

BEFORE THE FACT FINDING TASK FORCE
OF THE NUCLEAR REGULATORY COMMISSION

* * *

Re:

Davis-Besse event :
of June 9, 1985 :

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INTERVIEW OF TED LANG

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Interview of Ted Lang by the Nuclear Regulatory
Commission Fact Finding Task Force, taken before me, Kim
E. Snyder, 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 Tuesday, June 18, 1985, commencing at 9:26 o'clock
a.m.

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1 Tuesday Morning Session

2 June 18, 1985

3 9:26 o'clock a.m.

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6 are going to be interviewing Ted Lang this morning who is the
7 STA, which is the Shift Technical Advisor, during the
8 June 9 event.

9 And, first of all, Ted, let me ask you, you
10 have asked for someone to be present during your interview?

11 MR. LANG: He sort of volunteered for it.
12 It is fine with me. I don't mind.

13 MR. ROSSI: So David Lewis, who is an attorney,
14 is here with Ted Lang at your request or at least with
15 your permission?

16 MR. LANG: Right.

17 MR. ROSSI: Ted, why don't you start out
18 by telling us what your position is and a little bit
19 about your background, you know, how long you have
20 been with the company and that.

21 MR. LANG: Well, I am shift technical
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1 APPEARANCES:

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Shaw, Pittman, Potts & Trowbridge

4

1300 M Street, N.W.

5

Washington, D.C.

6

By Mr. David Lewis,

7

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On behalf of Mr. Lang.

9

10

11 MEMBERS OF THE TEAM:

12

Ernie Rossi

13

Wayne Lanning

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RUNFOLA & ASSOCIATES (614)445-8477
COMPUTERIZED TRANSCRIPTION

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MR. ROSSI: Ted, why don't you start out by telling us what your position is and a little bit about your background, you know, how long you have been with the company and that.

MR. LANG: Well, I am shift technical advisor, like you said. I have been with the company, let's see, I started in August of 1981. I

1 started out in the operation section as an engineer
2 there and then went into training for STA and began
3 as an STA in January of this year.

4 MR. ROSSI: Do you have a reactor
5 operators license --

6 MR. LANG: No.

7 MR. ROSSI: You are trained just as an STA
8 then?

9 MR. LANG: I have a master's and
10 bachelor's in mechanical engineering from Ohio State.

11 MR. ROSSI: Master's and bachelor's?

12 MR. LANG: Yes.

13 MR. ROSSI: Why don't you tell us -- just
14 start and tell us what happened after you came on
15 shift on June 9.

16 First of all, what time did you come on
17 shift?

18 MR. LANNING: When did you become an STA?

19 MR. LANG: I started on the job January of
20 this year towards the end.

21 MR. ROSSI: Well, start and tell us, you
22 came on shift on June 9 at what time?

23 MR. LANG: It would have been on the 8th,
24 Saturday morning. We run -- it is a 24 hour shift

1 going from roughly 8:00 o'clock in the morning to
2 8:00 o'clock the following morning.

3 MR. ROSSI: 24 hour shift. 8:00 o'clock.

4 MR. LANG: Saturday morning the 8th.

5 MR. ROSSI: To 8:00 o'clock Sunday morning.
6 That would be the normal shift?

7 MR. LANG: Right.

8 MR. ROSSI: So you came on at 8:00 o'clock
9 on Saturday morning. And are you in the control
10 room during the entire time or --

11 MR. LANG: No. We are to spend some time
12 in the control room keeping abreast of plant
13 conditions.

14 And then per the administrative procedure
15 that governs us, we are supposed to sleep as much as
16 is required in order to maintain alertness if
17 anything should happen and remain on site, be able
18 to respond to the control room within ten minutes of
19 a list of different events like trips and things
20 like that.

21 MR. ROSSI: Where do you sleep when you
22 are on site?

23 MR. LANG: There is sort of a little
24 apartment room in this building.

1 MR. ROSSI: So you sleep in an apartment
2 building or apartment like -- apartment type room?

3 MR. LANG: A room in this building, yeah.
4 It's got a bath and bed and TV and stuff.

5 MR. ROSSI: And could you just give a
6 general feeling for how far -- where the room that
7 you sleep -- well, first of all, let me go to the
8 question that may save us some of the other
9 questioning.

10 At around midnight or prior to the event,
11 where were you?

12 MR. LANG: I was asleep.

13 MR. ROSSI: Okay. Why don't you tell us
14 then about how far the room that you were sleeping
15 in is from the control room roughly. Or --

16 MR. LANG: Well, it is in this building on
17 the north side of it and then there is that gate,
18 you know, that runs between the two parking lots
19 they have locked up at night.

20 We park on the plant side of that and then
21 just go straight out the access road into the plant.
22 I would guess somewhere around a half mile or
23 quarter of a mile. I never really measured it.

24 MR. LANNING: This building is not really

1 on the station site; is it?

2 MR. LANG: It is considered to be. It is
3 not in the protected area, but it is still the site.

4 MR. ROSSI: What is the name of this
5 building? Is it an administrative building?

6 MR. LANG: We always call it DBAB, D-b-a-b,
7 Davis-Besse Administration Building.

8 MR. ROSSI: DBAB building, and it is
9 outside the protected area.

10 Okay. Why don't you then start with when
11 you first found out that anything in the way of an
12 event was going on. You were sleeping at the time
13 and proceed from there.

14 MR. LANNING: Before we get into that, I
15 would like to better understand what the
16 responsibilities are of an STA and what part of this
17 24 hours are you expected to be doing something
18 besides sleeping, I guess.

19 MR. LANG: Okay. There isn't -- during
20 the 24 hour part of the shift there isn't really
21 exact guidelines as to how much you are supposed to
22 sleep or not.

23 I guess that's between the supervisor and
24 the person. The idea though is to, you know, like I

1 said, to spend as much time as you need to keep
2 abreast of plant conditions.

3 In other parts of the time we might be
4 over at the plant in the office there working on
5 reviewing LER's or SOER's, different documents,
6 sometimes are responding to them or just reviewing.

7 So there is some outside duties that just
8 have to do with day-to-day operations of the plant.
9 And then if we should be called to the control room,
10 then we are to serve as sort of an extra set of eyes
11 on things.

12 Rather than getting involved with the fine
13 details of any event, we are supposed to stand back
14 and get an overall view and make sure that nothing
15 major is overlooked.

16 MR. LANNING: Organizationally who is your
17 supervisor?

18 MR. LANG: Frank Swanger.

19 MR. LANNING: What position --

20 MR. LANG: He follows -- well, there is
21 Bill O'Connor that is the operations superintendent
22 and then Frank Swanger answers to him.

23 MR. LANNING: I am sorry.

24 MR. LANG: Frank Swanger answers to Bill

1 O'Connor, who is the operations superintendent.

2 MR. LANNING: So he is the assistant
3 operation --

4 MR. LANG: No, he is the shift technical
5 advisor supervisor.

6 MR. LANNING: Go ahead.

7 MR. ROSSI: Well, now that Wayne has asked
8 some questions like that, let me ask another
9 question.

10 On Saturday at 8:00 o'clock you came on
11 shift at 8:00 o'clock in the morning. Could you
12 sort of generally describe in just very generally
13 what you did on Saturday prior to coming here for
14 rest into this building.

15 What sort of things did you do during your
16 shift up until the time of the event?

17 MR. LANG: I don't remember exactly what I
18 was working on that day because the event sort of
19 obliterated any memory of that type of thing.

20 MR. ROSSI: What do you remember, were you
21 in the control room for a part of the time Saturday?

22 MR. LANG: Oh, yeah. Well, during turn-
23 overs we have to be there, 8:00 o'clock and 4:00
24 o'clock turnovers.

1 MR. LANNING: These are shift turnovers?

2 MR. LANG: Right. And then usually
3 following that I will go over to the control room
4 and review the reactor operator's log, things like
5 that, talk to them a little bit and see if anything
6 unusual is going on that they are aware of and if
7 anything special is going on or if they need a lot
8 of some typing work done or something, I can do that.

9 There wasn't anything like that that day.
10 It was extremely quiet. In fact, I think we kind of
11 commented on how still everything was.

12 MR. ROSSI: The plant was at steady state
13 all through that day?

14 MR. LANG: Yes, normally on the weekend we
15 have some load reduction for the load dispatcher,
16 and we were staying at 90 percent all weekend.

17 MR. ROSSI: Can you remember anything else
18 unusual about the operation in the plant between the
19 time you came on shift and the event?

20 MR. LANG: I could look back at the notes
21 that we keep through the day, but I don't remember
22 anything unusual at all.

23 I know that on number one main feed pump
24 we had a whole lot of instrumentation hooked up and

1 that type of thing, but that wasn't really unusual.

2 MR. ROSSI: Okay. We have been told. We
3 won't go into that again.

4 why don't we go then to when you first
5 learned that there was a problem and how you learned
6 about it.

7 MR. LANG: Okay. Well, I was asleep, like
8 I said, and the phone rang I think around 1:40, 1:40,
9 1:42, somewhere in there. It was Ted Lehman who
10 called me.

11 He was the shift supervisor, and it was a
12 pretty brief call. And he just said we are down,
13 get over here. That was it.

14 And I started to leave. As I was heading
15 out the door, the phone rang again. The
16 administrative assistant was calling too.

17 MR. ROSSI: So you then left to go?

18 MR. LANG: To the control room.

19 MR. ROSSI: And did you walk there or run?

20 MR. LANG: No, drive.

21 MR. ROSSI: Drive, okay.

22 MR. LANG: I think I went through pretty
23 quick because just from the urgency in Ted's voice
24 it sounded like maybe it was a little more than

1 usual.

2 That's kind of conjecture there though.

3 When I went out the door, there weren't
4 any safeties lifting at the time, which I thought
5 was a little unusual, but you don't know, maybe it
6 just got called a little late because you really
7 can't hear anything of the plant down in that room
8 that's got a few walls between outside.

9 As I more or less rushed in one safety
10 just kind of lifted briefly and then I could see
11 some exhaust coming out of the aux feed pump exhaust,
12 but it wasn't a full run exhaust. It was just a few
13 puffs and wisps.

14 MR. ROSSI: Then you had to go through the
15 security to get into the plant itself?

16 MR. LANG: Yeah. Normal security a little
17 bit of delay, of course, at the explosives sniffer
18 and then through the metal detector.

19 I yelled at the guards to get me my badge
20 as I was going through those, and there really
21 wasn't any delay to speak of.

22 MR. ROSSI: Then you went directly to the
23 control room then?

24 MR. LANG: Yeah. I think I may have

1 violated our no running policy.

2 MR. ROSSI: Okay. So you got to the
3 control room. That was the first place you went
4 when you got to the plant after going through
5 security.

6 And why don't you tell us now what the
7 status of the plant, as best you remember it, was
8 when you got to the control room.

9 MR. LANG: When I got up to the control
10 room, we were already into the loss of feed water,
11 the main and aux feed water. I don't know exactly,
12 you know, where into the whole thing I went in.

13 I would guess somewhere around eight or
14 ten minutes into the event because it would have
15 been probably five minutes or so until he called and
16 it would have taken another five or so to get over
17 there.

18 MR. ROSSI: And can you kind of describe
19 what was going on in the control room at that point
20 in time?

21 MR. LANG: Ted Lehman was standing next to
22 Brian Young who was trying to get the -- he was at
23 the pistol grips on the aux feed pumps trying to get
24 them to respond, which they weren't.

1 Let's see now, I forget the guy at the
2 primary panel. I have forgotten his name now. It
3 has slipped me.

4 MR. ROSSI: Rick Walleman.

5 MR. LANG: Yeah. He was at the primary
6 panel paying attention to that. The ATOG procedure
7 was laying -- I don't know if we call it ATOG
8 anymore, EP 1202.01.

9 MR. ROSSI: What's the number again?

10 MR. LANG: 1202.01.

11 MR. ROSSI: Was opened.

12 MR. LANG: It was in the supplementary
13 action section, and I don't remember exactly where
14 in there.

15 MR. ROSSI: Where was it located?

16 MR. LANG: On the reactor operator's desk.

17 MR. ROSSI: And was someone using it at
18 the time or reading from it?

19 MR. LANG: It was open, as best I could
20 tell, at the time to the section it should have been
21 opened to and so I -- whether or not they might have
22 come to a particular step and then were attending to
23 it, but nobody was standing next to it reading it
24 when I walked in.

1 MR. LANNING: Was the assistant shift
2 supervisor in the control room when you arrived?

3 MR. LANG: You are talking about Steve
4 Feasal?

5 MR. LANNING: Yes.

6 MR. LANG: He was running back and forth,
7 basically -- well, not necessarily running, but you
8 know what I mean between the control room and the
9 cabinet room.

10 There were lots of enunciators on. I
11 couldn't begin to name all of them, but some of them
12 were the SFRCS enunciatros. And since they were
13 working on aux feed pumps obviously we had SFRCS
14 actuation.

15 And from what I heard afterwards I think
16 what he was doing was running back and forth trying
17 to reset the SFRCS lodging.

18 MR. ROSSI: All right. And then do you
19 know who made the first telephone call to NRC
20 headquarters, was that you or was that -- had that
21 been done by the time you got there?

22 MR. LANG: The NRC may have been contacted
23 first by anybody immediately on the trip. I don't
24 know whether that was done. That would have been

1 before I was there.

2 As far as specific information about the
3 feed pumps, them tripping, that type of thing, that
4 was me.

5 MR. ROSSI: At about what point did you do
6 that?

7 MR. LANG: It was just shortly after the
8 first aux feed pumps -- well, after both trains came
9 back. They came back pretty close together.

10 MR. LANNING: Were you requested to make
11 this phone call or is this part of your normal
12 responsibilities?

13 MR. LANG: That's kind of a transition. I
14 should say it is kind of a suspended transition
15 right now. In the past and currently, it is the
16 shift supervisor's responsibility to see that those
17 things are done.

18 This call would have been made for
19 information, you know, about the specific cause of
20 the event which would have been, you know, putting
21 this into the emergency plan.

22 Declaring something under the emergency
23 plan will be according to our current, I don't know --
24 well, our current plan for the future, the STA's

1 will be giving or being the interim EDO. Right now
2 we are not because we are not fully trained on it.

3 MR. ROSSI: But the first call that you
4 made to the NRC after you got there --

5 MR. LANG: You asked me whether or not I
6 was told to do it. I think I asked Ted Lehman if he
7 wanted me to call, and he said yes. I believe
8 that's the way it went.

9 MR. ROSSI: And I think you indicated that
10 at the time of your call, both aux feed trains were
11 back?

12 MR. LANG: At the time when I called the
13 NRC, yeah.

14 MR. ROSSI: That was the first time you
15 called the NRC.

16 MR. LANG: Right.

17 MR. ROSSI: Okay. Why don't you just
18 proceed with what you observed after you got into
19 the control room.

20 When you got there you indicated that they
21 were without both main and aux feed, and that Steve
22 Feasal was going between the control room and the
23 cabinet room to take actions of some sort.

24 What else did you observe then?

1 MR. LANG: I was trying to, at the time,
2 still when I first entered the control room like you
3 are talking about and even just before and shortly
4 after I first called the NRC trying to really decide
5 on where the plant was completely in its status.

6 When I called the NRC I think we were
7 pretty well stable by then, but prior to that, I was
8 just, you know, looking at RCS temperature and
9 pressure and noticed that there wasn't any aux feed
10 flow and that type of thing.

11 Since the procedure was still sitting on
12 the desk, I went to that a couple of times to check
13 to see if there was anything else, any other section
14 we should be in.

15 I turned over, I think it was -- I forget
16 the exact heading of it, the lack of heat transfer
17 check, I turned over to that. And it said to
18 initiate HPI like everybody was kind of anticipating,
19 I guess.

20 By the time I got there though, Feasal had
21 already gone over to start one of the pumps.

22 MR. ROSSI: By going over you mean?

23 MR. LANG: To the back panel and manually
24 starting it rather than waiting any longer on it.

1 MR. ROSSI: Starting one of which pumps?

2 MR. LANG: One of the HPI pumps.

3 MR. ROSSI: So he started an HPI pump.

4 Was this before he left the control room or --

5 MR. LANG: Well, again, he was kind of in
6 transit between the two. And exactly when he was
7 there and when he wasn't, I don't know. It would
8 have changed every 30 seconds probably or by the
9 minute anyway exactly where he was at any time.

10 MR. LANNING: When did he physically leave
11 the control room meaning he went through a door?

12 MR. LANG: I don't know that he ever left
13 in that respect. I consider the control room to be
14 the area in front of the panels and the cabinet room
15 not part of the control room although technically I
16 don't know.

17 MR. LANNING: That's what I thought.

18 MR. ROSSI: So you don't recall him
19 actually leaving the -- that entire control room to
20 go out into the plant?

21 MR. LANG: I don't remember him doing that.
22 I think I heard later on that he did, but my
23 observations weren't really geared to watching what
24 Feasal was doing.

1 MR. ROSSI: Do you recall about roughly
2 now long it was after you got into the control room
3 before they had aux feed water back to the steam
4 generators in one or both, roughly?

5 MR. LANG: I would say, again, I wasn't
6 timing it or anything, but in five minutes or less,
7 I would say.

8 MR. LANNING: After you --

9 MR. LANG: It is hard to judge time when
10 you are in that state though. Everybody has kind of
11 got their adrenalin moving and five minutes plus or
12 minus a hundred percent roughly.

13 MR. LANNING: Was the start-up feed water
14 pump running at the time you arrived at the control
15 room?

16 MR. LANG: From the conversation that I
17 overheard, I never specifically looked at it myself
18 that I remember, but I believe -- I know I heard
19 them talking about it so I knew it was being
20 attended to.

21 And I think it came on just a little bit
22 after I got there, maybe a minute or so, but that I
23 am not that much aware of. Start-up feed pump
24 doesn't have all that much flow and you want to get

1 it on, of course, to give you whatever it can, but
2 since I heard some discussion on it, I knew it was
3 being taken care of.

4 MR. ROSSI: During the time of between
5 when you got into the control room and when you
6 considered that the plant was in reasonably steady
7 state, safe condition, can you just describe what
8 you observed about the use of the ATOG procedures or
9 any other procedures.

10 How were they used? Did somebody read
11 from them? Did somebody have a check list or how
12 were they used?

13 MR. LANG: From what I saw, there wasn't
14 any formal use of it aside from it being open to the
15 right section.

16 MR. ROSSI: The right section being which
17 section?

18 MR. LANG: Well, it was the supplementary
19 actions and --

20 MR. ROSSI: To reactor trip?

21 MR. LANG: It was right about at the point
22 where it would refer you to go to lack of heat
23 transfer section.

24 So there was a step that asks you if you

1 had an SFRCS initiation and if you -- I don't
2 remember exactly how the steps go, but shortly after
3 that if you don't have feed water, it refers you
4 over to lack of heat transfer.

5 MR. ROSSI: So you didn't observe anyone
6 calling out from it or reading from it --

7 MR. LANG: No.

8 MR. ROSSI: Would your description of what
9 was going on being primarily the reliance on
10 training and knowledge of equipment rather than use
11 of procedures?

12 MR. LANG: Well, that's kind of hard to
13 say because they are intertwined together. The
14 training and use of equipment is also training on
15 the procedures so it wouldn't surprise me at all for
16 somebody to -- that's thoroughly trained, shift
17 supervisor or assistant to not even need to have the
18 book opened at all and yet still be able to recite
19 or follow through step by step exactly what it says
20 to do.

21 Most of the actions are pretty much
22 dictated by common sense anyway and the only thing
23 that you really need it for is to key you in so you
24 don't forget something. And from what I could see,

1 everything was done.

2 That's sort of one of the STA duties too
3 is to look at the procedure, where the plant is and
4 try to make sure that that is being followed along
5 with.

6 Like I said, although I didn't see anybody
7 reading the procedure, they did seem to be following
8 it.

9 MR. LANNING: Did the shift supervisor ask
10 for your assistance any time during this transient?

11 MR. LANG: He never asked me for anything
12 that I recall. Steve Feasal asked me once to get
13 out the emergency plan, and I was starting to get a
14 little uncomfortable myself even in the first few
15 minutes, the few minutes I was there before we had
16 aux feed back.

17 So I did go over and took out the
18 emergency plan and looked in that as to what
19 classification we would be in.

20 MR. LANNING: What did you determine?

21 MR. LANG: At the moment I picked up the
22 book, it would have been a site area emergency under
23 the loss of main and aux feed pumps. It is in loss
24 of shutdown function or something.

1 MR. LANNING: And did you tell the
2 assistant shift supervisor of your findings?

3 MR. LANG: I told him and Steve Peasal
4 also looked down at the book and saw the
5 classification. And we both more or less told him
6 at the same time.

7 Within a few seconds, within a minute
8 before or after of when we told him, we got back the
9 aux feed pumps. And so at that point then we really
10 weren't even in the emergency plan that I know of
11 any more.

12 MR. LANNING: When you arrived in the
13 control room, were any of the equipment operators or
14 auxiliary operators in the control room?

15 MR. LANG: I don't remember. I can't
16 picture anybody aside from the people that I
17 mentioned, but they could have been, you know,
18 leaving or coming in for information or orders or
19 something and I probably wouldn't have noticed them.

20 MR. LANNING: Have you been on shift when
21 there has been a reactor trip previously?

22 MR. LANG: This was the first one for me.

23 MR. ROSSI: This was the first time you
24 have been in the control room for a reactor trip?

1 MR. LANG: Yes.

2 MR. ROSSI: Is that for training or for
3 actually being on shift?

4 MR. LANG: I have been here before during
5 trips.

6 MR. ROSSI: In the control room.

7 MR. LANG: But this was the first time
8 that I was on duty.

9 MR. ROSSI: But you have been in the
10 control room at other times for reactor trip?

11 MR. LANG: I have never been in the
12 control room at the time of the trip. In fact, I
13 still haven't been.

14 MR. ROSSI: You weren't there for this one
15 either.

16 MR. LANG: But I have been in the plant
17 and then in the control room very shortly afterwards
18 before.

19 MR. LANNING: Can you briefly describe the
20 type of training that is provided for STA's.

21 MR. LANG: If I could get out the training
22 book, I could go through a whole lot of detail, but
23 basically we have classes usually given by, at least
24 when I took it, they were given by outside

1 organizations like General Physics or Nationals or
2 different organizations.

3 The classes covered things like reactor
4 theory, thermal sciences. There was some plant
5 specifics planning training.

6 We have to take or we had to take check
7 outs on the system similar to the reactor operator
8 check outs with the exception that ours weren't
9 quite as detailed on locations of various things
10 throughout the plant because the intention is that
11 we are going to be in the control room all the time
12 so if we know where a particular MCC is or something
13 it really isn't that significant although most of us
14 tried to know that anyway.

15 MR. ROSSI: Did you -- you made a
16 telephone call after, I think you said, after the
17 auxiliary feed water pumps were back to the NRC.

18 Did you make any other telephone calls
19 over the red phone during or after the event?

20 MR. LANG: Yeah, I spoke to the NRC. I am
21 not sure now how many calls I made. I made either
22 two or three calls.

23 MR. ROSSI: Over what kind of a time frame?

24 MR. LANG: Less than an hour, probably

1 over about a half hour time frame.

2 MR. ROSSI: What were the purposes of
3 those calls?

4 MR. LANG: The first time I called I spoke
5 to -- what was his name Dennis Marksburgy.

6 MR. ROSSI: Don, Don Marksburgy.

7 MR. LANG: Okay. The first time I called
8 I called simply to inform him of our status, that we
9 had tripped and that we had had a loss of all feed
10 pumps. And I told him that and that we appeared to
11 be stable at the time.

12 He also asked me some other questions that
13 I answered as best I could although some of them he
14 asked I didn't know and other ones I could answer.
15 And I don't remember exactly what the contents of
16 that was. I think he probably asked about steam
17 generator levels and things like that.

18 MR. ROSSI: By that time, what's the
19 status of the steam generators levels from what you
20 can remember at the time.

21 MR. LANG: I don't remember how many
22 inches they were at. Simply that they were at least
23 on the -- showing on the start-up range meters and
24 that RCS pressure was coming back into where it

1 should be and LTF was dropping.

2 MR. ROSSI: And then other calls that you
3 make just can you give us a general feeling for what
4 you told or as much as you can remember what you
5 told him.

6 MR. LANG: One thing he asked me for, he
7 asked me for the initial cause of the trip. That, I
8 didn't know at the time.

9 He also wanted to know what classification
10 we were making. And since I wasn't EDO, it wasn't
11 really up to me to make a classification.

12 So when I called back, I called him back
13 both to give him more information and to tell him
14 what classification we are calling in.

15 I spent a fair amount of time talking --
16 well, less than a minute but during that it is a
17 fair amount of time talking to Teddy Lehman trying
18 to get some type of emergency declared.

19 I know Steve Feasal kind of wanted to get
20 the TSC man. We both -- everybody knew that we were
21 out of the site area emergency, but then, like I
22 said, we weren't really in any specific part of the
23 emergency plan.

24 Maybe if SFRCS was inoperable, we could

1 hit into an unusual event under that. We didn't
2 know if it was inoperable at the time or if it is
3 now.

4 So there wasn't any particular reason to
5 be in the emergency plan, and that made a little
6 confusion as to what it should be.

7 Plus the fact that Ted Lehman, who would
8 have to declare what the emergency was, was still
9 busy operating the plant and making sure that it was --
10 that we weren't going to lose another aux feed pump
11 or anything like that.

12 MR. LANNING: So, in your opinion, you
13 thought it was someone else's responsibility to
14 inform the NRC of the type of event?

15 MR. LANG: As things were, I think
16 organizationally it probably is the shift
17 supervisor's responsibility, but he can delegate
18 that to somebody else.

19 So when I asked him if he wanted me to
20 call the NRC and he said yes, that's a delegation.
21 From then on it was my responsibility to notify them.

22 MR. LANNING: But when you talked to the
23 NRC, did you know, had you consulted the emergency
24 plan at this time?

1 MR. LANG: Yes.

2 MR. LANNING: So you knew that you had
3 been in an area site emergency?

4 MR. LANG: Yeah, I told him that had we
5 declared it at the time --

6 MR. ROSSI: You told him being?

7 MR. LANG: Don Marksburgy.

8 MR. ROSSI: Okay.

9 MR. LANG: I told him that we would have
10 been in a site area emergency had we activated the
11 plan immediately but that at that time it didn't
12 apply any more and that we were calling it -- well,
13 in a later call -- well, this was -- it was the same
14 call that I talked about the site area emergency,
15 but it was after the first call.

16 I told him that we were calling it an
17 unusual event just based on shift supervisor's
18 discretion that we didn't feel that the plant was
19 totally -- well, it wasn't as safe as what it would
20 normally be.

21 They were controlling one of the aux feed
22 pumps on the trip throttle valve locally, and the
23 other one the pistol grips weren't working right.
24 So between all of that, still everybody was kind of

1 uncomfortable. So we wanted to give some
2 notifications out.

3 MR. ROSSI: Okay. So is there anything
4 else that you remember about calls with the NRC that
5 you were involved in?

6 MR. LANG: After I told them that we were
7 declaring the unusual event, I didn't have any
8 reason any more to talk to the NRC.

9 Shortly before I told the NRC that, I
10 called the sheriff and made sure that some of the
11 other actions in the emergency plan were attended to
12 for unusual event.

13 MR. ROSSI: Let me ask you a question
14 about the start-up feed water pump, and I am not
15 sure whether you would know, and tell me if you
16 don't know for sure, but do you know whether the
17 start-up feed water pump can be used with out -- off
18 site power. Can it be loaded on a diesel, do you
19 happen to know?

20 MR. LANG: It can be, but it is not direct.
21 It isn't essentially powered so you have to back
22 feed a nonessential bus from an essential.

23 MR. ROSSI: Are there procedures, do you
24 know, for doing that?

1 MR. LANG: Yeah, yeah, there are. I can't
2 remember the number offhand.

3 MR. ROSSI: Do you have any more on this
4 part before we go on, Wayne?

5 MR. LANNING: Are part of your
6 responsibilities preparing a post trip report?

7 MR. LANG: There is a post trip review
8 sheet that is to be filled out by the STA and the
9 shift supervisor, mostly the STA, and that's in the --
10 well, it is in the trip recovery procedure.

11 MR. LANNING: What does that sheet
12 encompass?

13 MR. LANG: It asks about conditions prior
14 to the trip, what the cause of the trip was. It
15 asks, has a list of some various safety equipment,
16 wants to know whether they have actuated SFAS, SFRCS,
17 did the PORV lift, different things like that.

18 And then it also requires an STA and a
19 shift supervisor's signature that there aren't any
20 safety concerns that would prevent restart, and it
21 also asks if any safety limits were exceeded.

22 MR. ROSSI: Did you and the shift
23 supervisor begin to prepare that on June 9 or --

24 MR. LANG: Yes, it was hours afterwards

1 though. Finished it up probably around close to
2 8:00 in the morning. We did not sign the no safety
3 concerns section obviously.

4 MR. ROSSI: What happens when that can't
5 be signed by you?

6 MR. LANG: If that can't be signed, then
7 it requires a safety review board review before the
8 plant can be restarted.

9 MR. LANNING: What safety concerns did you
10 identify during this event at this time?

11 MR. LANG: Well, first of all, even though
12 main feed pumps aren't Q equipment --

13 MR. LANNING: What is Q equipment?

14 MR. LANG: I don't know exactly what it
15 stands for, quality or something like that, it is a
16 safety related equipment.

17 Even though the main feed pump isn't that,
18 I think you could consider it to be a safety concern
19 since it requires a back up to operate since it
20 doesn't work.

21 That's kind of a borderline call one way
22 or the other. Obviously the aux feed pumps fail to --
23 well, they did start, but they didn't keep running
24 and even if one of them hadn't started and kept

1 running that would have been a safety concern and
2 with both it obviously is.

3 We also didn't have the source range NI's
4 rating. That would be a safety concern.

5 It is hard to remember. There are so many
6 things that failed on us.

7 MR. ROSSI: Did you list all of the safety --
8 all the safety concerns that you could identify, did
9 you provide a list of the safety concerns when you
10 filled that out or did you just get to the point
11 where you would --

12 MR. LANG: I am having a hard time
13 remembering right now exactly everything that is on
14 the form. The signatures for the safety concerns is
15 just are there any and if you sign it, then it means
16 that everything was fine.

17 A lot of these concerns though do come out
18 in the other sections I think not under that
19 specific question though.

20 MR. ROSSI: So you don't recall or ever
21 remember providing an actual initial list of the
22 safety concerns. It is more a matter that you get
23 to this one point and you can't sign off that there
24 aren't any because there are some, but you don't

1 have to give a real list of them.

2 MR. LANG: Right.

3 MR. LANNING: We probably ought to get a
4 copy of that sheet. We have it. Okay.

5 MR. LANG: There is a little bit on there
6 that at the time we weren't aware of exactly what
7 caused different things so some of the information
8 that I filled out on there later on proved not to be
9 quite correct like the cause of the main feed
10 tripping turned out to be a loss of speed signal as
11 far as anybody knows now which wasn't known at the
12 time at all.

13 MR. LANNING: When did you become aware
14 that the PORV had actuated during the event?

15 MR. LANG: I was aware that it actuated
16 shortly after I was in the control room. A number
17 of -- on the order of minutes while I was trying to
18 acquaint myself with what was going on.

19 You could see it on the RC pressure trace
20 that pressure was running up -- I think the recorder
21 was showing 2300 instead of 2400 PSI, but it would
22 go up to that and drop down and come back up and
23 that in itself even if you didn't see the valve
24 lifting tells you that it was.

1 As far as its sticking open, I wasn't
2 aware that it stuck open until long after everything
3 had ended.

4 MR. ROSSI: Long after being while you
5 were still on shift or after you analyzed data later
6 on?

7 MR. LANG: After analyzing data later on.

8 MR. ROSSI: So even at the end of your
9 shift you weren't aware that the PORV --

10 MR. LANG: -- had stuck, no.

11 MR. ROSSI: To what extent after an event
12 like this and after you go off shift are you
13 involved in the post trip analysis? Do you get
14 involved in that then or does that go to other
15 groups to do?

16 MR. LANG: I guess it would be possible
17 that we could if we were requested to, but I wasn't
18 at all.

19 MR. ROSSI: So you were not really at all
20 involved in the analysis of this event after you
21 went off shift?

22 MR. LANG: Well, we had a little meeting,
23 not -- I don't know if I would call it a little
24 meeting or not, but anyway it was about 9:00 o'clock.

1 Most of the shift supervisors, well, Teddy Lehman,
2 Steve Feasal, Brian Young and I think Rick Walleman
3 was there too and Jacque Lingenfelter and Steve
4 Quinnoz and Bill O'Connor and me.

5 A few other people were in a meeting and
6 we were talking about what had happened, and we had
7 the sequence of events print-out and the alarm typer
8 print-out and all those things. And we were going
9 through it at that time, and that lasted for maybe
10 an hour and a half, two hours.

11 MR. ROSSI: That was on Sunday morning.

12 MR. LANG: Yes, over about 10:00. That
13 was the last I have talked about it officially until
14 now.

15 MR. LANNING: Does your training include
16 the use of the safety perimeter display system
17 during an event?

18 MR. LANG: We have had some training on
19 that. However, since it hardly ever works, it
20 doesn't really mean all that much.

21 MR. LANNING: I am not sure I heard your
22 answer.

23 MR. LANG: Well, it usually doesn't
24 operate during a trip. It dumps, and you don't have

1 any display any more.

2 MR. ROSSI: That's the SPDS?

3 MR. LANG: Yes.

4 MR. ROSSI: So after trips, it usually
5 isn't available for use?

6 MR. LANG: Right. Which is kind of an
7 ironic thing since that's what it was put in for
8 particularly in addition -- well, it helps for heat
9 ups and stuff.

10 We usually have a curve up for that, but
11 it would be nice to have it operating post trip and
12 give an awfully concise picture of what's going on.

13 MR. ROSSI: Do you know why it would not
14 work after trip?

15 MR. LANG: I don't have any idea. I am
16 not involved in that. All I can figure when the
17 perimeters are changing faster, it is quicker than
18 the computer can handle it, and it dumps or
19 something. I don't have the slightest idea.

20 MR. LANNING: How do you know that it
21 doesn't normally operate after a reactor trip?

22 MR. LANG: I have never seen it operate
23 after a reactor trip, and I have always heard
24 complaints that it doesn't.

1 MR. ROSSI: But you have been at the plant
2 and gotten into the control room fairly soon after
3 other reactor trips because at one point in time you
4 said this was really your first reactor trip on duty.
5 But you have been in the control room in the times
6 after other reactor trips and observed it not
7 working?

8 MR. LANG: Yes. I can't remember exactly
9 when. It doesn't have a high reputation for
10 reliability though. That particular thing doesn't.

11 It could be pointed out also though, of
12 course, it is not something that anyone should rely
13 on anyway.

14 If you have see a particular point on
15 there that the plant is supposed to be at, you
16 should look at the safety graduated instruments and
17 verify that, indeed, you are at that temperature and
18 pressure or flow, whatever you are looking at
19 because just standard computer reliability things
20 can freeze up and sometimes it will sit at some
21 particular point, and you will think it is current,
22 but actually it was a half hour ago or something
23 like that.

24 So it is not something that any operator

1 really relies on. And as far as I know, they just
2 sort of noticed that it wasn't working after things
3 end.

4 Now, if it was something reliable, I
5 suppose they could use it.

6 MR. ROSSI: You don't have any more.

7 MR. LANNING: I have no more.

8 MR. ROSSI: I don't have any more.

9 MR. LANNING: Prior to the interview, were
10 you advised by the company as to how you should
11 participate in this interview?

12 MR. LANG: Not at all except for just a
13 few minutes with the lawyer here. He didn't tell me
14 really anything specifically aside from just, you
15 know, tell the truth or whatever.

16 I kind of expected maybe to have a little
17 coaching or something, but there wasn't any.

18 MR. ROSSI: Let me just make sure.

19 MR. LANG: I don't have any reason to
20 expect it. It just seemed like it is an important
21 enough thing that somebody would --

22 MR. LANNING: Have you discussed with
23 anyone else who had been interviewed --

24 MR. LANG: No.

1 MR. ROSSI: I gather that from what you
2 had said that since your review of the event on the
3 Sunday morning following the event that you had not
4 really taken part in any subsequent evaluations of
5 the event or --

6 MR. LANG: In the way you are asking that,
7 that's right. I had one phone call from somebody in
8 licensing that just wanted to know what I told the
9 NRC when I talked to them on the phone. That's the
10 only thing I have had to do with it since.

11 MR. ROSSI: Have you discussed the event
12 much with other people that were on shift with you
13 at the time?

14 MR. LANG: I haven't discussed it at all
15 with any of them. I have with a few other people,
16 but I haven't -- just haven't had that much -- I
17 don't think I have seen Steve Feasal or Walleman or
18 Young since then or if I have, it was pretty brief
19 and --

20 MR. ROSSI: Have you been back on shift
21 since then?

22 MR. LANG: Well, today, for instance,
23 would be a duty day for me and so I am the STA, but
24 we haven't -- we are not required unless we are in

1 above Mode 5.

2 So we are here, but it is more for just
3 scheduling and that type of thing. It is not a
4 required position any more so I am on duty now but,
5 you know, it really doesn't matter.

6 MR. ROSSI: Anything else, Wayne? Okay.
7 Why don't we conclude the interview then and that's
8 it.

9 (Discussion held off the record.)

10 MR. ROSSI: Why don't we go back on the
11 record now.

12 I just wanted to say a few things about
13 what we are trying to do. We are interested in
14 collecting all of the factual information about what
15 occurred during the event and anything that can be
16 of value in learning things that were useful during
17 the event and how they were used.

18 So we are very interested in how
19 procedures were used, how training played a part in
20 the event, how equipment was used in the event.

21 And one of the questions, I guess, that we
22 didn't ask and while we are off the record, there
23 was a brief discussion that spurred us going back on
24 to the record for further discussion, but we are

1 interested in comments that you observed where NRC
2 requirements or procedures or plant procedures or
3 requirements, in your opinion, interfered with
4 maintaining the safety of the plant.

5 That's the best way to put it. So if you
6 have anything you want to say on things that you
7 observed during this event or during other times
8 that you have been an STA where procedures,
9 requirements, emergency plans, telephone calls to
10 the NRC, where any of that in your perception
11 interferes with maintaining the safety of the plant,
12 why don't you just tell us however you want to tell
13 us and we will probably ask a few questions about
14 what you are telling. So go ahead.

15 MR. LANG: Well, the major point is simply
16 that the emergency plan is initially implemented by
17 the shift supervisor. And the shift supervisor has
18 as his primary responsibility stabilizing the plant.

19 After he is done with that and he is
20 confident that it doesn't require his attention any
21 more, then he is supposed to go to the emergency
22 plan and make notifications, I think reserve order
23 of what I said, and in order for him to do -- well,
24 he has to be confident first.

1 That in some cases can lead to a
2 substantial delay in implementing the emergency plan.
3 In this case, I think it was probably just as well
4 that it was delayed. If we had declared a site area
5 emergency right away and then halfway through the
6 notifications been out of it, that would have been,
7 you know -- it wouldn't have done any good, and it
8 could have caused some more concern than turned out
9 to be necessary.

10 In general the worse the event the more
11 occupied the shift supervisor is going to be, the
12 longer it is going to take to get into the emergency
13 plan. That's the way I see it.

14 MR. ROSSI: You said the shift
15 supervisor's primary effort is being directed to the
16 plant safety?

17 MR. LANG: Certainly. If he wanted to
18 neglect the plant and go to the emergency plan, you
19 know, maybe the plant would get away and you would
20 have even a worse event than you started with.

21 So the first responsibility is to make
22 sure that things don't get any worse than they are
23 and that they get back to normal. And an emergency
24 plan needs to be under somebody else's control, at

1 least as I see it.

2 MR. ROSSI: Do you have any other comments
3 of a similar nature or from other work that you have
4 done at the site where NRC procedures or
5 requirements or even things that you perceive as
6 having been initiated by the NRC interfere with the
7 safe operation of the plant even aside from this
8 event or during this event in particular?

9 MR. LANG: I can't really see anything
10 regarding this event. The only other things are
11 just general type things, and I don't know whether
12 it is the NRC or the company itself that gets us
13 into it.

14 It seems like sometimes equipment winds up
15 being kind of obsolete or something before it gets
16 approved. You don't get state of the art technology
17 because it is proven even though we all know it is
18 reliable.

19 That's something far removed from this
20 case, but I guess you have to go through those
21 approvals so that you are sure that it has some
22 safety point or level or but sometimes that's an
23 interference just in the design.

24 MR. LANNING: If during the event a site

1 emergency had been declared, what would have
2 occurred?

3 MR. LANG: Well, that's pure speculation.
4 You mean as far as who would have handled what?

5 MR. LANNING: What was supposed to have
6 occurred or what is the plan when there is a site
7 emergency declared?

8 MR. LANG: Well, that would require
9 activation of our support services here, the
10 technical support center, the operations support
11 center, emergency control center, all of those.

12 There would be more notifications to go
13 out than what there were, and I don't remember
14 exactly what they are, but in the -- there is a
15 check list in the site area emergency procedure that
16 you just follow through. And it tells you who to
17 call and what to do.

18 MR. ROSSI: And who does that calling --

19 MR. LANG: well, that's the emergency duty
20 officer.

21 MR. ROSSI: The emergency --

22 MR. LANG: And that would be the shift
23 supervisor.

24 MR. ROSSI: So the shift supervisor and

1 the emergency duty officer are the same people?

2 MR. LANG: Initially. He is called
3 interim EDO, fills in as an EDO until the regular
4 EDO can get on site, which could be -- however long
5 it took him to drive in.

6 MR. ROSSI: The regular EDO for this event
7 would have been --

8 MR. LANG: I don't know. There are a
9 number of them it might have been.

10 MR. ROSSI: They are on call people?

11 MR. LANG: Yes, I think they carry a
12 beeper that when we startup the paging system, they
13 have to call in and there is a list as to who is on
14 duty at any time.

15 MR. ROSSI: So had you declared a site
16 area emergency, the shift supervisor would have been
17 additional notifications at that time?

18 MR. LANG: He would have done or directed
19 additional notifications to be done and then once
20 the regular EDO arrived, then we would be -- he
21 would turnover to that EDO what had happened and
22 then that EDO from then on would control the
23 emergency plan.

24 The problem though is in the transition

1 between, you know, getting into the plant initially
2 to know he has to do these things, to make these and
3 until the other EDO gets here.

4 MR. ROSSI: And that's the shift
5 supervisor?

6 MR. LANG: Who is ultimately responsible
7 for seeing that it is done.

8 MR. ROSSI: Do you have anything else that
9 you want to tell us or comments that you want to
10 make? Problems that you have observed?

11 MR. LANG: Well, just in respect to the
12 same thing we are talking about, since the shift
13 supervisor wasn't able to handle the emergency plan,
14 I, myself, was spending some time on it and that
15 kept me from watching the plant as much as I really
16 wanted to.

17 I think I saw all that I needed to, but it
18 was kind of one eye on the procedure and one eye on
19 the plant. And it was a diversion of attention that
20 I really didn't enjoy.

21 MR. ROSSI: Anything else?

22 MR. LANG: Not that I can think of.

23 MR. ROSSI: Okay. Then we will end the
24 second part of the interview now.

- - - - -

Thereupon, the interview was
concluded at 10:29 o'clock a.m.

- - - - -

CERTIFICATE

I, Kim E. Snyder, a Registered Professional Reporter and Notary Public in and for the State of Ohio, do hereby certify that I took the interview of Ted Lang 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 19th day of June, 1985.

Kim E. Snyder
KIM E. SNYDER, Registered
Professional Reporter, Notary Public
in and for the State of Ohio.

My Commission expires January 12, 1989.

DIRECTIONS FOR MAKING CORRECTIONS

If you have any corrections that you wish to make on your transcript, please do so on the following page in the following fashion:

Indicate the page of the correction, the line number, and then the change to be made and the reason for making the change. Date and sign all correction pages that correspond with your transcript.

1-3	all	2 copies of pages 1-3 are in the reviewed copy
10	8	"typing" should be "tagging" - (safety tagging)
8	7	"is" should be "are" (I doubt that ¹ used "is")
12	5-6	after "maybe it", insert "was because I"
12	16	after "security" add "is"
15	10, 12	"enunciators" should be "annunciators"
15	17	"lodging" should be logic
18	1-5	Did I say that? Translated, it means that I was trying to come up to speed and understand the full plant status in full.
26	1	"Nationals" should be "NETs"
26	5	strike line 5.
26	14	Additional information: Training also includes time at the OSW the simulator in Lynchburg, Va. and control room watch time. Since the reactor is never planned to trip, a person cannot be expected to be required to be in the control room at the exact moment of a trip. It could be years before it happened on his shift.
28	1	"LTF" should be "RCS temperature" (where did "LTF" come from?)
28	20	"TSC man" should be "TSC manned".
31	22	"bust" should be "buss"
45	17	the "proven" should be "unproven"
48	1-3	Clarification: The The problem is in the transition time between when the emergency starts and the EDO arrives. The Shift Supervisor is overloaded at that time.

6/17/85

Instructions for Checking Out Transcripts

1. Transcripts of individual interviews are to be checked out only by the individual who was interviewed (as identified on the first page of the transcript). In the case of joint interviews, each person who was jointly interviewed may examine that transcript.
2. Transcripts of meetings between Toledo Edison and NRC personnel may be checked out by either NRC or Toledo Edison personnel.
3. Keep a sign-out sheet for the transcripts. Log in the time checked out and the time returned for each transcript, the title of the transcript (for example, "Smith Interview," "6-15-85 Meeting"), and the person who checked the transcript out.
4. Ask for identification of persons checking out the transcript, particularly for persons wishing to see the individual interviews.
5. Provide a copy of the general guidelines "Review and Availability of Transcripts" which includes instructions for making corrections on transcripts. Also provide a correction sheet and additional sheets as requested.
6. Collect any correction sheets and make sure they are signed. Give the correction sheets to Wayne Lanning.
7. Do not permit photo-copying or retention of the transcript until authorized by the NRC Fact Finding Team. As indicated in the general instructions, individuals may make notes and may have the assistance of other persons in reviewing the transcripts.