR. WIDEMAN: Ernie, are you saying then  
21 that we need to, before we -- we have to get -- run  
22 this through you again before we implement any work?

23 MR. ROSSI: No, I don't feel it has to be  
24 run through us again. I think we've discussed it,

1 and we feel we've gotten your agreement that that  
2 will be done.

3 MR. WIDEMAN: Okay.

4 MR. ROSSI: And, you know, the region is  
5 going to be monitoring the work. And we'll be  
6 ultimately involved in the decision about whether  
7 you found the root problem, so --

8 MR. WIDEMAN: Okay. I just wanted  
9 clarification.

10 MR. ROSSI: We do not want to have it come  
11 back through us again.

12 MR. BEARD: I'd like to follow up on  
13 something I mentioned earlier. I think we've talked  
14 all around it, so I might have skipped over in my  
15 initial comments. On your Page 3 where you list  
16 your hypothesis, the No. 1 hypothesis said water  
17 hammer. Okay. Now, looking forward to the time  
18 that you come back to us and say we've determined  
19 the root cause, all right, would it be your intent  
20 that you would come back and say, okay, the root  
21 cause is water hammer, or would you include in that  
22 explanation, if you would, a discussion of where the  
23 source of water was and what caused it to be a  
24 hammer? I'm particularly interested in how you got



1 to water hammer.

2 MR. WOOD: Yes.

3 MR. BEARD: That would be your intent?

4 MR. WOOD: We would be intending to  
5 describe not only that the valve was damaged by  
6 water hammer, but an explanation as to where that  
7 water hammer was. And then if appropriate later,  
8 corrective actions needed to either prevent it or to  
9 accept it in some fashion. You know, I'm not in a  
10 position at this time to say that we actually had  
11 water hammer for one thing.

12 MR. BEARD: Right.

13 MR. WOOD: And it may show it was not  
14 water hammer but another sound, for instance the  
15 breaking of the valve itself that was heard. So I  
16 guess we've been kind of rolling along assuming that  
17 there is a water hammer out there. And I think the  
18 situation is as such that you can't really go out  
19 and read an instrument that says, yes, you had water  
20 hammer. So it has yet to be proved even that there  
21 was a water hammer.

22 MR. BEARD: You do not have water hammer  
23 instrumentation.

24 MR. WOOD: That's right. That's correct.

1 MR. BEARD: Could we go off the record for  
2 a moment.

3 (Discussion off the record.)

4 MR. ROSSI: We're back on the record now.  
5 And we had, while we were off the record, a brief  
6 discussion of the fact that what we've now learned  
7 about the reasons for the damage to the turbine  
8 bypass valve and what we included in our Sequence of  
9 Events is likely at -- well, highly likely not to be  
10 correct. And we just want to stress the fact that  
11 we need to be told as promptly as possible of any  
12 new information that's found during any of the  
13 troubleshooting or analyses that affects the basic  
14 sequence of events that --

15 MR. BEARD: And the causes.

16 MR. ROSSI: -- that's been issued. And  
17 the licensee was given our Sequence of Events this  
18 morning that was revised after yesterday's meeting.  
19 And so we would like to be informed as quickly as  
20 possible when new things turn up that necessitate  
21 modifying that. I think that's probably enough on  
22 this.

23 MR. BEARD: Well, the only thing I'd like  
24 to add, I'd like that identification to be in an up-

1 front, straightforward way rather than be buried in  
2 other documents.

3 MR. WOOD: Agree.

4 MR. ROSSI: Okay. Why don't we continue  
5 with -- do you have anything else on this document?

6 MR. BEARD: No, I have no other comments  
7 on this document. I think Walt has another one  
8 though.

9 MR. ROGERS: One more. It says that  
10 you talked, and there's been interviews of the  
11 operators in the control room. Were all the  
12 equipment operators AOs, EOs, SROs in the control  
13 room at that time or was there maybe somebody out in  
14 the turbine plant that may have heard something or,  
15 you know, you got all the information from your  
16 operations people right now on this?

17 MR. WOOD: I'll have to direct it to the  
18 end of the table.

19 MR. RAYNES: What we had was Scott Wise  
20 was the one who actually had the most to do with  
21 that system, getting it heated up and everything.  
22 That's who we had. We have not yet talked to any  
23 AOs or --

24 MR. ROGERS: Or check with Scott to see if

1 any of his guys reported back. I think Scott came  
2 in as a support at that point in the event. When  
3 some of the equipment operators may have been in the  
4 turbine plant and heard or just the fact that they  
5 didn't hear maybe something of importance to you in  
6 this case, that during that time frame when they may  
7 have been in an area that you would have expected  
8 them to hear a water hammer and they didn't hear  
9 anything, that in and of itself may help you to draw  
10 maybe a fatigue failure conclusion versus a water  
11 hammer conclusion.

12 MR. HILDEBRANDT: I believe Scott Wise was  
13 the shift supervisor on shift at the time, and -- is  
14 that correct? I believe that's the case. We can  
15 confirm that. The conversation said that he was.

16 MR. ROGERS: Okay.

17 MR. HILDEBRANDT: Okay. And the  
18 observation at the time --

19 MR. WIDEMAN: At 6 in the morning.

20 MR. HILDEBRANDT: The observation -- the  
21 observers then with Scott Wise being in supervision  
22 of the control room, the observation -- the  
23 observers also there was Louie Simon and Bill  
24 O'Connor. We also talked to these other gentlemen.

1 And three of the four, I believe is the count, heard  
2 the loud crack. That's the reported incident  
3 related then as we've discussed of possible water  
4 hammer.

5 MR. ROGERS: I'm just saying there may be  
6 some people out in the turbine building that may  
7 have some other information that could shed some  
8 light on this.

9 MR. HILDEBRANDT: Yes, sir, yes.

10 MR. ROGERS: That's all I'm trying to get  
11 at.

12 MR. HILDEBRANDT: I think for the record  
13 since our head nodding couldn't be heard, our Scott  
14 Wise was the shift supervisor at the time, and we'll  
15 confirm that.

16 MR. ROGERS: Okay.

17 MR. ROSSI: Do you have anything more?

18 MR. ROGERS: No, that's it.

19 MR. ROSSI: Nick.

20 MR. JACKIN: I don't have any other.

21 MR. ROSSI: J.T.

22 MR. BEARD: No. I think there is one  
23 minor thing. It's administrative. We talked about  
24 revision to the freeze list which is documents

1 widely distributed. Do you have any time frame for  
2 when we should expect to see a copy of that?

3 MR. WOOD: This afternoon.

4 MR. BEARD: Fine.

5 MR. WOOD: We have to identify the trap  
6 numbers so that we are clear as to what we're  
7 putting out.

8 MR. ROSSI: Okay. Then we'll expect to  
9 get the revised action plan at some point in time  
10 before you do the work, and, you know, as a record  
11 copy, and to get the revised freeze list. With that,  
12 I think we can close the meeting.

13 MR. BEARD: Stand adjourned.

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15 Thereupon, the proceedings were  
16 concluded at 11:55 o'clock a.m.

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## CERTIFICATE

I, Anne I. McBrayer, a Registered Professional Reporter and Notary Public in and for the State of Ohio, do hereby certify that I took the Proceedings before the Nuclear Regulatory Commission Fact Finding Team and that the foregoing transcript of such proceedings is a full, true and correct transcript of my stenotypy notes as so taken.

I do further certify that I was called there in the capacity of a Court Reporter, and am not otherwise interested in this proceeding.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my seal of office at Columbus, Ohio, on this 20th day of June, 1985.

Anne I. McBrayer  
ANNE I. MCBRAYER RPR and  
Notary Public in and for the  
State of Ohio.

My Commission expires February 3, 1988.



26 12

IT HAS BEEN CONFIRMED THAT SCOTT WISE WAS NOT  
THE SHIFT SUPERVISOR AT THE TIME BEING DISCUSSED.

HE WAS PROVIDING DIRECTION TO OPERATORS INVOLVED  
IN REPRESSURIZING THE TURBINE BYPASS HEADERS AND  
INITIATING COOLING THROUGH THE TURBINE BYPASS VALVES.

27 12

SAME CORRECTION AS FOR PAGE 26, LINE 12

[illegible]