

ORIGINAL

OK
of DM

NUCLEAR REGULATORY COMMISSION

IN THE MATTER OF:

THREE MILE ISLAND
SPECIAL INTERVIEWS

INTERVIEW OF GREGORY R. HITZ

POOR ORIGINAL

Place - Washington, D. C.

Date - Wednesday, 12 September 1979

Pages 1 - 67

Telephone:
(202) 347-3700

ACE - FEDERAL REPORTERS, INC.

Official Reporters

444 North Capitol Street
Washington, D.C. 20001

NATIONWIDE COVERAGE - DAILY

8001240559

T

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

-----X
:
In the Matter of: :
:
THREE MILE ISLAND :
SPECIAL INTERVIEWS :
:
----- X

INTERVIEW OF GREGORY R. HITZ

Trailer 11
Three Mile Island
Middletown, Pennsylvania

Wednesday, September 12, 1979

APPEARANCES:

GEORGE T. FRAMPTON, JR., ESQ.
RON HAYES
DENNIS ALLISON
NRC Special Inquiry Group on TMI
6935 Arlington Road
Bethesda, Maryland

JOHN F. DIENELT
RALPH G. PAGE

C O N T E N T S

<u>INTERVIEW OF:</u>	<u>EXAMINATION</u>
Gregory R. Hitz	2

E X H I B I T S

<u>EXHIBIT NUMBER:</u>	<u>IDENTIFIED</u>
9	46

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

ILLRW

P R O C E E D I N G S

1
2 MR. FRAMPTON: This is a deposition by the Nuclear
3 Regulatory Commission's Special Inquiry Group of Mr. Greg
4 Hitz at Three Mile Island on September 12, 1979.

5 Could you give us your full name, please?

6 THE WITNESS: Gregory R. Hitz.

7 Whereupon,

8 GREGORY R. HITZ

9 was called as a witness and, having been first duly sworn,
10 was examined and testified as follows:

11 EXAMINATION

12 BY MR. FRAMPTON:

13 Q What is your present position?

14 A Shift supervisor.

15 Q That was your position March 28, 1979?

16 A Yes, sir.

17 Q Mr. Hitz, I have shown you a one-page witness
18 notification form and have given you a copy to take with
19 you.

20 Have you had a chance to read that?

21 A Yes.

22 Q Do you have any questions about it?

23 A No, I don't.

24 Q Let me begin by asking you whether we are correct
25 in our understanding of the times that you worked on the

1tLRW

1 four or five days following the beginning of the accident.

2 I understand that you came to the plant about 6:00
3 a.m. on March 28 and stayed on site until about 7:00
4 a.m. the next day, which would be Thursday, is that correct?

5 A That's correct.

6 Q Then you came back again to the site for the first
7 time at about six in the morning on Friday, March 30.

8 A That's correct.

9 Q And you reported at that time to Unit 2 where I
10 think you were supposed to replace Mr. Zewe, the shift
11 supervisor?

12 A That's correct.

13 Q How long were you on the site on March 30?

14 A I left approximately 7:00 or 7:30 that night, I
15 believe. That is approximate to the best of my knowledge.

16 Q Were you working again on Sunday at all?

17 A Yes, I was.

18 Q When was that?

19 A I worked -- I got to work about six in the morning
20 and left about four that evening.

21 Q 6:00 a.m. to 4:00 p.m. on Sunday.

22 A Yes.

23 Q I am sorry, I guess I didn't ask about Saturday.

24 A Same hours.

25 Q Same hours Saturday and Sunday.

ltLRW

1 A Yes.

2 Q All right. When you reported to work on Friday
3 morning at 6:00 a.m., do you recall who was in the chain of
4 command above you at that time and who was there during the
5 day while you were there?

6 A I will try and go back, okay? I'ts a long time
7 ago. I relieved Zewe in the morning. Bill ha to go to an
8 interview.

9 Are you asking who is in my chain of command or Bill's
10 chain of command? The shift changed.

11 Q I guess I am more interested in who was in your
12 chain of command. That is, after you arrived.

13 A Okay. Friday is a bad day because it overlapped
14 because of the venting of the makeup tank.

15 Q As I understand it, Bill Zewe left for an
16 interview but returned and then for a period of time both of
17 you ended up --

18 A Both of us, that's correct.

19 Q Were you --

20 A Jim Floyd was there.

21 Q So you were reporting to Mr. Floyd?

22 A Yes, I would report directly to Floyd, right.
23 Floyd was there. Gary Miller came later on in the morning.

24 Q Did Mr. Miller come shortly after the venting of
25 the makeup tank had begun?

1tLRW 1 A I lose track of time. When you say shortly after,
2 in my deposition I had with the NRC, I thought that we had
3 done that about 7:30 or 8:00 o'clock. Here it was closer to
4 9:00 o'clock.

5 When you say shortly after, I would probably say yes,
6 shortly after, but not narrowing down the time.

7 I can't do that. He did report shortly after that.

8 Q But you recall that your immediate supervisor was
9 Mr. Floyd.

10 A Well, Floyd was there with me in the control
11 room. Zewe was there. Floyd would be the guy I directly
12 report to.

13 Q Was anyone else there on the same level with
14 Mr. Floyd or above him other than Mr. Miller?

15 A I am trying to remember. I am pretty sure Joe
16 Logan was there. I think Potts was in Unit 1 at the time.
17 I think. I am not positive.

18 Potts came from Unit 1 to Unit 2. Potts and I worked
19 together the first day in Unit 1 and eventually Bill came
20 down to Unit 2.

21 I don't remember if it was the 30th he came down or the
22 31st.

23 Q If Joe Logan was in the control room, would you
24 have had any understanding as to what his role was, what his
25 position was in the chain of command?

1tLRW

1 A Sure. He would have been in charge of the overall
2 operation. Floyd would have been under him. Then I would
3 report to Floyd.

4 Q So Mr. Floyd would have been reporting to
5 Mr. Logan.

6 A Yes, if Joe was there, that's correct.

7 Q If Mr. Logan wasn't there, Mr. Floyd would have
8 been the senior man in the control room?

9 A That's correct.

10 BY MR. ALLISON:

11 Q On that day, Friday morning, were there any
12 particular standing orders that you can recall that said
13 Floyd is here because he is in charge of the control room?

14 Don't do anything unless you talk to him. Or as you just
15 described it, if Logan was there, he was in charge. Or were
16 you perhaps working on your normal relationship?

17 A No, what we done is normally -- let me tell you
18 how it normally worked, okay? I worked with Gary Miller and
19 Mike Ross and then myself. Okay?

20 That was the crew I normally worked with when we finally
21 set up a shift rotation. So Gary would give the orders. We
22 did what came out of the meetings that Gary was in.

23 We also had emergency procedures that were written. For
24 example, with the reactor coolant pump trip. We had one
25 reactor coolant pump working. If the reactor coolant pump

1tLRW

1 were tripped, we have a specific emergency procedure we
2 follow. We follow that procedure. As far as day-to-day
3 operations, that came from Gary Miller through Ross to me.

4 So Ross would know everything that I was doing. If I
5 would do something, I would tell Ross. I would get the okay
6 from him.

7 That would come through Miller. But the three of us
8 would always make sure the other two knew what the third guy
9 was doing all the time.

10 Q So later, when you went in, the shift chain was
11 Miller to Ross to you.

12 A That's right.

13 Q Who was your shift foreman?

14 A Adam Miller.

15 Q The three of you would always keep each other cut
16 in.

17 A Absolutely.

18 Q So that --

19 A If I seen a change in plant status by scanning the
20 board, the first thing I would do is talk to Miller or Ross.

21 Q Now, you know, that is a change that can be not a
22 drastic change where steps had to be taken right away.

23 A Right.

24 Q Now, was the relationship that clear on Friday
25 morning, I guess is my question?

1tLRW 1 A What you want to know is how we got to start doing
2 what we were doing, right? That is what you want to know.
3 How we set about the chain of the makeup tank. Is that
4 what you are getting at? Because Miller wasn't there.
5 Floyd was --

6 Q I understand. Floyd was there.

7 A Floyd was there and I was there.

8 A Maybe Logan was there.

9 A Logan was probably in the process of turning over
10 to his relief.

11 A I amnot really getting at why you vented it right
12 now but just trying to understand what was the chain of
13 command.

14 Was it strict? Was it vague?

15 A No, I knew that Floyd was in charge of me. Or the
16 guy in Floyd's position which on my shift was Ross.

17 Q Did you feel that because anyone had told you --
18 this is your boss?

19 A Yes. We had discussed that.

20 Q Did you ever hear of any instructions that said
21 not to change the plant status at that time without going
22 higher than Floyd? Without going to Logan and/or Miller or
23 Herbein?

24 A We had talked about, if at all possible, not
25 changing the plant status until we discussed it but I can't

1tLRW

1 remember if that was March 30 or April 1 or 2.

2 The days all ran together. But we had talked about
3 that. When you are looking at the plant status and you are
4 ready to make a change, such as, for example, pumping down
5 the waste gas tank, that would be discussed before we
6 actually did that.

7 We took the pressure readings. We said, okay, we are
8 getting close to pumping down the tank.

9 This is what we want to do. Then they set a meeting and
10 discussed it.

11 Q When you came on at 6:00 o'clock --

12 BY MR. FRAMPTON: When you came on at about 6:00
13 o'clock in the morning on Friday, I think that you recall
14 for teh I&E inspectors you had spoken briefly with Mr. Zewe
15 about the plant status, is that right?

16 A Sure, we do that.

17 Q Did he tell you anything about the makeup tank
18 being overpressurized?

19 A I had talked with the CROs. I can't remember -- I
20 probably did but can't remember yes, hey, I actually talked
21 to Bill about that.

22 We have a turnover sheet. The notes were written on the
23 turnover sheet plus I scanned the panel and talked to the
24 CROs. What I did was Bill told me he had to go to a meeting
25 or had to go to an interview, somebody wanted to interview

1tLRW

1 him, so I took the turnover sheet.

2 I told him I would read the turnover notes, scan the
3 board and talk to the CROs and talk to the other people in
4 the control room and by that time, he would be back and we
5 could have our formal turnover at that time.

6 That's what I did. I know specifically I talked to the
7 CROs about the makeup tank because the pressure caught my
8 eye right away.

9 Q When you say the pressure caught your eye, you
10 mean on the control board.

11 A That's right.

12 Q And the CROs were Mr. Faust and Mr. Frederick.

13 A That's correct.

14 Q Mr. Faust was primarily in charge of the makeup
15 and let-down system and Mr. Frederick on the secondary, is
16 that correct?

17 A I believe that's correct. They were both at the
18 panel. I talked to both of them. Exactly who was in charge
19 of primary and secondary, I can't remember.

20 Q Did they describe to you the periodic venting of
21 the makeup tank that they had been doing?

22 A Yes.

23 Q How did they describe that to you? What did they
24 tell you?

25 A What they told me was gasses were coming out of

1tLRW 1 solution in the makeup tank and that they were periodically
2 sending an auxiliary operator in to start the waste gas
3 compressor and cycle the vent open for a short period and
4 close the vent and stop the compressor.

5 There were trying to hold the pressure in the makeup tank
6 but weren't very successful because the gradually increasing.

7 Q Did they communicate any sense to you that this
8 was a problem that had been building up that was going to
9 have to be faced with some different kind of action in the
10 near future? You know, a hour from now or half hour from
11 now, this will become a problem we will have to deal with.

12 Do you recall anything like that?

13 A If I remember right we had discussed that we are
14 not keeping up and will have to do something. One of them
15 was concerned about -- I can't remember which one -- so at
16 that time I asked what are you doing right now?

17 He said we have an auxiliary operator down getting
18 dressed to go in and start the compressor. I thought with
19 it and looked at the level traces. You don't have a
20 pressure trace. You just have a gauge. I got a feel for
21 how high the pressure was going over a period of time.

22 What we had discussed was leaving the compressor on and
23 bringing the operator back out and then leaving the vent
24 open for a longer period of time.

25 Q You discussed this as a possibility of the dealing

LtLRW

1 with the situation which was that you weren't keeping up
2 with the gasses.

3 A That's right.

4 Q At that time, were you aware that somebody had
5 correlated the cycling of the valve with releases, with the
6 leak?

7 A I believe they said the reason they were starting
8 the compressor was every time they opened the vent, they
9 would get a short release or increase in background.

10 Q Did they tell you whether that was a release from
11 the auxiliary building or release up the stack that somebody
12 could detect traces of on or off site?

13 A I can't remember. You know, at that time, I can't
14 remember what the readings were on the stack monitors. But
15 I know they had correlated. Whether there was a reading
16 that somebody took with a meter in the building or whether
17 they seen it on the radiation monitoring people, I am not
18 sure.

19 Or even the monitoring teams on site. I can correlate
20 that.

21 Q Did you observe the makeup tank pressure valve
22 indication? Did you observe that the relief valve opened on
23 the makeup tank?

24 A Did I actually know the valve opened? Did I
25 actually see -- you can't see the valve open. What you can

1tLRW

1 tell is the pressure indicator changes drastically.

2 Q There is no light or other indication for the
3 relief valve.

4 A No, sir.

5 Q You saw the pressure level went to zero or went
6 down.

7 A The level indicator went downscale, right. And
8 the pressure indicator changed drastically, too.

9 Q You observed both of those things.

10 A Yes.

11 Q From that, you concluded the relief valve must
12 have opened.

13 A Plus the indication at that time bleed tank levels
14 were going up and the pressures were all going up.

15 Q In the bleed tank.

16 A That is where that discharges to.

17 Q Did this happen more than once before you made the
18 decision to open the vent valve on the makeup tank? Did
19 this relief valve appear to cycle open and closed more than
20 once that you recall?

21 A If I remember right, it cycled severfal times.
22 You know, more than once, okay? I am pretty sure that's
23 correct.

24 But our concern was, I guess, the second or third time in
25 the cycle, we definitely knew we had a problem because they

ltLRW

1 couldn't keep it from cycling.

2 Every time the relief valve cycled, the levels came up
3 higher in the bleed tanks. My fear was draining the BWST to
4 the bleed tanks and overflowing the bleed tanks onto the
5 floor of the basement through the vent.

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

c-1

ItLWR

1 Q Let me ask you about that. Your concern was that
2 the inventory of the BWST would be drawn directly into the
3 reactor coolant bleed tank?

4 A Sure, through that relief valve.

5 Q Through the makeup tank and out the relief valve?

6 A Because what they eventually were doing was
7 floating the BWST on the makeup tank and on the system.

8 Q What was the purpose of that, of cutting in the
9 BWST after the makeup tank level went down?

10 A Suction to the pumps.

11 Q To keep suction in the makeup pumps.

12 A Sure, so you have water going to the reactor
13 coolant system.

14 Q But instead of BWST water all going to the makeup
15 pump, some would cycle through the makeup tank out the
16 relief valve and into the reactor coolant bleed tanks?

17 A The water goes into the suction of the pumps.

18 Q Suction of the makeup pumps.

19 A Right, and can go back into the makeup tank.

20 Q That is a recirculation line?

21 A There is a recirculation line. I don't believe
22 it's a check valve on that line.

23 Q Is that a line which provides pump seal water to
24 the makeup pumps?

25 A It does provide seal water, yes. Seal water is

1tLWR

1 provided on the discharge side of those makeup pumps plus
2 makeup order on the -- the relief valve is in the discharge
3 line.

4 It's not sitting on top of the tank. It's on the
5 discharge side of the line. On the water side of the tank.

6 When the relieve valve opens, the water takes the path
7 of least resistance because it has to have the BWST pushing
8 it. So it comes into the system and right out that open
9 path.

10 BY MR. WORAM:

11 Q Let me ask a question. It's not necessary for the
12 water to go through the makeup pump to, say, the main
13 recirculation line?

14 A To get to the makeup tank or the --

15 Q To get to the makeup tank?

16 A No.

17 Q It's a common suction situation.

18 A Sure. Common suction goese into the suction of
19 all three pumps and the three pumps are separated but two of
20 the pumps are tied together and one is the isolated pump for
21 ES. There is separation.

22 Q Do you have any feel for about how much water you
23 might have lost altogether through that path? Ballpark?

24 A Somebody hollered and I can't remember if it was
25 Bill, you know, because Zewe had come back by that time.

1tLWR

1 Somebody hollered the BWST dropped a couple to several
2 feet. 8400 gallons a foot in that tank. If you lose
3 several feet in a short period of time, the water is going
4 somewhere.

5 All the bleed tanks or at least two of the bleed tanks
6 that I remember, I looked at the bleed tank levels. They
7 all pegged high on scale. This is an indication to me with
8 the grade level drop and that quick a rise in the bleed
9 tanks that the water was going in the bleed tanks.

10 Q How big is that relief line from the makeup tank
11 to the bleed tank?

12 A I don't know off the top of my head. An inch, two
13 inches.

14 Q Not a 14-inch line or something like that?

15 A No, but there was a great amount of pressure on
16 the line, too. There was over 80 pounds. The relief valve
17 was about 80 pounds or something. I don't know the size.

18 Q So if I read you right, it's conceivable that
19 something on the order of 30- or 40,000 gallons could have
20 gone, assuming the BWST is 8500 gallons per foot and you are
21 talking between two- and five-foot loss.

22 A Yes, right.

23 BY MR. CUNNINGHAM:

24 Q Can I ask something? I want to make it clear
25 exactly what flow path you thought it was from the BWST to

1tLWR 1 the bleed tanks.

2 A The suction of the pumps.

3 Q Going through the pumps?

4 A Back into the discharge line from the tank.

5 MR. FRAMPTON: Off the record.

6 (Discussion off the record.)

7 MR. FRAMPTON: Back on the record.

8 BY MR. FRAMPTON:

9 Q Mr. Zewe had returned at this point, is that
10 right?

11 A That's correct.

12 Q Who then actually made the decision or was in on
13 the decision to open the vent valve in the makeup tank?

14 A Bill and I discussed it between ourselves to the
15 best of my recollection. I talked to Bill and said you
16 know, the relief valve is lifting. We have to keep it from
17 lifting.

18 The only way to do it is open the vent valve. I turned
19 to one of the CROs -- it could have been Faust -- and told
20 him to get that auxiliary operator moving into the auxiliary
21 building and get that compressor on.

22 Q Were your instructions to him to have the
23 auxiliary operator start the compressor and leave it on and
24 leave?

25 A Yes. Because there is no sense in that guy

LrLWR

1 standing down there receiving radiation he doesn't need.

2 At this time, I didn't know how long the compressor would
3 be on but I knew I would need it for a period of time.

4 Q You and Mr. Zewe discussed this and decided to go
5 ahead with venting the makeup tank, right?

6 A When I say discussed it, I looked at Bill and
7 said, you know, it was quick. We have to do something,
8 Bill. The makeup tank is -- the bleed tanks are going
9 solid.

10 BWST is emptying. The problem is that relief valve.
11 Open the vent, decrease the pressure, get off the BWST and
12 back on the makeup tank. What we had to do was get water
13 back in the makeup tank because the level of the makeup tank
14 was indicating low so in that short period of time, what we
15 did was decided to start two de-min transfer pumps and put
16 straight de-min water into the makeup tank because the
17 discharge pressure of the transfer pumps was 100 pounds or
18 so.

19 Greater than the makeup tank pressure. It forced water
20 into the makeup tank. When we got level indicated back on
21 the makeup tank along with the vent being open we isolated
22 from the BWST.

23 Q When you say isolated from the BWST, you isolated
24 the BWST from the makeup tank?

25 A Right. We got that problem straightened out where

1tLWR

1 we don't lose the water. Now, to get the pressure down in
2 the makeup tank so I can get the water back from the bleed
3 tanks in the makeup tank.

4 So what we did was we continued to cycle the vent. I
5 believe we cycled it -- we left it open until the pressure
6 was down low enough -- the relief valve is about 80 pounds.

7 We got the pressure down somewhere in the 75- to 78-pound
8 range and went back to the long burst, the long cycles along
9 with the compressor run.

10 Eventually we got water from the waste transfer pumps
11 which sucked from the bleed tanks into the makeup tank.

12 Q Okay. Let me go back to the beginning of the
13 decision process. You and Bill Zewe discussed this. Did
14 Mr. Floyd come in on this discussion that you recall?

15 Q Jim was there. I don't remember.. Jim was sort of
16 like standing -- Bill was behind the panel looking at the
17 BWST and he was looking at the bleed tanks.

18 I had looked at them earlier and came out in front of the
19 panel. I don't remember turning to Jim. It may have been
20 that I turned to Jim and said, look, this is what we will
21 do.

22 I can't remember that. We might have. But we just
23 talked down the line. Faust was between Zewe and I. I
24 said, okay this is what we will do. You got a problem,
25 Craig? He didn't have a problem. Let's do that and take

1tLWR

1 water in the makeup tank. I can't remember if I said
2 something to Jim or not.

3 Q How about Mr. Logan? Do you recall whether he was
4 there at the time?

5 A No. Like I say, Joe might have been turning
6 over. I can't remember if Joe was there or if Potts was
7 there.

8 But those guys at that particular time, I wasn't involved
9 with them and had not yet gone to see them to give them my
10 turnover of what I had and where I planned to go for that
11 day.

12 Q Was it your intention to leave the vent open and
13 take the pressure all the way down to zero or down very low
14 or was it just to get it down low enough to get some level
15 again in the makeup tank?

16 A To start off with, the intent was to get the
17 level or the pressure down to get water back in the tank.
18 Eventually get over a period of time, get the pressure
19 down. That is where the release was coming from.

20 Q Some of the other people we have talked to seem to
21 recall that once the vent valve was opened, it was pretty
22 much left open for a long period of time with short closings
23 later on in the morning or afternoon, perhaps.

24 A Later on in the day. Once we receive the initial
25 burst and then left the valve open, we knew what the

1tLWR

1 radiation levels were, that's what we did. To get the
2 pressure down to try to get a vacuum on that tank and keep
3 it.

4 Q So you would say it was pretty much left open
5 during the day once you saw the radiation levels decreasing?

6 A That's correct. That's to the best of my
7 knowledge. We cycled it back and forth.

8 Later on in the day, I talked to Jack Herbein about it.
9 He called and inquired about it. We talked to Gary Miller
10 about it.

11 We all discussed what we would do then. That pretty well
12 got turned over in their hands as to how we would handle
13 it. The initial process was strictly Zewe.

14 Q Do you recall when Gary Miller came into the
15 control room whether you discussed with him what it was you
16 were doing with the valve or did he ask? Can you recall
17 that?

18 A I am sure he asked. I can't recall. I know we
19 went back in notifying all the people in Pennsylvania Bureau
20 of Rad Health and so forth and so on.

21 We went all through that program. We set up an
22 appointment in the control room where we were relaying the
23 information back to Unit 1 and they were talking and so
24 forth and so on.

25 I am positive we talked to Gary but can't say, yes, this

1 is what time I talked to him.

2 Q Fine. If you can't recall, just say you don't
3 have a recollection of it.

4 A Fine.

5 Q When you first opened the vent valve, do you
6 recall calling the Unit 1 control room and telling them that
7 you were starting to vent the tank?

8 A If I remember right, and I am not sure how the
9 sequence falls, I know we called the control room and said,
10 look, make sure the helicopter is up because we will open
11 this vent and leave it open until we get the pressure down
12 and the relief valve seats and then we will close it and go
13 from there.

14 I don't know the sequence but we called and talked to
15 them.

16 Q When Mr. Miller came in, am I right in thinking
17 that he assigned Mr. Zewe to be in control of the plant and
18 assigned you to take care of notifications and so on?

19 A Right. I was assigned to make sure Unit 1 got all
20 the appropriate information they needed to make their
21 off-site calculations and on-site calculations.

22 Zewe was in charge of the control room operators.

23 Q Did you specifically ask the Unit 1 control room
24 people to call Pennsylvania Civil Defense and the
25 Pennsylvania BRH?

ltLWR

1 A Yes.

2 Q Those were the two main contacts for emergency
3 planning.

4 A Yes. I made sure Mr. Miller was -- he was very
5 adamant about the fact make sure they talked to Maggie
6 Reilly.

7 Q Or Mr. Gerusky?

8 A Yes. That -- specifically had them people on the
9 phone and talked to them. Which they had reconfirmed to me
10 they were doing.

11 Q What was your expectation about whether there
12 would be a release of any kind or substantial release? Did
13 you expect a release or were you really taking precautionary
14 measures?

15 Can you remember what was on your mind at the time?

16 A I didn't expect a big release, no. I expected a
17 puff but I didn't expect a big release. What I was doing
18 was trying to get the people in position so they knew it was
19 coming. They could monitor it and everybody knew what we
20 did. I didn't expect a release that we got.

21 Q Were you aware at the time of any actions that
22 Mr. Floyd was taking or any phone calls he was making
23 independently of you to notify anyone?

24 A No. Jim was behind me. There were other things
25 going on. The press rizer started to go solid at the same

LWR

1 time. The very same time this happened, the pressure
2 started to go solid. We were trying to figure that out,
3 also.

4 I can't -- Jim was looking at that. Also, Jim was behind
5 me a bit so I didn't watch what he was doing. I was too
6 involved with what I was doing.

7 Q Do you recall whether there were any NRC people in
8 the control room at that time?

9 A I can't recall seeing any NRC people. I know they
10 were around. They were around me all day Wednesday.

11 I am sure they were there. I just didn't see them.

12 Q Were you aware that anyone consulted with them and
13 said, now, here is what we will do and here is what the
14 results might be?

15 A I know I didn't because it was happening right now
16 in front of me and it was happening fast and I had to take
17 action then and there.

18 I didn't talk to them. Whether somebody behind me did, I
19 don't know that.

20 Q Now, I take it that one of the primary problems
21 that you were concerned with was the possibility that the
22 reactor coolant bleed tanks would overflow and get out in
23 the floor drain system.

24 A Sure.

25 Q Why was that water hot?

1tLWR

1 A The tank area was hot. I went in the auxiliary
2 building Wednesday to see about the problem with the water
3 on the floor and see if I could do anything about it.

4 I took an LP tech with us. The readings we were getting
5 were extremely high. The readings in the room were high.
6 Over the 10-R.

7 Q Where had the reactor coolant bleed tank
8 water, the water that was already in there before the
9 makeup tank started relieving into it, where had that water
10 come from?

11 A I don't know the answer. I don't know what they
12 did all day Wednesday.

13 Q Do you know what the valve lines up with on
14 Wednesday that resulted in hot water getting into the RCBT?

15 A No.

16 Q Were you also concerned simply about the problem
17 of losing inventory from the borated water storage tank and
18 therefor not having emergency cooling water if you had an
19 additional problem?

20 A Sure. I knew that would be a problem. That was
21 my next problem in line as I looked at my priorities. The
22 first priority was keep the bleed tanks from overflowing
23 back through the vent lines into the traps and on the floor
24 and also losing the inventory.

25 I achieved both by stopping the water going to the bleed

LtLWR

1 tanks.

2 Q Do you recall a little later in the morning on
3 Friday Mr. Frederick calling you from a sub shop in
4 Middletown?

5 A Yes, I recall it well.

6 Q What do you recall about that conversation?

7 A He called me from a place called Auggie's and
8 asked me what I was doing. We got things really under
9 control.

10 He said you ought to think about what you are doing
11 because people in Middletown are running away. I said what
12 do you mean, running away? They are running down the
13 streets loading their cars up and running away.

14 I said, thanks for telling me. I went into t shift
15 supervisor's office and asked them if they knew the people
16 in Middletown ran away. They didn't know, either.

17 Q What do you recall about what happened in the
18 shift supervisor's office?

19 A The NRC guy called the guy in Unit 1 and they
20 called the regional office. I think Miller called Herbein
21 but I am not positive.

22 I left. My job was out on the board. But I know they
23 got the wheels in action to find out what was going on
24 outside off the island.

25 Q I think maybe we will take about a five-minute
26 break.

27 (Recess.)

sbnLRW

1 MR. FRAMPTON: Back on the record. The record
2 should reflect while we were taking a break, we were trying
3 to get Mr. Hitz' help in drawing a diagram of the flow paths
4 between the BWST and the RCBT, so we could identify what the
5 concern was about losing water out of the borated water
6 storage tank.

7 We were also having discussions about other possible ways
8 in which water could have been lost out of the borated water
9 storage tank.

10 BY MR. FRAMPTON:

11 Q Mr. Hitz, I would like to go back now to
12 Wednesday, March 28, and ask you some questions about your
13 role in the Unit 1 control room. You, I believe, arrived
14 about 6:15, morning, and were told to go to the Unit 1
15 control room since the shift supervisors there had already
16 gone to Unit 2; is that right?

17 A Yes. When I came through I had paged the night
18 shift supervisor. I always do that from security. To find
19 out which unit is in. The guy in Unit 1 picked up on the
20 phone and said, come to Unit 1, so I went there.

21 Q When you arrived in Unit 1, were you the senior
22 person there at that time?

23 A There was another shift supervisor.

24 Q Who was that?

25 A Ken Bryan.

26

w

sbnLRW

1 Q The two of you were senior people in the Unit 1
2 control room at that time?

3 A That is correct.

4 Q Shortly thereafter, I think you learned that there
5 had been a 600 r per hour measurement from the reactor
6 coolant sample?

7 A What I had done was sat down and asked Ken why I
8 was at Unit 1 and where Zewe was. He said they had a trip
9 down there. Stay here because Mehler was called out.

10 So Bryan was in Unit 2. I came to Unit 1 and we
11 discussed what happened. They said they had a trip last
12 night and the unit is down. Why don't I relieve him since
13 Mehler is already down in Unit 2? I said, fine. At that
14 time it was like a regular trip.

15 Q What did you regard as your role at that time?

16 A I was going to take the duty in Unit 1 until Bryan
17 came back and then we would swap units.

18 Q You didn't know at that time they were having any
19 particular problems?

20 A No. Not until I heard -- about 20 after 7:00, I
21 heard one of the HP techs over the page system and he
22 sounded excited. I picked it up and asked what was the
23 problem. He said he was registered 100 r on the sample.
24 That definitely got my attention.

25 Q At about that point a site emergency was declared

sbnLRW 1 by Unit 2?

2 A Yes.

3 Q Did you declare or did someone in Unit 1 declare a
4 site emergency as well?

5 A We had an announcement. The 600 r field was in our
6 unit. We made an announcement.

7 Q That therefore is a site emergency?

8 A Yes.

9 Q By we, who instructed --

10 A I instructed my CR to do that and also corrected
11 the CROs to set set up the emergency control station. The
12 isoplex.

13 Q Was the emergency control station to be set up in
14 the Unit 1 control room or its regular place at the health
15 physics access?

16 A They set up the ECS and ECCS. I set one up in the
17 Unit 1 control room. They set up the ECS down in the HP
18 lab. Unit 2 set their own up. I do back-up calculations
19 for Unit 2. I back them up, that is all.

20 Q Did you do or instruct the doing of notifications?

21 A Yes.

22 Q Do you recall what those were? Who was called?

23 I didn't make the calls. I turned to my shift
24 foreman and said, make your notifications per the
25 procedure. I had the CROs do their jobs.

shnLRW

1 We hold a drill! every year. I hold specific drills
2 throughout the year on shift. Each of my people know
3 exactly what they are supposed to do. They went into their
4 roles. Certain people, phones and headsets. Certain guys,
5 on the isoplex. Certain people make the offsite
6 notifications.

7 Q That was done under your command in Unit 1 rather
8 than from Unit 2?

9 A I understand Unit 2 also made calls. I didn't get
10 involved with that. I did what I felt I should do in Unit 1
11 to support what was going on. That was to make the phone
12 calls.

13 Q Do you remember which CRO actually was assigned to
14 make the telephone calls?

15 A No. I remember turning to my shift foreman and
16 saying -- David James -- and said, make the calls. Whether
17 Davey made them or one of the auxiliary operators who
18 reported to the control room at the notification of a site
19 emergency made the calls, I don't know that.

20 Q Do you remember what time Mr. Seelinger turned up?
21 Did he report to the Unit 1 control room?

22 A Yes, but I can't give you a time on that. I know
23 he showed up. I don't know what time. I didn't look at my
24 watch.

25 Q Was he the first person who came to the unit

sbnLRW

1 control room who was your senior?

2 A Yes. To my recollection.

3 Q Did he have control over the Unit 1 control room?

4 A He relieved me, yes.

5 Q Did you stay on the Unit 1 control room?

6 A Yes.

7 Q After he arrived, do you recall what you were
8 doing for the next couple of hours in the Unit 1 control
9 room?

10 A We got quite busy because of the wind speed
11 direction. We were sucking all the releases from Unit 2
12 into our ventilation and filtering them again over in Unit
13 1. All our radiation monitors were high.

14 Q Your air monitors in the buildings?

15 A Air monitors and atmospheric monitors. The wind
16 speed and wind conditions that day were not what you call
17 ideal. It wasn't very windy or anything. Everything
18 staying right over the island. Our ventilation we sucked
19 from right outside. So we just sucked everything right in.

20 Q Soon after the site emergency was declared, a
21 general emergency was declared?

22 A Yes.

23 Q Do you know who declared that?

24 A No.

25 Q When that was declared did you in Unit 1 begin

sbnLRW

1 to try to get monitoring teams out? Did you play a role in
2 that?

3 A Monitoring teams were sent out by the people even
4 during the site emergency. When you get into a site
5 emergency, you use the on-site and off-site monitor teams.
6 They are dispatched from downstairs.

7 Q Were you the one who began to organize sending out
8 monitoring teams?

9 A No. They were set up downstairs.

10 Q From the ECS?

11 A Yes.

12 Q ECS had control of directing monitoring teams into
13 action?

14 A Yes.

15 Q Whereas Unit 1 control room at that time was
16 prepared to do calculations and basically back up the Unit 2
17 control room?

18 A That is correct.

19 Q Did there come a time when the ECS in effect moved
20 into the Unit 1 control room?

21 A Yes.

22 Q Were you still there in the Unit 1 control room at
23 that time?

24 A Yes.

25 Q Was that later on in the morning? Do you recall

shnLRW

1 when that was?

2 A Right. If I remember right, it was 10-11
3 o'clock.

4 Q A.M.?

5 A Yes, a.m.

6 Q What was your understanding then as to who was in
7 charge of the ECS?

8 A Seelinger was still in Unit 1 at this time.

9 Q He took over being in charge of the ECS?

10 A Right.

11 Q Then all of the monitoring effort and so on was
12 being run out of the Unit 1 control room after the ECS moved
13 to the Unit 1 control room?

14 A I'm talking about the ECS from Unit 2 control room
15 moved over to us. The ECS in the HP lab stayed there.

16 Q Didn't they have to evacuate?

17 A They moved later on and came upstairs, yes. But
18 Seelinger ran the show in Unit 1 until he was called to Unit
19 2. Then it was turned over to Dubiel.

20 Q When he was called to Unit 2, were you in charge
21 of the Unit 1 control room?

22 A I was for a short period of time.

23 Q Until he came back?

24 A I don't believe he came back. I turned over to
25 Dick Dubiel later on in the day.

sbnLRW

1 Q Do you recall what direct or open telephone lines
2 there were from Unit 1 outside the plant during the first
3 morning, during the mornin_ of March 28?

4 A There was one or two in the shift supervisor's
5 office. One was -- both were to the NRC, I think. One was
6 I think down to fill in. I don't know where the other one
7 was.

8 Q Fill in in the Region 1 office of the NRC?

9 A Yes. We had one to Maggie Reilly also that we
10 kept open.

11 Q That would be Pennsylvania Bureau of Radiological
12 Health?

13 A Correct. Those were the only two I can remember.

14 Q Was that part of the emergency plan, to try to get
15 an open line to BRH or was that something you decided to do?

16 A That is something we decided to do. Keep them on
17 the phone and updated as best we could.

18 Q Were you feeding them the monitoring information
19 that you were receiving from the teams and helicopters?

20 A I personally wasn't but somebody was. Somebody
21 was feeding them information. They also were doing
22 calculations.

23 Q Do you recall approximately when the first NRC
24 people arrived onsite?

25 A No. I know when they came but I don't know the

sbnLRW

1 time.

2 Q Was that in the late morning or around noon of
3 March 28?

4 A Yes. Late morning. In that general ballpark.

5 Q They came to the Unit 1 control room, did they
6 not?

7 A That is correct.

8 Q Prior to that time had you had phone conversations
9 with NRC people either in Region 1 or back in Washington?

10 A I didn't.

11 Q Do you know whether other people did in the Unit 1
12 control room?

13 A We made a phone call to notify them. If somebody
14 actually sat and held an on-going conversation, I don't know
15 that.

16 Q After the initial notifications and prior to the
17 time NRC people arrived from Region 1, do you recall when
18 you were on the phone with Region 1 or on the phone with
19 Washington giving them information?

20 A I don't know.

21 Q You don't know one way or the other?

22 A No, I don't.

23 Q What happened when the first NRC people showed up?

24 A I took them into the shift supervisor's office and
25 explained to them, to the best of my knowledge, what we had

sbnLRW 1 with the information I was given. Then they set up their
2 office.

3 Q They set up their office in the shift supervisor's
4 office?

5 A Correct.

6 Q Do you recall whether one or two of them went over
7 into the Unit 2 control room?

8 A I don't recall but I understand somebody did. I
9 don't know who it was. I don't recall when they went. I
10 just understand somebody did eventually go over there.

11 Q Did you have discussions with them, with any NRC
12 people who were in the control room in Unit 1 during the
13 afternoon of March 28?

14 A Sure.

15 Q What do you recall about those conversations?

16 A I would feed them plant information I was getting
17 from Unit 2 as often as I got it.

18 Q Was that your primary role, to be getting
19 information on the telephone line from Unit 2?

20 A No. My primary role was to be in charge of the
21 operations of Unit 1 and keep things under a stable
22 condition there. I would talk to the people in Unit 2 and
23 get as much information as I could to give it to the people
24 running the back-up calculations and also feed it to the NRC
25 guys because they were hungry for information.

sbnLRW

1 It got a little out of hand because they actually got
2 in the way. They would stand around the table and the guys
3 couldn't do their calculations and I had to keep moving them
4 back.

5 Finally I decided one guy comes out and asks and that is
6 it. That is how it evolved.

7 Q Your primary responsibility was to run Unit 1.
8 You were on the console basically. In charge of it.

9 A Yes.

10 Q And you had a foreman or —

11 A I had a shift foreman.

12 Q And control room operators?

13 A Three control room operators.

14 Q That was your primary responsibility but a second
15 responsibility was to be getting information from Unit 2
16 about plant status, plant parameters?

17 A Yes.

18 Q Where were you giving that information in addition
19 to the NRC people who were hungry for it?

20 A We have a status board we try to keep up to date.
21 I would give it to my status boardkeeper. He would also
22 update his board.

23 Q You weren't involved in getting results from
24 monitoring teams and passing those along?

25 A No. I would get some information from time to

sbnLRW

1 time. As I was going in to give the NRC whatever
2 information they wanted, I would take notes along. But I
3 didn't play a particular role in gathering that information.

4 Q Were you involved in passing information back to
5 Unit 2 about off-site readings or anything like that?

6 A No. The off-site readings come directly to the
7 ECS via radio communication. The telephone communication or
8 the headsets we have set up send the information back and
9 forth between the control rooms.

10 Q What did you perceive the role of the NRC people
11 who were in the control room, the people onsite, to be?
12 What did you perceive what they were supposed to be doing
13 there?

14 A They were there to assist in any way they could.
15 Give me some information. Have you looked at this or that?
16 Just to assist.

17 Q Were they doing that?

18 A Sure.

19 Q Were they making suggestions?

20 A Sure.

21 Q Do you recall what kind of suggestions or any
22 specific ones the people who were there in the Unit 1
23 control room made during the first day?

24 A We held a lot of conversations. From what is the
25 flow path in the makeup system to what is the

sbnLRW

1 temperatures and pressures. It involved a whole lot of
2 things.

3 I can't pick one specific instance out and say we talked
4 about this. They wanted to know pressures, flows,
5 temperatures, what pumps were on.

6 Q I understand they were asking you for a lot of
7 information. My question is really were they making
8 suggestions and recommendations to you saying, gee, you
9 ought to look at this or ought to do this?

10 A Sure. And I would relay that information back to
11 Unit 2.

12 Q Who were the people that you were talking to in
13 Unit 2 primarily?

14 A Well, I tried to talk -- they had a chain of
15 command set up over there. I would try to talk to the shift
16 foreman or shift supervisor over there, or Mike Ross was
17 over there also. I tried to talk to him.

18 If I couldn't get a senior person, I called to the
19 control room operator. Whoever picked up the phone. I
20 would ask for Seelinger, Ross, shift supervisor, shift
21 foreman, and finally, CRO. If they were all tied up. They
22 held special minimeetings, little meetings, to discuss this
23 and that. Sometimes everybody was involved in these.

24 So I would pass the information through to a CRO. And
25 have him give that information to whoever.

sbnLRW

1 Q Were there any people in the Unit 1 control room
2 from NRC who had knowledge of the plant in Unit 2, detailed
3 knowledge, as far as you knew?

4 A Not as far as I knew. The people I had met who
5 came in, I had never met before.

6 Q Mr. Gallina, was he in the Unit 1 control room?

7 A That's right.

8 Q Who else, if you remember?

9 A I think Nimitz was there. That is all I can
10 remember.

11 Q Can you characterize the kinds of suggestions that
12 they were making? Were they saying maybe you should try
13 this or were they putting some pressure on you to suggest to
14 Unit 2 control room to take a particular course?

15 Were they really recommendations or were they more in the
16 way of saying, gee, maybe we should try this or that?

17 A I had talked to whoever -- I don't know who.
18 We had a phone communication set up. We were on a
19 conference box. From time to time we were in respirators.
20 It makes it difficult to communicate through the respirator.

21 I got the impression sometimes they said, look, do this,
22 and I would ask, are you telling me to do that. No, I'm not
23 telling you. I'm asking you to think about doing that.

24 And it went along those kind of lines. That type of
25 situation. I would say, okay, I'll tell them in Unit 2

sbnLRW 1 you are concerned about this and want them to look at this
2 and I would relay that information.

3 Q But the NRC people were really drawing back from
4 trying to make it seem as though they were recommending or
5 trying to command you to do anything?

6 A They were drawing back, saying, hey, I recommend
7 that you look at this. They were recommending rather than
8 commanding. That is the impression I got, anyway.

9 Q How would you communicate that to the people in
10 Unit 2?

11 A I would say, look, I talked to a guy from the NRC
12 and he wants you to look at this, this and that because they
13 are concerned about this, this and that. Please take a look
14 at it.

15

16

17

18

19

20

21

22

23

24

25

amn 1 Q When you said before that the NRC people at times
LR 2 really got in the way, did they get in the way more because
3 they physically were standing around trying to get information
4 or get in way because they were always or sometimes bothering
5 you about what to do next? Or both?

6 A It is a little bit of both, I guess. Mostly because
7 you are in a confined space with a large amount of people
8 doing a specific job. Of course he has a job where he is
9 supposed to get information. He would keep bugging the guy
10 who was trying to do the off-site calculations and the guy
11 couldn't continually run a train of thought or go on with his
12 calculations because he was answering this guys questions.

13 I finally had to run them away from the calculations
14 table and tell them if they want anything, come to me and I
15 will see that they get it. As far as bugging me to do
16 something -- do this, do that -- they would come out and get
17 me. I spent a lot of time at the calculations table looking at
18 my radiation monitors because unit 1's radiation monitors were
19 all going off-scale high.

20 That is my primary concern, unit 1, and the people
21 involved in unit 1. When a guy wanted something and tapped me
22 on the shoulder and said come in the office, somebody wants to
23 talk to you, I would go in.

24 Q Did the NRC people in the unit 1 control room ever
25 make a specific suggestion or recommendation about the overall

1 strategy that unit 2 ought to take for cooling the plant?

2 That is, did they ever say look, the NRC thinks you
3 should really be blowing down now instead of keeping the
4 pressure up? Or vice-versa? Do you recall that?

5 A I can't recall. They might have. I can't recall
6 it. I remember sometime during the day they said -- I talked
7 to the guys and they said they will try to get on decay heat
8 removal. I don't know if they discussed it over there,
9 because we talked earlier that the NRC sent people to unit 2.
10 I don't know what transpired between the people in unit 2 and
11 the people down in region 1.

12 Maybe they decided to do that. I don't know that. I can't
13 specifically remember hey, you ought to decrease pressure
14 rapidly during decay heat or pressurize rapidly and pump back
15 up. I know they were concerned about the temperature
16 relationship, the NRC people.

17 I relayed that information to them. Look at your pressure
18 and temperature. What do you believe?

19 Q Could you explain that a little more? Was the
20 question whether the readings were really believable or what
21 the radiation showed?

22 A Well, I think it was questionable as to whether the
23 readings were believable or not because of some of the
24 temperatures they had seen and whether or not the RTD failed.

25 The large range or spectrum in temperatures -- they looked

amn 1 at the in-core temperatures which ranged from 60 degrees to
LR 2 1400 degrees. You look at that whole thing and say do I
3 really believe this or not?

4 Q Were you aware say the morning or afternoon of the
5 28th they had gotten some very high in-core temperature
6 readings in unit 2?

7 A I don't think I paid particular attention to the
8 in-cores because of what I was involved with. I would take
9 the number and run it in and say they are reading this or
10 that. I may have looked at the in-cores. The one that
11 struck me was the T-hot where it read 620. That is pegged
12 high. That one really concerned me.

13 Q Was the NRC input there to find out whether that
14 was really believed to be accurate by the people in the
15 unit 2 control room?

16 A I know they were concerned about it. I don't know
17 what they were thinking at the time. They took all the data
18 and I would go away and they would go away and use the phone
19 and look at what they had. And I would go back in the control
20 room.

21 I know they were concerned about the temperatures. Where
22 they were headed, I didn't know that.

23 Q Okay. I want to ask you whether you have any
24 recollection of a telephone call or telephone calls you may
25 have been in on with NRC people yourself.

amn 1 I would like to have marked as Exhibit 9 a very rough
LR 2 transcript of a tape which is a recording of a phone
3 conversation that apparently occurred on March 28 between
4 4:00 o'clock in the afternoon and 4:30 in the afternoon on one
5 of the incoming phone lines in the NRC's incident response
6 center in Bethesda. It appears to be a phone conversation
7 between some NRC people there and some people in the unit 1
8 control room.

9 (Exhibit 9 identified.)

10 BY MR. FRAMPTON:

11 Q I have shown this to you before we started today.
12 See if that jogs your memory as to whether you are one of the
13 people in this phone conversation and generally as to when you
14 knew about it or were in on any phone conversations with NRC
15 people in Bethesda during the afternoon and what you can
16 recall them telling you.

17 Do you recognize this transcript at all?

18 Do you recognize the conversation?

19 A The conversation -- I talked to a lot of people.
20 When I talk into that conference box, I don't know where they
21 are on the other end. If it was Bethesda or Philadelphia, I
22 don't know that. The conversation itself, though, we talked
23 about a lot of things. In this conversation they talk about
24 temperatures and so forth and so on. We talked about that.

25 I can't say yes, this is it. But we talked about a lot of

amn 1 things. Temperature was one of them.

LR 2 Q When you say we talked about a lot of things, you
3 mean you talked with NRC people on the phone at various times
4 about temperatures.

5 A Sure.

6 Q Having read this rough transcript do you have a
7 recognition of participating in the conversation of which
8 this purports to be a transcript? As you sit here today, do
9 you recall this?

10 A It is possible, yes. I would imagine the guy that
11 they call "Greg Hess" is me. We were in respirators. My
12 conversation with him -- it is quite possible. We talked
13 about temperatures and pressures. That is what they are
14 talking about here.

15 MR. RIDDELL: The record should reflect the fact
16 that he never saw this transcript before 9:30 this morning.

17 MR. FRAMPTON: That is correct.

18 BY MR. FRAMPTON:

19 Q As I understand it, you are saying this could well
20 have been a conversation you participated in but as you sit
21 here right now you can't absolutely confirm that from your
22 recollection.

23 A That is right. It is quite possible.

24 Q Do you ever recall talking to somebody from the NRC
25 called Vic Stello?

amn 1 A I didn't pay any attention to names. That wasn't
LF 2 important.

3 Q So you would not recall that name?

4 A No.

5 Q Do you ever recall someone from the NRC on the
6 squawk box telling you that they were concerned about the core
7 being uncovered or about superheat condition?

8 A I remember him talking about the core being
9 uncovered. I remember coming back and talking to them about
10 the core flood tanks. I said they are floating on the BWST in
11 the core flood tanks. The guy said how do you know the core
12 is covered? I said I don't. Let me get back to them and get
13 all the parameters and get back to you.

14 Q Some of that conversation -- some conversation about
15 that subject appears in this transcript.

16 A Right.

17 Q Which we marked as Exhibit 9.

18 But from your recollection, what you recall about that
19 conversation, do you then recall talking to somebody in unit 2
20 and passing that concern along?

21 A Sure.

22 Q Do you happen to remember who that particular person
23 was you talked to on that occasion?

24 A I don't. I talked to so many people at so many
25 different times. NRC had me answering 100 questions. I don't

amn 1 know.

LR 2 Q Do you recall whether there was any response back
3 from the unit 2 control room after you relayed this
4 information?

5 A I know they said they would look at it. They would
6 look at their pressure temperature and look and see what they
7 think is going on.

8 Q Do you recall whether they ever got back to you and
9 said tell the NRC we looked at it and decided thus and so?

10 A No, I don't.

11 Q You couldn't have any recollection of whether there
12 was any feedback?

13 A No, I don't have any recollection. I don't know
14 what they were talking with the NRC guys — there is a guy
15 over there in unit 2 also. I don't know what happened there.
16 I only know what happened on my side.

17 Q I am asking about whatever knowledge you had with
18 respect to things that went through the unit 1 control room
19 you may have heard.

20 A Right.

21 Q Do you recall any other specific concerns or
22 recommendations that NRC people, either those in the control
23 room or those talking over the phone, made during that first
24 day about strategy in the plant or about specific concerns?

25 Do you recall any other specific items like this that came

amn 1 up?

LR 2 A No. Not anything really great, earthshattering.

3 Q Nothing that stands out in your mind?

4 A No. It seems to me one of the guys -- I think
5 Havercamp was down where I was talking. I thought he said
6 these -- Don Havercamp -- I think I said, hi, Don, how are you
7 doing? I think he was down there. That might help a bit.

8 Q When you say down there --

9 A Whoever I was talking to on that box.

10 Q At the other end of the phone?

11 A Whoever they were. I think Havercamp was there.

12 Q I note in this Exhibit 9 there is a voice saying
13 Don? Don? Is that Mr. Havercamp's first name?

14 A Don Havercamp, yes.

15 Q Do you recall having more than one conversation
16 where there was input coming from NRC people outside the
17 shift supervisor's office?

18 Do you recall hearing NRC people from region 1 or Bethesda
19 talking into the squawk box and saying we are concerned about
20 this or please look at that?

21 A Other than the people I talked to? Other than the
22 people I talked to?

23 Q Other than the people actually in the control room
24 who had come from region 1, do you recall concerns being
25 expressed by NRC people back in region 1 or Bethesda over the

amn 1 squawk box direct to you while you were standing there?

LR 2 A Sure. That is part of the conversation that we
3 talked about. They would say look, how about this, how about
4 that? I spent a long time explaining to them how the max up
5 system works.

6 Q Over the phone?

7 A Yes. Because they only had unit 1 prints. Not unit
8 2 prints.

9 Q At region 1?

10 A Whoever it was. That irritated me a bit. I had to
11 spend time teaching this guy a system when I thought they
12 had all our prints. It was tough to teach unit 2 off of unit
13 1. The basic system is the same but the check valves are
14 different and so forth.

15 I don't know who was there, but we talked at great length
16 over a long period of time.

17 Q Did the role of NRC people either in the control
18 room or on site change in any way between Wednesday and Friday?

19 A Not to my recollection.

20 Q Where were you on Saturday and Sunday? Unit 1?

21 A Unit 2.

22 Q There were inspectors from the NRC there on Saturday
23 and Sunday, right?

24 A Right.

25 Q Was there any change that you noticed in the role of

amn 1 NRC people Saturday and Sunday?

LA 2 A Yes.

3 Q Could you describe what you observed or understood?

4 A Well, they got involved in everything we did. If
5 we even thought about doing something, we discussed it. We
6 set up a group and our procedures flowed through this group
7 from our people who wrote it to NRC, GPU, to ALARA, back to
8 us. They are the people in charge of health physics, making
9 sure we don't exceed anything and so on.

10 They definitely were in on everything we did. The makeup
11 tank and the pressure in the reactor building was a big
12 concern. Where to vent the decay tank to the -- the waste
13 tank decay tanks, we wanted to pipe the decay tanks back to
14 the reactor building.

15 I had to help a guy get dressed from NRC to go in so he
16 could watch them run this pipe.

17 Q Do you have a recollection that you wanted to do
18 this before the NRC was prepared to give you permission to do
19 it?

20 In other words, was this action held up or delayed by
21 necessity to get NRC concurrence in it? That you can recall?

22 A You mean for any actions we wanted to take as far
23 as --

24 Q I am talking about specifically the putting the gas
25 from the makeup system back into the containment. That was a

amn 1 decision that was made by the company, was it not?

LR 2 A Yes. Somebody in the company made that decision.

3 Q Do you recall whether the actual implementation of
4 that decision or the actual pumping of the gas was delayed
5 on account of NRC being slow in concurring in the action?

6 A I don't know about them concurring in the action.
7 I don't know if that held us up. I don't believe it did. I
8 think that is a good idea. So to speak, you meet together and
9 look around and make sure it was right. Where we got bogged
10 down is shift reliefs. Taking a guy down, dressing him up,
11 sending him in the building to watch a guy lay copper tubing
12 is ridiculous. He is exposed to that radiation for no reason
13 at all as far as I am concerned.

14 Why he has to be there when they lay the copper pipe is
15 beyond me. I had to wait to get his clearance. I had to wait
16 to get his exposures and so forth and so on. Shift relief
17 time was horrible. The guy who came in to relieve the guy
18 there had to be explained everything all over again. Tell me
19 why you are doing this and that. He wants to know what I am
20 thinking. Fine, but --

21 Q You are talking about NRC people replacing --

22 A Another NRC guy.

23 In other words, the guy shifts -- his shift is done. He
24 wants to go home. They relieved a half hour an hour after we
25 did. Not the same time we did. They had continuity there.

amn 1 Another problem is procedures. I would write a procedure
L 2 and send it around the table and everybody here would approve
3 it and we went home. New people sat down at the table and
4 somebody at the end didn't like it. It completely stopped
5 everything. Though everybody approved including the guy
6 from the NRC who was there. That became quite frustrating.

7 Q When did this change that you have described in
8 which the NRC people got much more involved with plant
9 operations and procedures begin?

10 A Saturday-Sunday.

11 Q Saturday or sometime Sunday?

12 A It had to be Saturday because Sunday is when we lit
13 off the recombiner so it was probably late Friday and
14 Saturday when we set up the process for the procedures to
15 flow.

16 Q Friday night or early Saturday?

17 A That is when it really started to affect me. It
18 really affected me on Saturday.

19 MR. FRAMPTON: Let's take a five or 10-minute break.

20 (Recess.)

21

22

23

24

25

cr6981

je 1

lrw 5

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

MR. FRAMPTON: Back on the record. Dennis?

BY MR. ALLISON:

Q First of all, were you involved in any way with the decision to stop steaming from the atmospheric vents on the afternoon of the 28th?

A No.

Q Do you know what was done, whether the steam generators were steamed at the condenser immediately thereafter or not?

A I don't know.

Q Were any special precautions taken to prevent any containment isolation valves from opening up, that you recall?

A We talked about that later on. Terry Harpster and I talked about it. And I believe that we looked at opening breakers for specific valves. We at least talked about that. What happened thereafter I am not sure. I know we discussed it. Terry and I talked about it. Bring it up to his people and I would bring it up to mine and we would caucus about it.

Where it went from there, I am not sure. I am quite positive a lot of breakers got opened for isolation valves. The valves would be closed in there isolation -- reactors would go through isolation position. The breaker would be opened so the valve couldn't cycle. We had caution tags on the valves, too, I believe.

1 Q Had one of those valves opened, what would the
2 consequences have been? Let's say been open by accident.

3 A I guess it depends on which valve you open as to
4 what the consequences would be. From a release out of the
5 building to nothing. It depends what system.

6 Q Most of them have another valve backing them up,
7 do they not?

8 A Yes.

9 Q Had you been able to open a valve by accident you
10 would have been able to reclose it?

11 A Sure.

12 Q Would it have been worthwhile in your opinion to
13 have a selective engineered safety feature bypass feature
14 so you would bypass the containment isolation signal for
15 the valves you needed like the reactor coolant seal isolation
16 valves yet leave the others locked closed by the engineered
17 safety feature? The question is whether that was worthwhile,
18 in your opinion.

19 A You want to bypass specific portions of ES instead
20 of the whole system. That would be a convenience, sure.
21 That would be nice.

22 Q It would have been nice in this situation so you
23 didn't have to operate circuit breakers or something.

24 A Sure. It would have been nice.

25 Q But you are able to handle that by disabling the

1 electrical circuits if you want to make sure certain valves
2 can't get open.

3 A That's right. Go down on the breaker and the
4 valve can't cycle. That is not as easy as it sounds. The
5 guy has to get dressed and so forth but eventually that could
6 be done.

7 Q When you were on duty as the shift supervisor, I
8 was asking you earlier about command control and instructions
9 not to change the plant status without approval of upper
10 management. Regardless of any instructions you may have
11 gotten in the later days, did you always feel free if
12 something unexpected happened that you had the responsibility
13 and authority to take action right then?

14 A Sure. I never doubted that.

15 Q No matter what anybody says, when you are in charge
16 of the control room, is that your view of things?

17 A If something needs immediate attention or needs
18 action right now, what I consider action right now is the
19 make-up tank relief valve cycling open and closed, we will
20 take action then and there and then discuss what we have done.
21 I have specifically told the CROs I work with also, they are
22 not to change a thing in the plant under normal conditions
23 unless they talk to me. Don't start stop pumps, don't change
24 valve line-ups unless we talk about it as a group unless the
25 world is caving in, and they will and they have to do something

jeri 4

1 now. I will be right there and know that.

2 Q This is normal procedure prior to the accident you
3 are speaking of?

4 A This is after the accident. Normal procedure is
5 CRO has a procedure to follow and he will follow that
6 procedure. Pre-accident times.

7 You seem to be talking about that quite a bit. Let me give
8 an example. When the reactor coolant pump tripped, two CROs
9 on the console plus myself. Each of them were familiar with
10 the EP but when the pump tripped one got the EP out and
11 opened it up to that portion that applied. The other CRO
12 scanned the panel. I stood behind him. We went step by
13 step down the EP. He didn't just reach over and start the
14 other pump. It's not quite that simple.

15 We had the EP out. We read step by step exactly what to
16 do before we did it. We took the time to do that. That is
17 a good example on that pump trip.

18 Q When did that happen?

19 A I don't know the -- it happened sometime probably
20 during the first -- I know the pump tripped. I just don't
21 know when.

22 BY MR. FRAMPTON:

23 Q Let me ask you one or two questions on another
24 subject. On the early afternoon of March 28, you and
25 Mr. Carl Myers wne into the Unit 2 auxiliary building.

jeri 5

1 A That's right.

2 Q Was that basically reconnaissance?

3 A Yes.

4 Q To see whether there was water on the floor or
5 whether there were leaks and what the activity level was?

6 A We knew there was water on the floor because of the
7 releases, the large releases we were getting and the effect
8 we saw on our radiation monitors. We wanted to go in and see
9 if there was anything we could do about it such as pump it
10 from the sump into another holding tank and get the
11 floor levels down so the radiation levels wouldn't be as high.

12 Q You tried to restart one of the sumps to get that
13 water out of the drain system, did you not?

14 A Right. We went in at the auxiliary building sump.
15 The water level was full to the top of the floor. We went up
16 to the panel and tried to start one of the auxiliary building
17 sump pumps. It wouldn't start.

18 Q Who decided somebody ought to go in there and take
19 a look?

20 A I sat down with Jim Seelinger when Jim was in
21 Unit 1 and said we ought to look and see if there is anything
22 we can do. It was myself and Seelinger -- there were several
23 other people. We held the meeting in the same room the NRC
24 was in. And then I told them I ought to go because my
25 exposure was low compared to the other guys involved in the

jeri 6

1 Unit 1 refueling outage. So I went in.

2 Q When you say "exposure is low," you mean for the
3 quarter?

4 A Yes.

5 Q And you therefore were the one who suggested you
6 were the appropriate person to go on this trip?

7 A Because I knew the building and the combination of
8 both. I knew the building, knew where to go and my exposure
9 was low.

10 Q Were the NRC people listening in on this conversa-
11 tion?

12 A I don't know that.

13 Q It's possible but you don't know?

14 A I don't know that.

15 Q Thank you.

16 Denny?

17 BY MR. ALLISON:

18 Q When you left at 7:00 a.m. Thursday, you had not
19 been intimately involved in the Unit 2 control room
20 operations up until that time.

21 A That's correct.

22 Q Did you think when you went home that morning that
23 the incident had been terminated?

24 A Terminated? No, not terminated. Controlled.
25 Arrested. But not over.

ri 7
1 Q Did you consider the plant still in a state of flux
2 to be brought under control or did you consider it under
3 control --

4 A Under control and now in the process of cooling
5 down decay heat.

6 Q You started then on Friday morning in a 12 on, 12
7 off shift relieving Bill Zewe as shift supervisor?

8 A Yes. We weren't actually on 12 on, 12 off. There
9 were three shift supervisors in Unit 2. We sort of worked
10 anywhere from an 8 to a 12 hour day depending. We weren't
11 specifically on a 12-hour shift.

12 Now some of the upper management people were on a 12-hour
13 shift.

14 Q Were you on and off with Zewe in a port-starboard
15 arrangement or was there a third shift supervisor?

16 A There was a third shift supervisor.

17 Q Who was that?

18 A Brian Mehler.

19 Q What was your understanding of the structure above
20 the -- I believe we had Floyd and Ross at port and starboard.

21 A I believe that is correct. For a period of time
22 they were, yes.

23 Q Do you know whether they got into that configuration
24 and were constantly manning the control room?

25 A No That changed somewhat. The shift

jeri 8

1 structure and arrangement changed at a later date. Maybe
2 Monday or Tuesday. We went into almost a five-shift rotation
3 I believe.

4 Q I am only interested up until the weekend at most.
5 That was when it was being formed.

6 A Okay. They were basically port and starboard.

7 Q Once it got formed, changed to four sections or
8 something, I am not interested in that.

9 A All right.

10 Q Okay. Above Floyd and Ross, do you know what was
11 happening there? Let's say Thursday, Friday and Saturday.

12 A Should have been Miller and Logan.

13 Q So it was your impression it was Miller and Logan.

14 A Right. Miller is the one I worked with.

15 Q But you worked with Miller. You weren't there when
16 Logan was on duty.

17 A No, sir.

18 Q Do you know when that started?

19 A No, I don't.

20 Q Do you know who was above Miller and Logan?

21 A Arnold and Herbein.

22 Q Can you recall when that started?

23 A No. They seemed to be working that way Friday when
24 I was there. It must have started sometime Thursday. I don't
25 know specifically.

1 Q And then who had the Unit 1 control room, the
2 radiological emergency plan considerations?

3 A That changed. Bill Potts was over there. I
4 talked to Howard Crawford. I can't remember.

5 Q Do you know who they would be reporting to? Would
6 that be Miller and Logan that they would report to?

7 A They basically -- it ultimately boils down they
8 report to Miller and Logan, yes.

9 Q So Miller and Logan had responsibility for --

10 A They were the emergency directors.

11 Q -- both plant operations and radiological monitor-
12 ing teams and so on.

13 A Sure.

14 BY MR. FRAMPTON:

15 Q One of the things we are looking at is the question
16 of what kind of manning and expertise it's really helpful and
17 necessary to have in the control room to deal with transients
18 and accidents. The technical specifications for TMI 2 which
19 I believe are standard tech specs only require that one
20 licensed operator be in the control room during equilibrium
21 power operation and the minimum total crew size is one SRO,
22 2 control room operators and 2 non-licensed personnel or
23 auxiliary operators.

24 The specs also permit that crew exposition to be reduced
25 from 3 licensed operators to 2 licensed operators for a period

eri 10
1 of up to 2 hours. Theoretically at least you would be within
2 your tech specs for up to a two-hour period with only 2
3 licensed operators in the plant. One out at the plant and one
4 in the control room.

5 Let me start by asking this question: Do you think that
6 having only 2 licensed operators in the plant with only one
7 in the control room is adequate manning to handle a transient?

8 A No.

9 Q Do you think that the minimum required in the tech
10 specs for longer periods of time, which would be 2 licensed
11 operators in the control room with a senior person out in the
12 plant, let's say, do you think that is adequate with two
13 auxiliary operators for handling abnormal transients or
14 accidents?

15 A With two auxiliary operators handling the
16 transient?

17 Q Right.

18 A No.

19 Q I think that Met Ed has a larger than minimum
20 normal crew manning, is that correct?

21 A That is correct.

22 Q What is your normal complement on a back shift?

23 A Normal mor minimum?

24 A Your normal. Start with your normal on the back
25 shift.

11 1 A Two control room operators who are licensed. I have
2 got a shift foreman who is licensed as a senior reactor
3 operator. Control room operators are just RO. I have got
4 anywhere from 6 to 8 auxiliary operators.

5 Q Does the company also have a policy to have a shift
6 supervisor --

7 A On-site.

8 Q -- in other words, in one nit or the other at all
9 times on all shifts.

10 A That's correct.

11 Q Do you think that normal complement is adequate
12 to handle --

13 A Yes.

14 Q -- a transient?

15 A Yes.

16 Q Does the company have some rule about its --

17 A Excuse me. You said transient. Not an accident.

18 Q Yes.

19 Q Yes, transient.

20 Q What about handling an accident?

21 A The accident, you need help. I can handle an
22 accident for a short period of time. I am trained to do that.
23 My operators are trained to do that, to man the off-site and
24 on-site teams but they will need help. That time period where
25 I call people on my emergency calls I -- that is not

jeri 12

1 including the HP people. You are only talking about operations.
2 Not health physicists and so forth and maintenance.

3 Q That's correct. I am only asking about the number
4 of people necessary for operation.

5 A Okay.

6 Q Now you said there is a distinction between normal
7 and minimum. Does the company have a policy, a minimum crew
8 complement policy that requires a certain number of people to
9 be present on a unit at all times?

10 A Four auxiliary operators. That is our policy.
11 We don't go less than that.

12 Q Company policy is you are not supposed to be
13 operating with less than four AOs.

14 A That's right, in each unit.

15 Q Is it also company policy you shouldn't be
16 operating without a shift supervisor on-site?

17 A That is correct.

18 Q That is part of the minimum policy.

19 A The shift supervisor will be on-site.

20 Q And a foreman and at least two control room operators
21 for each unit.

22 A That is correct.

23 Q The foreman and shift supervisor each have senior
24 licenses.

25 A That is correct.

jeri 13

1 BY MR. ALLISON:

2 Q There is one last question here. Did you ever
3 receive any orders during the first few days after the accident
4 that you disagreed with? If so, what were they and what was
5 your recommendation?

6 A Offhand, I can't remember any orders I disagreed
7 with.

8 MR. ALLISON: That is all I have.

9 BY MR. WORAM:

10 Q One question I have. Over the course of the first
11 day, looking at the reactimeter data, the spray valve was
12 used on and off for reasons I can't understand from looking
13 at the data I have seen so far.

14 A March 28?

15 Q Yes.

16 A I have no idea that was done.

17 BY MR. FRAMPTON:

18 Q Mr. Hitz, thank you very much for your time and
19 your cooperation. I want to ask you one last question. Are
20 there any areas that the I&E people didn't ask you about at
21 all and we haven't asked you about at all that you think are
22 especially important to your role in the response to the
23 accident or that you think are important that we have missed?

24 A No. You pretty well covered it all.

25 MR. FRAMPTON: Okay, thank you very much.
(Whereupon, the hearing was concluded at 12:10 p.m.)