

INTERVIEW OF:

Mr. Perry Vannier
Reactor Operator/Plant Vogtle
March 26, 1990, 5:25 p.m.

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ADDENDUM TO INTERVIEW OF MR. PERRY VARRICK
(Print Identity of Interviewee)

<u>Page</u>	<u>Line</u>	<u>Correction and Reason for Correction</u>
2	7	"B TRAIN Diesel Generator was out of
	8	service as was "B train reserve Aux. transformer,
	9	supplying all power to 1E buses was from "A reserve Aux transformer
	14	which supplies the diesel generator with cooling
	15	water and RHR Pumps.
	17	about forty-five seconds after loads sequenced on bus
	18	I was getting ready to start the RHR Pump
	22	when it tripped, we acknowledged & reset the diesel
	23	generator alarms without seeing exactly what tripped the
	24	diesel generator except a supervisor in control room
	25	said he saw the low jacket water pressure trip come
3	1	in
	5	and then reset it and then turn it back on.
	6	remote (They went down to reset sequencer)
	8	to the mcs.
	14	we pulled out the ACP on low dawa and
	24	thermocouples and the level in vessel:-
	25	and went over and loaded switchgear back on.
4	3	and when I
	13	diesel generator and prepare for an emergency start got some
	14	headsets set up so we would have communication on when they were
	15	going to locally start it. And at that time, the emergency start was
	16	Command.

ADDENDUM TO INTERVIEW OF MR. PERRY VARRIEN
 (Print Identity of Interviewee)

<u>Page</u>	<u>Line</u>	<u>Correction and Reason for Correction</u>
5	12	reserve aux. transformer
	13	closed in; which was still out on a clearance.
	14	The maintenance work had been finished but the
	15	clearance had not been fully removed. The
	16	clearance was removed to restore "B" train IE
	17	Bus back to service. Basically that's about all I can say.
6	5.	Oh, no, they'd finished changing the oil out
	6.	on Saturday.
17	20.	Of I last indication in the control room
	21	I wanted to have a person at the tygon
	22	tube to report actual level some at all
	23	times.
19	16	We also have level indication in the control room
	17	ERASE (no, that's that's all we had. it gives)
20	23	off the level transmitters.
	24	^{BY} 25 transmitters in the containment body
	25	meters in the control room
33	9	the reactor coolant pump, if I remember right.
35	6	In fact we just vented RMA the
	7	previous week, which I was involved in.
	14	As far as 2 D/G trips not really. It emphasized, do
	15	what you can to reestablish power to a bus

ADDENDUM TO INTERVIEW OF MR PERRY VANNIE
(Print Identity of Interviewee)

<u>Page</u>	<u>Line</u>	<u>Correction and Reason for Correction</u>
47	6	sight GLASS in division
48	5	sight CLASS fellow
48	15	ON AND IT

Reason for all corrections was to clarify meaning of broken sentences or misused words in Reporter's interpretation.

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1 that, PEO hatch.

2 Q. Oh. Well, could you tell us what you saw and
3 experienced during the event? Maybe start with any initial
4 conditions that you think are germane and then just take us
5 through what transpired.

6 A. Mid-lube operations on the residual heat remover
7 removal system in service; train "A." "B" train was out of
8 service as was "B" train reserve off the transformer was
9 supplying all power to 1-E buses from the "A" reserve off the
10 transformer, which was taken out by a truck. As soon as we
11 lost power, our emergency diesel generator started up,
12 breaker closed in, started sequencing on loads, which is --
13 the first load to sequence is the nuclear service cooling
14 water and then component cooling water, which supplies -- the
15 NSCW supplies, the diesel generator with cooling water and
16 for an RHR pump.

17 About forty-five seconds after that, the diesel
18 generator started. I was getting ready to start the RHR pump
19 when the diesel generator tripped. At that time, I wasn't
20 facing the board; the electrical board. I was facing the RHR
21 pump, watching the vessel level and thermocouple
22 temperatures. When it tripped, we re-- acknowledged and
23 reset without really seeing exactly what tripped it the first
24 time except one other operator in the control room,
25 supervisor, I should say, said he saw the low jacket water

1 pressure trip come in. Once that happens, in order to reset
2 it, you have to reset the sequencer. BOP operator and a
3 supervisor went down to the sequencer and reset the
4 sequencer. In order to do that, you've got to turn it off
5 and then reset it, and then turn it off, turn it back on.
6 They went down to reset the sequencer. We took the component
7 cooling water pump to pull the lock and somebody had opened
8 all the feeder breakers to the switchgear; to the MTCs. So
9 when it come back up, we would manually load those on. We
10 still had vessel indication through our batteries, inverters,
11 and still had two thermocouple temperatures up on the Proteus
12 computer, which we still had power to.

13 The next thing we did was, while they was going to
14 reset the sequencer, we put out the AOP on loss of RHR and
15 class 1-E electrical bus, and -- to see if it would give us
16 any guidance on getting the diesel generator back up. We
17 looked at it, went through all the steps to monitor
18 temperature, vessel level, and try to restore power to the
19 1-E bus. At about six minutes or so after the first diesel
20 trip, we reset the sequencer, the diesel generator fired back
21 up, the breaker closed in, the NSCW cooling system loaded on,
22 and we noticed the -- the breakers to the switch gear were
23 still open. So at that time, I left where I was at, which I
24 was monitoring the thermocouples and the pressure -- the
25 vessel level, and went in and loaded those back on. Shortly

1 after that, probably fifteen seconds, it tripped the second
2 time, and then I acknowledged the alarms. We also had a
3 make-up to the vessel from the RWST in progress, and which I
4 lost power -- I lost power to that valve. So I sent a PEO to
5 manually close the valve so that the vessel wouldn't keep
6 filling up. After it tripped a second time, we saw it was on
7 low jacke: water pressure, I mentioned that -- let's
8 emergency start the diesel with a local break glass start,
9 which would bypass all the trips except for four; four
10 emergency trips. And the SS and SRO and the OSOS talked it
11 over and decided, yeah, let's go ahead and go that way. And
12 we had two PEO's and shift supervisor go out to emergency
13 diesel generator, maintain the -- got some headsets set up so
14 we'd have communications on when they were going to locally
15 start it. And at that time, the emergency start was
16 maintained. Checked all the parameters of the other trips to
17 make sure they were in -- in line where they should be so it
18 wouldn't -- wouldn't tear up the diesel. If there was
19 something immediate, then we -- we could take it back out
20 rather than continue on and load everything on. That took
21 about -- about thirty, probably about thirty minutes to get
22 all that set up, start the emergency diesel, the -- for the
23 third start, the emergency start. We emergency started it,
24 loaded on the nuclear service cooling water which supplied
25 cooling water to the diesel. The supervisor out there had

1 two PEO's monitoring the -- the temperatures. Took about
2 I'd say probably a minute, minute and a half for him to check
3 all the parameters. He said they all looked good. Jacket
4 water pressure was fine. So we loaded on the component
5 cooling water; the other system that supplies cooling water
6 to our RHR pump, and then we started RHR, and that -- once we
7 got it started the temperature started turning around and
8 coming back down. The temperature started off about ninety
9 degrees and went to 136 before we got RHR pump started and
10 the temperature turned around. And from that point on, it
11 just cooled back down to about 100 degrees and started
12 working on getting our other reserve off the transformer
13 closed in which was -- they had finished maintenance work on
14 it in just a few steps. And the -- one of the clearances
15 that hadn't been signed off, worked on getting that signed
16 off so we could get "3" train powered back up. Basically,
17 that's about all I can say.

18 Q. Did they -- Had the work on the "D" RAT, had it
19 been -- had the actual physical work been completed for some
20 time?

21 A. Yeah. Just the day before, I had done the
22 clearance on it and we examined all the leads to the low side
23 and moved all the ground straps, and they were putting on the
24 high side when I -- when I went home that evening. So -- It
25 was just about completed, all the work, and they were just

1 changing the oil out in it and they had it completed.

2 Q. Were they changing the oil out in it, actually
3 changing it on Tuesday morning or had they done that the day
4 before?

5 A. Oh, no, they changed -- they'd changed -- they'd
6 been finished changing that out Saturday.

7 Q. Saturday?

8 A. Uh-huh (yes).

9 Q. Well, what work -- What work was done on the "B"
10 RAT from Saturday to Tuesday?

11 A. I don't think any work was being done --

12 Q. So it was just a matter of getting the --

13 A. -- except for hooking up the high side.

14 Q. The high side?

15 A. Yeah.

16 Q. When was the high side hooked up?

17 A. I don't -- I don't remember. I was off the next
18 day. I couldn't tell you.

19 Q. It may have been done on Monday?

20 A. It's -- yeah. Monday, I would say.

21 Q. When work like that is done, is it possible that
22 something like that could, you know, continue being tagged
23 out for a shift or two afterwards or do you guys normally get
24 right on getting it cleared and back on line?

25 I don't know what kind of urgency you feel when you

1 shut down like that.

2 A. Well, until this time, just having the one RAT out,
3 the other one would supply both the 1-E buses and we didn't
4 really think we'd have any problem. That normally, I think,
5 took four or five days, at least, for the oil change because
6 it's -- it's a pretty good time frame to get it all tagged
7 out.

8 Q. Right, I understand.

9 MR. MIKE JONES: Do you know whether it was
10 a problem with the oil or just a routine change?

11 WITNESS: Just a routine change.

12 MR. LAZARUS: Did you have any
13 involvement in the -- as far as the handling of the emergency
14 itself from the standpoint of the emergency plan --

15 WITNESS: No, sir.

16 MR. LAZARUS: -- or making announcements
17 on the PA system for site -- site area emergency, sounding
18 alarms?

19 WITNESS: No, sir. I wasn't involved
20 in any of that.

21 Q. [By Mr. Chaffee] Did you detect any problems that
22 the people were having down working with the diesel, trying
23 to get it back on?

24 A. No, I was closely monitoring what they were, you
25 know, having to say and how they were going to try to get it

1 up and stuff. It seemed to go be going real well. It so
2 happens, we had an extra operator in the control room at the
3 time, and we had two extra supervisors who had just gotten
4 their -- their SRO license, in the control room with us.

5 Q. Are those what's called the support shift
6 supervisors, is that what you're talking about?

7 A. Shift support supervisor.

8 Q. They had both just recently got their SROs?

9 A. Uh-huh (yes). So they were -- they were a real big
10 help. Thought there was a lot of -- a lot of good
11 suggestions and quick thinking, should say.

12 Q. Did you have any problems with having too many
13 people in the control room or people getting in the way or
14 anything?

15 A. At one time, it looked -- looked like it was --
16 there might have been a few too many, but that soon backed
17 up. When the emergency plan got altogether, there was quite
18 a few, seemed like to me, people at one time out there. They
19 soon got up on the OSOS desk -- freed up the control room a
20 little bit. There wasn't, let's see, three, maybe eight
21 people in the control room at the time. About five were over
22 at the diesel and then --

23 Q. Were you able to see what alarms came in on the
24 diesel when it tripped each time?

25 A. No, I -- I was turned the other way.

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21 people in the control room at the time. About five were over
22 at the diesel and then --

23 Q. Were you able to see what alarms came in on the
24 diesel when it tripped each time?

25 A. No, I -- I was turned the other way.

1 Q. You were turned the other way?

2 A. Right.

3 Q. You were focusing your attention on -- they were
4 --was it they were -- other people were looking at the diesel
5 and its tripping?

6 A. That's correct.

7 Q. And what were you focusing on?

8 A. I was looking at vessel level and the thermocouple
9 temperature.

10 Q. Oh, okay. So that's what you were monitoring?

11 A. I was mainly concerned with that, and then
12 listening to them, seeing how -- what they were going to do
13 to get the diesel back up.

14 Q. Oh, so you were tracking what was happening in the
15 core, trying to make sure -- see how temperature was
16 increasing and --

17 A. That's correct. That's correct.

18 Q. Well, what was your impression? How fast was it
19 going up?

20 How much time would you have before you start
21 boiling?

22 A. The first probably fifteen minutes, I didn't see
23 hardly three degrees difference, rise in temperature. Toward
24 the last ten to fifteen minutes, it was starting to climb
25 pretty good; at a pretty good rate. I'd say, probably a

1 degree every four or five minutes though. You know, it'd
2 take a degree a couple of minutes.

3 MR. DIETZ: What were you using to
4 monitor? What were you monitoring with, which --

5 WITNESS: We had two in core
6 thermocouples that we -- that we have hooked up in there with
7 the heads just put back on. I was monitoring those.

8 MR. DIETZ: Those were indicating --
9 reached a high of 136 degrees?

10 WITNESS: Yes, those are the ones I
11 was looking at.

12 MR. WYCKOFF: It did go up forty degrees
13 though or something in thirty-six minutes, ultimately, right?

14 WITNESS: That's -- that's correct.

15 MR. WYCKOFF: So it's a degree a minute,
16 at least?

17 WITNESS: Well, like I said, it
18 started off slow and then toward the end it was going
19 rapidly. The estimation of boiling, that rate I'd probably
20 say, if it continued at that rate, another four or six hours
21 if we didn't do anything.

22 MR. BILL JONES: Was somebody plotting this,
23 Perry?

24 WITNESS: Yes. I had -- there was
25 another SRO that came down in the -- from the -- I'm not

1 exactly sure where -- where he was in the plant, but he came
2 down and he was monitoring -- helped me monitor Proteus. He
3 started writing it down on a piece of paper; the time and the
4 temperature and plotting the increase.

5 MR. BILL JONES: Was there a difference --
6 oh, I'm sorry.

7 WITNESS: He was plotting the
8 increase in temperature versus time.

9 MR. BILL JONES: On a graph? I mean --
10 Okay.

11 WITNESS: On a piece of paper, yeah.

12 Q. [By Mr. Chaffee] And where was he getting the data
13 from?

14 A. The Proteus computer -- off the two points I was --
15 we was looking at.

16 Q. So the two thermocouples that were in place, the
17 read-out for those was through this computer?

18 A. That's correct.

19 Q. And that was the only place you could get the
20 information from, is that correct?

21 A. Also had RHR -- outlet temperature on the ERF
22 computer --

23 Q. Oh, I see.

24 A. -- but I wasn't looking at it.

25 MR. BILL JONES: You didn't look at that at

1 all during this time?

2 WITNESS: Not that I recall. I don't
3 remember looking. I was -- I figured that the core exit,
4 which is at the top of the core, would be the hottest place
5 so that's what I was more concerned with. They read about
6 six to eight degrees difference anyway.

7 Q. [By Mr. Chaffee] Between the -- which ones?

8 A. Between the RHR outlet and thermocouples.

9 Q. How high did you see temperature go in the
10 thermocouple?

11 A. 136.

12 Q. Saw 136 on thermocouples?

13 A. Uh-huh (yes).

14 MR. BILL JONES: What was the difference --
15 there were two thermocouples. Was there a significant
16 difference in the two temperatures between the two?

17 WITNESS: One -- one degree.

18 Q. So one read 136 and the other one read 135 at its
19 peak?

20 A. They'd been one degree difference most of the time
21 up. All I remember seeing is the 136. Exactly which one or
22 if they both figured that, I'm not sure.

23 Q. Okay. Did you have to select them to read them --

24 A. No.

25 Q. -- or did just both of them were printing in

1 something or --

2 A. No. They're on -- they're on a little --

3 Q. Little CRT?

4 A. -- like a TV screen, yeah.

5 Q. Oh, I see. One right next to each other or
6 something?

7 A. About two inches apart.

8 Q. Oh, okay. Did you happen to have one of these bar
9 graph things, you know, where you can plot it at the time or
10 does it automatically or --

11 A. Uh-uh (no), didn't have that. It only give the
12 temperature of the thermocouple itself.

13 Q. It gave the value as an actual digital read-out,
14 whatever it was, 139, 136?

15 A. Uh-huh (yes).

16 MR. TRAGER: Who was the other person
17 who --

18 WITNESS: Which other person?

19 MR. TRAGER: The person that was taking
20 the data.

21 WITNESS: That was Dave Vineyard.

22

23 EXAMINATION

24 BY MR. WYCKOFF

25 Q. I have a question about the diesel generators. You

1 mentioned that -- well, first, do you have some impression on
2 this -- how long before the trips are put in service, the
3 non-essential trips on the diesel generator?

4 How many seconds is that? I just wanted to ask you
5 that.

6 A. Seconds for what?

7 MR. KENDAL: To rephrase, I believe,
8 correct me if I'm wrong, but the question was, on a normal
9 start, trips are bypassed for a period of time.

10 Q. How long are they bypassed?

11 A. I'm really not sure. I'm -- I'm thinking about
12 sixty seconds, but I could be wrong.

13 Q. Okay. You had mentioned that you felt that it took
14 -- that the diesel tripped in about forty-five seconds. Is
15 this just kind of a guess or it's a judgment of yours or did
16 you have any reason to believe it really was as short as
17 forty-five seconds?

18 In other words, did it trip before this bypass
19 would've gone out? Before the -- this one up here, it's
20 tripped --

21 A. No, no.

22 Q. -- before these trips -- the diesel stopped before
23 these trips came into force, by what you've said.

24 A. I would -- it was longer -- it was longer than
25 that.

1 Q. It was longer. So you feel they had come in?

2 A. Yes. Because it -- I had to wait a pretty good
3 while. I was just about to start the RHR pumps.

4 Q. Okay.

5 A. Because I was waiting for everything to get
6 sequenced on, which I knew took about sixty seconds to do a
7 complete sequence on.

8 Q. And it was after that?

9 A. It was after that.

10 Q. All right.

11

12

REEXAMINATION

13

BY MR. CHAFFEE

14

Q. Were there any problems with any of your RHR pumps?

15

A. At that time, we had -- it was -- it wasn't
16 inoperable or anything, but we had some vibration problems
17 with the -- the one on the "B" -- "B" train, which we'd only
18 run if we needed to.

19

Q. How bad was the vibration?

20

A. I think it -- about three mills.

21

Q. You don't happen to know what the accepted standard
22 is for it?

23

A. No, I don't. I know we've had a lot of engineers
24 working on it the last few -- few weeks, and they were going
25 to install some snubbers on it to help eliminate a lot of the

1 vibration.

2 Q. Oh. Are you aware of many problems with the diesel
3 generators in the past, before the event?

4 A. We've had -- we haven't had that many -- many
5 problems that I can think of. I've run it numerous times and
6 its always run real well.

7 Q. How about Unit 2's diesels?

8 A. No problem with those. Every now and then we'll
9 have a problem with a switch or something, but that's about
10 all. There's no continuous problem with them. I was very
11 surprised that it -- it tripped.

12 Q. Did the people that were down at the panel,
13 locally, trying to start the diesels, are you aware of them?

14 Did you get involved in their activities and did
15 they have any problems?

16 A. No. They had no problems I was aware of. I didn't
17 get involved with what they were doing, but I was listening
18 and they were telling me, you know, getting ready to start it
19 and --

20 Q. It sounds like your main function was to monitor
21 the core in the RCS and to report to them as -- people as
22 what it was doing; is that what was going on?

23 A. That's, basically, what I -- what I was doing. I
24 was telling the shift supervisor the temperatures every --
25 every minute or so as they were -- they were rising, plus the

1 -- the vessel level.

2 Q. Was the vessel level changing?

3 A. The entire time, it rose about two inches that I
4 could tell -- very little increase.

5 Q. So were you in communication then with the person
6 inside containment or how were you monitoring the level?

7 Did you have a level indication to control them or

8 --

9 A. We have a -- we had a person on Tygon tube that's
10 hooked up in the containment. He stayed at the Tygon tube
11 during the entire event, even though we evacuated
12 containment. He stayed at the Tygon tube and we sent him HP
13 support. And --

14 Q. Why did he stay?

15 A. Why'd he stay?

16 Q. Uh-huh (yes).

17 A. We asked him to.

18 Q. Why did you ask him to?

19 A. Because I wanted -- I wanted to -- to have a
20 continuous visual level. I may have lost indication in -- in
21 my control -- in the control room itself, but he was right
22 there at the Tygon tube where he could see level at all
23 times.

24 Q. Why did you send somebody from health -- you said
25 you sent somebody from Health Physics in there to be with

1 him, is that what it was?

2 A. Yes.

3 Q. Why did you do that?

4 A. Just in case we had exposure to radiation of some
5 sort.

6 Q. Did the person that was monitoring this --

7 A. Then we would --

8 Q. Go ahead.

9 A. Then we would've gotten him out, you know.

10 Q. Did he monitor anything unusual?

11 A. No.

12 Q. He didn't see any level changes or anything?

13 A. Just -- just like I said, just a couple inches. We
14 had continuous communication with him.

15 Q. But was he on the headset or something?

16 A. Yes, that's correct.

17 Q. Were you on a headset with him or was somebody else
18 or --

19 A. We had -- the way we got set up, we have a headset
20 and then we have a little speaker box. And when I want to
21 talk to him, I'd put on the headset and ask him questions.
22 But if he wanted to talk to me, I could hear him through the
23 little speaker phone, then I'd get on the head set.

24 Q. Did he sound like he was taking all this real
25 calmly or was he getting nervous about any of the stuff?'

1 A. What I -- what I did was come on and I told him
2 what was going on; that I wanted him to stay and monitor the
3 Tygon tube level, and that at this time, there was no
4 potential danger for him, that we were going to send him an
5 HP just -- just to be with him to monitor radiation. And he
6 said, "Fine, be right here." He didn't seem worried or
7 anything.

8 Q. Okay. And he didn't observe any large level
9 changes that you're aware of?

10 A. No, sir.

11 Q. And what level indications -- you had the -- this
12 is the Tygon tube; is that --

13 A. That's correct.

14 Q. Was there any other level indication that you were
15 using?

16 A. We have a -- In the control room? No, that's --
17 that's all we had. It gives --

18 Q. That's it. Is there any --

19 A. We have two -- we have a wide range and then we
20 have a narrow range on the board hooked into where normally
21 our accumulator levels indicate. They do a special hook up.
22 Hook up there and that's where we get our gauges. And we had
23 the operator aid to tell us what level that we see
24 corresponds with what level is in the vessel.

25 Q. Oh. Those meters, those accumulator meters in the

1 control room, were they operational during all this?
2 A. Those two were, yes.
3 Q. Where do these sense the level from? How do they
4 sense it?
5 A. From a transmitter down in -- in the containment
6 tank.
7 Q. And then that transmitter gets its input from
8 where?
9 A. Comes off the 1-E; one of the 1-E buses.
10 Q. I don't mean power. I mean how does it sense the
11 level?
12 Does it have some taps or something or does the
13 taps --
14 A. Yeah, but I think it's through the Delta "P," I
15 would think, the difference in pressure.
16 Q. As far as where it taps in, does it use the Tygon
17 tube or is it separate from that?
18 A. No, it's separate from the Tygon tube.
19 Q. It's separate from that?
20 MR. LAZARUS: So is the accumulator on --
21 WITNESS: It's the same.
22 Q. Well, I mean --
23 A. Off the load transmitters.
24 Q. Right. They -- it used the accumulator level
25 trans-meters in the control room.

1 A. Right.

2 Q. That's what it used to give you the indication.

3 A. Right.

4 Q. But obviously, it had to -- it had to sense the
5 level from somewhere. It had to come in contact -- something
6 had to come in contact with the RCS volume in order to be
7 able to give it a DP so that it could read.

8 A. Well, they hook -- they do a special hook up from
9 the -- without looking at a print, let's see. One -- one
10 part comes off the hot leg; one of the hot legs, and then the
11 bottom of the vessel is all i can -- from what I remember.

12 Q. So what do they do, a temporary mod --

13 A. To top off the pressure -- Yeah -- ten percent

14 Q. -- and they hook those up to the transmitter for
15 the accumulators inside containment and electrically, it goes
16 up?

17 A. That's correct.

18 Q. Okay.

19

20

EXAMINATION

21 BY MR. KENDAL

22 Q. I've got another diesel question.

23 A. Shoot.

24 Q. You indicated that you thought that the timer that
25 times out and then reactivates the trip functions it timed

1 out before the diesel tripped; is that right?

2 A. Uh-huh (yes).

3 Q. Is there an indication in the control room of that?

4 Is there any light or anything that indicates that

5 the trips have been restored?

6 A. Not in control room.

7 Q. Well, how about -- do you know whether there's one

8 locally at the panel? Does the generator panel?

9 A. Something that says the trips managed to -- Not --

10 not on LOSP. We've -- we've got a -- there's a light out

11 there saying that all the trips are in, but I don't -- right

12 now I can't remember if it goes out, and when the diesel

13 starts, it comes back in or not. But I know if we had an SI

14 signal then it -- that light would go out to let you know

15 that the trips aren't active.

16 Q. I see.

17 A. I'm not -- I can't really remember right now if

18 that light comes back on after the trips out or not. I'm not

19 sure.

20 Q. Okay. And that light was located where?

21 WITNESS: It's on the diesel

22 generator panel.

23 Q. Local panel.

24 A. Uh-huh (yes).

25 Q. But again, but that light also would not be in

1 there?

2 A. That's correct.

3 Q. Thank you.

4

5

EXAMINATION

6

BY MR. WEST

7

 Q. Do you have any first out capabilities in the
8 control room?

9

 A. Not on the diesel generator.

10

 Q. Any other panels?

11

 A. I thought we had a first out at the diesel
12 generators, local -- local panel.

13

 Q. Can you get a vessel level from the SPDS control?

14

 A. Not the way we've got it hooked up, no.

15

 Q. Do you know the SPDS available?

16

 A. Just the -- just the Proteus computer, but that was
17 only set up for the thermocouples.

18

 Q. Do you have any particular view on the procedures
19 that are in the diesel generator room about their adequacy
20 and so on?

21

 A. They have the same procedures out there that we
22 have in the control room. Maintain a manual set out there
23 for operating diesel.

24

 Q. What's your view on it? Is it appropriate,
25 adequate, easy to use or --

1 Q. Was there any procedure that talked about loss of
2 shutdown cooling?

3 A. Oh, yeah. We was in that one.

4 Q. Oh, that's the one that you were in?

5 A. We used the loss of 1-E, class 1-E bus, and loss of
6 RHR shutdown coolant. We looked at both of those.

7 Q. And they weren't very helpful in this case?

8 A. Each of them just -- just stated, you know, try to
9 do what you can to get the power back and if you didn't, then
10 we would've gone to, like, a gravity feed and bleed through
11 the vessel.

12 Q. And that's what those procedures said you should do
13 is to do a feed and bleed?

14 A. I think toward -- toward the end of it, it does,
15 from what I remember.

16 MR. MIKE JONES: Perry, did you have, other
17 than you had a vibration problem on one RHR, but -- you
18 didn't have power, but did you have both shutdown coolant and
19 flow pass available or not?

20 WITNESS: The way we were set up at
21 that time was, the "B" -- if we could've run "B" train, which
22 it had no power because of the "A" RAT, we were running it
23 through the "A" train side, cold leg isolation valve. We had
24 the --

25 MR. MIKE JONES: That's the way you were

1 running them?

2 WITNESS: Yeah, they had that part
3 tagged out. So, we could run either train through the other
4 -- the "A" train valves.

5 Q. Had there been a different kind of different
6 setting, do you know whether the diesel generators and the
7 containment work was working around the clock or was that
8 just day shift type work or do you know? I said, take the
9 diesel generator, take the one that was torn down, was that
10 around the clock type?

11 A. I can't answer that.

12 EXAMINATION

13 BY MR. LYON

14 Q. Let me ask a, kind of, couple peripheral questions
15 and then I'll kind of go into the activities that you were
16 really doing. At any time, did you hear any feedback on air
17 pressure in the start tanks to the diesels?

18 A. Yes, I heard the -- one of the operators asked to
19 check for the starting air to see what the air pressure was,
20 but I don't remember what they said. I just remember them --

21 Q. Uh-huh [Yes]. Okay.

22 A. -- said, well, ask him to check the start to see
23 what kind of air pressure we've got. I heard that mentioned.

24 MR. CHAFFEE: Why was that question
25 asked; do you know?

1 WITNESS: Pardon me?

2 MR. CHAFFEE: Why was that question
3 asked; do you know that?

4 WITNESS: To make sure we had enough
5 air to start it. I think we're allowed five -- five good --
6 each compressor can get up to five starts, I should say, and
7 just making sure we had adequate pressure for another start
8 and didn't bleed down because of some problem that we weren't
9 aware of.

10 Q. [By Mr. Chaffee] When you say each compressor has
11 capacity for five starts --

12 A. Each reservoir.

13 Q. Each reservoir. So that means I have enough air
14 out there for ten starts, since I have two reservoirs?

15 A. I believe that's right.

16 Q. Okay. Did you get involved at all on any of the
17 containment interactions?

18 A. No, I didn't.

19 Q. Okay. Did you receive any feedback from within
20 containment on restoration of equipment hatch, RCS integrity
21 kinds of things?

22 A. Yes, I did. I got -- I heard it on the page. The
23 guy said he tried to call us but our phones were out, but --
24 and he made a page announcement that the -- all secondary
25 manways had been buttoned up. And the SS told me that the

1 equipment hatch was on and that the pressurized manway was
2 secured.

3 Q. Did that change anything that you were doing or
4 change your visualization of options to you?

5 A. To pressurize the manway, yes. When that was
6 buttoned up, I really lost a vent path through that way for
7 the pressure. But we had the option of opening the head vent
8 if we needed to.

9 Q. Uh-huh [Yes]. This is the head vent on the reactor
10 vessel?

11 A. On the reactor, yes.

12 Q. How big a guy is that; do you know offhand?

13 A. It's not that big. It's a one-inch line, but it
14 would be enough to give us our vent path that we needed.

15 Q. Okay. So that one inch line would give you the
16 vent path with respect to what, water flow to cool or steam
17 or --

18 A. Keep -- keep the pressure down so we could gravity
19 field if we had to.

20 Q. Oh, okay. In other words -- let me make sure I
21 understand. If you needed to gravity feed, you could flow
22 through the RCS and out the head vent and you could keep from
23 boiling that way?

24 A. Yes, sir.

25 Q. Okay. While we're chasing gravity feed, what water

1 addition paths were you thinking of at the time if you wanted
2 to go that route, or were you?

3 A. The same one I was using when I had it manually
4 isolated. I was using from the RWST through the centrifugal
5 charging pump, which we weren't using, through the normal
6 charging path.

7 Q. Okay. Were you thinking of any additional paths
8 that you might use to get more water in?

9 A. If I needed it, I knew I had the -- the
10 intermediate head safety injection pump flow path that I
11 could've opened and blown gravitated water through those
12 valves.

13 Q. Okay. Any others?

14 A. But it went through the cold leg -- would've gone
15 through the cold leg.

16 Q. Uh-huh (yes). If there aren't, there aren't.

17 A. But I'm trying to think if there were any other
18 ones. I don't -- I think that's the only ones that I had.

19 MR. MIKE JONES: Is there any procedure list
20 that lists all the options you might have available for
21 situations like this?

22 WITNESS: Probably in different
23 situations it would specify each one, but there's no one
24 procedure, I think, that would -- that tells you, use this
25 one or use this one.

1 MR. LYON: Yeah, I know you didn't get
2 that far.

3 WITNESS: Use that operator
4 knowledge, I reckon, and good training.

5 MR. LYON: Yeah. I understand you
6 didn't get that far in your procedures either, --

7 A. Yes.

8 Q. -- in a sense.

9 Q. [By Mr. Lyon] At any time between the loss of
10 electrical power and the time the diesel was permanently
11 started, did the RHR get turned on even momentarily?

12 A. No.

13 Q. We were talking about level for a while and I
14 kind of got a sense that you were really putting a lot of
15 reliance on that Tygon tube. Was the control board level
16 indication working satisfactorily or do you just feel,
17 perhaps by the seat of your pants that, I like that Tygon
18 tube versus this other indication?

19 A. Well, anytime we change level for operating
20 procedures, we have a continuous Tygon tube watch. Okay. It
21 has to agree within two percent of the control room
22 indication. So I was using that as an indication that, yes,
23 it was right; that we were still in agreement.

24 Q. So you were watching what? The narrow range, wide
25 range?

1 A. Both.

2 Q. Both. In addition to the Tygon tube, you're sort
3 of asking yourself whether they were in agreement?

4 A. That's correct.

5 Q. During the whole thing?

6 A. Yes, sir.

7 Q. Were they?

8 A. Yes, sir, right on it.

9 Q. Great. We were talking about the thermocouples and
10 you seem to put a lot of reliance in those guys -- why?

11 I mean, I've got a lot of other potential areas.
12 One was mentioned, the RHR temperature. Then I've got cold
13 leg, RTDs. I've got, like, hot leg, narrow range. I've got
14 hot leg, wide range. All this stuff was operational, I
15 think, at the time. Were you thinking of using any of these
16 others as well?

17 A. I didn't think of -- of using any of them, any of
18 the others.

19 Q. Any particular reason?

20 A. But we do have the wide range indication --

21 Q. Uh-huh (yes).

22 A. -- that I normally take on my rounds; the Tech
23 Specs rounds that I look at. Either that or --

24 Q. Okay. That's on the control board?

25 A. [Indicates affirmatively.]

1 Q. If this had happened something like thirteen hours
2 earlier, I understand the thermocouples would have been
3 unavailable to you since they hadn't been reconnected
4 according to the information I have. Thirteen hours. They
5 were still putting the head on.

6 A. Putting the head on. The had -- they wouldn't,
7 you're right. Those two wouldn't --

8 Q. If that had been the case and you didn't have any
9 thermocouples, would you have relied on any of these other
10 temperatures?

11 A. Yes.

12 Q. Which ones?

13 A. The wide range temperatures.

14 Q. On the hot leg?

15 A. Hot legs. The position of control room -- they
16 were, more or less, in front of the RO's desk where the
17 Proteus computer with the thermocouples was right there where
18 I could see the level and the temperatures at the same time,
19 and that's why, more or less, I was using those.

20 Q. Yeah. And your other guys are over to your right,
21 as I remember.

22 A. Yes, that's correct. They were over to the right.

23 EXAMINATION

24 BY MR. DIETZ

25 Q. Where are those instruments reading from?

1 A. They take it -- the temperatures off the hot legs
2 and the cold legs.

3 Q. Are those on the manifold or are they right in the
4 lubes?

5 A. Those extend down inside, in the loop themselves.

6 Q. They are in the lube then. You've taken off the
7 manifold RTDs or you've still got the manifold --

8 A. We only use the ones off the manifold when running
9 the RAT to the pumps, if I remember right.

10 Q. So these would be right in the lubes?

11 A. Uh-huh (yes).

12

13

REEXAMINATION

14 BY MR. LYON

15 Q. [By Mr. Lyon] Do you know if those are located
16 circumferentially at the top, the side, the bottom of the
17 legs or anything like that?

18 We're really stretching you now, aren't we? That's
19 okay. I mean those are the easy ones. If you don't remember
20 -- those are easy.

21 A. Something you don't look at every day.

22 Q. That's true. But then you don't have a total loss
23 of AC power very often either, for which I suspect you're
24 happy.

25 A. That's a one time -- one time thing, I hope. I'm

1 not -- I'm not really sure.

2 Q. Okay.

3 A. I would say they were at the bottom, but I'm not
4 positive.

5 Q. Okay, that's fine. Have you ever been involved in
6 venting the RHR system?

7 Have you used local vents or the vent capability in
8 the control room?

9 A. When we vent -- when we vent, we vent both places.

10 Q. Both local and --

11 A. Through the one valve in the control room.

12 Q. What vent capability do you have locally?

13 A. Most of them have caps on them; most all our vent
14 valves. Double --

15 Q. Okay. Where are they located, I mean, with respect
16 to -- for example, is there one on the RHR pump itself?

17 Where are these guys located?

18 A. Let's see, we've got one in the heat exchanger room
19 and pump casing, and one other vent inside the RHR pump room,
20 and there's -- which is on -- this is on the bottle level of
21 the AUX. Building.

22 Q. Uh-huh (yes).

23 A. All right. Then on the next level up would be the
24 heat exchanger room; got a vent in there.

25 Q. Yeah.

1 A. Then there's two vents on "A" level of the AUX.
2 Building.

3 Q. Okay. And you have manipulated these yourself?

4 A. Yes. At one time or another.

5 Q. Okay. If --

6 A. In fact, we just -- we'd just done an event that
7 previous week, which I was involved in.

8 Q. Okay. The -- let me just back up to your
9 procedures for just a moment and make sure I understand. We
10 talked about a loss of all AC power oriented procedure and a
11 loss of RHR procedure and I'm not sure I recall your answer.

12 Was your loss of AC power procedure of any use to
13 you?

14 A. As far as -- not really. Just that it was trying
15 to get it -- establish power to a bus. And that is --

16 Q. How about the loss of RHR procedure; was that of
17 any use to you?

18 A. It would've been if we didn't get -- if I didn't
19 get RHR back. But we'd have gone through that -- followed
20 the procedure on to the end to get feed and bleed.

21 Q. Okay. And that -- okay, I understand.

22 A. But we look to see what, where we were in the
23 procedure and if it could help us at that -- at that time and
24 that's all.

25 Q. Okay, let me kind of look a little. This is not an

1 operator exam, by the way. Sit back and relax. I'm trying
2 to establish a level of, if you will, training. My hunch is,
3 a lot of this is generic throughout the industry --

4 A. That's correct.

5 Q. -- kind of thing. If you had not been able to get
6 electrical power back, what would be -- and you went into a
7 boiling condition, what would be your visualization of what
8 was happening in the reactor coolant system, say if you had
9 the pressurizer vent open and it's boiling on you? Any idea?

10 A. You mean what was happening -- what would be
11 happening in there?

12 Q. Yeah.

13 A. I'd be losing inventory if I didn't get some water
14 in it. Because at the same time of losing inventory, the
15 fuel itself is starting to get hot because there's no coolant
16 for the indicated heat.

17 Q. Okay. Okay. At what point would you feel, as
18 it's boiling and the level is dropping, that your fuel might
19 be in trouble? Like when the hot leg goes dry or any feel
20 for that?

21 A. If I got below when the -- the 187 feed is in the
22 middle of the mid-lube, if I started get'ing below that, I'd
23 probably start getting worried, but -- once I drop below the
24 hot leg, then -- that.

25 Q. Then you'd be starting to damage fuel, you think?

1 A. No, no. No, you'd have to get below that.

2 Q. That really is where I'm heading. Where would you
3 think you would be starting to initiate fuel damage?

4 A. You asking me level-wise or --

5 Q. Yeah.

6 A. Specific level I'm looking at or just my
7 interpretation of it?

8 Q. Your interpretation.

9 A. I would probably think once it drops below the top
10 of the fuel assemblies themselves.

11 Q. Okay. That sounds pretty accurate.

12 MR. MIKE JONES: What is that level, just
13 for mentioning?

14 WITNESS: I'm not real sure what that
15 is. I've got -- we've got a plant technical data book that
16 has the levels and all that to look at.

17

18 EXAMINATION

19 BY Mr. BILL JONES

20 Q. Oh. Isn't that on that diagram that's up there
21 right beside those two meters? Isn't it?

22 A. That was just -- that was just for the, the Tygon
23 tube. I don't have that -- I don't have that posted.

24 Q. I mean -- Let me ask -- Well, I thought up to the
25 upper left of the two meters that you use to monitor level,

1 there's this operator aid, right?

2 A. That's correct.

3 Q. And on that operator aid, is it marked type of
4 active fuel anywhere?

5 A. If it is, I don't remember. It may be, but I don't
6 remember.

7 Q. Okay. Was the RVLIS system in operation?

8 A. [Indicated negatively].

9 Q. So you didn't have that to indicate water level
10 either?

11 A. That's correct.]

12 MR. DIETZ: Is it possible for it to be
13 operable in this mode of operation?

14 WITNESS: I'm not sure. I don't
15 think so.

16 MR. LYON: I've only got two more
17 questions.

18

19

REEXAMINATION

20 BY MR. LYON

21 Q. If you were boiling -- we took the case, we had a
22 vent on the pressurizer with the RCS closed, what would you
23 visualize would happen?

24 A. Without -- without putting any water in it?

25 Q. Sure. Let's say you start at mid-lube, we won't

1 add any water at all, and we'll take the -- in fact, we'll
2 take the plant in exactly the condition that it was in during
3 your event. We'll just assume you never got your electrical
4 power back. What do you think would have happened?

5 A. Once the water started to boil; boil off, it would
6 be -- start pressurizing the RCS system and it would continue
7 to boil off.

8 Q. And it would continue to pressurize?

9 A. Up to a certain point.

10 Q. What would you think that point might be?

11 A. I -- I really don't --

12 Q. Okay. I mean are we talking about lifting code
13 valves, for example, or opening the PORV or something of that
14 nature; do you think?

15 A. Our RHR suction is set up for 450 pound relief.
16 It'd go at least to that point.

17 Q. And then go out that way?

18 A. And then start relief then.

19 Q. Okay. If I were boiling with the, say with steam
20 generator manway off, would that be of any real consequence
21 inside containment, say if I had people in there?

22 A. Sure, it would.

23 Q. In what respect?

24 Is it a radiological concern?

25 A. Yeah. it would be.

1 Q. Okay. Anything else? Like, am I producing enough
2 steam to bother anybody or --

3 A. Well, there's going -- you're going to be relieving
4 -- steam will be coming out and pressurizing; start
5 pressurizing containment.

6 Q. Well, suppose the equipment hatch is off so that I
7 don't pressurize?

8 A. If the equipment hatch is off and the air lock door
9 is -- is shut, then it would go to the atmosphere. But if
10 the air lock door is open, the -- the AUX. Building --

11 Q. Is going to get something back?

12 A. -- HVAC, being -- maintaining a negative pressure,
13 would pull it toward the AUX. Building and wouldn't go to the
14 outside.

15 Q. Is there enough steam under those circumstances
16 that that's going to bother anybody or is that danger to the
17 people that are there? Any feel for that at all?

18 Did they cover that in your training, for example?

19 A. Well, that could be a radiological hazard to
20 anybody in -- in containment.

21 Q. Yeah, I hear that. I wouldn't want to be there.

22 A. And if it got real bad, of course it'd go on out to
23 the outside -- be environmental hazard.

24 Q. Okay. I'm wrapped up. You've run me out of
25 questions.

1 A. And you asked the most, I think.

2 Q. I waited until last.

3 MR. KENDAL: Not me, I've got a couple more.

4

5

REEXAMINATION

6

BY MR. KENDAL

7

8 Q. I'm interested in the diesel generator; the first
9 out stuff that we talked about a little bit earlier. Is
10 there a procedure that you have for -- there's no first out
11 annunciator in the control room. Is there a procedure you
12 have that tells you to go run down at the local panel to see
13 what was first out?

13

A. To see what was first out?

14

15 Q. So that you know what to do; to look at at the
16 trips or after trips to -- before you restart?

16

17 A. I was under the assumption that we did have a first
18 out at the diesel generator panel. We do have a -- an ARP
19 procedure for the -- for the panel itself out at the diesel.
20 We have that out there, plus we have it in the control room,
21 where it says send somebody out and see what -- what alarms
22 are in. Now whether it says first out alarms, I'm not -- not
23 real sure at this time.

23

24 Q. Do you know whether that procedure requires the
25 individual that goes down to the panel to write down what the
26 first out is?

1 A. Not to write it out, but just to call the control
2 room and let them know what alarms are in at the time.

3 Q. And let them know. Would that then get logged
4 somehow, what the first out would -- what I'm trying to get
5 at is, how does the information get retained so that you know
6 what was first out and later can go troubleshoot the -- other
7 people could go troubleshoot circuits to figure out what
8 caused the trip?

9 A. See, the diesel generator trip, send a person out
10 to the diesel to look and see what annunciators were -- were
11 in, and that way he would call the control room and then we
12 would log it in our unit control log or the SS log, whichever
13 -- either one, exactly to what they found.

14 Q. That's -- I don't know what the right words are,
15 but that's part of the --

16 A. The ARP.

17 Q. What does "ARP" stand for?

18 A. Annunciator Response Procedure.

19 Q. Oh, Annunciator Response Procedure, okay. So as
20 part of that then, a log should always be made of what the
21 first out was?

22 A. That's correct.

23 Q. Are there any other -- I've heard Proteus mentioned
24 and one time, ERF computer mentioned. I assume you have
25 different computers that print out alarms and sequence of

1 events and stuff like that when they come in?

2 A. The ERF at this time was -- wasn't any use to us.
3 It comes and goes.

4 Q. Is Proteus the --

5 A. It didn't have any parameters on it that I could
6 monitor at this time.

7 Q. What about for post-event analysis? Let me ask a
8 two part question: one, what do you use for post-event
9 analysis in terms of computer printouts or alarm printouts to
10 try to reconstruct the sequence of events; and the second
11 part of the question is, did you have full capability for
12 this event. computer monitoring capability or did you have
13 computers out of service?

14 A. Now, the ERF is supposed to give you a history on
15 it for like off trips or whatever. You can go back two
16 hours; pull out a two-hour history. I've never done that.
17 Usually the supervisor takes care of that. But I think it
18 prints out any -- TSC is where it comes up.

19 Q. Do you have any kind of an annunciator or log
20 writing capability, automatic logger or anything?

21 A. No, sir.

22 Q. Any kind of alarm logger or typer?

23 A. We've got a alarm printer that prints out all the
24 alarms that comes in. Now, whether it was operable at this
25 time, I'm not -- I'm not sure.

1 Q. Okay. This is something that's separate from
2 Proteus and separate from the ERF computer?

3 A. Well, it -- it gets its inputs about the same as
4 Proteus -- or same forms.

5
6 REEXAMINATION

7 BY MR. BILL JONES

8 Q. When the event, the event occurred and the diesel
9 generator started and tripped and the annunciators were reset
10 and acknowledged in the control room, what effect does that
11 have on the annunciators in the diesel generator room?

12 A. None at all.

13 Q. So the annunciators in the diesel generator room
14 should still be performing the same way they would have been
15 if that acknowledge and reset action hadn't been taken in the
16 control room; is that right?

17 A. I don't think I can get what you're asking.

18 Q. Okay. I'm not trying -- I don't know. Just -- I
19 really don't know and I'm just trying to understand. If you
20 acknowledge and reset in the control room and I go out to the
21 local panel in the diesel generator building --

22 A. Yes, all the alarms right there would still be
23 until you acknowledge and reset them out there.

24 Q. At that panel?

25 A. At that panel.

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Q. Okay.

MR. WEST: How does that first out feature, do you know, work in the diesel generator when you acknowledge and reset -- how clear is it, if you might know?

WITNESS: I'm not sure. I don't remember. If it -- if it's tied in like a first out on the reactor where it does a gallop and stays in, I'm not sure on that out there, how exactly that does. It may -- it may also clear after you reset it.

MR. CHAFFEE: Anybody else have any questions?

MR. KENDAL: I realize you're mostly involved, I assume, at monitoring reactor temperatures, the core reactor temperatures and things like that. Were you involved in trying to restore power to the bus in terms of considering alternate methods of alternate paths should the diesel have not started?

WITNESS: Not directly, no. My main concern was the core and temperature and level

REEXAMINATION

BY MR. CHAFFEE

Q. Did you have any involvement with putting the steam generator manways back on?

A. No, I didn't.

1 Q. Did you get any feedback from the guy who was --

2 A. I didn't know they was being put on until I heard
3 an announcement in the containment saying that they were put
4 on.

5 Q. You heard an announcement in the containment that
6 they were put on?

7 A. Yeah, because they couldn't reach us by phone. He
8 made a page announcement, said, "Been trying to get ahold of
9 control room but I can't by phone. Just want to let you know
10 that the steam generator manways have been buttoned up."
11 That's what the page announcement said.

12 Q. So they did that from the containment?

13 A. Yes.

14 Q. Why couldn't they get ahold of the control room?

15 A. The phones were out.

16 Q. Oh, all the phones were out?

17 A. All the phones were out.

18 Q. So how were you able to talk to the Tigon tube
19 fellow? Was that with sound powered phones?

20 A. Sound powered phones.

21 Q. But they had a speaker that you could hear him from
22 the sound powered phone?

23 A. Yes.

24 Q. Was it powered by sound or was it -- somehow had
25 non-vital power?

1 A. It's just like -- it's just the headphone. Just
2 like sound powered phones. Comes through -- just like you
3 would from your earpiece --

4 Q. Only it was --

5 A. -- comes through this little speaker there.

6 Q. Oh, is that right? Did the site class individual
7 give you any kind of feedback of what things were going on
8 inside containment, anything that he observed?

9 A. He's more or less on a level "B," which is more or
10 less isolated for anything he might -- that might've been on
11 level 1. He's kind of by himself.

12 Q. Did you ever hear any conversations going on in the
13 control room that were related to people leaving or
14 evacuating the containment or any kind of work activities
15 that were going on or anything like that?

16 A. We did make a containment evacuation announcement.

17 Q. Was that over the PA system or --

18 A. That was over the paging system.

19 Q. I see. Okay. Do you have any way of anchoring
20 when that occurred in the event; when that announcement was
21 made?

22 A. I believe that was shortly after we went and
23 declared a site area emergency, is when we decided to
24 evacuate containment. Maybe eighteen minutes after the event
25 occurred, somewhere around there. I remember getting on the

1 headsets with the person at Tygon tube, telling him we was
2 fixing to make the evacuation alarm; for him not to evacuate,
3 just stay right there, which was probably about --

4 Q. When they made the evacuation announcement and the
5 site class fellow stayed, did everybody else leave
6 containment?

7 A. I can't answer that. I assume they did. I hope
8 they did.

9 Q. Did you hear any dialogue going on in the control
10 room in regards to problems in making notifications?

11 A. No, I didn't.

12 MR. WYCKOFF: How come you had paging
13 power but not telephone power?

14 WITNESS: Well, I know the paging
15 comes off of -- of an inventor; on in DI-3, but the
16 telephones, I'm not sure exactly what power they power --

17 Q. It suggests that the telephones are off of vital
18 power. That's interesting. But you did lose the phones.
19 Which phones did you lose, I mean all phones or --

20 A. All phones.

21 Q. The whole phone system went down?

22 A. Uh-huh (yes).

23 MR. TRAGER: All AC power?

24 MR. CHAFFEE: No, they only lost vital
25 AC, but they lost all the phones. So I guess --

1 MR. LAZARUS: You lost all the regular
2 commercial telephone lines?
3 MR. CHAFFEE: The phones must have been
4 on -- that's interesting.
5 MR. TRAGER: They lost the lighting in
6 the diesel generator room --
7 WITNESS: Pardon?
8 MR. TRAGER: The lights in the diesel
9 generator room --
10 WITNESS: I don't --
11 MR. TRAGER: -- except for emergency
12 light?
13 WITNESS: I think that was out, too,
14 from what I remember. All our non 1-E buses, the 4160 and on
15 down, were being backfed through auto transformer in the Unit
16 AUX. transformer, which we normally have on the RAT feed from
17 one of the reserve AUX. transformers. It was fortunate we
18 were --
19 MR. WYCKOFF: My gosh. Of course, the
20 phones were off of 1-E then, so then went down. Paging was
21 off of non 1-E so it didn't go down. It's a reverse world we
22 live in.
23 MR. CHAFFEE: Interesting. Did it have
24 any impact on your -- no, I assume you guys -- your
25 operators, they go up, they have walkie-talkies and stuff so

1 they --

2 WITNESS: We have -- we have --

3 MR. CHAFFEE: Do you have those?

4 WITNESS: We have two-way radios, but
5 most of the time we only use those for like a fire or some
6 specific function. But more -- very seldom do we use two-way
7 radios. Most of the time we just use the headsets or
8 paging. A lot of places, they don't operate that way.

9 MR. CHAFFEE: Any other questions? Well,
10 thank you very much.

11

12 [INTERVIEW CONCLUDED AT 6:30 P.M.]

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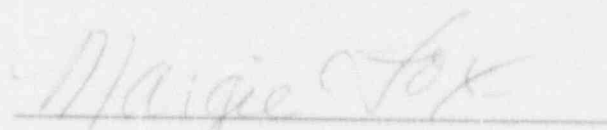
CERTIFICATE OF COURT REPORTER

G E O R G I A

RICHMOND COUNTY

I hereby certify that the foregoing interview was reported by the method of Stenomask With Backup, and the testimony given therein were reduced to typewriting by me or under my direction; that the foregoing pages numbered 1 through 50 represent a true, correct, and complete transcript of the evidence given on March 26, 1990, by the witness, Perry Vannier who was first duly sworn by me; that I am not a relative, employee, attorney, or counsel of any of the parties; am not a relative or employee of attorney or counsel for any of said parties; nor am I financially interested in the action.

This the 27th day of March 1990.



MARGIE FOX, CCR B-1176

CERTIFIED COURT REPORTER

INTERVIEW OF:

MR. PERRY VANNIER
Reactor/Operator Plant Vogtle
March 26, 1990 at 5:25 p.m.

ERRATA SHEET TO THE INTERVIEW OF
PERRY VANNIER TAKEN ON MARCH 25, 1990

I do hereby certify that I have read the within and
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If supplemental or additional pages are necessary,
please furnish same annexed to this Errata.

This _____ day of _____ 1990.

PERRY VANNIER

WITNESS:
