

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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JOINT INTERVIEW OF
LOUIS SIMON AND STEPHEN M. QUENNOZ

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Joint Interview of LOUIS SIMON and
STEPHEN M. QUENNOZ by the Nuclear Regulatory
Commission Fact Finding Task Force, taken before
me, Nicholas A. Marrone, a Registered Professional
Reporter and Notary Public in and for the State of
Ohio, at the Site Emergency Operations Center,
Davis-Besse Nuclear Plant, Oak Harbor, Ohio, on
Saturday, June 15, 1985, commencing at 9:15 o'clock
a.m.

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RUNFOLA & ASSOCIATES (614)445-8477
COMPUTERIZED TRANSCRIPTION

1 PRESENT:

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3 MEMBERS OF THE TEAM:

4 Wayne Lanning
5 Larry Bell
6 J. T. Beard
Ernie Rossi

7 ALSO PRESENT:

8 Mary O'Reilly (TED/Staff Attorney)

9 Stephen Burns (NRC/OELD)

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1 Saturday Morning Session

2 June 15, 1985

3 9:15 o'clock a.m.

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5 MR. ROSSI: We are on the record then.

6 What we are going to be doing is talking
7 with Louis Simon and Steve Quennoz, and we will
8 start by letting each of them tell us what their
9 position is with Toledo Edison.

10 Louis, why don't you begin first.

11 MR. BEARD: Do we want to identify, Mary
12 is in the room upon somebody's request?

13 MR. BURNS: Why don't they each identify
14 themselves first.

15 MR. SIMON: Louis Simon. I'm operations
16 supervisor.

17 MR. QUENNOZ: Steve Quennoz, plant
18 manager.

19 MR. BURNS: Mr. Simon, have you asked
20 someone to attend this interview with you this
21 morning?

22 MR. SIMON: Not directly, no. I mentioned
23 to Steve if he was here I might want him to set in.

24 MR. BURNS: Is Miss O'Reilly here at your

1 request?

2 MR. SIMON: Yes.

3 MR. BURNS: Mr. Quennoz, is Miss O'Reilly
4 here at your request?

5 MR. QUENNOZ: Yes.

6 MR. ROSSI: Okay. Why don't we begin by
7 which of you was the first one to get to the site?

8 MR. SIMON: I was.

9 MR. ROSSI: Why don't you tell us then
10 first when you first heard about the event and then
11 tell us what you did after you heard about it, what
12 you were told about it when you first found out?

13 MR. SIMON: I was called by Bill O'Connor
14 at I think it was about quarter till two in the
15 morning. It might have been five or ten of, I'm
16 not sure. And I had just gotten into bed. And so
17 I got dressed and drove in.

18 When Bill talked to me, he said: We have
19 had a trip, they have had a failure of aux
20 feedwater. They are on PORV HPI cooling. Get in
21 right away. And he hung up.

22 MR. BEARD: He said they were on PORV
23 cooling?

24 MR. SIMON: Yes.

1 So I drove in. When I got near the plant,
2 around the corner, fairly near the plant, I could
3 see some pretty good steam plumes coming out of the
4 roof, and when I got in the parking lot, I was sure
5 they had steam generator heat removal and that aux
6 feedpumps were running. Exhaust was coming out the
7 normal port outside the building.

8 And when I arrived in the gate, the
9 guards informed me that I was to call the shift
10 supervisor immediately. So in the gatehouse, the
11 PPF, I paged Teddy Lehman.

12 MR. BELL: About what time are we talking
13 now, 2:00 or --

14 MR. SIMON: Quarter after maybe. I'm not
15 sure of the exact time. I badged in, but I didn't
16 check when it was.

17 MR. BELL: That's fine. Please continue.

18 MR. SIMON: I talked to Teddy Lehman.

19 MR. ROSSI: This is by phone now?

20 MR. SIMON: On the Gaitronix from the PPF.

21 He said that he wanted to declare an
22 unusual event. And I said, Yeah, that sounds fine
23 to me. I'm coming right up. And I believe that's
24 all the conversation was.

1 I then proceeded into the plant. As I
2 was walking, just before I got into the plant, I
3 noticed the 235 pound header relief valve lift, and
4 it was a little unusual; it looked like a cannon shot.
5 I could see there was a lot of water in the steam.

6 MR. ROSSI: That's a relief valve --

7 MR. SIMON: From an auxiliary steam
8 header. And there was a lot of water came with the
9 initial lift.

10 When I walked into the plant on the 585
11 elevation, there was water running down the wall
12 near the stationary receivers, and I could hear
13 noise but I figured that was water coming out of
14 the discharge relief vents on the 235 header.

15 MR. BEARD: You said you entered the
16 plant on the 585 level?

17 MR. SIMON: Yes, ground level.

18 MR. BEARD: Just generally what equipment
19 is in that area, so you can get me oriented?

20 MR. SIMON: Turbine basement, but not the
21 lower elevations of the basement. It's ground
22 level. The main steamlines are above, the main
23 compressors are there, stairwell leading up to the
24 control room.

1 I went up toward the control room. And
2 I'm trying to think. I met an operator. I think
3 it was Bob Morrison, but I'm not sure. And I asked
4 him if -- to isolate the desuperheat water on the
5 235 pound reducing station and bypass. And I
6 didn't stop, I just kept going and went on into the
7 control room.

8 When I arrived in the control room, Teddy
9 Lehman was there. The STA, Ted Lang was there.
10 Brian Young was at the secondary panel.

11 MR. ROSSI: What was the STA's name again?

12 MR. SIMON: Ted Lang.

13 MR. BEARD: L-a-n-g?

14 MR. QUENNOZ: Correct.

15 MR. ROSSI: Sorry for the interruption.

16 Go ahead.

17 MR. SIMON: Rick Walleman was at the
18 primary panel.

19 I went to the secondary panel area and
20 noted the steam generator levels. I can't swear to
21 where they were. They were were about 50 inches in
22 both generators.

23 Brian Young was standing near the aux
24 feedpump controls. I walked up to him and asked

1 and looked, did he have both aux feedpumps. Both
2 aux feedpumps were running.

3 Brian informed me that he had no control
4 of No. 1 aux feed-pump. He said the equipment
5 operators are in the room controlling it on the
6 trip throttle valve. The No. 2 pump appeared to be
7 at full speed. No. 1 pump was somewhat lower. I'm
8 not sure where it was exactly.

9 Brian also I believe at that time told me
10 that he was feeding No. 1 steam generator with the
11 startup feedpump. I did look down and saw a demand
12 on the startup feed valve for No. 1 steam generator.
13 I glanced at the startup feedpump. Pressures
14 appeared normal, somewhere around 900 or 1000
15 pounds. I'm not sure.

16 MR. BEARD: So at this time then
17 basically when you arrived, all the aux feedpumps
18 were running and startup was still running?

19 MR. SIMON: Yes.

20 I walked over to Rick Walleman and
21 glanced at the RSC narrow range pressure chart and
22 noted it had gone as high as twenty-four hundred
23 pounds and as low as near the bottom of the scale,
24 1750, in that ballpark.

1 I asked I think it was at that time a
2 general question to the room: what was the highest
3 anyone saw our reactor coolant system temperature.
4 And Brian Young I believe said 590. I believe Ted
5 Lehman said 590.

6 MR. LANNING: Excuse me. Is this a
7 parameter that is recorded on a trend recorder?

8 MR. SIMON: Yes, it is. I noted in that
9 time frame -- I was looking at a lot of indications.
10 I can't remember exact orders of things. I also
11 asked what was the lowest anyone had seen steam
12 generator levels, and I got an answer, I believe,
13 of about ten inches.

14 MR. ROSSI: About ten inches?

15 MR. SIMON: About ten inches. I also
16 asked what was the lowest steam pressure we got to
17 on either generator. And someone told me 960.

18 MR. BEARD: How do those numbers compare
19 with trigger points for emergency procedures?

20 MR. SIMON: I guess I wasn't even
21 thinking in those terms at the time.

22 MR. BEARD: Fine.

23 MR. SIMON: I was thinking, I wanted to
24 know if they indeed had dried out the generators,

1 if they had to repressurize a dry generator, and of
2 course how hot the reactor coolant system had
3 gotten. The trigger points I have looked at recently
4 so I know what they are, but I don't know if I was
5 even thinking of that at the time.

6 MR. BEARD: That's fine.

7 MR. SIMON: I then walked around the back
8 of the panel and checked the Quench Tank pressure,
9 and it was at 50 pounds. Normal is 25.

10 MR. BEARD: Any particular reason for
11 checking the Quench Tank?

12 MR. SIMON: Well, I had been informed on
13 the phone they were on PORV HPI cooling. And when
14 I came in and saw steam -- came in the parking lot,
15 I knew they had steam generator cooling, and I was
16 trying to determine how bad things had gotten
17 before I arrived.

18 And if the PORV had been used excessively
19 or very much at all, I would expect the Quench Tank
20 rupture disk to have blown and to not have pressure
21 in the Quench Tank. When I saw pressure in the
22 Quench Tank, I was pretty much convinced they
23 hadn't stayed on the PORV for any length of time.

24 I believe I also noted the Quench Tank

1 circ pump was in lock out.

2 MR. BEARD: Thank you.

3 MR. ROSSI: How about Quench Tank level?

4 Is there a Quench Tank level measurement?

5 MR. SIMON: Yes, there is. I glanced at
6 that also. I think it was around nine and a half,
7 almost ten foot. I think ten foot is full scale.
8 It wasn't pegged out, but it was a little higher
9 than normal. But normal is eight or nine foot, so
10 it's -- it was high, but it wasn't awful high or
11 anything.

12 I came back around the panel and I think
13 at that time asked Rick Walleman if he had held the
14 PORV open. There is a lock position for going to
15 PORV cooling where you would lock it in the open
16 position. He said no.

17 I can't even remember exactly. I do
18 believe I looked at the valves and it was closed.
19 Then I looked at the block and I think it was open,
20 but I can't -- I'm not positive.

21 Pressure at that time, I'm not even
22 positive where it was, but I think it was eighteen
23 hundred or two thousand pounds, something like that.
24 I wasn't too concerned with it from what I saw. It

1 wasn't jumping around and it was in somewhat of a
2 normal range.

3 I looked at the TSat meter, and I believe
4 it was over a hundred degrees, but I'm not positive.
5 I wasn't concerned with whatever value I saw on it.

6 I guess I felt at that time that they had
7 not gone to PORV cooling and guessed that the PORV
8 probably had lifted because the Quench Tank
9 pressure is normally kept at 25 and it was at 50.

10 I can't remember exactly what I did next.
11 I did shortly thereafter get into a discussion with
12 Teddy Lehman on unusual event. I believe he
13 approached me and said he wanted to write down a
14 message to put on the tape measure for declaring an
15 unusual event.

16 MR. BEARD: Excuse me, Louis. Maybe this
17 is a good place to do it. Would it be a fair
18 summary to say when you arrived in the control room
19 that your initial activities was one of scanning
20 key parameters and indicators to sort of assess the
21 overall situation of the plant, where they might
22 have been and where they were now?

23 MR. SIMON: Yes. And I rather quickly
24 concluded they were okay now, and I think I was in

1 my mind trying to determine also how bad things had
2 gotten.

3 MR. ROSSI: Let me ask another question
4 related to the plant status. What was the status,
5 if you looked at it, of the high pressure injection
6 at that point in time?

7 MR. SIMON: I don't believe I looked at
8 it. The pressure as I recall was high enough that
9 it would not be pumping into the system, and I
10 don't know if the pumps were running or not.

11 MR. ROSSI: Okay. Go ahead on your
12 discussion of the emergency classification.

13 MR. LANNING: I have a question along
14 these lines. Did you consult any of the trend
15 recorder charts during this appraisal of what kind
16 of transient the plant had experienced?

17 MR. SIMON: No, I did not.

18 MR. BEARD: The trend recorders you are
19 referring to are different from strip charts?

20 MR. LANNING: They are the same.

21 MR. SIMON: I may have looked at one or
22 two of them, but I don't recall it.

23 MR. BEARD: I think you mentioned, Louis,
24 that you did look at the recorder trace for reactor

1 coolant system pressure, and you saw the highest
2 value had been this and the lowest value you saw
3 was that. So apparently there was some looking at
4 strip charts.

5 MR. SIMON: Yes. Yeah, there was.

6 Teddy Lehman was sitting at the desk and
7 writing and, as I said, he wanted to write a
8 message for the tape machine for declaring an
9 unusual event. And he said something about
10 somewhere -- it may have been before that even I
11 was told that Bill O'Connor was on his way in and
12 Steve Quennoz was coming in.

13 The STA was also standing by the desk,
14 and the emergency plan was out. And I know I
15 thumbed through some of the EALs for determining
16 the classification; I didn't spend much time at
17 that, maybe fifteen seconds I guess, and Teddy
18 Lehman said we are not into anything in there right
19 now.

20 I did under I believe what was loss of
21 plant functions or a tab similarly named to that
22 see the statement of complete loss of main and aux
23 feedwater in site emergency. I mentioned that to
24 both Ted Lang, the STA, and Ted Lehman, that looks

1 like we were in a site emergency. And Ted said,
2 Yeah, but we got it back and now we are not.

3 And again he said, There is nothing in
4 there that we are in right now, but that he wanted
5 to declare an unusual event.

6 And I said, Yes, I definitely want to get
7 some people in here. I want to get some tech
8 section people to delog the plant computer, and I
9 guess we agreed at that time that we should go
10 ahead and get the unusual event declared.

11 MR. BURNS: That was Ted Lehman or Ted
12 Lang?

13 MR. SIMON: Both.

14 MR. BURNS: Both, okay.

15 MR. SIMON: I don't remember exactly what
16 input Ted Lang had at the time.

17 MR. BEARD: Louis, I get the feeling that
18 when you had gone through the process of trying to
19 determine what classification to put on, I get the
20 feeling of two things. One was the thing you were
21 looking at was more where the plant was at the
22 moment, not where it had been?

23 MR. SIMON: Yes.

24 MR. BEARD: And the second thing was you

1 seemed to be focusing more on using that as a
2 vehicle to get you support people, such as people
3 to run through the vent recorders and things of
4 this nature, to assist you in where you would go
5 from here.

6 MR. SIMON: Yes. I also realized that
7 the emergency plan is, you know, a requirement in
8 itself, and the notifications are an important part
9 of that plan.

10 MR. BEARD: I understand. I understand.
11 I guess that's where I was getting to is that the
12 primary thing was not the notification as much as
13 support for the plant as I see what you are saying.

14 MR. SIMON: Yes.

15 MR. BEARD: Okay.

16 MR. SIMON: And even if we saw nothing in
17 the plan for the conditions the plant was in at the
18 moment, you know, I definitely at least wanted to
19 have an unusual event for notification and get some
20 support in.

21 MR. BEARD: Was there any consideration
22 given in determining this to getting something
23 moving in anticipation of the possibility that a
24 situation could degrade again or further or

1 something?

2 MR. SIMON: I am sure that was in the
3 back of my mind. I didn't say anything of it at
4 the time.

5 MR. BURNS: If you had declared it at a
6 higher level than an unusual event, what more would
7 you have had to do?

8 MR. SIMON: Basically nothing more,
9 really, for the shift sup or I, the notification.
10 The admin assistant -- well, I guess there wouldn't
11 be anything more. I guess the message would be
12 slightly different and it would be more support.

13 MR. BEARD: Would there be another option
14 in preparing the message of saying we have been in
15 a site emergency situation, we are not there now,
16 but presently we are here? Would that thought have
17 crossed anybody's minds that you are aware?

18 MR. SIMON: I didn't believe we wanted to
19 do that. I thought that would just confuse people
20 and say when you declare it, you are in this or in
21 that, and that's a key thing in the plan. And
22 there is a lot with site being a couple levels
23 higher than an unusual event. Basically an unusual
24 event is often noted as notification only, although

1 on a tape you can ask for a specific help from
2 sections.

3 MR. BEARD: I see.

4 MR. SIMON: Or anything you want. You
5 can have the TSC and the ECC man if you so desire,
6 even though it's an unusual. But if you go higher
7 than an unusual, you will also man all of the
8 centers including the off site support.

9 MR. BEARD: So are you telling me if you
10 had made a message that said we have been in a site
11 emergency classification but no longer there, that
12 this would through some procedure, requirement or
13 whatever invoke the necessary manning of the tech
14 support center and various functions like this
15 which may not be appropriate at this time?

16 MR. SIMON: I think that's true. I think
17 a message to that effect saying we are in an
18 unusual event but we used to be in a site would
19 just muddy up the waters, and response people would
20 say, Well, what in the hell are we supposed to do?
21 Are we supposed to man all these centers or not?

22 MR. BEARD: Right.

23 MR. SIMON: And in the back of my mind, I
24 also knew that Bill O'Connor and Steve Quennoz

1 would be in shortly, and that I would dump it on
2 them and ask for any clarification. We could
3 always upgrade if we felt that was necessary.

4 MR. BURNS: So your decision to call it
5 an unusual event -- to make sure I understand it
6 correctly -- was based on your conclusion at the
7 time the transient was essentially over or that the
8 plant had stabilized and you were no longer in the
9 situation in which you would otherwise have called
10 a site emergency?

11 MR. GIMON: Yes. And I also was not
12 convinced I hadn't been there, and I had asked a
13 few key questions. It was apparent that, yes,
14 indeed they had lost feedwater and they must have
15 regained it in a fairly short time I thought, and
16 that was from the parameters that they were telling
17 me. So it was an entry into the site conditions
18 for a brief time. I wasn't sure how long that time
19 period was, and it was obvious they hadn't damaged
20 any fuel, they hadn't damaged the reactor coolant
21 system. And a site to me is a fairly high
22 declaration that you have either damaged something
23 or it is imminent that you will, and I felt we
24 probably hadn't reached those conditions.

1 To me the steam generators may have lost
2 feed, but from what I heard, the pressure hadn't
3 decayed off to where, you know, they were dry or
4 anything or I would consider them dry. So to me it
5 wasn't even clear if the site would have been the
6 proper classification.

7 I know that, you know, the EALs have
8 short words, and that's good. But I figured we
9 could iron that out when Steve and Bill came in and
10 that we wanted to at least, because it was a
11 serious event, a failure of safety systems, we did
12 want to get some people in to look the plant over.
13 And of course there is a potential for losing it
14 again, although things looked fairly good from
15 where we were with the startup feedpump and one aux
16 pump was running. Although it was crippled, they
17 said they had local control of it. And the other
18 one was operating. The containment hadn't been
19 severely contaminated from PORV operation.

20 The plant I wouldn't, you know -- was
21 fairly stable. I don't know if I answered your
22 question. I think I got off on a tangent.

23 MR. BURNS: I think you did.

24 MR. ROSSI: Yeah.

1 MR. BEARD: I had one along the same line.
2 When you are considering the options of
3 classifications, it seems to me you are saying you
4 were forward looking instead of looking back is a
5 big message I'm getting.

6 And by declaring an unusual event, one of
7 the key things I heard you say was it could always
8 be upgraded if other management people or later in
9 time you decided that it needed a more higher
10 classification.

11 MR. SIMON: Yes

12 MR. BEARD: The question I'm getting to
13 though is with regard to the classification, each
14 classification involves notification of some sort.
15 Was there any thought given that you are aware of,
16 either yourself or others, to if we declare a
17 higher classification, that either this would be unduly
18 alarmist to some of the people that would be
19 notified or that particularly the notifications of
20 the NRC could have some adverse repercussions on
21 your plant situation or reputation or anything of
22 that nature?

23 MR. SIMON: No, I don't think that was in
24 my mind. I wanted to follow what was in the

1 procedure. You know, I haven't memorized all the
2 EALs, there is a lot of them, and if you want to
3 make the classification appropriate for the
4 conditions you are in. And whether that involves
5 notification of all off site supports and manning
6 of stations or not is to me immaterial.

7 MR. BEARD: Okay.

8 MR. ROSSI: Were there any discussions
9 while you were in the control room over the ENS or
10 red phone line that you are aware of?

11 MR. SIMON: Yes. Ted Lang, when I was
12 discussing the classification with Ted Lehman, Ted
13 Lang did say some words like I had already told the
14 NRC we had declared an unusual event. I don't know
15 exactly what time. I think subsequent to that I
16 have seen where it was 02:12 or something, but I'm
17 not positive of that time. But he had on the red
18 phone told the NRC we had declared an unusual event.

19 MR. ROSSI: And that was -- do you know
20 whether that was the first call to the NRC and that
21 included --

22 MR. SIMON: I assumed that was.

23 MR. ROSSI: Okay. I don't know whether --
24 do you have any additional knowledge about calls

1 over the red phone now after the event from
2 discussions you have had or debriefings or --

3 MR. SIMON: No, no other.

4 MR. ROSSI: Okay.

5 MR. BELL: During this period of time,
6 plant conditions are such that you do not meet any
7 of the emergency action levels in your procedure?

8 MR. SIMON: That is what I was told by
9 Ted Lehman. I did take a look through some of the
10 EALs myself and flipped through them. Like I say,
11 I did find the one that said loss of all feedwater
12 in site emergency. But I did not see any that
13 would describe any event from the exact conditions
14 we were in.

15 MR. BELL: So your declaration of an
16 unusual event is made or is going to be made to get
17 you some additional management help at the plant
18 site?

19 MR. SIMON: Yes.

20 MR. BELL: And does that catch us back up
21 to the point where we were before we got on this
22 discussion?

23 MR. BEARD: I think so. I have one last
24 question and I will be ready to go on. I think

1 that's what you are looking at.

2 To understand the perspective that you
3 are in, Louis, at this point in time, in arriving
4 at the plant, having surveyed the control room
5 indicators and getting a general feel for what the
6 overall situation is, would it be correct to say
7 that -- or let me do it another way.

8 Would you discuss with us to what extent
9 time was a factor in the things you were doing and
10 the decisions you were making, such as event
11 classification in the context of you had this thing
12 to work on, then go on to another one, and other
13 things. I'm sure there are a number of people
14 coming to you with questions.

15 MR. SIMON: Yes. Ted Lehman had quickly
16 requested me to call immediately from the guard
17 house to give him some support on this
18 classification, and I knew that that was foremost
19 in his mind. And when I first came in the control
20 room, I just went to looking at plant parameters
21 and didn't provide any support or help to him
22 immediately for the first couple or few minutes.

23 And I knew that he was concerned and wanted
24 to get his notifications made to make sure he was

1 following procedures. And when I noticed in the
2 EALs and there was possibly some question of a site,
3 even though I felt for the plant conditions there
4 was nothing and we should at least declare an
5 unusual event, I knew that was timely, that we needed
6 to go ahead and get it.

7 I also, like I say, in the back of my
8 mind thought I would run this by Steve and Bill
9 when they got in, whether we indeed should have
10 declared a site and that, if we indeed should have
11 been in a site, you know, then by taking a long
12 time to declare an unusual event was, you know, not
13 appropriate. And also Ted Lang had said that he
14 had told the NRC already that we had declared an
15 unusual event. So I wanted to get the process
16 going quickly to get the notifications made.

17 MR. BEARD: Were there other pressures on
18 you in the sense there were other things besides
19 the classification notifications to do, other
20 things in the plant and in that sense that you were
21 under any -- did you feel you were under any time
22 constraints to address that issue so you could then
23 go on to other issues in the plant?

24 MR. SIMON: Not a great deal. I was

1 concerned with the status of the aux feedpumps. I
2 was concerned with making sure we had, you know,
3 control of the situation.

4 It appeared they did. They did have
5 operators in the rooms. They had mentioned in this
6 time frame that they had overspeed trips of both
7 aux feedpumps. That's a very unusual condition
8 which I have never seen. Under those conditions,
9 I'm not sure if that could renappen or the
10 possibility of losing it again.

11 You know, time was on our side with the
12 decay heat. I did want to get back to the plant,
13 but obviously getting the unusual event, it was
14 important getting that declared and go ahead.

15 MR. BEARD: That's all I have in this
16 area.

17 MR. LANNING: Was it your understanding
18 that the type of the event that you declare is
19 based on the prevailing conditions at the time you
20 consult the EALs?

21 MR. SIMON: I guess in general I would
22 say that's true. I would think if you had missed
23 one, if you had subsequently going through the EALs
24 discovered one that you were definitely in that's

1 in black and white, that you may want to declare
2 that.

3 I guess it wasn't completely clear in my
4 mind. Most of them don't fix themselves, if they
5 are a large LOCA or a bad steam generator tube leak
6 or something like that. You would most of the time
7 stay in that condition and not get out of it again
8 in rapid manner. I guess I hadn't really thought
9 about it much before.

10 MR. ROSSI: Okay. Why don't you continue
11 then with what happened next.

12 MR. ROSSI: I think we were to the point
13 where you had some discussions over the emergency
14 action levels, and that's where you were. So if
15 you want to continue on from there.

16 MR. SIMON: Ted Lehman began writing down
17 a message on the unusual event declaration, and I
18 looked over his shoulder, and I can't even remember
19 exactly what the words on it were. I started
20 chiming in that I wanted tech section support, and
21 I do not know if he wrote that down on the message,
22 but shortly the message went to the admin assistant
23 to get stuck in the machine and to proceed with the
24 radio paging of the key personnel.

1 And I think at that time I went back to
2 talking to the ROs and looking at point parameters,
3 the best I can remember.

4 MR. ROSSI: I wonder if this is a good
5 point to -- had anyone else arrived yet?

6 MR. SIMON: No, but I believe it was very
7 shortly after that that Bill O'Connor arrived. I
8 would guess that he was maybe ten minutes behind me,
9 but I'm not sure of the time frame.

10 MR. ROSSI: Okay. Maybe you ought to
11 continue on your discussion of anything else that
12 you did or happened up until Mr. Quennoz arrived.
13 And you can discuss that in general terms if it
14 wasn't anything specific of significance, but
15 that's fine.

16 MR. SIMON: I cannot remember exactly. I
17 knew that in scanning the panels, I noticed the
18 exciter field breaker was still closed, and the
19 generator breakers were open. I looked at
20 electrical distribution; didn't see anything else
21 abnormal. I knew they had lost vacuum.

22 I looked at the exhaust hood temperatures.
23 There was a fairly significant difference between
24 the two exhaust hoods on the condenser on the low

1 pressure turbines. Number A was up to about two
2 hundred degrees. I was a little concerned with
3 that.

4 MR. ROSSI: That's the exhaust?

5 MR. SIMON: Of the low pressure turbines
6 in the condensers.

7 I also kind of concluded from my
8 indications that they had not completed that
9 portion of the post-trip procedure, and some time
10 in that time frame I got a copy out and went
11 through and started performing those actions myself.

12 It gave me a chance to look at things in
13 a little more detail, and I was in the back of my
14 mind a little concerned with the hot exhaust hood
15 temperature and I thought possibly going through
16 that procedure, isolating some valves and things,
17 might help that condition.

18 So I do remember that I went through and
19 performed several of those actions myself in the
20 secondary drains mostly and MSRs and some of the
21 steps in the procedure.

22 I also did discuss the plant situation
23 with Bill O'Connor when he arrived. I don't
24 remember the details of that conversation. I

1 believe I discussed PORV range HPI cooling.

2 Some time in that time frame, Steve
3 Feasel arrived in the control room. He hadn't been
4 there before when I arrived, and I can't remember
5 exactly my conversations with him.

6 MR. BURNS: Where had he come from? Do
7 you know where he had come from?

8 MR. SIMON: No, I do not. I heard in
9 this time frame that he had gone to get the startup
10 feedpump on and he had been in the room with the
11 equipment operators on the aux feedpump turbines.

12 MR. ROSSI: Okay. Has Steve Quennoz
13 arrived yet?

14 MR. SIMON: I do not remember when Steve
15 arrived.

16 MR. BEARD: Steve did arrive.

17 MR. SIMON: Yes.

18 MR. ROSSI: But you don't remember
19 anything else of significance until he arrived then --
20 maybe there is --

21 MR. LANNING: Who was it that told you on
22 the telephone that you were on PORV cooling?

23 MR. SIMON: Bill O'Connor.

24 MR. BELL: When Bill arrived, did you try

1 to get a clarification on what he had told you on
2 the phone?

3 MR. SIMON: Yes. I did discuss PORV
4 cooling with him. He had told me that he had been
5 informed they had lost all feedwater and that they
6 were attempting -- I think they said they were
7 attempting to get it back.

8 He said that he had given them one minute
9 on the telephone to either have feedwater back or
10 go to PORV cooling. I also discussed that somewhat
11 with Teddy Lehman, and he said right after I hung
12 up with Bill, they started to get some feedwater
13 back. And subsequent they got aux feedwater back,
14 startup and at least one aux feedpump.

15 MR. BELL: Dr. Rossi, may I ask this
16 gentleman three or four questions before we
17 conclude our interview with him?

18 MR. ROSSI: Sure. I think JT has some
19 too.

20 MR. BEARD: I have only one.

21 MR. BELL: Louis, how long have you been
22 working at Davis-Besse?

23 MR. SIMON: 1973 or '2. I can't remember
24 exactly. We were in the classroom stuff for

1 initial code licensing training prior to coming to
2 the site. I also want to observation training at
3 Palisades and several weeks or months at the B & W
4 simulator.

5 MR. BELL: In short you are one of the
6 original code license operators?

7 MR. BEARD: First crew?

8 MR. SIMON: I was the first shift
9 supervisor for the initial startup.

10 MR. BELL: My second question has to do
11 with some technical information we will need to
12 perform our review of the hard data. When you
13 first got to the plant, there was no vacuum in the
14 condenser?

15 MR. SIMON: That's correct.

16 MR. BELL: The reactor was tripped?

17 MR. SIMON: Yes.

18 MR. BELL: And the steam generators were
19 at normal pressure for that condition.

20 MR. SIMON: Yes.

21 MR. BELL: Which would be somewhere in
22 the neighborhood of ten hundred and ten pounds?

23 MR. SIMON: Yes. I'm not sure the exact
24 pressure they had in them, but I believe they were

1 around a thousand pounds.

2 MR. BELL: And that pressure would be --
3 would be controlled with the atmospheric vents?

4 MR. SIMON: Yes.

5 MR. BELL: And that atmospheric vent
6 control signal comes from the integrated control
7 system?

8 MR. SIMON: Yes. I don't know for sure
9 if they had them in manual.

10 MR. BELL: My final question has to do
11 with the exciter field breaker. If the turbine
12 trips, the generator output breakers open and the
13 exciter field breaker should also open?

14 MR. SIMON: The generator field breaker
15 would automatically open and the operator would
16 open the exciter field breaker from the all directs
17 to put the excitation on the exciter.

18 MR. QUENNOZ: That's correct. It should
19 open to protect -- the generator field breaker
20 should open to protect the generator from
21 overexcitation.

22 MR. BELL: So you have two separate
23 breakers. One of them supplies the excitation
24 control from the exciter to the generator, and the

1 exciter field breaker control controls the exciter
2 field?

3 MR. QUENNOZ: They have 900 hundred RPM.
4 They have to make sure that's open so they don't
5 overexcite the generator field on coast down.

6 MR. ROSSI: It's not normally done
7 automatically. It's a procedural thing only?

8 MR. QUENNOZ: For the exciter. The
9 generator is. If the turbine trips without the
10 generator trip, then you will have the generator
11 output breakers open and the generator field
12 breaker will also open automatically, and then at
13 some point in time in the procedure they would go
14 to open exciter.

15 MR. BELL: This exciter field breaker
16 being closed is an abnormal situation for this
17 particular plant status. It's an operation action
18 that should have occurred, but had not occurred at
19 this point in time.

20 MR. SIMON: Yes. I would say that is
21 true. It should have been done by then, although I
22 realize they were busy.

23 MR. BELL: I do too.

24 MR. BEARD: Could you give us some feel,

1 Louis, as to the significance of that step not
2 having been taken yet?

3 MR. SIMON: No, I don't know. I'm not
4 positive what that would do to the exciter.

5 MR. BEARD: I mean, is this of major
6 significance or minor significance?

7 MR. SIMON: Minor to me at the time.

8 MR. ROSSI: When you say minor, are you
9 saying with respect to safety or --

10 MR. SIMON: Equipment.

11 MR. ROSSI: Give us its significance with
12 respect to safety and then give us its significance
13 with respect to equipment damage associated with
14 the generator.

15 MR. SIMON: I did not consider it's
16 having any safety significance. Probably equipment
17 damage or degradation.

18 MR. BEARD: Okay. Have you finished your
19 question, sir?

20 MR. BELL: I have one more question.
21 This 235 pound relief valve that was lifting when
22 you first came into the plant site, that's a relief
23 valve on the auxiliary steam system?

24 MR. SIMON: Yes.

1 MR. BELL: Now, the aux steam system is
2 supplied from the main steam system?

3 MR. SIMON: Yes.

4 MR. BELL: Which had no pressure?

5 MR. SIMON: Right.

6 MR. BELL: But this, you theorized that
7 this pressure was coming from the desuperheating
8 water and lifting this valve.

9 MR. SIMON: No. I theorize that they had
10 fired the auxiliary boiler and brought it up to
11 pressure when the MSIVs closed, no steam, no loads,
12 that the boiler pressure was probably causing the
13 relief to lift.

14 MR. QUENNOZ: The auxiliary system steam
15 can be supplied by either main steam or the boiler.

16 MR. BELL: I understand. One final
17 question and then I will turn it over to JT. Have
18 you ever had a history at this plant of having any
19 water hammers occur in the secondary system when
20 you lost pumps such as the main feedpumps, small
21 leaks depressurize the pipe and the hot water
22 flashes?

23 MR. SIMON: No. Not directly that I know
24 of. I have had reports from people that there was

1 steamlines jumping on the MSRs post-trip. I don't
2 know if that's true or not. And that's -- there
3 have been problems rarely on the main steam system.
4 when first starting a plant heatup and drawing
5 vacuum on steam generators, I have noted there was
6 occasionally some water hammer on the main
7 steamlines.

8 MR. BELL: I'm more interested in the
9 main feedwater system. I have a real question in
10 my mind concerning the fact that the high pressure
11 heater section of piping between the startup
12 feedpump discharge and the feed bypass inlet valve,
13 if you had any flashing in that area, then it would
14 take a while for that startup feedpump to collapse
15 that void and to actually start feeding the steam
16 generators.

17 And the purpose of my question is to try
18 to aid us in determining the first source of feed
19 to No. 1 steam generator, whether there was really
20 the startup feedpump or the auxiliary feedwater
21 pump. And I realize you came in late so --

22 MR. SIMON: I probably can't answer that.
23 There have on rare occasions been some water hammer
24 in the feedwater lines to the steam generators

1 usually when first establishing feed.

2 MR. BELL: All right, sir.

3 MR. LANNING: How about water hammers in
4 the auxiliary feedwater system?

5 MR. SIMON: Other than recently in the
6 last few months, there hasn't been a history of any
7 problems in that area.

8 It's not uncommon due to the design of
9 the steamlines to the aux feedpumps for the aux
10 feedpumps to get some slugs of water through them.
11 I didn't consider this real significant until
12 recently when they found some piping hanger damage
13 I believe on the steamlines to the aux feedpumps.

14 MR. ROSSI: By recent, you mean --

15 MR. SIMON: This cycle, since January.

16 MR. ROSSI: Not since this event, but
17 prior to this event.

18 MR. SIMON: Right.

19 MR. ROSSI: Steve?

20 MR. QUENHOZ: I want to comment on that
21 aux feedwater. We had -- I'm trying to figure out
22 if that would even be credible because what
23 happened was you had a turbine trip and the main
24 steam or the main turbine stop valves, control

1 valves and set valves all closed. And the stop
2 valves themselves are very fast acting; they are
3 just within a second.

4 So you stop steam to your extraction
5 points. And you would have some steam in the
6 cross-over, cross-around piping that was running that
7 feedpump. We had a feedpump No. 2 that was running
8 for a prolonged period of time.

9 MR. SIMON: Four or five minutes.

10 MR. QUENNOZ: You would have a hard time --

11 MR. BELL: But where was it discharging?

12 MR. QUENNOZ: The feedpump?

13 MR. BELL: Yeah, just through its recirc
14 valves? Because the isolation valves was closed by
15 this low pressure manual actuation, weren't they?

16 MR. SIMON: Not for the first five
17 minutes.

18 MR. QUENNOZ: You have got that later on
19 too. So you have subcool water.

20 MR. BELL: So you have cooled that
21 section down?

22 MR. QUENNOZ: With no steam from the
23 extraction.

24 MR. BELL: With the running main feedpump.

1 Maybe I should -- for clarification, I should say
2 the No. 2 main feedpump.

3 MR. QUENNOZ: Uh-huh.

4 MR. LANNING: I want to go back to the
5 water hammers in the aux feedwater system to make
6 sure I understand the significance of these water
7 hammers. Is it acceptable that you have slugs of
8 water going to the turbine of the pump?

9 MR. SIMON: I think it's inevitable with
10 the design of the system in there some water is to
11 be expected. And as I understand it, the Terry
12 Turbine vendor says that some is acceptable, and we
13 have had a history of operation over the years
14 where we have used aux feedwater and the aux
15 feedpump turbines have been pretty reliable.

16 I can remember a few years ago where
17 people have said they have seen when the system lid
18 off -- before they had changed the exhaust lines to
19 their present location, they used to go straight up
20 in the air off the turbine building, and there
21 would be guys see water off of those exhaust when
22 the pumps lid off.

23 So to me it's not unusual for them to get
24 slugs of water along steam runs of cold piping

1 between the isolation valves and the turbines.

2 MR. QUENNOZ: Maybe I can put it in
3 perspective a little bit. We are in the process of
4 working with engineering and also the region is
5 involved with analysis of the steam piping to the
6 aux feedpumps.

7 We had made some changes in the 1984
8 refueling outage to improve aux feedwater
9 reliability, and we had subsequently found that
10 hangers had been removed from their mounting. And
11 during this investigation we had tried to find the
12 root cause, and we are still in the process of testing,
13 a test program. But the damage that we had found
14 we traced back to about three major causes or three
15 major concerns, I should say.

16 We had modified the steam supply valve
17 logics to the aux feedpumps to have both, all four
18 of them open on actuation. And that was to improve
19 their reliability such that they could get a source
20 of steam that would enhance the availability of the
21 auxiliary feedwater pumps.

22 This caused some problems with actually
23 having those cross-over piping, as we call it, the
24 steam supplies open to the feedpump, and we have

1 some belief that perhaps that long run of piping,
2 that cross-over piping was allowing excessive
3 condensation of that steam as it came in. As Louis
4 mentioned, the cold piping, hot steam, you are
5 going to get some condensation, and that was
6 causing excessive stress on the piping.

7 We also had some concern perhaps that the
8 testing of the aux feedpumps prior to startup when
9 a source of high pressure steam is not available,
10 that that was causing problems. But since the
11 auxiliary boiler uses saturated steam, and we had
12 noticed when we had tested, if you open up the
13 source of steam, the supply valve, which is a gate
14 valve, that you were getting some hammering effects.

15 And then we also had some concern that we
16 identified, traced back to analyses that during our
17 monthly surveillance testing, we were testing some
18 pressure switches which had caused actuations of
19 the cross-over piping valves which would admit
20 steam to them, perhaps allow that steam to condense
21 and then on a subsequent actuation cause them to
22 water.

23 We made those modifications. We changed
24 the logic back to its original form where it only

1 actuates on a normal actuation from its own steam
2 generator, which is a real straight run of pipe,
3 short run of pipe.

4 We provide procedural guidance in our
5 procedures that when we are testing on low pressure
6 steam, we crack that throttle valve such to emit
7 steam at a very low rate, which would eliminate the
8 water hammer problem. And also we modified the
9 monthly surveillance test when we test those
10 pressure switches that we would not -- we would
11 test the pressure switches electronically and not
12 necessarily actuate the valve itself, that we
13 actuate the valve enough on other testing of ASME
14 Section XI 4.0.5 on the technical specifications to
15 insure that we got the proper actuation of the
16 valve, it's wired up correctly. We made those
17 changes.

18 Subsequently we only had, we had one
19 hanger problem that I know of, but after every
20 actuation, after every test, we require quality
21 assurance and our nuclear facility engineering
22 department to walk down the steamlines detecting
23 damage. I think that's what Louis is talking about.

24 MR. BELL: Is there any possibility that

1 water in this section of main steam supply to the
2 aux feedwater pump turbines could cause an aux
3 feedpump turbine overspeed?

4 MR. SIMON: I would not expect that.

5 MR. QUENNOZ: I think if anything, we
6 have seen that the turbine labors under that. The
7 vendor itself tests the turbine under a water
8 condition. It will handle -- it will pump water.
9 I mean, it will handle water slugs.

10 The problem with the auxiliary feed
11 system is not the turbine; it will take anything
12 you can give it. It's the piping that is the weak
13 point in the system.

14 MR. LANNING: How about the valves? What
15 effect would these water hammers have on the valves?

16 MR. QUENNOZ: Let me clarify that. It's
17 not even the piping. It's the hangers on the
18 piping that are the weak point in the system.

19 MR. LANNING: How about the valves in the
20 system? These are the steam emission valves we are
21 talking about.

22 MR. QUENNOZ: Uh-huh.

23 MR. LANNING: What effect could water
24 hammers have on these valves?

1 MR. SIMON: I wouldn't expect any water
2 at the valve. The valve is nine hundred or a
3 thousand pounds steam pressure on its supply side
4 and no pressure on its downstream side. There are
5 traps, little drain spots and steam traps on the
6 high pressure side.

7 MR. QUENNOZ: I think what Wayne is
8 getting at maybe is a good point. Those valves
9 that Louis is saying is when you first have an
10 actuation, those valves shouldn't see water; you
11 know, they will get open in that period of time.

12 Now, if they go closed and subsequently
13 actuate, I don't know. That has to be answered.
14 However, we do have testing which we checked the
15 steam traps on those valves under the concern that
16 Louis had, that maybe the steam traps are not
17 operable and they were allowing water to build up
18 in some of the low points of the piping, and we
19 have subsequently through testing found out where
20 we actually drained the water out, we were only
21 getting about a small amount of water. So the
22 traps are functional and they have been working.

23 Engineering has looked over that section
24 of cross-over piping, and I think they have come to

1 the conclusion that the trap locations are adequate,
2 but we could put more in; that there is potential
3 places where we could put additional traps to
4 eliminate any concerns of that sort.

5 The water itself rapidly moves down that
6 pipe as pressure builds up and pressurizes that
7 pipe. Steam comes down and starts collapsing and
8 has a difficult time because of the condensation
9 building up pressure. But once it builds up that
10 pressure, then it should push that water through
11 the system.

12 MR. LANNING: We are talking about valves
13 numbers 106 and 107 now?

14 MR. QUENNOZ: 107-A and 106-A.

15 MR. BEARD: Are we finished with the
16 water hammer question? I don't want to interrupt.

17 Louis, before we get to I guess what will
18 be sort of a joint interview with you and Steve, I
19 would like to have a little bit better understanding
20 of the way the procedures are implemented.

21 When you get out of the immediate actions
22 and into the ones where you actually open the
23 procedure and do the other steps, as a general
24 question, in a general situation at Davis-Besse,

1 would that situation be the type where one
2 individual in a control room has the procedure out
3 going through the words and whatnot to make sure
4 all the steps -- nothing is forgotten?

5 MR. SIMON: Yes.

6 MR. BEARD: Would that be one where he is
7 sort of reading and calling out the step and
8 expects a response from one the operators in the
9 control room?

10 MR. SIMON: Yes.

11 MR. BEARD: That's generally the way it
12 is done?

13 MR. SIMON: Yes. ATOG is fairly new to
14 us. Actually it was implemented for this startup
15 for this cycle, December, January --

16 MR. BEARD: But all the operators are
17 trained on that?

18 MR. SIMON: -- this year.

19 There was a lot of previous training. We
20 did a lot of special training last summer when the
21 shifts went -- the licensed shifts went to
22 Lynchburg on the simulator. There was extensive
23 training on the simulator using the ATOG procedures
24 and ironing out their use, and there was additional

1 training in the training building. There is a mockup
2 control board, pictures, and it looks fairly
3 realistic although it has no -- it's not a
4 simulator; it's just a model, and actually going
5 through transients on a computer tape showing
6 pressure/temperature displays with the operating
7 shifts performing their normal functions, dry runs
8 which they wouldn't know what was on the tape, but
9 they say, here, you are at normal operating
10 conditions and now you see these parameters all
11 changing and you can guess the reactor tripped, you
12 could see if you are into an overcooling/overheating
13 event, and actually the assistant shift sup using
14 the procedures calling out to the reactor operators,
15 then walking around the board performing their
16 functions, we did all that last summer.

17 And I think the use of the ATOG, even
18 though it's a big change, was well liked by the
19 operators. And the trips we have had this year, I
20 hear the operators say that they use the ATOG and
21 felt comfortable with it.

22 MR. BEARD: Okay. Now, the actions that
23 the assistant shift super would be say calling out
24 from the procedural document would include I would

1 suppose -- and I'm asking really -- some actions
2 that were to be taken that are follow-up actions
3 after the immediate actions are done?

4 MR. SIMON: Yes.

5 MR. BEARD: And some of the other things
6 would be confirmatory or verification in nature.
7 So you have generally those two type things?

8 MR. SIMON: Yes.

9 MR. BEARD: Okay. Now, leaving the
10 general situation aside, let me return now to the
11 event. If I remember what you said was that at
12 some point in the middle of the time between when
13 you arrived and when Steve arrived roughly in the
14 middle, Mr. Peasel returned to the control room and
15 had some discussion about apparently he had been
16 down to work on the startup pump?

17 MR. SIMON: Yes.

18 MR. BEARD: Okay. I think you said also
19 that when you arrived in the control room, did you
20 notice that the ATOG emergency procedures were laid
21 out and open?

22 MR. SIMON: Yes.

23 MR. BEARD: Okay. I'm trying to
24 understand whether the need to send an individual

1 out of the control room to do some action resulted
2 in a temporary interruption of the execution or
3 implementation of that procedure because of the way
4 it is normally carried out, if one person called
5 out and other people respond. Can you give me any
6 direct information or what your feelings are on
7 this matter?

8 MR. SIMON: Yes. The SRO in the control
9 room, rules that we have had for a year or so,
10 require an SRO in the area, and that in a transient
11 event, the shift supervisor is charged with staying
12 in the control room, that is his station, and
13 maintaining an overview. And I cannot foresee a
14 case where both senior licenses would leave the
15 area.

16 I think we are adequately covered with
17 supervision for the overall view of the plant and
18 direction of the ROs with either senior license,
19 either the assistant shift sup or the shift sup,
20 and normally the shift sup would be the one that
21 would not leave the control room.

22 And I assume that Teddy Lehman was also
23 looking at the procedures and that I know he was on
24 the phone to Bill O'Connor and I'm sure he used the

1 procedures, and I think that adequate overview and
2 supervision was present. I don't see the
3 procedures were put aside and not used for a period
4 of time.

5 I know I think the conditions they were
6 at, that Teddy Lehman knew where he was and knew
7 what he was going to have to do next if things
8 further degraded. I believe he was on top of the
9 situation, knew where he was at in the procedures.
10 That's all.

11 MR. BEARD: I'm not trying to explore the
12 need for more people and whether you are adequately
13 manned. I'm only trying to understand what
14 happened during this event, that's all.

15 MR. SIMON: Yes.

16 MR. BEARD: And when you came into the
17 control room, you said you noticed the procedures
18 were lying open I assume on a table top or a bench
19 or whatever. Was there someone there reading them
20 or doing the function that you described earlier
21 would be the normal way that things are implemented?

22 MR. SIMON: Yes. I believe the STA and
23 the shift supervisor were both there with the
24 procedures open.

1 MR. BEARD: No, I mean, excuse me, Louis,
2 I'm saying was there an individual there calling
3 out the various steps and trying to get the
4 response from the operators?

5 MR. SIMON: Not at the time I arrived.

6 MR. BEARD: Okay. So that whether you
7 would associate any significance to it or not is a
8 separate question. The process of calling out the
9 steps and getting the actions or the confirmatory
10 response from the operators was not going on at
11 that time you arrived?

12 MR. SIMON: Not at the time.

13 MR. BELL: But since auxiliary feedwater
14 was in service and the steam generator levels were
15 normal and the plant had returned to the stable
16 condition --

17 MR. BEARD: No.

18 MR. BELL: -- would you be in the ATOG
19 procedures any longer?

20 MR. SIMON: It's just the back sections
21 that tell you to perform the post-trip procedure,
22 which I subsequently was performing.

23 MR. BELL: So we are out of the overheating
24 section of ATOG and into the post-trip recovery

1 section of ATOG.

2 MR. BEARD: When you arrived.

3 MR. SIMON: Yes.

4 MR. ROSSI: Let's see. We go on to Steve
5 now.

6 MR. BEARD: Are we going to go into a
7 separate joint interview at this point?

8 MR. ROSSI: As far as I was concerned we
9 were always in a joint interview. Steve hadn't
10 arrived yet so he hasn't had too much to say about
11 what was going on before he arrived.

12 MR. QUENNOZ: I wanted to make sure Louis --

13 MR. ROSSI: Why don't we hear from Steve
14 now on when you heard about it and when you arrived.

15 MR. LANNING: I have an administrative
16 issue we can resolve. Can we go off the record?

17 (Thereupon, a brief recess was taken.)

18 - - - -

19 MR. ROSSI: Back on the record. Steve
20 Quennoz is going to tell us when he first heard
21 about the event and what he did from then on and
22 what he observed at the plant.

23 MR. LANNING: Before that, he is going to
24 tell us how long you have been at the plant and

1 your background, experience and education?

2 MR. QUENNOZ: I have been at the plant
3 for seven years.

4 I got out of the Navy and came to Toledo
5 Edison. I was the technical -- they call it
6 technical superintendent now was my first position.
7 I was the assistant station superintendent for
8 operations, and then the last it hasn't been a year
9 yet I have been plant manager.

10 MR. BEARD: What was your experience with
11 regard to licensing as an operator or senior?

12 MR. QUENNOZ: I have a senior operator's
13 license.

14 MR. BEARD: How long have you had it?

15 MR. QUENNOZ: Since 1981.

16 MR. BEARD: 1981. Were you an RO before
17 that or an instant senior?

18 MR. QUENNOZ: Instant SRO.

19 MR. ROSSI: Okay. You first heard about
20 the event how, about when?

21 MR. QUENNOZ: I got a call it was between
22 1:30 and 2:00 in the morning. I can't remember the
23 exact time. When you get those calls, you know
24 it's from the plant.

1 In general, people are pretty sheepish:
2 they are apologetic that the plant tripped or
3 something. This time Bill got on, said, Quennoz,
4 we got problems. We are in trouble. We had a
5 plant trip, we have lost main feedwater and we have
6 lost aux feedwater.

7 And it was just a state of unbelief or
8 disbelief. I couldn't quite believe it had
9 happened.

10 Bill said -- I asked him, I said, Well,
11 what is the subcooling margin? He said, We got
12 plenty of subcooling margin.

13 What about steam generator levels? He
14 said, We have got steam generator levels. But the
15 plant -- I think at that time he said the plant is
16 starting to heat up, realizing that the trip would
17 take pressure -- temperatures down for a period of
18 time.

19 One thing he did say, he said -- and I
20 apologize, Mary -- he said, Quennoz, they are
21 scared shitless. He said, I'm on the phone and
22 they are just -- I can hear them yelling in the
23 background.

24 And at that point in time, that's what

1 got me concerned. I said, Bill, get back on the
2 phone. Get them in the procedure. Make sure they
3 are going in the right direction. Whatever you do,
4 if you have to stay on the phone, get them in
5 there.

6 And he didn't say PORV HPI cooling. He
7 said, We are not on it yet, but I have given them --
8 I told them to, if you don't get aux feedwater back
9 right away, get on it. And but I can remember I
10 said, Get them in the procedure, calm them down and
11 get them going in the right direction. Stay on the
12 phone, get them going in the right direction.

13 And then he said, Well, where are you
14 going to be? We may need to make some heavy-weight
15 decisions pretty soon.

16 I said, I will stay right here. I will
17 get dressed and I will wait for your call.

18 Well, I got addressed; I had time for
19 that. I looked in the emergency plan; it was a
20 site emergency.

21 I got called back, and I don't know what
22 time it was; I'm trying to figure that out. It was
23 either probably shortly after 2:00 or shortly
24 before 2:00 he said he would call back. And he

1 said we got the startup pump on, we have got the
2 aux feedpump, one of the aux feedpumps on, we are
3 bringing the other one up.

4 I said, Do you know what happened? And
5 he said, We had an SFRCS. He said, The MSIV shut,
6 the operators wanted to get aux feedpumps on, and
7 they had pressed the wrong buttons.

8 I said, well, did they get them -- they
9 get them back? And I think he said, although I
10 haven't really confirmed this, that he went to
11 initial bypass and got them back on.

12 I asked him what the plant was doing. He
13 says, It's cooling down. He says, We have got it --
14 it's going back to normal parameters.

15 I talked to him about the emergency plan,
16 and we both agreed we weren't in anything right now;
17 we were in a site emergency. I don't think -- I
18 don't think I can recount who said what, but the
19 conversation went along the lines, What are we
20 going to do about this, because we don't have a
21 situation we are in, and yet we were in a site
22 emergency and it's not covered. And I think we
23 both agreed we have got to approach it logically.

24 And we talked about subcooling margin, we

1 talked about the fuel DNBR, departure from nuclear
2 boiling considerations. We had adequate flow at
3 all times, reactor coolant system flow, we had
4 pressure, we did not have excessive temperature.

5 I remember him saying, gee whiz, we only
6 got ten degrees above normal. Bill said we didn't
7 have any abnormal radiation alarms, there was no
8 release in progress. We went through the three
9 barriers as far as the fuel, the RCS and the
10 containment, and there was a discussion at some
11 point in time on exactly what EAL we are in. And I
12 think both of us were very hesitant to overlook
13 that site emergency.

14 MR. BELL: But neither one of you are at
15 the plant.

16 MR. QUENNOZ: Neither one of us are at
17 the plant. We had said, Look, what help do they
18 need? Do they really need people trying to
19 calculate off site doses. Do we need people to be
20 preparing for evacuation of the public or something
21 of that sort?

22 And it really convinced us what was needed
23 right now was to get the technical section in and
24 work through the analysis, post-trip analysis. We

1 needed to get maintenance in to work on some of
2 these problems.

3 We left it that Bill wanted to get in,
4 the same with with me; I wanted to get in the plant.
5 We left -- he said that he had told Teddy Lehman
6 that things were settling down, look at the EALS
7 and use his best judgment. He told Ted he called
8 Louis, and Louis was coming in, and both himself
9 and myself were on the way in and to use his best
10 judgment. And we got -- I got into the car and
11 came on in.

12 MR. LANNING: What did you know about the
13 transient that the steam generators have undergone?
14 In other words, at this time, did you know that all
15 the inventory in the steam generator had been
16 depleted or not?

17 MR. QUENNOZ: On the second -- the first
18 call we had, we had inventory. On the second call,
19 I assume we were -- we had built up from that point
20 on.

21 Now, I know the ATOG procedure calls for
22 startup feedpump. I'm really not sure if we
23 discussed generator levels. I think we said that
24 we never got below ten inches, which was what we

1 consider a dry steam generator, that or nine
2 hundred and sixty pounds.

3 MR. LANNING: So at this time it's your
4 understanding that the steam generators had not
5 gone dry?

6 MR. QUENNOZ: I'm pretty sure he said
7 they never got below ten inches.

8 MR. BEARD: I guess from your own
9 knowledge of the plant performance and experience,
10 Steve, you know if they lost main feed and aux feed,
11 levels are going to come down. And the question of
12 whether it dries out or not depends on how soon
13 they get the pumps back.

14 MR. QUENNOZ: Exactly.

15 MR. BEARD: So you knew from your own
16 thinking whether we discussed it or not you were
17 losing level and I guess you may have presumed they
18 turned it around before they dried it out. Is that
19 the kind of thing you are telling us?

20 MR. QUENNOZ: That's the kind of thing
21 where I hate to say that exactly, since you are
22 kind of putting words in my mouth.

23 MR. ROSSI: Why don't you let him say it
24 the way he ought to say it.

1 MR. QUENNOZ: That is the way I was
2 thinking at the time. We really were trying to resolve
3 whether we should cover our butt by declaring that
4 site emergency, and I think we --

5 MR. BELL: Excuse me. What do you mean
6 by that?

7 MR. QUENNOZ: Well, we both --

8 MR. BELL: From a regulatory point of
9 view or from a necessity point of view to take care
10 of the plant?

11 MR. QUENNOZ: We had resolved in our mind
12 we did not need it for a regulatory point of view,
13 but we were in a gray area as far as we did have
14 one and we didn't want to go around trying to just
15 overlook that fact, and it was a consideration in
16 my mind. We had resolved previously that we had
17 enough people going out to support the plant and we
18 were going to get more people and that there was
19 not a need for analysis and assessment and all the
20 agencies.

21 MR. BELL: I think you answered my
22 question. Would you continue, please.

23 MR. ROSSI: Let's see. You were on the
24 phone still talking with Bill O'Connor.

1 MR. QUENNOZ: With Bill.

2 MR. ROSSI: When did you terminate the
3 phone call and why don't you just proceed to when
4 you went to the plant?

5 MR. QUENNOZ: Okay. After that I got to
6 the plant. I was later than Bill and Louis.

7 Oh, no, wait a minute. Excuse me. I
8 told Bill -- I live farther away than Bill. Bill
9 is closer, and I told him to call Terry Murray
10 because I know he could beat me in and I knew that
11 he was on the phone and had all the details.

12 I said, Please call Terry, give him a
13 status report, and I'll go in. I got in the car,
14 and I got going. I needed gas. I turned around,
15 got gas, came on in. So I was later than the rest
16 of them.

17 MR. BELL: Let me interrupt you at one
18 point. We have already apologized for Mary in
19 giving the appraisal of how the operators were acting.
20 How did you feel at this time? Were you also very
21 nervous? Did it shake you up?

22 MR. QUENNOZ: Well, yeah, it shook me up.
23 But I don't think I was nearly as nervous as the
24 operators were. I had enough time to recollect on

1 exactly what the EALs were, what some of the other
2 requirements, what they would be going through as
3 far as the other procedure. I think Bill and I
4 both knew we had to go on with makeup HPI cooling.
5 We wanted to get them in the right direction.

6 MR. BEARD: Was getting them in a
7 procedure, Steve, was that in effort to assure the
8 appropriate safety actions were taken, although
9 that's of course critical. But I get the
10 impression what you are thinking was more along the
11 line of calming down the operators and getting them
12 in a mode that's more effective to doing the right
13 thing as much as it was to make sure the right
14 procedures were done?

15 MR. QUENNOZ: Both. But it turns out on
16 the next phone call, Bill said, Hey, they were in
17 and they were going. He said, They pretty well had
18 the situation under control at all times, and
19 subsequent analysis shows that they were heading in
20 the right direction. That was the perception that
21 he got over the phone.

22 MR. BELL: It was more of the excitement
23 at the moment than really being nervous. They were
24 performing in a professional manner in your opinion?

1 MR. QUENNOZ: From what we see of the --
2 their actions post-trip, I think they performed in
3 a commendable fashion and I think they demonstrated
4 they were always going in the right direction.
5 That was the thing I got out of it, that they knew
6 where the plant was and they were proceeding in
7 that direction. That when they did have problems,
8 they recognized them, took action to correct it,
9 and got right back on track. And in that case, you
10 know, I'm personally very proud of the operators.
11 I think we all are.

12 MR. BEARD: Steve, in view of time, let
13 me interrupt the normal sequence and cover
14 something in a minute. One of the things I would
15 like to cover and we are on some time constraints
16 is the post-trip review process and procedure that
17 you have here at your plant and to what extent you
18 have completed the implementation of that for this
19 particular event. What I would like to suggest is
20 could we enter into the record, if it is already
21 with you, a copy of the procedure and then spend
22 about one minute telling us roughly how far along
23 you are at this point in time on that and then
24 return. I would like to get that in before we

1 finish the interview.

2 MR. QUENNOZ: I'm not sure if I have got
3 it, if they made a copy of it and brought it in.

4 MR. BEARD: That's fine. Off the top of
5 your head, about where you are. Are you halfway
6 through, 90 percent, 10 percent? Do you have a
7 feel for that?

8 MR. ROSSI: Let me go back just a minute,
9 before you answer that. I wonder if before you
10 answer where you are, could you give us a brief
11 summary about what your procedure requires with
12 respect to post-trip review and what kind of
13 documentation is required by it and then tell us
14 where you are.

15 MR. BEARD: That would be fine.

16 MR. QUENNOZ: Well, we had an addendum to
17 our trip recovery procedure that actually we had
18 prior to the ATWS/Salem incident. It really was an
19 effort to make sure that we didn't start up with
20 having the trip properly analyzed.

21 We because of that with Salem beefed that
22 up to include a much more thorough review of it,
23 but basically what it encompasses is the STA will
24 review the post-trip data and try to identify

1 anomalies in the plant performance, and he will
2 also, as is prompted by a number of questions on
3 plant parameters, it would be he insures safety
4 limits were not exceeded or technical
5 specifications were not exceeded.

6 And basically it's a structured review
7 process, fairly simple, but it gets him to the
8 point where there is no unreviewed safety questions
9 in that particular trip. And if necessary, if he
10 sees anomalies which he's not satisfied with, it
11 bucks a problem on up to other people, such as the
12 station review board. And there are sign-offs on
13 it for management and by the shift supervisor that,
14 you know, the STA that they have completed their
15 reviews.

16 Now, we also have a program that's
17 incorporation with B & W; it's called transient
18 assessment plan. The owners of the particular
19 reactors participate in that program and they
20 prepare a report, a very detailed report of every
21 trip or event of interest to other B & W utilities.
22 And it is a practice to have the personnel from the
23 tech section, predominantly Stan Batch, Jim Marley
24 or Jacques Lingenfelter come in and review the data.

1 We have a computer, a data acquisition
2 display computer which will log data over a
3 twenty-four hour period, and what they do is come
4 in, get it printed out. He has a graphical plotter
5 display that they can get plots out so we can
6 analyze the data, and they will come in and grab
7 what we call the sequence of events, post-trip
8 review, and also the alarm typer and they will go
9 through it in detail.

10 MR. ROSSI: Let me stop you just a minute.
11 The sequence of events, that's a computer printout?

12 MR. QUENNOZ: That's a high speed
13 computer printout by our MODCOMP that has what we
14 call some very selected SOE points. It is down to
15 the millisecond logging range. And it will log the
16 actuation of all your major safety systems such as
17 your RCS and your ARTS, SFRCS and SFAS so you can
18 reconstruct it.

19 MR. ROSSI: Then you mentioned a post-trip
20 review?

21 MR. QUENNOZ: Post-trip review.

22 MR. ROSSI: That's the analysis that's
23 done by the STA people or is that a computer
24 printout also?

1 MR. QUENNOZ: No, sir. That's a subroutine
2 that prints out fifteen minutes before the accident --
3 the event that trips the Sequence Of Events, and
4 also I think thirty minutes afterwards. And it
5 logs them in up to fifteen-second intervals. And
6 what it does is it supplies you with a chronology
7 of plant parameters prior to and after they trip to
8 aid your analysis.

9 That's what we used to have per our
10 process computer, and we would actually have
11 students or engineering plot out those. Subsequently
12 we have got another computer system that interacts
13 with process computers, it has fiberoptic
14 connections and it's in this building here and it
15 will log several hundred parameters for subsequent
16 printouts. I forget what the logging interval is,
17 but I think it's down to the second on the DADS
18 system. But it will also plot out those parameters
19 pretty quickly so we can have a better analysis of
20 the trip.

21 MR. ROSSI: And then you mentioned the
22 data acquisition?

23 MR. QUENNOZ: That's the DADS that we
24 call it, the data acquisition display system.

1 MR. ROSSI: And that's a third essentially
2 computer printout kind of --

3 MR. QUENNOZ: Exactly.

4 MR. ROSSI: -- the third one. The three
5 are Sequence Of Events, the post-trip review and
6 the data acquisition?

7 MR. QUENNOZ: And display graphs and data.

8 MR. BEARD: Steve, can I ask a point of
9 clarification? These post-trip reviews printout
10 you referred to, would that be printed on the same
11 page as with the alarm printer, like the Sequence
12 Of Events is?

13 MR. QUENNOZ: No. The alarm, the alarm
14 printer will printout on a typer that we have in
15 the control room proper. And the CRT will flag the
16 post-trip review and the Sequence Of Events when
17 they are ready. And the operator will have them
18 print it out on what we call a chain printer in the
19 computer room. They will print those out.

20 MR. BEARD: Let me ask a question of the
21 team. Have we requested or have we received a copy
22 of that particular printout?

23 MR. BELL: I don't think so.

24 MR. BEARD: I don't think we have been

1 aware that that was the type of thing we should
2 have asked for. And it may be, Steve, we have not
3 asked for it, and I would like to do so at this
4 time.

5 MR. QUENNOZ: Okay.

6 MR. SIMON: I was told you did have it.
7 I had the originals. We had copies all over, but --

8 MR. BELL: How many pages are in this
9 document?

10 MR. SIMON: The post-trip review is
11 fairly thick.

12 MR. BELL: It would be thirty pages?

13 MR. SIMON: Or more.

14 MR. ROSSI: That may be the one that you
15 and I were looking at yesterday.

16 MR. BELL: It has red writing on it post-trip
17 review, Sequence Of Events. Sequence Of Events is
18 a single page.

19 MR. BEARD: We got a computer printout,
20 but I was under the impression it was the DADS
21 printout.

22 MR. BELL: It looks more of an alarm listing
23 than it does a post-trip review, the document we
24 have.

1 MR. QUENNOZ: If you have got one on a
2 little short piece of paper eight and a half by
3 eleven --

4 MR. ROSSI: I think rather than talk
5 about that right now --

6 MR. BURNS: Sort that out later.

7 MR. ROSSI: That's a simple thing to do.

8 Why don't we let him tell us whether --
9 we are going to want to interrupt this interview
10 and go on the plant tour here in a minute. But
11 before we do that, could you answer two questions I
12 guess.

13 First question is for this kind of event,
14 does that trigger a special kind of a post-trip
15 analysis according to your procedure? Clearly you
16 are doing a special kind, but according to your
17 procedure, does this kind of an event trigger a
18 special type of review?

19 MR. QUENNOZ: They are at the point right
20 now where they can't sign off the unreviewed safety
21 question issues, so they are at all stop. They
22 will have to get, realizing now we have a major
23 effort underway by our people to provide action
24 plans for corrective action, they have just

1 deferred that knowing we are not going to be starting
2 up in the near future.

3 But normally in a normal situation, if
4 they get to a point which is after they describe
5 the event and the detail that they feel adequate,
6 and it comes down to the point where they have to
7 sign off, the shift's technical advisor and the
8 shifts supervisor have to sign off two major
9 questions they have got to the root cause, and that
10 there is no safety limits exceeded.

11 If they can't sign that off, then that
12 kicks it out of their hands and it is into the line
13 management of the station to develop whatever
14 processes are necessary to satisfy them so they can
15 get that signature.

16 MR. ROSSI: Okay. That's in your
17 procedure, that it gets bumped up if they can not
18 sign off the unresolved safety issues?

19 MR. QUENNOZ: Yes.

20 MR. BELL: One short question. Seems
21 like the event can be divided into several areas.
22 First, for some unknown reason, No. 1 main feedpump
23 was lost. But you still had No. 2 main feedpump?

24 MR. QUENNOZ: That's correct.

1 MR. BELL: At that point in the transient,
2 the plant would have been expected to behave
3 normally. Don't let me put words in your mouth.
4 Please interject if I'm incorrect.

5 MR. QUENNOZ: That's true.

6 MR. BELL: The second occurrence, for
7 some unknown reason the Main Steam Isolation Valves
8 closed?

9 MR. QUENNOZ: Uh-huh.

10 MR. BELL: Now we are into a loss of
11 normal main to feedwater. Had that not occurred,
12 the plant would still be in a normal transient?

13 MR. QUENNOZ: Uh-huh.

14 MR. BELL: So really the initiating event
15 that caused this abnormal transient was the
16 closures of the Main Steam Isolation Valves?

17 MR. QUENNOZ: Uh-huh.

18 MR. BELL: The third thing, had those
19 Main Steam Isolation valves -- either gentleman may
20 respond. Had those Main Steam Isolation Valves not
21 closed, the personnel error of pushing the wrong
22 buttons would not have occurred?

23 MR. SIMON: That's correct.

24 MR. ROSSI: Okay. Why don't you just

1 give us a brief statement of how far along you are
2 in the post-trip analysis, and then I would suggest
3 we terminate.

4 MR. BEARD: Before you do that, could you
5 describe the two documents that are on the table so
6 they can be properly entered?

7 MR. QUENNOZ: Yes. One is PP, which is
8 plant procedure 1102.03 called trip recovery.

9 MR. BEARD: Could that be identified as
10 Exhibit 1 for this interview.

11 MR. QUENNOZ: And the next down is an
12 informal document called the post-trip review
13 guidelines, and it is internal to the technical
14 section which provides them guidance on how to
15 properly review a reactor trip.

16 MR. BEARD: Could that be marked as
17 exhibit two? And I would like to just say that the
18 information you presented us does not include any
19 results of this procedure for this event; is that
20 correct?

21 MR. QUENNOZ: That's correct.

22 MR. BEARD: Okay. Excuse me for
23 interrupting.

24 MR. ROSSI: Why don't you just give us a

1 very brief statement on how far -- I'm not even
2 sure this is worthwhile, getting a statement on how
3 far along they are. You know, it's such a
4 complicated event, why don't we just wait and talk
5 to him about it.

6 MR. BEARD: Let me ask a specific
7 question that would focus on it. I would presume
8 the procedure you described, the STA would do most
9 of the work, and it would include his development
10 of a Sequence Of Events and other things of that
11 manner and then there would be some assessment made
12 from that. Have you gotten to the part where he's
13 developed some Sequence Of Events and then you are
14 at the point where they make a determination on the
15 safety question and they are at a stoppage there?
16 Can you give us some feel as to what has happened?

17 MR. QUENNOZ: Well, once it's out of the
18 STA's hands, once he says there is a safety concern
19 I think is a better word for it, it is turned over
20 to the station at that point in time, realizing
21 that STA is on a rotation. He's out of the picture
22 except for just, you know, just interviewing him as
23 far as that. The station now is working actually.
24 It's out of the STA's hands and it's in the

1 station's hands, and we are in the process of
2 developing action planning teams and assigning
3 leaders.

4 And I think I did the initial part of
5 that, of identifying the concerns we want to
6 address, who the people are and who has lead
7 responsibility. And those individuals are working
8 with their engineering counterparts, with their
9 station counterparts, bringing in consultants and
10 the vendors and also architect engineers and our
11 NSSS vendor.

12 MR. BEARD: I think I know where you are
13 at the moment, Steve. If we review this procedure
14 and we get to the point there is a requirement to
15 make a determination with regard to the safety
16 question concerned, would it be reasonable to say
17 that's the point where you are in this procedure?

18 MR. QUENNOZ: Correct.

19 MR. ROSSI: Okay. What we will -- we
20 were at the point in terms of talking about the
21 event and what Steve Quennoz did at the time of the
22 event. We were basically at the point where you
23 were headed to the site. I don't think you had
24 gotten to the site in the interview as yet.

1 So what we will do is stop now and we
2 will just have to come back later and talk to you
3 about the events that occurred after you got to the
4 site, and then we will be talking to you about a
5 number of things that have to do with post-trip
6 reviews and I'm sure numerous other things with
7 respect to the plant status that occurred in the
8 days after the event. We will come back.

9 MR. BEARD: I would like --

10 MR. ROSSI: Let's just terminate the
11 interview.

12 - - - - -

13 Thereupon, the interview was
14 concluded at 11:05 o'clock a.m.

15 - - - - -

CERTIFICATE

I, Nicholas Marrone, a Registered Professional Reporter and Notary Public in and for the State of Ohio, do hereby certify that I took the aforementioned interview 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 Registered Professional 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 16th day of June, 1985.

Nicholas A. Marrone
NICHOLAS A. MARRONE, Registered
Professional Reporter, Notary Public
in and for the State of Ohio.

My Commission expires November 1, 1987.