07-838-91

# OFFICIAL TRANSCRIPT OF PROCEEDINGS

Agency: Nuclear Regulatory Commission
Incident Investigation Team

Title: Nine Mile Point Nuclear Power Plant
Interview of: EUGENE "MARK" DAVIS

Docket No.

LOCATION: Scriba, New York

DATE: Monday, August 19, 1991

PAGES: 1 - 46

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~~9205060175~~

Exhibit 3-1 (continued)



ADDENDUM TO INTERVIEW OF Eugene Mark Davis CEO
(Name/Position)

| Page | Line | Correction and Reason for Correction |
|---|---|---|
| 4 | 3 | VNC not sure what this might have been, delete, not important |
| 4 | 51 | add word "us" do with "us" electrically. |
| 4 | 7 | change lamp to line up |
| 6 | 6 | change control room to "SSS office" |
| 6 | 7 | change the voltage to "there was voltage" |
| 6 | 10 | change that to "then" |
| 7 | 3 | change scrammed to scram |
| 8 | 23 | change ~~to~~ or to all |
| 9 | 18 | delete the word "buses" |
| 9 | 21 | delete the final comma |
| 9 | 25 | change ~~to~~ in to and |
| 11 | 16 | change to "and I was coming down the panels headed... |
| 12 | ~~8~~ 4 | change to ...one had tripped and the other autostarted,... |
| 14 | 19 | change ad to "when" |
| 14 | 20 | change As to ~~when~~ After |
| 16 | 14 | change con-demin to cond-demin |
| 16 | 16 | change to demineralizers |
| 17 | 7 | EOP 6 |
| 17 | 20 | change rod three position to "rods to reposition... |
| 18 | 2&3 | plus we ~~have~~ have normal reactor scram procedures. |
| 19 | 6 | change It was to I was |
| 20 | 4 | ~~RSCS~~ RSCS |
| 20 | 6 | "RSCS" (not RCS) |
| 21 | 11 | change INC to I&C |
| 24 | 16 | delete "it" |
| 25 | 6 | delete the s from pumps |
| 26 | 1 | change "get the valve, the breaker" to "get the breaker" |
| 27 | 13 | change to "Level 1 indication, it would" |
| 27 | 22 | change to "directing people at that point and in other directions" |
| 27 | 23 | right then. what |
| 29 | 2 | "rad monitors which |
| 32 | 4 | change at to as |

All changes noted either 1) aid in clarity of dialogue or (2) technical correction

Page 1 of 2 Signature Eugene M. Davis Date 8/23/91

Exhibit 3-1 (continued)



ADDENDUM TO INTERVIEW OF Eugene Mark Davis CSO
(Name/Position)

| Page | Line | Correction and Reason for Correction |
|---|---|---|
| 32 | 23 | change to "but the operators at the power plant" |
| 40 | 25 | change to " we were no longer able to ..." |
| 41 | 22 | delete the ~~word~~ word "that" |

Page 2 of 2 Signature Eugene M. Davis Date 8/23/91

1 UNITED STATES OF AMERICA
2 NUCLEAR REGULATORY COMMISSION
3 INCIDENT INVESTIGATION TEAM
4
5 - - - - - - - - - - - - - - - - - - - -
6 Interview of :
7 EUGENE "MARK" DAVIS :
8 (Closed) :
9 - - - - - - - - - - - - - - - - - - - -
10
11 Conference Room B
12 Administration Building
13 Nine Mile Point Nuclear
14 Power Plant, Unit Two
15 Lake Road
16 Scriba, New York 13093
17 Monday, August 19, 1991
18
19 The interview commenced, pursuant to notice,
20 at 2:30 p.m.
21
22 PRESENT FOR THE IIT:
23 John Kauffman, NRC
24 William Vatter, INPO
25

1 P R O C E E D I N G S

2 [2:30 p.m.]

3 MR. KAUFFMAN: It's August 19th, 1991. We are at
4 the Nine Mile Point Unit Two, P Admin. Building. The time
5 is 2:30 p.m.

6 We are here conducting an interview of Mark Davis
7 concerning the Nine Mile Two event on August 13th, 1991. My
8 name is John Kauffman, with the NRC.

9 MR. VATTER: I am Bill Vatter. I'm on loan to NRC
10 from INPO.

11 MR. DAVIS: Well, I'm Mark Davis, officially
12 Eugene Davis, but I go by "Mark" in case you guys are
13 looking for me in your files.

14 I have been with the company for nine years now.
15 I have no previous nuclear background other than with
16 Niagara Mohawk I did spend four years in the Navy as an ET
17 and I went to college at Potsdam State in New York for four
18 years and got a Bachelor's Degree and I came to Nine Mile
19 Point.

20 I initially licensed at Nine Mile - One, got a hot
21 license there so that I could come over and be part of the
22 startup crew for Nine Mile - Two. Now I am a Chief Shift
23 Operator at Nine Mile - Two and have been here since then or
24 have been a CSO for two years.

25 MR. VATTER: Do you have a reactor operator's

1 license, sir?

2 MR. DAVIS: Yes, I'm an RO.

3 MR. KAUFFMAN: And your degree?

4 MR. DAVIS: Sociology.

5 MR. VATTER: So you probably know more about

6 interviewing than we do.

7 MR. KAUFFMAN: Could you I guess tell us about the

8 plant conditions prior to the event? We know it was 100

9 percent. I guess we are more interested in what kind of

10 equipment was out of service, any LCOs that you can remember

11 you were in.

12 MR. DAVIS: The LCOs -- nothing major. I mean we

13 always have problems with our rad monitors. Well, I

14 shouldn't say always but lately we have had problems with

15 our service water rad monitors and there were LCOs on a

16 couple of them at that time.

17 As far as major equipment -- there was nothing out

18 of service that was very important to us. I mean we were

19 not having any problems maintaining power or anything like

20 that. We were, say, 100 percent power. We were not having

21 any problems, didn't have any idea what was about to happen

22 was going to happen.

23 MR. KAUFFMAN: Was there any equipment taken out

24 of service during the night?

25 MR. DAVIS: No, there was not, not that would

1 affect that.

2 MR. KAUFFMAN: Some other people have said the

3 VNC, RHR were tagged out --

4 MR. DAVIS: Yes, but that didn't have anything to

5 do with electrically. I mean we tagged out the Div 2 ECCS

6 systems but it was just for minor work really. It was

7 nothing to do with the power board lamp at all. The pumps

8 were in-pulled to lock and there were breakers for various

9 MOVs that had been de-energized but nothing major at all.

10 I mean yes, it was major in the fact that it was

11 Div. 2 ECCS but from an electrical --

12 MR. KAUFFMAN: Did that make that equipment

13 inoperable?

14 MR. DAVIS: Yes, that equipment was inop when we

15 started the event.

16 MR. VATTER: Who was in the control room when the

17 event started?

18 MR. DAVIS: I was in the control room and Mike

19 Conway and Mike Eron were in the SSS office and Al Denny was

20 -- I'm not sure where he was. He was within the control

21 area someplace but I am not sure -- you know, he wanders

22 around and looks at the panels. I don't know exactly where

23 he was when that happened. He might have been behind the

24 fire panel at his desk.

25 MR. KAUFFMAN: Who is this person?

1 MR. DAVIS: Al Denny. He was the SEPC.

2 MR. VATTER: So what happened?

3 MR. DAVIS: Well, it was almost turnover time. We
4 were all gathering our thoughts and writing down our
5 turnover sheets. I was facing the reactor panel but I was
6 writing at the exact second that that happened.

7 I heard a "clack" basically, I assume from relays
8 tripping and then there was just absolute silence in the
9 control room.

10 There is usually fans and things going and they
11 were all, all that noise was just gone. It was just deathly
12 quiet in the control room. All of the computers had been
13 dropped out.

14 All of the annunciators -- we have annunciators
15 that were lighted at the time -- all the annunciators were
16 gone except for over on 601 panel there was four to six
17 annunciators that were flashing but making no noise and on
18 603 panel the full core display was de-energized. The eight
19 lights for RPS, pilot solenoids were out. Rod worth
20 minimizer was de-energized, just that was in the initial
21 second. That's what I noticed right away was just all of
22 this was gone that had been there before.

23 MR. KAUFFMAN: So then what went through your
24 mind?

25 MR. DAVIS: Something's going on! I mean, what's

1 happening?

2 I stood up and went over toward -- I knew it was

3 something to do with power because we had lost so much

4 equipment and I went over and checked our power distribution

5 board. At the same time that Mike Conway the SSS was coming

6 out of the control room. He asked what happened. I said I

7 don't know. We've taken some kind of an electrical trip and

8 I looked at our normal distribution. Everything was normal

9 there. No indications of -- the voltage on the bus. I have

10 voltage on my 13-8 and 4160 buses and about that Mike had

11 said that the recirc pumps had downshifted. As I was coming

12 down toward --

13 MR. VATTER: Excuse me, on the electrical, did

14 that show the power source for the normal station loads?

15 Normally they come off of a transformer that is fed from the

16 main generator.

17 MR. DAVIS: Would you ask that again?

18 MR. VATTER: Yes. I didn't ask it very well.

19 Excuse me. The electrical loads that you checked, were you

20 able to see whether the main generator was still on?

21 MR. DAVIS: I did not look. I didn't notice

22 whether that was or not. I was looking for voltage on buses

23 and that's what I saw, voltage on buses, because I was in a

24 hurry to get over to 603 because I knew there was problems.

25 MR. VATTER: You didn't check the status of

1 circuit breakers at that time?

2 MR. DAVIS: No, I did not. So, like I said I knew

3 that with the scrammed pilot lights out that there was a

4 strong possibility that we had taken a scram but we had had

5 a problem a year or two ago with one of the UPS's where it

6 went down and the shift that was on at that time had a lot

7 of the indications of a reactor scram but it was just all of

8 the scram annunciators had come in and so I was concerned

9 that maybe this is what we have got here is something going

10 like, something similar to that.

11 So I wanted to go over to 603 panel. Also I had

12 noticed right away, I didn't say it before, that all of the

13 recorders on 603 were frozen at their normal full power

14 limit or operating parameters so --

15 MR. VATTER: How could you tell the difference

16 between frozen at that point or whether they were still

17 recording actual --

18 MR. DAVIS: No, I couldn't. I am just saying that

19 they were still where you would expect them to be for 100

20 percent power so in that first couple minutes I wasn't sure

21 whether we had scrammed -- in that first minute, you know,

22 as I was going there, I wasn't sure whether we had scrammed

23 or not. From the indications we had other than the fact that

24 the eight scram pilot solenoid lights were out it really,

25 looking at what was available to me did not look like we had

1 taken a scram.

2 But at that time Mike said that the recirc pumps

3 had downshifted and there was no way that we could still be

4 at 100 percent power with the downshift in. By that time I

5 had gotten to the feedwater system and looked down and the

6 feedwater pumps were not running anymore.

7 We still had condensate and condensate booster

8 pumps running and I reported that to the SSS. In that,

9 well, about that same time Mike Eron had come up from the

10 back panel. Mike had directed him to go back and check for

11 power on the back panel to see what we had on our meter

12 indication for power since we still, you know, we didn't

13 have any power, any idea of what power was on 603, so Mike

14 had come back at that time and said that power was downscale

15 on the APRMs, that he recommended a reactor scram and Mike

16 and I also believed that was the best thing to do.

17 MR. VATTER: So he went and he looked at the APRMs

18 on the back panel?

19 MR. DAVIS: Yes.

20 MR. VATTER: Before he came up and said he

21 recommended a scram.

22 MR. DAVIS: I'm not sure if he said it before he

23 went back also, or I know that when he came back he had said

24 that.

25 MR. VATTER: Okay, so he might have said it

1 before?

2 MR. DAVIS: He might possibly have said it before

3 also.

4 MR. VATTER: Until that time you hadn't taken any

5 action on the board?

6 MR. DAVIS: At that time there was no, nothing had

7 been changed on any of the panels. At that point Mike

8 directed the mode switch to be placed in shutdown. I placed

9 the mode --

10 MR. VATTER: That was Mike --

11 MR. DAVIS: Conway. I placed the mode switch in

12 shutdown and inserted the IRMs and about that time Mark

13 Bodoh came into the control room and he took over from me.

14 I had him take over at the 603 panel to follow the reactor,

15 try to get an idea what was going on with the power and I

16 stepped back from there and at that point Mike had been

17 watching level on the PAM recorders over on the divisional

18 buses panels and level was going down.

19 He directed RCIC be initiated and since it was

20 just Mark and I at that time and Mark was at the 603 panel I

21 went over and armed and depressed the RCIC manually,

22 initiate push button and started RCIC.

23 I watched for the proper sequence of valve

24 manipulations. RCIC did come on line and started to come up

25 to speed in increased flow but the indications on the panel

1 were erratic. Most of the indicators were jumping up and
2 down so I took RCIC to manual at that point. Everything
3 settled right out and I had proper RCIC RPM and I had an
4 indication of flow.
5 I looked down at the injection valve. The
6 injection valve was open.
7 The outboard valve, check valve, was open but the
8 inboard check valve did not indicate open. That still
9 indicated shut but it did look like we had proper flow and
10 somebody at that point said that it looked like reactor
11 water level was turning around.
12 At that time Brian Hilliker came in and he's
13 another E-Operator. He was on-coming day shift. I had him
14 take over at the RCIC station and he was monitoring level.
15 Other operators were coming in at that point. I am not sure
16 of who was next. I know that Eric Hoffman came in. He's one
17 of our C operators and he was placed on 601 watching level
18 and pressure.
19 Aaron Armstrong came in about that time. I sent
20 him down to look at the UPS's.
21 MR. VATTER: So you are the one that told Aaron to
22 go down and look at the UPS's. Do you remember what you
23 told him?
24 MR. DAVIS: Just that it appeared that we had some
25 problem with the UPS's and to go down and give me a status

1 of what he saw.

2 MR. VATTER: Could I back you up a little bit?

3 You say that you noticed the main feed pumps were off?

4 MR. DAVIS: Yes.

5 MR. VATTER: Were they tripped? Can you tell the

6 difference between a trip and a loss of power, for example?

7 MR. DAVIS: They had tripped. There was a green

8 light there, normally red light running, and there was a

9 green light on them.

10 MR. VATTER: What time was it that you notice

11 that? Was that very soon after the scram?

12 MR. DAVIS: Yes, that was before we placed the

13 mode switch in shutdown. That was within the first 15, 20

14 seconds probably of the event or sooner. You know, it was

15 right away, because I had come from the electrical panels

16 and it was coming down. The panels headed for our feedwater

17 system and I didn't see any indication on the feedwater,

18 looking at the meters, of anything that I expected to see at

19 that point. Everything was pretty much downscale.

20 I looked down at the pumps and saw that they were

21 both green lit and so they were tripped.

22 Then I checked down and saw that I had two

23 condensate booster pumps and three condensate pumps --

24 MR. VATTER: Was that the lineup you had been

25 running or had you been running three booster pumps?

1 MR. DAVIS: No. We had been running two but I am
2 not sure now whether it was the two that were running before
3 or whether one -- there had been some discussion about
4 whether one had tripped another, it autostarted, and I am
5 not sure which one is -- which two of them were.
6 I just looked down. I saw that I had two red
7 lights and three red lights for the condensate pumps.
8 MR. KAUFFMAN: Did you notice what reactor water
9 level was doing about this time?
10 MR. DAVIS: I looked up at the narrow range
11 indicators and the Alpha indicator was downscale and the
12 other two were about 186, which was higher than normal but
13 not -- 183 is about normal. They were just a little higher
14 than normal, which struck me as odd and I didn't have much
15 time to think about that and then we put the mode switch in
16 shutdown and then somebody reported that water level was
17 dropping.
18 MR. VATTER: So you sent Brian down to - no, Brian
19 went to run --
20 MR. DAVIS: Brian was on RCIC. Aaron Armstrong
21 went down to look at the UPS's. There was somebody that
22 went with him the first time but I am not sure who it was
23 now.
24 MR. VATTER: Was that before or after you entered
25 the EOP?

1 MR. DAVIS: I'm not sure. It was very close. I
2 mean it was -- I don't know what point he -- it was probably
3 before but I am not sure.
4 MR. VATTER: Was it before or after you started
5 RCIC?
6 MR. DAVIS: It was after that.
7 MR. VATTER: So how did you know you were in the
8 EOP?
9 MR. DAVIS: We entered the EOPs on reactor water
10 level, Level 3.
11 MR. VATTER: Who figured out first that you were
12 at Level 3?
13 MR. DAVIS: I am not sure whether that was Mike
14 Conway or whether Eric Hoffman was at the panel at that
15 point. I was involved in RCIC right then and so -- so I
16 guess I misspoke myself on whether RCIC on level was going
17 up because it couldn't have been at that point because level
18 continued to go down.
19 We went through Level 3 and lower than that and
20 came back up. I think the lowest that somebody said we got
21 was 133 inches or so, but by then, that was about the same
22 time that Brian was picking up where I had left off on
23 RCIC.
24 MR. VATTER: Have you seen a scram with loss of
25 feedwater before? A real one on the plant?

1 MR. DAVIS: Not from 100 percent power.

2 MR. VATTER: We are a little curious as to whether
3 RCIC, if it was started promptly after a scram with loss of
4 feedwater, I mean like right away, if it has enough capacity
5 to keep from getting to Level 3?

6 MR. DAVIS: We had RCIC running before Level 3 but
7 it wasn't much before and it dropped through Level 3 so it
8 appears to me that it didn't -- I mean maybe it was still
9 -- it was hard to tell because the check valve wasn't open
10 but we definitely had RCIC running before we hit Level 3 but
11 it was very, very shortly before so I really can't tell you
12 whether RCIC was at full capacity, injecting full capacity
13 at that time, you know, where the min-flow valve was
14 positioned. That I am not sure.

15 MR. VATTER: You don't ordinarily get Level 3 on a
16 scram?

17 MR. DAVIS: No.

18 MR. VATTER: Okay. You were going to talk to us
19 about ad Aaron went down to the UPS's.

20 MR. DAVIS: Okay. As Aaron went down to the
21 UPS's and he came back to the control room because we had --
22 the Gaitronics was not working. I found that out right
23 away when I tried to call operators in the control room
24 that that had not been working.

25 He came back and reported that the 1 series UPS's

1 had tripped and were locked out I think was the word he
2 used.
3 At that point Dave Hanczyk was back in the control
4 room and I sent him down with Aaron and there were some
5 other people that had come in by then. I think Bob Spooner
6 is one of the ones that went down with them just to see what
7 was going on.
8 MR. VATTER: So Dave got a specific instruction
9 from you to go to the UPS?
10 MR. DAVIS: Yes. Dave did and Aaron had also.
11 MR. VATTER: Then there were other guys that went
12 along?
13 MR. DAVIS: Yes.
14 MR. VATTER: Because they were just helping out.
15 MR. DAVIS: Yes, just -- because that appeared to
16 be where most of our problems lie was that the UPS's weren't
17 available and so they went down to see what they could do
18 with that. By that time there was a lot of people who were
19 coming in. I mean it was just time for turnover and people
20 were becoming available, coming into the control room.
21 MR. VATTER: Do you recall what instruction you
22 gave David when you sent him down?
23 MR. DAVIS: No. I mean not exactly. I can
24 surmise.
25 MR. VATTER: Did you tell him to report or --

1 MR. DAVIS: I don't remember the words that I
2 used.
3 But I would like to believe that I told them to
4 get them going if it was possible, but I don't remember the
5 words for sure.
6 MR. VATTER: Go ahead.
7 MR. DAVIS: Well, by that time there were a lot
8 more people in the control room so I was able to step back
9 from the panels and direct activities more. That's my job is
10 to send the operators out to various places and as people
11 became available they were sent out to various stations to
12 basically contend with the plant shutdown that was in
13 progress.
14 I had someone go to the con-demin panel because I
15 was concerned for the number of demineralizers we had in
16 service. We were still with full power demineralizer and we
17 didn't have the feed pumps running anymore. I had someone
18 go there.
19 I know that Todd Kelly, I sent him down but it
20 also seems like there was someone else that was sent too.
21 People were sent out to the aux boilers because we
22 were going to need steam from them to maintain our shutdown
23 loads.
24 MR. VATTER: Tell us about rod position
25 indication, how you became aware of that problem and what

1 you did about it.

2 MR. DAVIS: When I was at 603 that was in the

3 first minute or so, there was no rod position indication at

4 all. Mark Bodoh, when he took over he reported that there

5 was no indication at all from RSCS or any of the other

6 normally available sources of indication and Mike ordered

7 EOOP 6, attachment 14, which is inserting control rods

8 because we weren't sure of the positions of the control

9 rods.

10 MR. VATTER: That's Mike Conway?

11 MR. DAVIS: Mike Conway, yes.

12 MR. KAUFFMAN: Who is assigned to do that?

13 MR. DAVIS: Dave Rathbun was working with that.

14 MR. VATTER: So he was manually inserting rods?

15 MR. DAVIS: Not necessarily. He had the

16 procedure. No, I am sure he was not inserting rods because

17 there was no indication of rods to know whether they were in

18 or out or what the position was.

19 Within this attachment there are a lot of things

20 that you can do to attempt to get the rod three position and

21 what he was concentrating on was venting off the scram air

22 header to ensure that rods had gone in.

23 He sent someone out on that but I am not sure

24 who. I mean it's difficult to say who did this, who did

25 that because there was a lot of people there and I was

1 pretty busy trying to -- well, this is your job, you do
2 that, and then who's next, plus we had normal, we had a
3 reactor scram procedure to look at in a reactor shutdown in
4 progress with a lot of activity being directed, so by then
5 it was -- I was not at the panels at all to monitor
6 indications. It was just getting reports from other people
7 that were at the panels and I was sending other people out
8 to do jobs as they became available.
9 MR. VATTER: Okay. Then Dave Hanczyk and the
10 others who went with him were successful in restoring power
11 to those --
12 MR. DAVIS: Yes. They restored power to the UPS's.
13 We got our indications back. We had indications of control
14 rods inserted but not all of the rods indicated full in.
15 There was I think six rods on RSCS that did not indicate
16 full in. Rod worth minimizer was intermittently displaying,
17 stating that all rods were in.
18 Mark selected some of the rods to confirm
19 position. I think he got X-X indication which is just an
20 indication that they are not at a numbered position.
21 MR. VATTER: When you say selected rods, that is
22 on that four rod display?
23 MR. DAVIS: Well, that's what you would see. You
24 push the button and look at the rod on the four rod display,
25 yes. Everything was pretty much back to normal by that

1 time.

2 When that happened it was pretty much just a scram

3 recovery at that point although we did not have the

4 computers back yet.

5 MR. VATTER: But you had six rods that were not,

6 the position was not known about any of the indications that

7 you normally would be able to see.

8 MR. DAVIS: Well, this indicator over here

9 indicated that there were six. The rod worth minimizer was

10 changing between one rod that was not full in and saying

11 that, yes, all rods were in. It was just going back and

12 forth between the two.

13 MR. VATTER: So if you believed the rod worth

14 minimizer, they were all in?

15 MR. DAVIS: Depend upon which second you chose to

16 believe it, yes, because like I said one moment it would say

17 all rods were in. Then another, the next moment, it would

18 say no, that one rod over on the left side was not full in.

19 Then it would switch back to saying, yes, all rods were full

20 in but by then we were pretty confident the reactor was shut

21 down.

22 Position became available on those six rods some

23 time soon after that and rod worth minimizer finally stayed

24 I believe -- well, I remember that Mark looked at that one

25 rod -- I don't remember for sure what he saw on that

1 though.

2 MR. VATTER: So how did you get position

3 indication restored for those six that you didn't see on the

4 RSC?

5 MR. DAVIS: By then Dave Hanczyk was back in the

6 control room and he had gone back to the back and reset RCS

7 and at that point everything indicated full in, I believe.

8 I know that Dave Rathbun at that same time was

9 attempting to jumper out RPS to reset the scram because we

10 have had problems in the past with rods indicating not full

11 in until the scram was reset and once the scram is reset

12 then all of the rods were indicated full in and as to which

13 actually, which event actually caused rods full in I am not

14 sure.

15 MR. VATTER: Are those the same rods that had

16 given problems in the past? Or is that a problem that --

17 MR. DAVIS: It's random.

18 MR. VATTER: Random. Sometimes rods don't

19 indicate fully.

20 MR. DAVIS: Well, the problem we have had in the

21 past is that on a scram rods tend to overdrive and they are

22 actually past full in and when the scram is reset that then

23 they drop back into zero-zero position.

24 MR. VATTER: How long has that been a problem?

25 MR. DAVIS: I am not sure of the time period.

1 I am not even sure if it has been on recent,
2 previous scrams. It is just something that we had had
3 happen to us before and that is why that was -- why people
4 moved in that direction to reset the scram was in case that
5 was the problem.
6 MR. VATTER: What can you tell us about prior
7 problems with those UPS units? You did mention a year or
8 two ago there was a problem with the UPS and it looked like
9 a scram but it wasn't.
10 MR. DAVIS: That wasn't the UPS's fault. That was
11 -- well, there was a problem on the UPS and we had an INC
12 tech that was down working on it and he had done something,
13 I am not too sure of what actually happened now because it
14 was a while ago, but he had done something at that point
15 that tripped the UPS. That was the indication that they got
16 in the control room, but I wasn't here that day.
17 MR. VATTER: What other problems are you aware of
18 with UPS?
19 MR. DAVIS: We had problems with high temperatures
20 on them. There have been modifications on those to get in
21 more cooling.
22 MR. VATTER: Was that the thing that was causing
23 them to overheat, there was not adequate cooling?
24 MR. DAVIS: Originally they were overloaded too.
25 I mean there was -- I shouldn't say overloaded. They had

1 more load than they really originally expected to have on
2 them and probably two years ago loads were redistributed on
3 the UPS's and some things taken off them that were not felt
4 to be necessary to more evenly distribute the loading on the
5 UPS's.
6 MR. VATTER: Mark Bodoh told us today that
7 earlier this year there was a problem with UPS 1 Bravo where
8 some maintenance was being conducted and something was done
9 wrong and he told the operator to return it to a normal
10 lineup.
11 Does that ring any bells with you?
12 MR. DAVIS: No, it does not but Mark Bodoh is new
13 on my shift also. He's only joined A shift within the last
14 month or so. Not from what you told me it doesn't ring any
15 bells.
16 MR. KAUFFMAN: He further described it as the
17 whole full core display lit up including the blue scram
18 lines.
19 MR. DAVIS: Okay, that's what I had mentioned
20 earlier about the -- I would have thought that was more than
21 early this year but that was a problem that I had mentioned
22 earlier to you. I think that was --
23 MR. VATTER: When all of the lights in the full
24 core display came on?
25 MR. DAVIS: He was there. He would know better

1 than I.

2 MR. VATTER: That's not the problem you were

3 talking about a year or two ago?

4 MR. DAVIS: That's what I was mentioning, yes. I

5 didn't think it was this year. It seemed like it was longer

6 than that to me.

7 MR. VATTER: Okay, so we are probably talking

8 about the same thing.

9 MR. DAVIS: We are talking about the same event.

10 We are just not sure of --

11 MR. VATTER: When it was.

12 MR. DAVIS: When it was.

13 MR. VATTER: Okay. Can you tell us a little bit

14 about the way the EOP was used? Did that seem smooth to

15 you? Were there any places where Mike appeared to get hung

16 up in going through the EOP?

17 MR. DAVIS: It didn't appear to me that he had any

18 problems at all. I thought Mike did a great job running the

19 EOPs. He's a relatively newly SRO. I mean he just got his

20 SRO license last December I think it was and he has been on

21 A shift since then with Doug Richards, who has been the SSS

22 on A shift for two years and they have alternated the SSS

23 position and the other would take the Assistant and so for

24 the time that Mike has been SRO I think he did an

25 outstanding job.

1 MR. VATTER: How about communications in the
2 control room? Was it pretty easy to understand what Mike
3 wanted?
4 MR. DAVIS: Yes. I didn't have a problem
5 understanding what Mike was directing.
6 He -- all of his directions to me were clear. I
7 understood what he was getting at.
8 MR. VATTER: Did he have to ask you to do anything
9 twice?
10 MR. DAVIS: I'm not sure. If he asked me to do it
11 twice then I wouldn't have known about the first time.
12 He did ask about the -- later on in the event --
13 about, he wanted to get an RHR Alpha available for steam
14 condensing and he asked me about that and again a few
15 minutes later and I was just at that time sending people
16 out, somebody came in and it was available and I sent them
17 out then.
18 That's the only specific instance I can think of.
19 MR. VATTER: You have three RHR pumps.
20 MR. DAVIS: Yes.
21 MR. VATTER: And two of them operate through a
22 heat exchanger?
23 MR. DAVIS: Yes.
24 MR. VATTER: And the third is really just a LPCS
25 pump.

1 MR. DAVIS: Yes.

2 MR. VATTER: Now which of those -- we talked a

3 little bit about some RHR equipment was out of service for

4 minor maintenance.

5 MR. DAVIS: That was a problem. On the Bravo

6 system, well, on the Div. 2 system we had the 1 pumps that

7 you call basically a LPCS system out of service and the RHR

8 Bravo, which is one of the two with the heat exchanger.

9 MR. VATTER: RHR Bravo was -- that whole loop is

10 out of service?

11 MR. DAVIS: Yes.

12 MR. VATTER: Not good for anything?

13 MR. DAVIS: Okay, if you want to use those words.

14 MR. VATTER: Maybe that is a bad choice of words.

15 It was inoperable for any of the --

16 MR. DAVIS: It was inop but the -- for what was

17 tagged out on it, there was -- it wasn't difficult to return

18 it to service. It wasn't like the system was drained or

19 anything like that. There were just a couple valves.

20 The only major valve that was marked up on it that

21 I recall was just the min-flow valve which you could have

22 still run the pump without. The valve would have been in

23 the open position, de-energized. You would have had a min-

24 flow valve there sending water back to the suppression pool

25 but there would have been, you could have still used the

1 pump until you got the valve, the breaker re-energized and
2 the valve closed.
3 It wasn't like it was of no value to us.
4 MR. VATTER: But the pump was tagged out and
5 pulled the lock?
6 MR. DAVIS: Yes.
7 MR. VATTER: And to use it you would have had to
8 clear the tags.
9 MR. DAVIS: Yes, but that's not that big a deal.
10 The tag had just been hung that night and it was right on
11 my desk. All I would have had to do is just initial and
12 pull the tag.
13 MR. VATTER: I understand. And Charlie -- that's
14 Division 3?
15 MR. DAVIS: No, that's Div. 2 also. There are two
16 pumps in Div. 2. It's Bravo and Charlie and Div. 1 is Alpha
17 and then there is LPCS, which is basically the same thing as
18 Charlie is. Charlie is just another LPCS really but it is
19 called RHR.
20 MR. VATTER: Okay, and in Div. 2 then the Charlie
21 pump was also out of service?
22 MR. DAVIS: Yes.
23 MR. VATTER: Under a markup?
24 MR. DAVIS: There was a hold out on it and there
25 was markup on that but I don't recall what was tagged out

1 right now.

2 MR. VATTER: And then you went and you took Div. 1

3 with the A pump and that was put into torus cooling mode and

4 shut down.

5 MR. DAVIS: Yes, that was done right away though.

6 That was done previous to getting the tags pulled on Bravo.

7 MR. VATTER: But there was a time there that you

8 had the Bravo pump and the Charlie pump were tagged out and

9 the Alpha pump was in suppression pool cooling.

10 MR. DAVIS: Suppression pool cooling, yes, but it

11 was still available for LPCS.

12 I mean if there had of been a high drywell

13 pressure or a Level 1 initiation that would have realigned

14 and it would have realigned itself for injection.

15 MR. KAUFFMAN: As the shutdown continued I know

16 that you reached a point where they tried to inject using

17 the condensate booster pumps. Would you tell us about that

18 evolution, what you know about it?

19 MR. DAVIS: Jim Graff was working toward getting

20 injection from the feedwater system through the condensate

21 booster pumps and from talking to Mike Conway, because I was

22 directing people to the other point and other direction

23 right then, what his concern had been was cooldown and at

24 that time level had recovered and he had ordered the

25 condensate booster pumps shut down because their shutoff

1 head's around 650 or so pounds that it was possible that we
2 were -- pressure was low enough at that time that it was
3 possible that we could be actually injecting with those and
4 there was not the need for injection then from them, and so
5 he had ordered them to be shut down and then later on when
6 he tried to re-establish injection with the normal system,
7 Jim Graff was working on the procedure then and he was
8 working toward restarting the condensate booster pumps.
9 One of the steps in the procedure directed that he
10 shut the suction valves of the feedwater pumps, which is
11 more or less the discharge of the booster pumps and when he
12 shut that, when he started the pump back up, he was not able
13 to open the suction valve again because of the DP across it.
14 Normally we wouldn't be trying to just open the
15 valve like that because we normally would have somebody out
16 in the plant who was opening the bypass around that valve to
17 re-pressurize the system but at that point the emergency
18 procedures had evacuated the buildings and people were not
19 allowed to go back in and so the decision was made to
20 attempt to reopen the valve without that.
21 MR. VATTER: We understand that the off-gas
22 isolated.
23 MR. DAVIS: Yes, it had.
24 MR. VATTER: Do you know what the cause of the
25 isolation was?

1 MR. DAVIS: The isolation was caused by the off-
2 gas rad monitor switch basically had a power failure and
3 failed to the trip condition, which isolated the valve.
4 MR. VATTER: And the power failure that you spoke
5 of was the loss of the UPS?
6 MR. DAVIS: I believe that it was but how the two
7 are related I am not sure.
8 MR. VATTER: The rad monitor didn't have a high
9 radiation?
10 MR. DAVIS: No.
11 MR. VATTER: It just trips --
12 MR. DAVIS: It trips. I mean it's a high rad trip
13 that trips it but it was, the way that the logic is set up
14 by losing power it will trip, cause a high rad trip.
15 MR. VATTER: But you didn't have any high rad
16 alarm associated with that, that you knew that you had high
17 radiation on the off-gas?
18 MR. DAVIS: Well, the annunciator was in in the
19 control room by that time. The annunciators were back and
20 the annunciator was in.
21 MR. VATTER: What I am driving at is is there a
22 way that you could differentiated between a true high rad
23 condition which would have caused a isolation of off-gas or
24 this loss of power and resultant --
25 MR. DAVIS: Chemistry sampling would be the best

1 way.

2 MR. VATTER: But from the indications that you had

3 in the control room?

4 MR. DAVIS: Not that I can think of, no.

5 MR. VATTER: Now with the off-gas isolated you

6 were beginning to lose vacuum?

7 MR. DAVIS: Yes.

8 MR. VATTER: And what did you do about that?

9 MR. DAVIS: Dave Hanczyk was working that

10 procedure at that time and he had people that were out at

11 the off -- I don't know whether they had gone, at that point

12 whether that was before people had left the building or

13 whether it was somebody that had gone back in with part of a

14 damage control team to get to the off-gas panel but there

15 were people that he had working with him re-establishing

16 vacuum.

17 MR. VATTER: Aaron Armstrong told us that he had

18 been sent out to restore off-gas in the turbine building.

19 MR. DAVIS: Okay.

20 MR. VATTER: But he no more than got there an he

21 was told to get out again, because they had high radiation

22 in the turbine building, so he wasn't able to do anything.

23 Then Dave Hanczyk told us a couple days ago that,

24 in order to hold vacuum, they put the hogger on.

25 MR. DAVIS: Yes. I believe that the high rad in

1 the building was caused by other failures from the UPS
2 failure that caused the CAMs in the building to fail to a
3 high rad alarm, also, and that rad protection was sent out
4 to sent those, and they found no high radiation in the
5 building.
6 MR. VATTER: I don't really know that this is a
7 problem, but I don't understand why the hogger was put on
8 when you had indications of high radiation on off-gas and
9 off-gas had isolated. Could you help me with an understand
10 of that?
11 MR. DAVIS: Not much, because Dave was working the
12 system and working on restoring the system, and he was
13 consulting with Mike, because I was working on other
14 problems at that time, so I don't know how they made the
15 decisions to do that, what their justification was for that.
16 I was aware that the alarm was in, and I was aware that he
17 was attempting to get vacuum re-established, but I don't
18 know what the justification that they had used for that was.
19 He had been talking with Mike about it, and it wasn't
20 something they had a lot of time to think about.
21 MR. VATTER: Would there have been any problems if
22 you had lost vacuum? Does that close the MSIVs?
23 MR. DAVIS: That closes the MSIVs, yes. That's
24 why we were independent-path trying to get steam condensing
25 lined up on RHR Alpha loop, because that can continue with a

1 cool-down for us, basically; we can send steam through there
2 to condense steam to maintain pressure control and then do a
3 cool-down with that, until we get down to the shutdown
4 cooling system. It's not at handy, but it can be used.
5 MR. VATTER: When the power was restored and off-
6 gas isolation and the high-rad annunciator were in on the
7 control board, was it possible to read the rad monitor and
8 determine what the rad levels were at that time?
9 MR. DAVIS: At that time, I'm not sure. I
10 remember that Dave had looked at the rad monitors on the
11 DRMS computer, but I don't remember at what point that was.
12 The computer was back by then, and I'm not sure of the
13 sequence of events there, when that happened.
14 [Pause.]
15 MR. VATTER: Thinking about the event as a whole,
16 what do you think went well? Based on how you and the other
17 operators were able to respond to these failures --
18 obviously that wasn't good -- what do you think went well in
19 the event?
20 MR. DAVIS: I thought that the teamwork of the
21 crew was a definite strength. I mean, at that time there
22 were enough people in there -- I mean, it wasn't just my
23 shift, but the operations of the power plant as a whole, the
24 people that were there, worked extremely well together as a
25 team and were able to get the job done.

1 The divisional power was still available to us, so
2 we had other indications for what was going on, other than
3 rods, power. We knew the power from the back panels, but as
4 far as rod position, indication like that, that wasn't
5 available. But we had sufficient instrumentation left that
6 we could monitor our shutdown.
7 I think the communications between the operators
8 worked well. It was a minus that, until we got the UPS's
9 restarted, we didn't have good communications with the
10 people in the plant. The Gaitronics system was down, and
11 our radios were not effective, because they work under a
12 leaky-wire system that was also powered by the UPS's. They
13 were not available. It slowed us down to have to send
14 somebody out and have them come back and report and then
15 send them back out again.
16 I think the operators did really well. I think
17 our training -- We had never trained on anything like that,
18 but we've had enough training -- and we've had some pretty
19 severe casualty training -- that everybody remained cool and
20 collected and just had a job to do and did it. I think we
21 worked really well together.
22 MR. VATTER: What else?
23 MR. DAVIS: It was nice that there were all the
24 people there.
25 MR. VATTER: It wasn't too many?

1 MR. DAVIS: There were a lot of people there, and
2 eventually we started sending them out of the control room.
3 I'm sure that, from an outsider's standpoint, they felt that
4 there were too many people there, but there weren't people
5 in the control room that were in the way. People that were
6 there had a job to do and were doing it. It was nice to be
7 able to have that many people to take care of that many
8 things at the same time, and it didn't cause any problems at
9 all. I know it did look kind of clustered in the control
10 room; there were, like I say, a lot of people there, but the
11 operators themselves were there for a reason, and I was glad
12 that they were there. I knew that I had the authority to
13 send a lot of people out of the control room, but I didn't
14 feel that it was causing us any problems, and we didn't send
15 people out.
16 MR. VATTER: During the event, shortly after it
17 initiated, the plant was cooling down. In fact, it seems
18 now, as I think about it, that it was probably cooling down
19 all of the time, although at some times the rate was
20 different.
21 MR. DAVIS: Right.
22 MR. VATTER: During that period of time, you
23 didn't know for sure that all the rods were inserted.
24 MR. DAVIS: That's why Mike had ordered the
25 condensate booster pumps shut off, because he was concerned

1 that they were going to continue the cool-down, the cold
2 water, basically, that they were putting back into the
3 reactor, that the cool-down would continue down. That's why
4 he had ordered those shut down to begin with.
5 Also, in that same time frame, Jim Emery was
6 looking at the procedure for minimizing the reactor cool-
7 down by shutting steam line drains and whatever.
8 MR. VATTER: Were you doing anything differently
9 than you normally would have during a cool-down to
10 compensate for the fact that you didn't know where the rods
11 all were?
12 MR. DAVIS: We were trying to maintain pressure up
13 and trying to stop the cool-down, and we were just going by
14 the normal procedural steps for stopping a cool-down. It
15 wasn't anything abnormal that we did.
16 MR. VATTER: So you didn't have any APRM
17 indication on the front panel.
18 MR. DAVIS: Right.
19 MR. VATTER: Did you have IRM indication?
20 MR. DAVIS: No.
21 MR. VATTER: Did you have SRM indication?
22 MR. DAVIS: No, not that I'm aware of.
23 MR. VATTER: How would you have been able to tell
24 if you had a recriticality?
25 MR. DAVIS: Until we got the UPS's back, I'm not

1 sure that you could have told, but the rods -- We didn't
2 have anybody back watching the APRMs at that point, and --
3 [Pause]
4 MR. VATTER: So would it be correct for me to
5 characterize that you did no additional attempts to monitor
6 the reactor power level due to the fact that you didn't have
7 all of the rod position indication?
8 MR. DAVIS: I am not aware of them. Mark Bodoh
9 might be able to enlighten you on that, but that wasn't
10 something that I was aware of.
11 MR. VATTER: Now, Mark Bodoh -- I'm trying to keep
12 everybody straight in my mind.
13 MR. DAVIS: He was the guy at the 603 panel
14 immediately after the scram, after the mode switch was
15 placed in shutdown.
16 MR. VATTER: Where would you monitor source range
17 counts?
18 MR. DAVIS: On 603.
19 MR. VATTER: And you were not working on 603.
20 MR. DAVIS: That's correct; I was not.
21 MR. VATTER: Okay. So I asked that question of
22 the wrong guy, I guess.
23 So if there was monitoring of source range, you
24 wouldn't have been the one doing it.
25 MR. DAVIS: That's right. It would have been Mark

1 Bodoh, and I'm not sure if -- When I was at the 603 panel,
2 there was not indication of the source range, but that's
3 what you would expect at that point. I mean, it was
4 immediately after the scram. I don't know whether that was
5 something that was there the whole time or whether that was
6 something that was lost. I wasn't involved in that, so I
7 don't know.
8 MR. VATTER: Looking back through my notes here it
9 seems like Mark was knowledgeable of source range counts, so
10 he must have been reading it someplace.
11 MR. DAVIS: If he was reading source range counts
12 he had to be reading it right there -- well, it doesn't have
13 to be but I'm sure that he was.
14 You can also read them in the back panel but there
15 was nobody that I know of back there doing that so he was
16 probably watching them, right, on 603.
17 MR. VATTER: Now when you have 603 do you have
18 indications of reactor pressure also?
19 MR. DAVIS: Normally you do, yes.
20 MR. VATTER: Did you in this case?
21 MR. DAVIS: Not until the UPS's were back.
22 MR. VATTER: You said a couple of things about
23 what you thought went well.
24 What do you think could have gone better?
25 MR. DAVIS: If I had been home that day!

1 Well, it's all basically related to the UPS's. I
2 mean it would have been better if we had of had the
3 Gaitronics system available to us.
4 MR. VATTER: For example, the guys that went to
5 the UPS's said that they felt a little bit handicapped due
6 to not being trained.
7 MR. DAVIS: Right.
8 MR. VATTER: And they also felt a little bit
9 handicapped by the procedure wasn't real helpful to them.
10 MR. DAVIS: The procedure assumes that you always
11 have power on the UPS's. That's the whole theory behind
12 having those things and the procedure didn't really lend
13 itself well to starting up from completely dead so they had
14 problems with that.
15 Most of the operators, myself included, are not
16 overly familiar with the UPS's. We have had some training
17 on them and we have asked for more from time to time.
18 MR. KAUFFMAN: You'll get a little more now.
19 MR. DAVIS: I think we are going to get a lot more
20 now but we have had Bob Crandall, the UPS expert. He is not
21 an operator but he is a test engineer and he has come over
22 and talked to us too, but nobody really talked to us about
23 this is what happens if you lose them all.
24 MR. VATTER: I was thinking of possible similar
25 situations in the control room. Were there any times when

1 you thought, gee, you wish you knew more about this or I
2 wish I had a procedure that told me what to do here?
3 MR. DAVIS: Nothing that I can think of
4 immediately. I'm sure that the people that were using the
5 procedures could enlighten you a little bit on that. I
6 basically didn't have, wasn't going through a specific
7 procedure like they were, sort of trying to start and stop
8 pumps at that time. I was more or less directing you take
9 this procedure and go do this. I was more in that capacity
10 at that time.
11 MR. VATTER: And you didn't hear from any of those
12 people that they were having difficulty with that procedure
13 or that they needed additional help?
14 You didn't for example get any requests for tell
15 me what to do, please?
16 MR. DAVIS: The UPS's were a problem. I can't
17 think of anything right now. I'm not saying there weren't.
18 I'm just saying that right now I am not able to think of
19 anything.
20 MR. KAUFFMAN: Were there any organizational
21 aspects that hindered you? I know a little bit in there you
22 mentioned the emergency plan had people out in the turbine
23 building.
24 MR. DAVIS: Evacuating the building, sir, that was
25 -- I guess you could call that a procedural problem. I mean

1 our procedures force us to evacuate the buildings and once
2 we evacuate the buildings to get people back in there we are
3 forced to go through the OSC which is over at Unit 1. You
4 have to send somebody over and they become part of a damage
5 control team and come back and go into the building that
6 way.
7 That did hinder us in our ability to see what was
8 going on in the plant because we weren't able to just send
9 people in to check things out.
10 MR. KAUFFMAN: Was that purely because of the
11 emergency plan or was that because of the continuous air
12 monitors alarm?
13 MR. DAVIS: It was because of the emergency plan.
14 When you sound a site area emergency you evacuate the
15 buildings and as soon as the OSC was staffed up, then we
16 were forced to go through them, so it was actually the
17 staffing of the OSC that was really where it started to have
18 a problem.
19 We had had an initial survey done of the reactor
20 building first. Right away Rad Protection had checked that
21 out and found no unusual radiation levels and then with the
22 problems with the rad monitors in the turbine buildings they
23 did a check in there and found nothing out of the ordinary
24 also and it was about that same time that the OSC staffed up
25 and we were no longer to send people in.

1 For a brief period of time we were trying to send
2 people out with a rad tech and into the buildings but that,
3 soon as the OSC staffed up we were not able to do that any
4 longer.
5 MR. VATTER: And that was based upon the fact that
6 you had called site area emergency?
7 MR. DAVIS: Yes.
8 MR. VATTER: So how was it then that -- maybe I
9 didn't understand correctly -- when Aaron said that he had
10 gone out to the off-gas control panel, is that not in the
11 turbine building?
12 MR. DAVIS: Yes, but like I said it was the site
13 area emergency that triggered the OSC to be staffed up and
14 once the OSC got staffed up, that's where we were no longer
15 able to send people. Until that point you were able to send
16 people out with a rad tech or whatever to check the areas
17 that you need but once the OSC became staffed up, we're no
18 longer able to send people back into the plant and that's
19 the point where Aaron ran into his problems.
20 MR. VATTER: Okay, so it wasn't because of high
21 radiation in the turbine building that he had to leave, it
22 was because of an administrative problem?
23 MR. DAVIS: I believe that Aaron was in the
24 turbine building with a rad tech at that time who was
25 monitoring for -- I believe that Aaron went into the

1 building at the time we were aware of the problem with the
2 rad monitors but that he had gone with a rad tech -- either
3 the rad techs had already been out and surveyed and said
4 that there were no problems or I'm sure, I think he went out
5 with a rad tech also but I believe the OSC that basically
6 was the reason that he came out.
7 MR. VATTER: He heard, well, we know that later in
8 the day, in the morning that the UPS's to the extent
9 possible were shifted back to their normal operating mode?
10 MR. DAVIS: Yes, that is correct.
11 MR. VATTER: A couple of them didn't work right.
12 MR. DAVIS: Yes, that was Alpha, Bravo that did
13 not shift back.
14 MR. VATTER: And it was the OSC personnel that did
15 that work, is that correct?
16 MR. DAVIS: Well, it was a damage control team
17 from the OSC but they have operators on the team. We
18 basically at that point Marty McCormick had taken over as
19 site emergency director from Mike Conway and he is then
20 calling the shots from the TSC and that was his call to,
21 before we got out of the site area emergency, to get power
22 restored to the normal lineup.
23 So when he told us that that was his intent, we
24 had to supply people when -- I mean he can't just say go do
25 this now. He says with people available and this is what we

1 want to do and so we sent people over to the OSC who became
2 part of a damage control team to go back in and realign the
3 UPS's.
4 MR. VATTER: But they got their instructions from
5 the control room.
6 MR. DAVIS: As far as which ones to go first -- I
7 mean the team was sent from outside the control room. It
8 wasn't the control room that sent the team. The team came
9 as part of the package. We were just concerned for our
10 operator to go down.
11 MR. VATTER: I may not have expressed it very
12 well.
13 What I am getting at is the chain of command
14 associated with the decision to normalize the UPS's.
15 Marty McCormick made the decision to do that.
16 MR. DAVIS: Yes.
17 MR. VATTER: And then his instruction to go
18 directly to the OSC?
19 MR. DAVIS: His instruction was that we have a
20 damage control team standing by when you have an operator
21 available. We want him to hook up with his team and attempt
22 to realign the UPS's to their normal power supply.
23 MR. VATTER: And to whom was Marty's instruction
24 directed? To the control room?
25 MR. DAVIS: To Mike Conway, SSS.

1 MR. VATTER: Okay, so the actual dispatch of that
2 damage control team to normalize the UPS's was under direct
3 instructions from Mike Conway?
4 MR. DAVIS: Who had been instructed by Marty,
5 yes.
6 MR. VATTER: So Marty wasn't going around the
7 control room and giving operators instructions to do things
8 without --
9 MR. DAVIS: No. Marty wasn't in the control room.
10 He was in the TSC.
11 MR. VATTER: Yes, that's what I mean. He was not
12 bypassing the control room to get --
13 MR. DAVIS: No. They don't bypass the control
14 room. They work through us but they are the ones that call
15 the shots for the recovery and we --
16 MR. VATTER: And if Mike Conway thought it was not
17 a good idea, he would talk it over with whoever gave him the
18 instruction.
19 MR. DAVIS: Yes.
20 MR. VATTER: I can't think of anything else to
21 ask you, Mark. Been trying to wrack my brains because we
22 don't want to have to call you in again with you being on a
23 vacation and everything.
24 MR. DAVIS: Well, if I have to come back, I have
25 to come back.

1 MR. VATTER: I've tried to explore areas that I
2 don't really think are problems but that we might have
3 interest in later.
4 MR. KAUFFMAN: Site emergency planning is outside
5 our charter but where it touches on the crew response we are
6 interested and then at some point we draw the line and say
7 there is an EP inspection that is coming out of this event
8 and we're going to let them follow the predominant part of
9 it but where it did impact on the crew, we're trying to get
10 an understanding.
11 We have been asking all the questions -- Bill has
12 -- and if you have anything now that you would like to add
13 or comment on, it's your opportunity.
14 MR. DAVIS: Okay. I guess I don't have much to
15 comment on. It's just I hope -- probably you guys are
16 disappointed with what I have got to say, because I wasn't
17 at that -- you know, things happened right away and right
18 immediately after the event occurred I was basically able to
19 step back from the panels and direct other people to do, to
20 perform various functions so more of what I was doing at
21 that point was just sending people out and making sure that
22 we did continue in the right direction and had a normal, as
23 well as you could, a normal shutdown and take care of what
24 needed to be done. You know, more forward thinking than
25 backward, so I know it's tough for you guys to think that

1 I'm the main player and not be able to get the answers from
2 me that you are looking for.
3 MR. VATTER: I'm not sure that that is a
4 disappointment to us.
5 MR. KAUFFMAN: Sometimes people have bits and
6 pieces and we are trying to get all the bits and pieces and
7 piece it together.
8 MR. VATTER: Sometimes we ask a guy a question
9 when we don't really think he knows very much but then there
10 is a chance that he might. Never can tell who is going to
11 have the missing piece.
12 MR. DAVIS: Right.
13 MR. KAUFFMAN: So that concludes the interview.
14 [Whereupon, at 3:42 p.m., the taking of the
15 interview was concluded.]
16
17
18
19
20
21
22
23
24
25

REPORTER'S CERTIFICATE

This is to certify that the attached proceedings before the United States Nuclear Regulatory Commission

in the matter of:

NAME OF PROCEEDING: Int. of EUGENE "MARK" DAVIS

DOCKET NUMBER:

PLACE OF PROCEEDING: Scriba, N.Y.

were held as herein appears, and that this is the original transcript thereof for the file of the United States Nuclear Regulatory Commission taken by me and thereafter reduced to typewriting by me or under the direction of the court reporting company, and that the transcript is a true and accurate record of the foregoing proceedings.

JON HUNDLEY
Official Reporter
Ann Riley & Associates, Ltd.

ORIGINAL

07-83A-91

# OFFICIAL TRANSCRIPT OF PROCEEDINGS

Agency: Nuclear Regulatory Commission
Incident Investigation Team

Title: Nine Mile Point Nuclear Power Plant
Interview of: EUGENE "MARK" DAVIS

Docket No.

LOCATION: Scriba, New York

DATE: Monday, August 19, 1991

PAGES: 1 - 46

ANN RILEY & ASSOCIATES, LTD.
1612 K St. N.W., Suite 300
Washington, D.C. 20006
(202) 293-3950

9305060175

Exhibit 3-1 (continued)



ADDENDUM TO INTERVIEW OF Eugene Mark Davis CSO
(Name/Position)

| Page | Line | Correction and Reason for Correction |
|---|---|---|
| 4 | 3 | VNC not sure what this might have been, delete, not important |
| 4 | 5 | add word "us" do with "us" electrically. |
| 4 | 7 | change lamp to line up |
| 6 | 6 | change control room to "SSS office" |
| 6 | 9 | change the voltage to "there was voltage |
| 6 | 10 | change that to "then" |
| 7 | 3 | change scrammed to scram |
| 8 | 23 | change ~~or~~ or to all |
| 9 | 18 | delete the word "buses" |
| 9 | 21 | delete the final comma |
| 9 | 25 | change ~~to~~ in to and |
| 11 | 16 | change to " and I was coming down the panels headed... |
| 12 | ~~3~~ 4 | change to ...one had tripped and the other autostarted, ... |
| 14 | 19 | change as to "when" |
| 14 | 20 | change As to ~~when~~ After |
| 16 | 14 | change con-demin to cond-demin |
| 16 | 16 | change to demineralizers |
| 17 | 7 | EOP 6 |
| 17 | 20 | change rod three position to "rods to reposition... |
| 18 | 2&3 | plus we ~~had~~ have normal reactor scram procedures. |
| 19 | 6 | change It was to I was |
| 20 | 4 | ~~RSCS~~ RSCS |
| 20 | 6 | "RSCS" (not RCS) |
| 21 | 11 | change INC to I&C |
| 24 | 16 | delete "it" |
| 25 | 6 | delete the s from pumps |
| 26 | 1 | change "get the valve, the breaker" to "get the breaker" |
| 27 | 13 | change to " Level 1 indication, it would" |
| 27 | 22 | change to "directing people at that point and in other directions" |
| 27 | 23 | right then. what |
| 29 | 2 | "rad monitors which |
| 32 | 4 | change at to as |

All changes noted either 1) aid in clarity of dialogue or (2) technical correction

Page 1 of 2 Signature Eugene M. Davis Date 8/23/91

Exhibit 3-1 (continued)



ADDENDUM TO INTERVIEW OF Eugene Mark Davis CSO
(Name/Position)

| Page | Line | Correction and Reason for Correction |
|---|---|---|
| 32 | 23 | change to "but the operators at the power plant" |
| 40 | 25 | change to " we were no longer able to ..." |
| 41 | 22 | delete the ~~word~~ word "that" |

Page 2 of 2 Signature Eugene M. Davis Date 8/23/91

1 UNITED STATES OF AMERICA
2 NUCLEAR REGULATORY COMMISSION
3 INCIDENT INVESTIGATION TEAM
4
5 - - - - - - - - - - - - - - - - - - - -
6 Interview of :
7 EUGENE "MARK" DAVIS :
8 (Closed) :
9 - - - - - - - - - - - - - - - - - - - -
10
11 Conference Room B
12 Administration Building
13 Nine Mile Point Nuclear
14 Power Plant, Unit Two
15 Lake Road
16 Scriba, New York 13093
17 Monday, August 19, 1991
18
19 The interview commenced, pursuant to notice,
20 at 2:30 p.m.
21
22 PRESENT FOR THE IIT:
23 John Kauffman, NRC
24 William Vatter, INPO
25

1 P R O C E E D I N G S

2 [2:30 p.m.]

3 MR. KAUFFMAN: It's August 19th, 1991. We are at
4 the Nine Mile Point Unit Two, P Admin. Building. The time
5 is 2:30 p.m.

6 We are here conducting an interview of Mark Davis
7 concerning the Nine Mile Two event on August 13th, 1991. My
8 name is John Kauffman, with the NRC.

9 MR. VATTER: I am Bill Vatter. I'm on loan to NRC
10 from INPO.

11 MR. DAVIS: Well, I'm Mark Davis, officially
12 Eugene Davis, but I go by "Mark" in case you guys are
13 looking for me in your files.

14 I have been with the company for nine years now.
15 I have no previous nuclear background other than with
16 Niagara Mohawk I did spend four years in the Navy as an ET
17 and I went to college at Potsdam State in New York for four
18 years and got a Bachelor's Degree and I came to Nine Mile
19 Point.

20 I initially licensed at Nine Mile - One, got a hot
21 license there so that I could come over and be part of the
22 startup crew for Nine Mile - Two. Now I am a Chief Shift
23 Operator at Nine Mile - Two and have been here since then or
24 have been a CSO for two years.

25 MR. VATTER: Do you have a reactor operator's

1 license, sir?

2 MR. DAVIS: Yes, I'm an RO.

3 MR. KAUFFMAN: And your degree?

4 MR. DAVIS: Sociology.

5 MR. VATTER: So you probably know more about

6 interviewing than we do.

7 MR. KAUFFMAN: Could you I guess tell us about the

8 plant conditions prior to the event? We know it was 100

9 percent. I guess we are more interested in what kind of

10 equipment was out of service, any LCOs that you can remember

11 you were in.

12 MR. DAVIS: The LCOs -- nothing major. I mean we

13 always have problems with our rad monitors. Well, I

14 shouldn't say always but lately we have had problems with

15 our service water rad monitors and there were LCOs on a

16 couple of them at that time.

17 As far as major equipment -- there was nothing out

18 of service that was very important to us. I mean we were

19 not having any problems maintaining power or anything like

20 that. We were, say, 100 percent power. We were not having

21 any problems, didn't have any idea what was about to happen

22 was going to happen.

23 MR. KAUFFMAN: Was there any equipment taken out

24 of service during the night?

25 MR. DAVIS: No, there was not, not that would

1 affect that.

2 MR. KAUFFMAN: Some other people have said the

3 VNC, RHR were tagged out --

4 MR. DAVIS: Yes, but that didn't have anything to

5 do with electrically. I mean we tagged out the Div 2 ECCS

6 systems but it was just for minor work really. It was

7 nothing to do with the power board lamp at all. The pumps

8 were in-pulled to lock and there were breakers for various

9 MOVs that had been de-energized but nothing major at all.

10 I mean yes, it was major in the fact that it was

11 Div. 2 ECCS but from an electrical --

12 MR. KAUFFMAN: Did that make that equipment

13 inoperable?

14 MR. DAVIS: Yes, that equipment was inop when we

15 started the event.

16 MR. VATTER: Who was in the control room when the

17 event started?

18 MR. DAVIS: I was in the control room and Mike

19 Conway and Mike Eron were in the SSS office and Al Denny was

20 -- I'm not sure where he was. He was within the control

21 area someplace but I am not sure -- you know, he wanders

22 around and looks at the panels. I don't know exactly where

23 he was when that happened. He might have been behind the

24 fire panel at his desk.

25 MR. KAUFFMAN: Who is this person?

1 MR. DAVIS: Al Denny. He was the SEPC.

2 MR. VATTER: So what happened?

3 MR. DAVIS: Well, it was almost turnover time. We
4 were all gathering our thoughts and writing down our
5 turnover sheets. I was facing the reactor panel but I was
6 writing at the exact second that that happened.

7 I heard a "clack" basically, I assume from relays
8 tripping and then there was just absolute silence in the
9 control room.

10 There is usually fans and things going and they
11 were all, all that noise was just gone. It was just deathly
12 quiet in the control room. All of the computers had been
13 dropped out.

14 All of the annunciators -- we have annunciators
15 that were lighted at the time -- all the annunciators were
16 gone except for over on 601 panel there was four to six
17 annunciators that were flashing but making no noise and on
18 603 panel the full core display was de-energized. The eight
19 lights for RPS, pilot solenoids were out. Rod worth
20 minimizer was de-energized, just that was in the initial
21 second. That's what I noticed right away was just all of
22 this was gone that had been there before.

23 MR. KAUFFMAN: So then what went through your
24 mind?

25 MR. DAVIS: Something's going on! I mean, what's

1 happening?

2 I stood up and went over toward -- I knew it was

3 something to do with power because we had lost so much

4 equipment and I went over and checked our power distribution

5 board. At the same time that Mike Conway the SSS was coming

6 out of the control room. He asked what happened. I said I

7 don't know. We've taken some kind of an electrical trip and

8 I looked at our normal distribution. Everything was normal

9 there. No indications of -- the voltage on the bus. I have

10 voltage on my 13-8 and 4160 buses and about that Mike had

11 said that the recirc pumps had downshifted. As I was coming

12 down toward --

13 MR. VATTER: Excuse me, on the electrical, did

14 that show the power source for the normal station loads?

15 Normally they come off of a transformer that is fed from the

16 main generator.

17 MR. DAVIS: Would you ask that again?

18 MR. VATTER: Yes. I didn't ask it very well.

19 Excuse me. The electrical loads that you checked, were you

20 able to see whether the main generator was still on?

21 MR. DAVIS: I did not look. I didn't notice

22 whether that was or not. I was looking for voltage on buses

23 and that's what I saw, voltage on buses, because I was in a

24 hurry to get over to 603 because I knew there was problems.

25 MR. VATTER: You didn't check the status of

1 circuit breakers at that time?

2 MR. DAVIS: No, I did not. So, like I said I knew

3 that with the scrammed pilot lights out that there was a

4 strong possibility that we had taken a scram but we had had

5 a problem a year or two ago with one of the UPS's where it

6 went down and the shift that was on at that time had a lot

7 of the indications of a reactor scram but it was just all of

8 the scram annunciators had come in and so I was concerned

9 that maybe this is what we have got here is something going

10 like, something similar to that.

11 So I wanted to go over to 603 panel. Also I had

12 noticed right away, I didn't say it before, that all of the

13 recorders on 603 were frozen at their normal full power

14 limit or operating parameters so --

15 MR. VATTER: How could you tell the difference

16 between frozen at that point or whether they were still

17 recording actual --

18 MR. DAVIS: No, I couldn't. I am just saying that

19 they were still where you would expect them to be for 100

20 percent power so in that first couple minutes I wasn't sure

21 whether we had scrammed -- in that first minute, you know,

22 as I was going there, I wasn't sure whether we had scrammed

23 or not. From the indications we had other than the fact that

24 the eight scram pilot solenoid lights were out it really,

25 looking at what was available to me did not look like we had

1 taken a scram.

2 But at that time Mike said that the recirc pumps

3 had downshifted and there was no way that we could still be

4 at 100 percent power with the downshift in. By that time I

5 had gotten to the feedwater system and looked down and the

6 feedwater pumps were not running anymore.

7 We still had condensate and condensate booster

8 pumps running and I reported that to the SSS. In that,

9 well, about that same time Mike Eron had come up from the

10 back panel. Mike had directed him to go back and check for

11 power on the back panel to see what we had on our meter

12 indication for power since we still, you know, we didn't

13 have any power, any idea of what power was on 603, so Mike

14 had come back at that time and said that power was downscale

15 on the APRMs, that he recommended a reactor scram and Mike

16 and I also believed that was the best thing to do.

17 MR. VATTER: So he went and he looked at the APRMs

18 on the back panel?

19 MR. DAVIS: Yes.

20 MR. VATTER: Before he came up and said he

21 recommended a scram.

22 MR. DAVIS: I'm not sure if he said it before he

23 went back also, or I know that when he came back he had said

24 that.

25 MR. VATTER: Okay, so he might have said it

1 before?

2 MR. DAVIS: He might possibly have said it before

3 also.

4 MR. VATTER: Until that time you hadn't taken any

5 action on the board?

6 MR. DAVIS: At that time there was no, nothing had

7 been changed on any of the panels. At that point Mike

8 directed the mode switch to be placed in shutdown. I placed

9 the mode --

10 MR. VATTER: That was Mike --

11 MR. DAVIS: Conway. I placed the mode switch in

12 shutdown and inserted the IRMs and about that time Mark

13 Bodoh came into the control room and he took over from me.

14 I had him take over at the 603 panel to follow the reactor,

15 try to get an idea what was going on with the power and I

16 stepped back from there and at that point Mike had been

17 watching level on the PAM recorders over on the divisional

18 buses panels and level was going down.

19 He directed RCIC be initiated and since it was

20 just Mark and I at that time and Mark was at the 603 panel I

21 went over and armed and depressed the RCIC manually,

22 initiate push button and started RCIC.

23 I watched for the proper sequence of valve

24 manipulations. RCIC did come on line and started to come up

25 to speed in increased flow but the indications on the panel

1 were erratic. Most of the indicators were jumping up and
2 down so I took RCIC to manual at that point. Everything
3 settled right out and I had proper RCIC RPM and I had an
4 indication of flow.
5 I looked down at the injection valve. The
6 injection valve was open.
7 The outboard valve, check valve, was open but the
8 inboard check valve did not indicate open. That still
9 indicated shut but it did look like we had proper flow and
10 somebody at that point said that it looked like reactor
11 water level was turning around.
12 At that time Brian Hilliker came in and he's
13 another E-Operator. He was on-coming day shift. I had him
14 take over at the RCIC station and he was monitoring level.
15 Other operators were coming in at that point. I am not sure
16 of who was next. I know that Eric Hoffman came in. He's one
17 of our C operators and he was placed on 601 watching level
18 and pressure.
19 Aaron Armstrong came in about that time. I sent
20 him down to look at the UPS's.
21 MR. VATTER: So you are the one that told Aaron to
22 go down and look at the UPS's. Do you remember what you
23 told him?
24 MR. DAVIS: Just that it appeared that we had some
25 problem with the UPS's and to go down and give me a status

1 of what he saw.

2 MR. VATTER: Could I back you up a little bit?

3 You say that you noticed the main feed pumps were off?

4 MR. DAVIS: Yes.

5 MR. VATTER: Were they tripped? Can you tell the

6 difference between a trip and a loss of power, for example?

7 MR. DAVIS: They had tripped. There was a green

8 light there, normally red light running, and there was a

9 green light on them.

10 MR. VATTER: What time was it that you notice

11 that? Was that very soon after the scram?

12 MR. DAVIS: Yes, that was before we placed the

13 mode switch in shutdown. That was within the first 15, 20

14 seconds probably of the event or sooner. You know, it was

15 right away, because I had come from the electrical panels

16 and it was coming down. The panels headed for our feedwater

17 system and I didn't see any indication on the feedwater,

18 looking at the meters, of anything that I expected to see at

19 that point. Everything was pretty much downscale.

20 I looked down at the pumps and saw that they were

21 both green lit and so they were tripped.

22 Then I checked down and saw that I had two

23 condensate booster pumps and three condensate pumps --

24 MR. VATTER: Was that the lineup you had been

25 running or had you been running three booster pumps?

1 MR. DAVIS: No. We had been running two but I am
2 not sure now whether it was the two that were running before
3 or whether one -- there had been some discussion about
4 whether one had tripped another, it autostarted, and I am
5 not sure which one is -- which two of them were.
6 I just looked down. I saw that I had two red
7 lights and three red lights for the condensate pumps.
8 MR. KAUFFMAN: Did you notice what reactor water
9 level was doing about this time?
10 MR. DAVIS: I looked up at the narrow range
11 indicators and the Alpha indicator was downscale and the
12 other two were about 186, which was higher than normal but
13 not -- 183 is about normal. They were just a little higher
14 than normal, which struck me as odd and I didn't have much
15 time to think about that and then we put the mode switch in
16 shutdown and then somebody reported that water level was
17 dropping.
18 MR. VATTER: So you sent Brian down to - no, Brian
19 went to run --
20 MR. DAVIS: Brian was on RCIC. Aaron Armstrong
21 went down to look at the UPS's. There was somebody that
22 went with him the first time but I am not sure who it was
23 now.
24 MR. VATTER: Was that before or after you entered
25 the EOP?

1 MR. DAVIS: I'm not sure. It was very close. I
2 mean it was -- I don't know what point he -- it was probably
3 before but I am not sure.
4 MR. VATTER: Was it before or after you started
5 RCIC?
6 MR. DAVIS: It was after that.
7 MR. VATTER: So how did you know you were in the
8 EOP?
9 MR. DAVIS: We entered the EOPs on reactor water
10 level, Level 3.
11 MR. VATTER: Who figured out first that you were
12 at Level 3?
13 MR. DAVIS: I am not sure whether that was Mike
14 Conway or whether Eric Hoffman was at the panel at that
15 point. I was involved in RCIC right then and so -- so I
16 guess I misspoke myself on whether RCIC on level was going
17 up because it couldn't have been at that point because level
18 continued to go down.
19 We went through Level 3 and lower than that and
20 came back up. I think the lowest that somebody said we got
21 was 133 inches or so, but by then, that was about the same
22 time that Brian was picking up where I had left off on
23 RCIC.
24 MR. VATTER: Have you seen a scram with loss of
25 feedwater before? A real one on the plant?

1 MR. DAVIS: Not from 100 percent power.

2 MR. VATTER: We are a little curious as to whether
3 RCIC, if it was started promptly after a scram with loss of
4 feedwater, I mean like right away, if it has enough capacity
5 to keep from getting to Level 3?

6 MR. DAVIS: We had RCIC running before Level 3 but
7 it wasn't much before and it dropped through Level 3 so it
8 appears to me that it didn't -- I mean maybe it was still
9 -- it was hard to tell because the check valve wasn't open
10 but we definitely had RCIC running before we hit Level 3 but
11 it was very, very shortly before so I really can't tell you
12 whether RCIC was at full capacity, injecting full capacity
13 at that time, you know, where the min-flow valve was
14 positioned. That I am not sure.

15 MR. VATTER: You don't ordinarily get Level 3 on a
16 scram?

17 MR. DAVIS: No.

18 MR. VATTER: Okay. You were going to talk to us
19 about ad Aaron went down to the UPS's.

20 MR. DAVIS: Okay. As Aaron went down to the
21 UPS's and he came back to the control room because we had --
22 the Gaitronics was not working. I found that out right
23 away when I tried to call operators in the control room
24 that that had not been working.

25 He came back and reported that the 1 series UPS's

1 had tripped and were locked out I think was the word he
2 used.
3 At that point Dave Hanczyk was back in the control
4 room and I sent him down with Aaron and there were some
5 other people that had come in by then. I think Bob Spooner
6 is one of the ones that went down with them just to see what
7 was going on.
8 MR. VATTER: So Dave got a specific instruction
9 from you to go to the UPS?
10 MR. DAVIS: Yes. Dave did and Aaron had also.
11 MR. VATTER: Then there were other guys that went
12 along?
13 MR. DAVIS: Yes.
14 MR. VATTER: Because they were just helping out.
15 MR. DAVIS: Yes, just -- because that appeared to
16 be where most of our problems lie was that the UPS's weren't
17 available and so they went down to see what they could do
18 with that. By that time there was a lot of people who were
19 coming in. I mean it was just time for turnover and people
20 were becoming available, coming into the control room.
21 MR. VATTER: Do you recall what instruction you
22 gave David when you sent him down?
23 MR. DAVIS: No. I mean not exactly. I can
24 surmise.
25 MR. VATTER: Did you tell him to report or --

1 MR. DAVIS: I don't remember the words that I
2 used.
3 But I would like to believe that I told them to
4 get them going if it was possible, but I don't remember the
5 words for sure.
6 MR. VATTER: Go ahead.
7 MR. DAVIS: Well, by that time there were a lot
8 more people in the control room so I was able to step back
9 from the panels and direct activities more. That's my job is
10 to send the operators out to various places and as people
11 became available they were sent out to various stations to
12 basically contend with the plant shutdown that was in
13 progress.
14 I had someone go to the con-demin panel because I
15 was concerned for the number of demineralizers we had in
16 service. We were still with full power demineralizer and we
17 didn't have the feed pumps running anymore. I had someone
18 go there.
19 I know that Todd Kelly, I sent him down but it
20 also seems like there was someone else that was sent too.
21 People were sent out to the aux boilers because we
22 were going to need steam from them to maintain our shutdown
23 loads.
24 MR. VATTER: Tell us about rod position
25 indication, how you became aware of that problem and what

1 you did about it.

2 MR. DAVIS: When I was at 603 that was in the

3 first minute or so, there was no rod position indication at

4 all. Mark Bodoh, when he took over he reported that there

5 was no indication at all from RSCS or any of the other

6 normally available sources of indication and Mike ordered

7 EOOP 6, attachment 14, which is inserting control rods

8 because we weren't sure of the positions of the control

9 rods.

10 MR. VATTER: That's Mike Conway?

11 MR. DAVIS: Mike Conway, yes.

12 MR. KAUFFMAN: Who is assigned to do that?

13 MR. DAVIS: Dave Rathbun was working with that.

14 MR. VATTER: So he was manually inserting rods?

15 MR. DAVIS: Not necessarily. He had the

16 procedure. No, I am sure he was not inserting rods because

17 there was no indication of rods to know whether they were in

18 or out or what the position was.

19 Within this attachment there are a lot of things

20 that you can do to attempt to get the rod three position and

21 what he was concentrating on was venting off the scram air

22 header to ensure that rods had gone in.

23 He sent someone out on that but I am not sure

24 who. I mean it's difficult to say who did this, who did

25 that because there was a lot of people there and I was

1 pretty busy trying to -- well, this is your job, you do
2 that, and then who's next, plus we had normal, we had a
3 reactor scram procedure to look at in a reactor shutdown in
4 progress with a lot of activity being directed, so by then
5 it was -- I was not at the panels at all to monitor
6 indications. It was just getting reports from other people
7 that were at the panels and I was sending other people out
8 to do jobs as they became available.
9 MR. VATTER: Okay. Then Dave Hanczyk and the
10 others who went with him were successful in restoring power
11 to those --
12 MR. DAVIS: Yes. They restored power to the UPS's.
13 We got our indications back. We had indications of control
14 rods inserted but not all of the rods indicated full in.
15 There was I think six rods on RSCS that did not indicate
16 full in. Rod worth minimizer was intermittently displaying,
17 stating that all rods were in.
18 Mark selected some of the rods to confirm
19 position. I think he got X-X indication which is just an
20 indication that they are not at a numbered position.
21 MR. VATTER: When you say selected rods, that is
22 on that four rod display?
23 MR. DAVIS: Well, that's what you would see. You
24 push the button and look at the rod on the four rod display,
25 yes. Everything was pretty much back to normal by that

1 time.

2 When that happened it was pretty much just a scram

3 recovery at that point although we did not have the

4 computers back yet.

5 MR. VATTER: But you had six rods that were not,

6 the position was not known about any of the indications that

7 you normally would be able to see.

8 MR. DAVIS: Well, this indicator over here

9 indicated that there were six. The rod worth minimizer was

10 changing between one rod that was not full in and saying

11 that, yes, all rods were in. It was just going back and

12 forth between the two.

13 MR. VATTER: So if you believed the rod worth

14 minimizer, they were all in?

15 MR. DAVIS: Depend upon which second you chose to

16 believe it, yes, because like I said one moment it would say

17 all rods were in. Then another, the next moment, it would

18 say no, that one rod over on the left side was not full in.

19 Then it would switch back to saying, yes, all rods were full

20 in but by then we were pretty confident the reactor was shut

21 down.

22 Position became available on those six rods some

23 time soon after that and rod worth minimizer finally stayed

24 I believe -- well, I remember that Mark looked at that one

25 rod -- I don't remember for sure what he saw on that

1 though.

2 MR. VATTER: So how did you get position

3 indication restored for those six that you didn't see on the

4 RSC?

5 MR. DAVIS: By then Dave Hanczyk was back in the

6 control room and he had gone back to the back and reset RCS

7 and at that point everything indicated full in, I believe.

8 I know that Dave Rathbun at that same time was

9 attempting to jumper out RPS to reset the scram because we

10 have had problems in the past with rods indicating not full

11 in until the scram was reset and once the scram is reset

12 then all of the rods were indicated full in and as to which

13 actually, which event actually caused rods full in I am not

14 sure.

15 MR. VATTER: Are those the same rods that had

16 given problems in the past? Or is that a problem that --

17 MR. DAVIS: It's random.

18 MR. VATTER: Random. Sometimes rods don't

19 indicate fully.

20 MR. DAVIS: Well, the problem we have had in the

21 past is that on a scram rods tend to overdrive and they are

22 actually past full in and when the scram is reset that then

23 they drop back into zero-zero position.

24 MR. VATTER: How long has that been a problem?

25 MR. DAVIS: I am not sure of the time period.

1 I am not even sure if it has been on recent,
2 previous scrams. It is just something that we had had
3 happen to us before and that is why that was -- why people
4 moved in that direction to reset the scram was in case that
5 was the problem.
6 MR. VATTER: What can you tell us about prior
7 problems with those UPS units? You did mention a year or
8 two ago there was a problem with the UPS and it looked like
9 a scram but it wasn't.
10 MR. DAVIS: That wasn't the UPS's fault. That was
11 -- well, there was a problem on the UPS and we had an INC
12 tech that was down working on it and he had done something,
13 I am not too sure of what actually happened now because it
14 was a while ago, but he had done something at that point
15 that tripped the UPS. That was the indication that they got
16 in the control room, but I wasn't here that day.
17 MR. VATTER: What other problems are you aware of
18 with UPS?
19 MR. DAVIS: We had problems with high temperatures
20 on them. There have been modifications on those to get in
21 more cooling.
22 MR. VATTER: Was that the thing that was causing
23 them to overheat, there was not adequate cooling?
24 MR. DAVIS: Originally they were overloaded too.
25 I mean there was -- I shouldn't say overloaded. They had

1 more load than they really originally expected to have on
2 them and probably two years ago loads were redistributed on
3 the UPS's and some things taken off them that were not felt
4 to be necessary to more evenly distribute the loading on the
5 UPS's.
6 MR. VATTER: Mark Bodoh told us today that
7 earlier this year there was a problem with UPS 1 Bravo where
8 some maintenance was being conducted and something was done
9 wrong and he told the operator to return it to a normal
10 lineup.
11 Does that ring any bells with you?
12 MR. DAVIS: No, it does not but Mark Bodoh is new
13 on my shift also. He's only joined A shift within the last
14 month or so. Not from what you told me it doesn't ring any
15 bells.
16 MR. KAUFFMAN: He further described it as the
17 whole full core display lit up including the blue scram
18 lines.
19 MR. DAVIS: Okay, that's what I had mentioned
20 earlier about the -- I would have thought that was more than
21 early this year but that was a problem that I had mentioned
22 earlier to you. I think that was --
23 MR. VATTER: When all of the lights in the full
24 core display came on?
25 MR. DAVIS: He was there. He would know better

1 than I.

2 MR. VATTER: That's not the problem you were

3 talking about a year or two ago?

4 MR. DAVIS: That's what I was mentioning, yes. I

5 didn't think it was this year. It seemed like it was longer

6 than that to me.

7 MR. VATTER: Okay, so we are probably talking

8 about the same thing.

9 MR. DAVIS: We are talking about the same event.

10 We are just not sure of --

11 MR. VATTER: When it was.

12 MR. DAVIS: When it was.

13 MR. VATTER: Okay. Can you tell us a little bit

14 about the way the EOP was used? Did that seem smooth to

15 you? Were there any places where Mike appeared to get hung

16 up in going through the EOP?

17 MR. DAVIS: It didn't appear to me that he had any

18 problems at all. I thought Mike did a great job running the

19 EOPs. He's a relatively newly SRO. I mean he just got his

20 SRO license last December I think it was and he has been on

21 A shift since then with Doug Richards, who has been the SSS

22 on A shift for two years and they have alternated the SSS

23 position and the other would take the Assistant and so for

24 the time that Mike has been SRO I think he did an

25 outstanding job.

1 MR. VATTER: How about communications in the
2 control room? Was it pretty easy to understand what Mike
3 wanted?
4 MR. DAVIS: Yes. I didn't have a problem
5 understanding what Mike was directing.
6 He -- all of his directions to me were clear. I
7 understood what he was getting at.
8 MR. VATTER: Did he have to ask you to do anything
9 twice?
10 MR. DAVIS: I'm not sure. If he asked me to do it
11 twice then I wouldn't have known about the first time.
12 He did ask about the -- later on in the event --
13 about, he wanted to get an RHR Alpha available for steam
14 condensing and he asked me about that and again a few
15 minutes later and I was just at that time sending people
16 out, somebody came in and it was available and I sent them
17 out then.
18 That's the only specific instance I can think of.
19 MR. VATTER: You have three RHR pumps.
20 MR. DAVIS: Yes.
21 MR. VATTER: And two of them operate through a
22 heat exchanger?
23 MR. DAVIS: Yes.
24 MR. VATTER: And the third is really just a LPCS
25 pump.

1 MR. DAVIS: Yes.

2 MR. VATTER: Now which of those -- we talked a

3 little bit about some RHR equipment was out of service for

4 minor maintenance.

5 MR. DAVIS: That was a problem. On the Bravo

6 system, well, on the Div. 2 system we had the 1 pumps that

7 you call basically a LPCS system out of service and the RHR

8 Bravo, which is one of the two with the heat exchanger.

9 MR. VATTER: RHR Bravo was -- that whole loop is

10 out of service?

11 MR. DAVIS: Yes.

12 MR. VATTER: Not good for anything?

13 MR. DAVIS: Okay, if you want to use those words.

14 MR. VATTER: Maybe that is a bad choice of words.

15 It was inoperable for any of the --

16 MR. DAVIS: It was inop but the -- for what was

17 tagged out on it, there was -- it wasn't difficult to return

18 it to service. It wasn't like the system was drained or

19 anything like that. There were just a couple valves.

20 The only major valve that was marked up on it that

21 I recall was just the min-flow valve which you could have

22 still run the pump without. The valve would have been in

23 the open position, de-energized. You would have had a min-

24 flow valve there sending water back to the suppression pool

25 but there would have been, you could have still used the

1 pump until you got the valve, the breaker re-energized and
2 the valve closed.
3 It wasn't like it was of no value to us.
4 MR. VATTER: But the pump was tagged out and
5 pulled the lock?
6 MR. DAVIS: Yes.
7 MR. VATTER: And to use it you would have had to
8 clear the tags.
9 MR. DAVIS: Yes, but that's not that big a deal.
10 The tag had just been hung that night and it was right on
11 my desk. All I would have had to do is just initial and
12 pull the tag.
13 MR. VATTER: I understand. And Charlie -- that's
14 Division 3?
15 MR. DAVIS: No, that's Div. 2 also. There are two
16 pumps in Div. 2. It's Bravo and Charlie and Div. 1 is Alpha
17 and then there is LPCS, which is basically the same thing as
18 Charlie is. Charlie is just another LPCS really but it is
19 called RHR.
20 MR. VATTER: Okay, and in Div. 2 then the Charlie
21 pump was also out of service?
22 MR. DAVIS: Yes.
23 MR. VATTER: Under a markup?
24 MR. DAVIS: There was a hold out on it and there
25 was markup on that but I don't recall what was tagged out

1 right now.

2 MR. VATTER: And then you went and you took Div. 1

3 with the A pump and that was put into torus cooling mode and

4 shut down.

5 MR. DAVIS: Yes, that was done right away though.

6 That was done previous to getting the tags pulled on Bravo.

7 MR. VATTER: But there was a time there that you

8 had the Bravo pump and the Charlie pump were tagged out and

9 the Alpha pump was in suppression pool cooling.

10 MR. DAVIS: Suppression pool cooling, yes, but it

11 was still available for LPCS.

12 I mean if there had of been a high drywell

13 pressure or a Level 1 initiation that would have realigned

14 and it would have realigned itself for injection.

15 MR. KAUFFMAN: As the shutdown continued I know

16 that you reached a point where they tried to inject using

17 the condensate booster pumps. Would you tell us about that

18 evolution, what you know about it?

19 MR. DAVIS: Jim Graff was working toward getting

20 injection from the feedwater system through the condensate

21 booster pumps and from talking to Mike Conway, because I was

22 directing people to the other point and other direction

23 right then, what his concern had been was cooldown and at

24 that time level had recovered and he had ordered the

25 condensate booster pumps shut down because their shutoff

1 head's around 650 or so pounds that it was possible that we
2 were -- pressure was low enough at that time that it was
3 possible that we could be actually injecting with those and
4 there was not the need for injection then from them, and so
5 he had ordered them to be shut down and then later on when
6 he tried to re-establish injection with the normal system,
7 Jim Graff was working on the procedure then and he was
8 working toward restarting the condensate booster pumps.
9 One of the steps in the procedure directed that he
10 shut the suction valves of the feedwater pumps, which is
11 more or less the discharge of the booster pumps and when he
12 shut that, when he started the pump back up, he was not able
13 to open the suction valve again because of the DP across it.
14 Normally we wouldn't be trying to just open the
15 valve like that because we normally would have somebody out
16 in the plant who was opening the bypass around that valve to
17 re-pressurize the system but at that point the emergency
18 procedures had evacuated the buildings and people were not
19 allowed to go back in and so the decision was made to
20 attempt to reopen the valve without that.
21 MR. VATTER: We understand that the off-gas
22 isolated.
23 MR. DAVIS: Yes, it had.
24 MR. VATTER: Do you know what the cause of the
25 isolation was?

1 MR. DAVIS: The isolation was caused by the off-
2 gas rad monitor switch basically had a power failure and
3 failed to the trip condition, which isolated the valve.
4 MR. VATTER: And the power failure that you spoke
5 of was the loss of the UPS?
6 MR. DAVIS: I believe that it was but how the two
7 are related I am not sure.
8 MR. VATTER: The rad monitor didn't have a high
9 radiation?
10 MR. DAVIS: No.
11 MR. VATTER: It just trips --
12 MR. DAVIS: It trips. I mean it's a high rad trip
13 that trips it but it was, the way that the logic is set up
14 by losing power it will trip, cause a high rad trip.
15 MR. VATTER: But you didn't have any high rad
16 alarm associated with that, that you knew that you had high
17 radiation on the off-gas?
18 MR. DAVIS: Well, the annunciator was in in the
19 control room by that time. The annunciators were back and
20 the annunciator was in.
21 MR. VATTER: What I am driving at is is there a
22 way that you could differentiated between a true high rad
23 condition which would have caused a isolation of off-gas or
24 this loss of power and resultant --
25 MR. DAVIS: Chemistry sampling would be the best

1 way.

2 MR. VATTER: But from the indications that you had

3 in the control room?

4 MR. DAVIS: Not that I can think of, no.

5 MR. VATTER: Now with the off-gas isolated you

6 were beginning to lose vacuum?

7 MR. DAVIS: Yes.

8 MR. VATTER: And what did you do about that?

9 MR. DAVIS: Dave Hanczyk was working that

10 procedure at that time and he had people that were out at

11 the off -- I don't know whether they had gone, at that point

12 whether that was before people had left the building or

13 whether it was somebody that had gone back in with part of a

14 damage control team to get to the off-gas panel but there

15 were people that he had working with him re-establishing

16 vacuum.

17 MR. VATTER: Aaron Armstrong told us that he had

18 been sent out to restore off-gas in the turbine building.

19 MR. DAVIS: Okay.

20 MR. VATTER: But he no more than got there an he

21 was told to get out again, because they had high radiation

22 in the turbine building, so he wasn't able to do anything.

23 Then Dave Hanczyk told us a couple days ago that,

24 in order to hold vacuum, they put the hogger on.

25 MR. DAVIS: Yes. I believe that the high rad in

1 the building was caused by other failures from the UPS
2 failure that caused the CAMs in the building to fail to a
3 high rad alarm, also, and that rad protection was sent out
4 to sent those, and they found no high radiation in the
5 building.
6 MR. VATTER: I don't really know that this is a
7 problem, but I don't understand why the hogger was put on
8 when you had indications of high radiation on off-gas and
9 off-gas had isolated. Could you help me with an understand
10 of that?
11 MR. DAVIS: Not much, because Dave was working the
12 system and working on restoring the system, and he was
13 consulting with Mike, because I was working on other
14 problems at that time, so I don't know how they made the
15 decisions to do that, what their justification was for that.
16 I was aware that the alarm was in, and I was aware that he
17 was attempting to get vacuum re-established, but I don't
18 know what the justification that they had used for that was.
19 He had been talking with Mike about it, and it wasn't
20 something they had a lot of time to think about.
21 MR. VATTER: Would there have been any problems if
22 you had lost vacuum? Does that close the MSIVs?
23 MR. DAVIS: That closes the MSIVs, yes. That's
24 why we were independent-path trying to get steam condensing
25 lined up on RHR Alpha loop, because that can continue with a

1 cool-down for us, basically; we can send steam through there
2 to condense steam to maintain pressure control and then do a
3 cool-down with that, until we get down to the shutdown
4 cooling system. It's not at handy, but it can be used.
5 MR. VATTER: When the power was restored and off-
6 gas isolation and the high-rad annunciator were in on the
7 control board, was it possible to read the rad monitor and
8 determine what the rad levels were at that time?
9 MR. DAVIS: At that time, I'm not sure. I
10 remember that Dave had looked at the rad monitors on the
11 DRMS computer, but I don't remember at what point that was.
12 The computer was back by then, and I'm not sure of the
13 sequence of events there, when that happened.
14 [Pause.]
15 MR. VATTER: Thinking about the event as a whole,
16 what do you think went well? Based on how you and the other
17 operators were able to respond to these failures --
18 obviously that wasn't good -- what do you think went well in
19 the event?
20 MR. DAVIS: I thought that the teamwork of the
21 crew was a definite strength. I mean, at that time there
22 were enough people in there -- I mean, it wasn't just my
23 shift, but the operations of the power plant as a whole, the
24 people that were there, worked extremely well together as a
25 team and were able to get the job done.

1 The divisional power was still available to us, so
2 we had other indications for what was going on, other than
3 rods, power. We knew the power from the back panels, but as
4 far as rod position, indication like that, that wasn't
5 available. But we had sufficient instrumentation left that
6 we could monitor our shutdown.
7 I think the communications between the operators
8 worked well. It was a minus that, until we got the UPS's
9 restarted, we didn't have good communications with the
10 people in the plant. The Gaitronics system was down, and
11 our radios were not effective, because they work under a
12 leaky-wire system that was also powered by the UPS's. They
13 were not available. It slowed us down to have to send
14 somebody out and have them come back and report and then
15 send them back out again.
16 I think the operators did really well. I think
17 our training -- We had never trained on anything like that,
18 but we've had enough training -- and we've had some pretty
19 severe casualty training -- that everybody remained cool and
20 collected and just had a job to do and did it. I think we
21 worked really well together.
22 MR. VATTER: What else?
23 MR. DAVIS: It was nice that there were all the
24 people there.
25 MR. VATTER: It wasn't too many?

1 MR. DAVIS: There were a lot of people there, and
2 eventually we started sending them out of the control room.
3 I'm sure that, from an outsider's standpoint, they felt that
4 there were too many people there, but there weren't people
5 in the control room that were in the way. People that were
6 there had a job to do and were doing it. It was nice to be
7 able to have that many people to take care of that many
8 things at the same time, and it didn't cause any problems at
9 all. I know it did look kind of clustered in the control
10 room; there were, like I say, a lot of people there, but the
11 operators themselves were there for a reason, and I was glad
12 that they were there. I knew that I had the authority to
13 send a lot of people out of the control room, but I didn't
14 feel that it was causing us any problems, and we didn't send
15 people out.
16 MR. VATTER: During the event, shortly after it
17 initiated, the plant was cooling down. In fact, it seems
18 now, as I think about it, that it was probably cooling down
19 all of the time, although at some times the rate was
20 different.
21 MR. DAVIS: Right.
22 MR. VATTER: During that period of time, you
23 didn't know for sure that all the rods were inserted.
24 MR. DAVIS: That's why Mike had ordered the
25 condensate booster pumps shut off, because he was concerned

1 that they were going to continue the cool-down, the cold
2 water, basically, that they were putting back into the
3 reactor, that the cool-down would continue down. That's why
4 he had ordered those shut down to begin with.
5 Also, in that same time frame, Jim Emery was
6 looking at the procedure for minimizing the reactor cool-
7 down by shutting steam line drains and whatever.
8 MR. VATTER: Were you doing anything differently
9 than you normally would have during a cool-down to
10 compensate for the fact that you didn't know where the rods
11 all were?
12 MR. DAVIS: We were trying to maintain pressure up
13 and trying to stop the cool-down, and we were just going by
14 the normal procedural steps for stopping a cool-down. It
15 wasn't anything abnormal that we did.
16 MR. VATTER: So you didn't have any APRM
17 indication on the front panel.
18 MR. DAVIS: Right.
19 MR. VATTER: Did you have IRM indication?
20 MR. DAVIS: No.
21 MR. VATTER: Did you have SRM indication?
22 MR. DAVIS: No, not that I'm aware of.
23 MR. VATTER: How would you have been able to tell
24 if you had a recriticality?
25 MR. DAVIS: Until we got the UPS's back, I'm not

1 sure that you could have told, but the rods -- We didn't
2 have anybody back watching the APRMs at that point, and --
3 [Pause]
4 MR. VATTER: So would it be correct for me to
5 characterize that you did no additional attempts to monitor
6 the reactor power level due to the fact that you didn't have
7 all of the rod position indication?
8 MR. DAVIS: I am not aware of them. Mark Bodoh
9 might be able to enlighten you on that, but that wasn't
10 something that I was aware of.
11 MR. VATTER: Now, Mark Bodoh -- I'm trying to keep
12 everybody straight in my mind.
13 MR. DAVIS: He was the guy at the 603 panel
14 immediately after the scram, after the mode switch was
15 placed in shutdown.
16 MR. VATTER: Where would you monitor source range
17 counts?
18 MR. DAVIS: On 603.
19 MR. VATTER: And you were not working on 603.
20 MR. DAVIS: That's correct; I was not.
21 MR. VATTER: Okay. So I asked that question of
22 the wrong guy, I guess.
23 So if there was monitoring of source range, you
24 wouldn't have been the one doing it.
25 MR. DAVIS: That's right. It would have been Mark

1 Bodoh, and I'm not sure if -- When I was at the 603 panel,
2 there was not indication of the source range, but that's
3 what you would expect at that point. I mean, it was
4 immediately after the scram. I don't know whether that was
5 something that was there the whole time or whether that was
6 something that was lost. I wasn't involved in that, so I
7 don't know.
8 MR. VATTER: Looking back through my notes here it
9 seems like Mark was knowledgeable of source range counts, so
10 he must have been reading it someplace.
11 MR. DAVIS: If he was reading source range counts
12 he had to be reading it right there -- well, it doesn't have
13 to be but I'm sure that he was.
14 You can also read them in the back panel but there
15 was nobody that I know of back there doing that so he was
16 probably watching them, right, on 603.
17 MR. VATTER: Now when you have 603 do you have
18 indications of reactor pressure also?
19 MR. DAVIS: Normally you do, yes.
20 MR. VATTER: Did you in this case?
21 MR. DAVIS: Not until the UPS's were back.
22 MR. VATTER: You said a couple of things about
23 what you thought went well.
24 What do you think could have gone better?
25 MR. DAVIS: If I had been home that day!

1 Well, it's all basically related to the UPS's. I
2 mean it would have been better if we had of had the
3 Gaitronics system available to us.
4 MR. VATTER: For example, the guys that went to
5 the UPS's said that they felt a little bit handicapped due
6 to not being trained.
7 MR. DAVIS: Right.
8 MR. VATTER: And they also felt a little bit
9 handicapped by the procedure wasn't real helpful to them.
10 MR. DAVIS: The procedure assumes that you always
11 have power on the UPS's. That's the whole theory behind
12 having those things and the procedure didn't really lend
13 itself well to starting up from completely dead so they had
14 problems with that.
15 Most of the operators, myself included, are not
16 overly familiar with the UPS's. We have had some training
17 on them and we have asked for more from time to time.
18 MR. KAUFFMAN: You'll get a little more now.
19 MR. DAVIS: I think we are going to get a lot more
20 now but we have had Bob Crandall, the UPS expert. He is not
21 an operator but he is a test engineer and he has come over
22 and talked to us too, but nobody really talked to us about
23 this is what happens if you lose them all.
24 MR. VATTER: I was thinking of possible similar
25 situations in the control room. Were there any times when

1 you thought, gee, you wish you knew more about this or I
2 wish I had a procedure that told me what to do here?
3 MR. DAVIS: Nothing that I can think of
4 immediately. I'm sure that the people that were using the
5 procedures could enlighten you a little bit on that. I
6 basically didn't have, wasn't going through a specific
7 procedure like they were, sort of trying to start and stop
8 pumps at that time. I was more or less directing you take
9 this procedure and go do this. I was more in that capacity
10 at that time.
11 MR. VATTER: And you didn't hear from any of those
12 people that they were having difficulty with that procedure
13 or that they needed additional help?
14 You didn't for example get any requests for tell
15 me what to do, please?
16 MR. DAVIS: The UPS's were a problem. I can't
17 think of anything right now. I'm not saying there weren't.
18 I'm just saying that right now I am not able to think of
19 anything.
20 MR. KAUFFMAN: Were there any organizational
21 aspects that hindered you? I know a little bit in there you
22 mentioned the emergency plan had people out in the turbine
23 building.
24 MR. DAVIS: Evacuating the building, sir, that was
25 -- I guess you could call that a procedural problem. I mean

1 our procedures force us to evacuate the buildings and once
2 we evacuate the buildings to get people back in there we are
3 forced to go through the OSC which is over at Unit 1. You
4 have to send somebody over and they become part of a damage
5 control team and come back and go into the building that
6 way.
7 That did hinder us in our ability to see what was
8 going on in the plant because we weren't able to just send
9 people in to check things out.
10 MR. KAUFFMAN: Was that purely because of the
11 emergency plan or was that because of the continuous air
12 monitors alarm?
13 MR. DAVIS: It was because of the emergency plan.
14 When you sound a site area emergency you evacuate the
15 buildings and as soon as the OSC was staffed up, then we
16 were forced to go through them, so it was actually the
17 staffing of the OSC that was really where it started to have
18 a problem.
19 We had had an initial survey done of the reactor
20 building first. Right away Rad Protection had checked that
21 out and found no unusual radiation levels and then with the
22 problems with the rad monitors in the turbine buildings they
23 did a check in there and found nothing out of the ordinary
24 also and it was about that same time that the OSC staffed up
25 and we were no longer to send people in.

1 For a brief period of time we were trying to send
2 people out with a rad tech and into the buildings but that,
3 soon as the OSC staffed up we were not able to do that any
4 longer.
5 MR. VATTER: And that was based upon the fact that
6 you had called site area emergency?
7 MR. DAVIS: Yes.
8 MR. VATTER: So how was it then that -- maybe I
9 didn't understand correctly -- when Aaron said that he had
10 gone out to the off-gas control panel, is that not in the
11 turbine building?
12 MR. DAVIS: Yes, but like I said it was the site
13 area emergency that triggered the OSC to be staffed up and
14 once the OSC got staffed up, that's where we were no longer
15 able to send people. Until that point you were able to send
16 people out with a rad tech or whatever to check the areas
17 that you need but once the OSC became staffed up, we're no
18 longer able to send people back into the plant and that's
19 the point where Aaron ran into his problems.
20 MR. VATTER: Okay, so it wasn't because of high
21 radiation in the turbine building that he had to leave, it
22 was because of an administrative problem?
23 MR. DAVIS: I believe that Aaron was in the
24 turbine building with a rad tech at that time who was
25 monitoring for -- I believe that Aaron went into the

1 building at the time we were aware of the problem with the
2 rad monitors but that he had gone with a rad tech -- either
3 the rad techs had already been out and surveyed and said
4 that there were no problems or I'm sure, I think he went out
5 with a rad tech also but I believe the OSC that basically
6 was the reason that he came out.
7 MR. VATTER: He heard, well, we know that later in
8 the day, in the morning that the UPS's to the extent
9 possible were shifted back to their normal operating mode?
10 MR. DAVIS: Yes, that is correct.
11 MR. VATTER: A couple of them didn't work right.
12 MR. DAVIS: Yes, that was Alpha, Bravo that did
13 not shift back.
14 MR. VATTER: And it was the OSC personnel that did
15 that work, is that correct?
16 MR. DAVIS: Well, it was a damage control team
17 from the OSC but they have operators on the team. We
18 basically at that point Marty McCormick had taken over as
19 site emergency director from Mike Conway and he is then
20 calling the shots from the TSC and that was his call to,
21 before we got out of the site area emergency, to get power
22 restored to the normal lineup.
23 So when he told us that that was his intent, we
24 had to supply people when -- I mean he can't just say go do
25 this now. He says with people available and this is what we

1 want to do and so we sent people over to the OSC who became
2 part of a damage control team to go back in and realign the
3 UPS's.
4 MR. VATTER: But they got their instructions from
5 the control room.
6 MR. DAVIS: As far as which ones to go first -- I
7 mean the team was sent from outside the control room. It
8 wasn't the control room that sent the team. The team came
9 as part of the package. We were just concerned for our
10 operator to go down.
11 MR. VATTER: I may not have expressed it very
12 well.
13 What I am getting at is the chain of command
14 associated with the decision to normalize the UPS's.
15 Marty McCormick made the decision to do that.
16 MR. DAVIS: Yes.
17 MR. VATTER: And then his instruction to go
18 directly to the OSC?
19 MR. DAVIS: His instruction was that we have a
20 damage control team standing by when you have an operator
21 available. We want him to hook up with his team and attempt
22 to realign the UPS's to their normal power supply.
23 MR. VATTER: And to whom was Marty's instruction
24 directed? To the control room?
25 MR. DAVIS: To Mike Conway, SSS.

1 MR. VATTER: Okay, so the actual dispatch of that
2 damage control team to normalize the UPS's was under direct
3 instructions from Mike Conway?
4 MR. DAVIS: Who had been instructed by Marty,
5 yes.
6 MR. VATTER: So Marty wasn't going around the
7 control room and giving operators instructions to do things
8 without --
9 MR. DAVIS: No. Marty wasn't in the control room.
10 He was in the TSC.
11 MR. VATTER: Yes, that's what I mean. He was not
12 bypassing the control room to get --
13 MR. DAVIS: No. They don't bypass the control
14 room. They work through us but they are the ones that call
15 the shots for the recovery and we --
16 MR. VATTER: And if Mike Conway thought it was not
17 a good idea, he would talk it over with whoever gave him the
18 instruction.
19 MR. DAVIS: Yes.
20 MR. VATTER: I can't think of anything else to
21 ask you, Mark. Been trying to wrack my brains because we
22 don't want to have to call you in again with you being on a
23 vacation and everything.
24 MR. DAVIS: Well, if I have to come back, I have
25 to come back.

1 MR. VATTER: I've tried to explore areas that I
2 don't really think are problems but that we might have
3 interest in later.
4 MR. KAUFFMAN: Site emergency planning is outside
5 our charter but where it touches on the crew response we are
6 interested and then at some point we draw the line and say
7 there is an EP inspection that is coming out of this event
8 and we're going to let them follow the predominant part of
9 it but where it did impact on the crew, we're trying to get
10 an understanding.
11 We have been asking all the questions -- Bill has
12 -- and if you have anything now that you would like to add
13 or comment on, it's your opportunity.
14 MR. DAVIS: Okay. I guess I don't have much to
15 comment on. It's just I hope -- probably you guys are
16 disappointed with what I have got to say, because I wasn't
17 at that -- you know, things happened right away and right
18 immediately after the event occurred I was basically able to
19 step back from the panels and direct other people to do, to
20 perform various functions so more of what I was doing at
21 that point was just sending people out and making sure that
22 we did continue in the right direction and had a normal, as
23 well as you could, a normal shutdown and take care of what
24 needed to be done. You know, more forward thinking than
25 backward, so I know it's tough for you guys to think that

1 I'm the main player and not be able to get the answers from
2 me that you are looking for.
3 MR. VATTER: I'm not sure that that is a
4 disappointment to us.
5 MR. KAUFFMAN: Sometimes people have bits and
6 pieces and we are trying to get all the bits and pieces and
7 piece it together.
8 MR. VATTER: Sometimes we ask a guy a question
9 when we don't really think he knows very much but then there
10 is a chance that he might. Never can tell who is going to
11 have the missing piece.
12 MR. DAVIS: Right.
13 MR. KAUFFMAN: So that concludes the interview.
14 [Whereupon, at 3:42 p.m., the taking of the
15 interview was concluded.]
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REPORTER'S CERTIFICATE

This is to certify that the attached proceedings before the United States Nuclear Regulatory Commission

in the matter of:

NAME OF PROCEEDING: Int. of EUGENE "MARK" DAVIS

DOCKET NUMBER:

PLACE OF PROCEEDING: Scriba, N.Y.

were held as herein appears, and that this is the original transcript thereof for the file of the United States Nuclear Regulatory Commission taken by me and thereafter reduced to typewriting by me or under the direction of the court reporting company, and that the transcript is a true and accurate record of the foregoing proceedings.

JON HUNDLEY
Official Reporter
Ann Riley & Associates, Ltd.