

ORIGINAL

07-105A-91

OFFICIAL TRANSCRIPT OF PROCEEDINGS

Agency: Nuclear Regulatory Commission
Incident Investigation Team

Title: Nine Mile Point Nuclear Power Plant
Interview of: JAY LAWRENCE

Docket No.

LOCATION: Scriba, New York

DATE: Wednesday, August 21, 1991

PAGES: 1 - 34

ANN RILEY & ASSOCIATES, LTD.

1612 K St. N.W., Suite 300

Washington, D.C. 20006

(202) 293-3950.

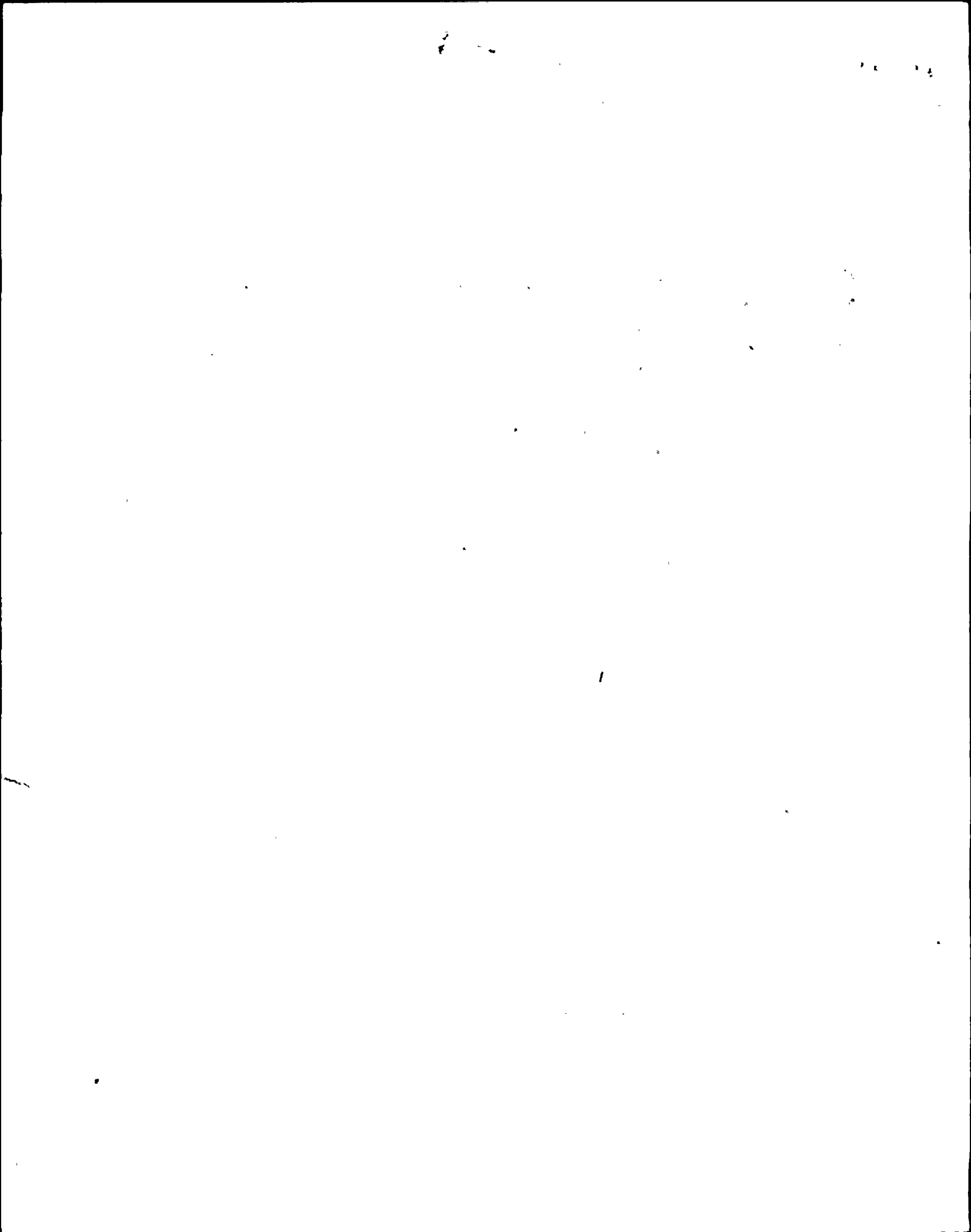
9305070297 911031
PDR ADOCK 05000410
S PDR

305070297

11 11 11 11 11

11 11





UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
INCIDENT INVESTIGATION TEAM

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

Interview of :
JAY LAWRENCE :
(Closed) :

Conference Room B
Administration Building
Nine Mile Point Nuclear
Power Plant, Unit Two
Lake Road
Scriba, New York 13093
Wednesday, August 21, 1991

The interview commenced, pursuant to notice,
at 1:35 p.m.

PRESENT FOR THE IIT:
Michael Jordan, NRC
John Kauffman, NRC
Jack Taylor, NRC

2.1

1.1



1

2

P R O C E E D I N G S

3

[1:35 p.m.]

4

5

6

MR. JORDAN: It's August 21st, 1991. It's about 1:35 in the p.m. We are at the Nine Mile Point, Unit Two, in the P Building.

7

8

We are conducting interviews concerning a transient that occurred on August 13th, 1991.

9

10

My name is Michael Jordan. I am with the U.S. NRC out of Region III.

11

12

MR. KAUFFMAN: My name is John Kauffman. I am with the NRC out of headquarters, AEOD.

13

14

MR. LAWRENCE: My name is Jay Lawrence. I am a nuc auxiliary operator E from Nine Mile Point, Unit Two.

15

16

MR. JORDAN: And sitting in on the interview also is Jack Taylor out of Washington.

17

18

Okay, Jay. Why don't you just go ahead and give us a background of what your experiences are?

19

20

MR. LAWRENCE: I am a licensed operator on the Unit Two reactor. I believe it was since 1985 when I got my Unit Two license. I was previously licensed on Unit One.

22

23

Prior to that I was in the Navy for six years.

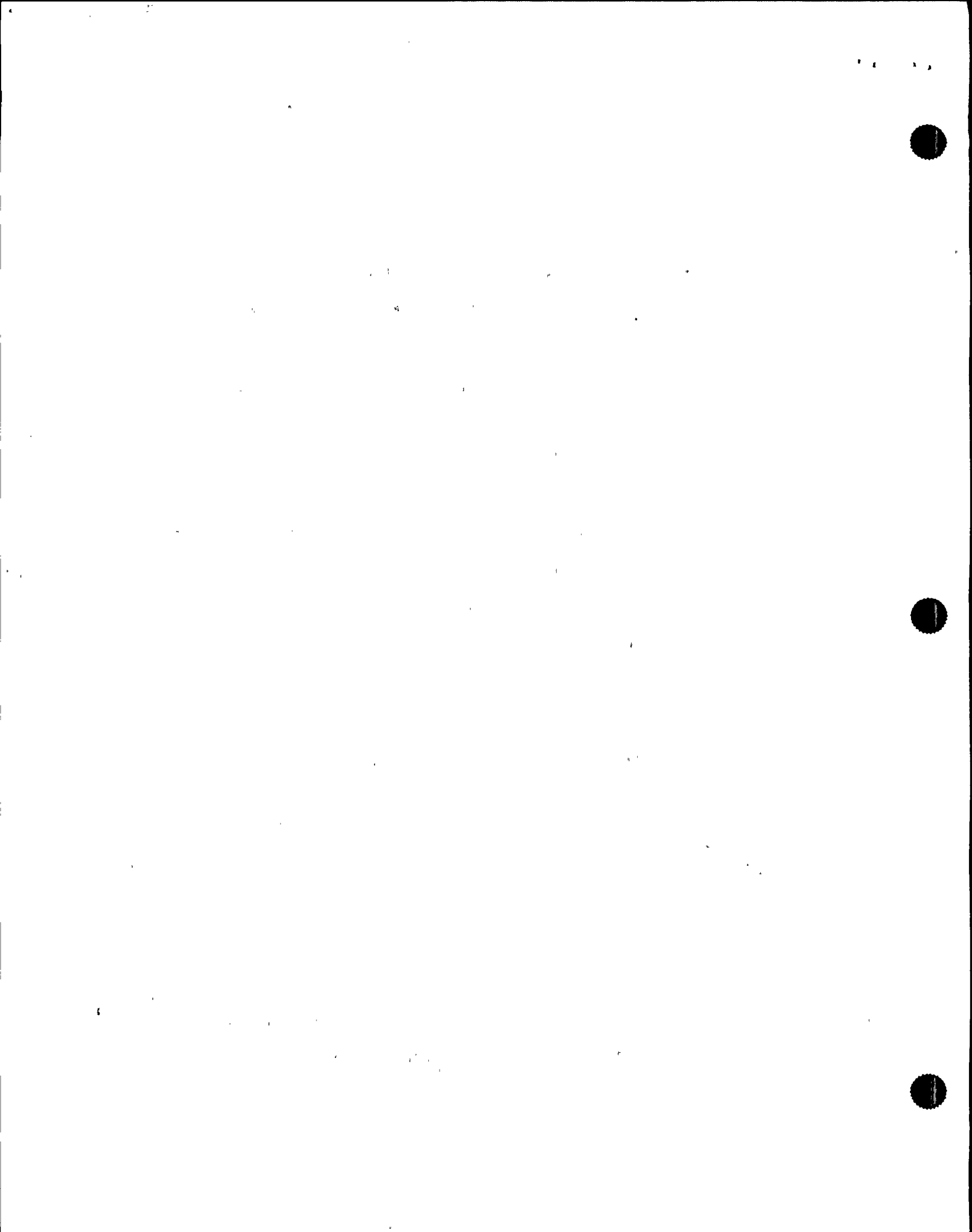
24

I have been with the company for eight years now.

25

MR. JORDAN: Navy Nuc. reactor operator?

MR. LAWRENCE: Yes, I was a Navy - Nuc.



1 MR. JORDAN: Okay, Jay. In your own words, why
2 don't you tell us -- were you on day shift? Were you on the
3 mid-shift? Which shift were you on?

4 MR. LAWRENCE: I was coming in on the day shift to
5 relieve the night shift when this happened.

6 MR. JORDAN: Why don't you, in your own words,
7 just tell us when you came through the gate what you saw.

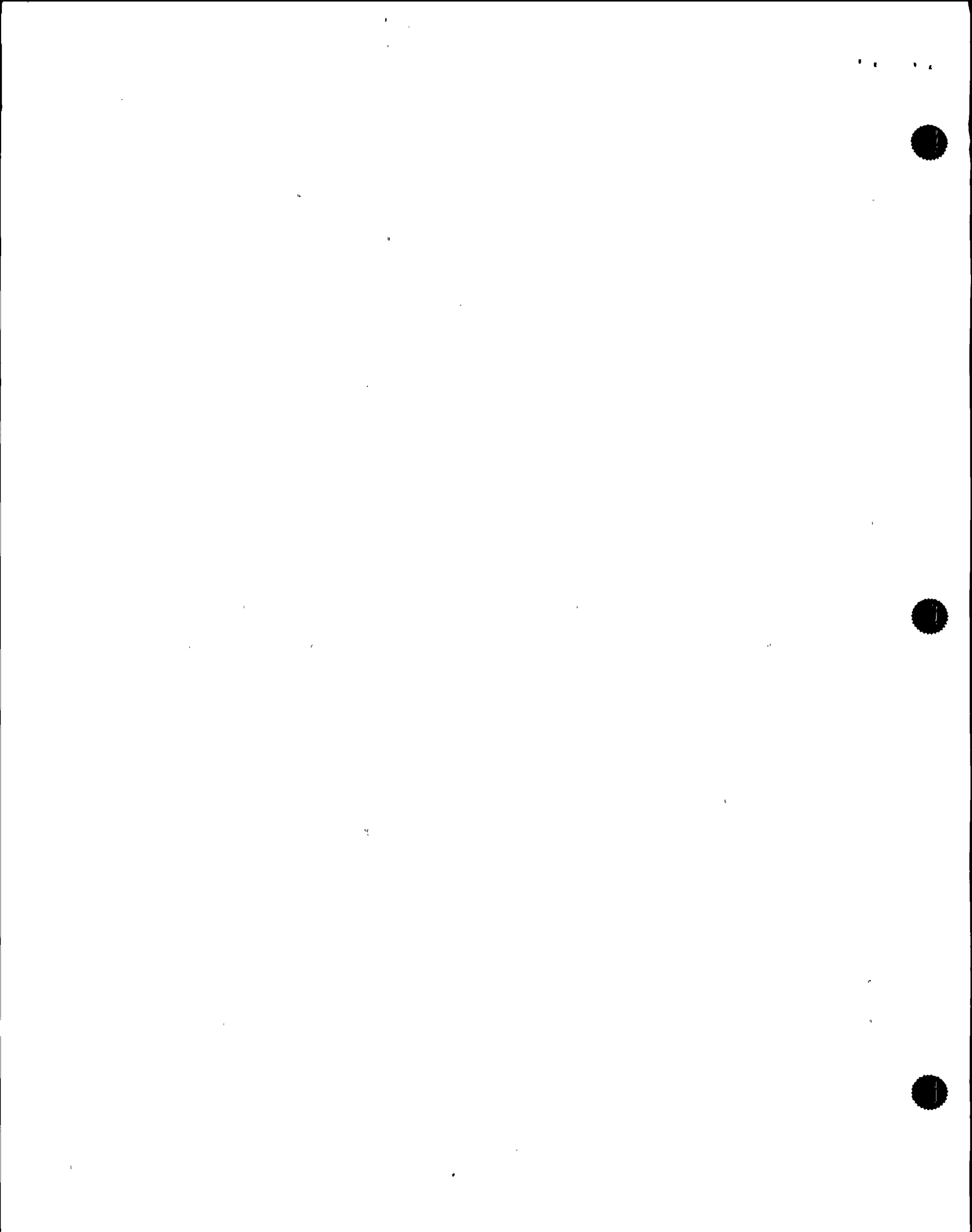
8 MR. LAWRENCE: When I came in, I was going down
9 the walkway and I was just going into what we call the
10 Cardox room.

11 MR. JORDAN: Can you give us some idea what time
12 it was? I'm sorry.

13 MR. LAWRENCE: Oh, it was around six o'clock, and
14 I had just heard -- I heard Unit One's evacuation alarm go
15 off, which I had originally thought that somebody had like
16 hit the wrong bottom or something and I didn't hear an
17 announcement after that.

18 I went into the locker room to change my shoes --
19 oh, another thing that -- I noticed that there was no,
20 usually there's operators there waiting to turn over to the
21 day shift the various buildings and I noticed that they
22 weren't around.

23 I went into the locker room to change my shoes, my
24 hard hat, what-not, and the guards were talking about the
25 plant scram so I kind of like stepped up my preparation,



1 walked outside the locker room and I ran into the firemen
2 who were telling me that some of their fire panels had gone
3 dead and they were concerned about the lighting in the
4 buildings were out.

5 I proceeded to go up the stairs --

6 MR. JORDAN: Any lighting problem when you went up
7 the stairs?

8 MR. LAWRENCE: No. No, you could pretty well see
9 good going up the stairway.

10 MR. JORDAN: Which stairway did you use?

11 MR. LAWRENCE: I used the control -- the one by
12 the elevator there they call the -- it's the one that goes
13 up to the Rad Protection office. I guess that's the best
14 way to explain it. It's sort of part of the aux service
15 building.

16 MR. JORDAN: Aux service building?

17 MR. LAWRENCE: Aux service building, yes.

18 MR. JORDAN: By the elevator?

19 MR. LAWRENCE: Yes -- I'm sorry, did I say the
20 stairs?

21 MR. JORDAN: Yes.

22 MR. LAWRENCE: I went up the elevator.

23 MR. JORDAN: You went up in the elevator?

24 MR. LAWRENCE: Yes. I did go up in the elevator.

25 MR. JORDAN: Aux service building elevator.



1 MR. LAWRENCE: Yes.

2 MR. JORDAN: And the elevator was lit?

3 MR. LAWRENCE: Yes. The elevator was working,
4 which was kind of strange also.

5 MR. JORDAN: Lit and working.

6 MR. LAWRENCE: The lights were out -- I mean --
7 you could tell there were some lights out.

8 MR. JORDAN: But in the elevator the lights were
9 lit or the lights were out?

10 MR. LAWRENCE: Yes. The lights -- I believe they
11 were lit. Yes, they were lit. I definitely would have
12 noticed that but I got up to the top floor and off the
13 elevator, went through the first set of double doors and I
14 ran in Dave Hanczyk with a radio in his hand going down the
15 hallway. At the time I didn't know where he was going but he
16 said they need you in the control room.

17 I went into the control room, walked in the back
18 way, as we call it, down through the back panels like I
19 normally do, and walked into the control room envelope, and
20 that's when I first noticed that the full core display had
21 no light indication at all.

22 Mike Conway was standing at the OP -- where the
23 EOPs were -- and Mark Davis, who was the CSO, was there and
24 the DROs also were there with the exception of Dave Hanczyk
25 who had left.



1 What I did was step back behind the barriers to
2 get out of the way because I had no inkling of what was
3 going on and I was more a hindrance than a help at that
4 particular moment, just to sit back and stay out of their
5 way.

6 So I sat back and kind of like, you know, stood
7 with the other guys that were there, and I believe it was
8 Mark first asked me if I would go with one of the operators,
9 the non-licensed operators to clear some markups they had
10 hung on the B RHR system on the midnights for work that day.
11 Then Mike Conway asked me to go down and see about restoring
12 the UPS, the uninterruptable power supplies.

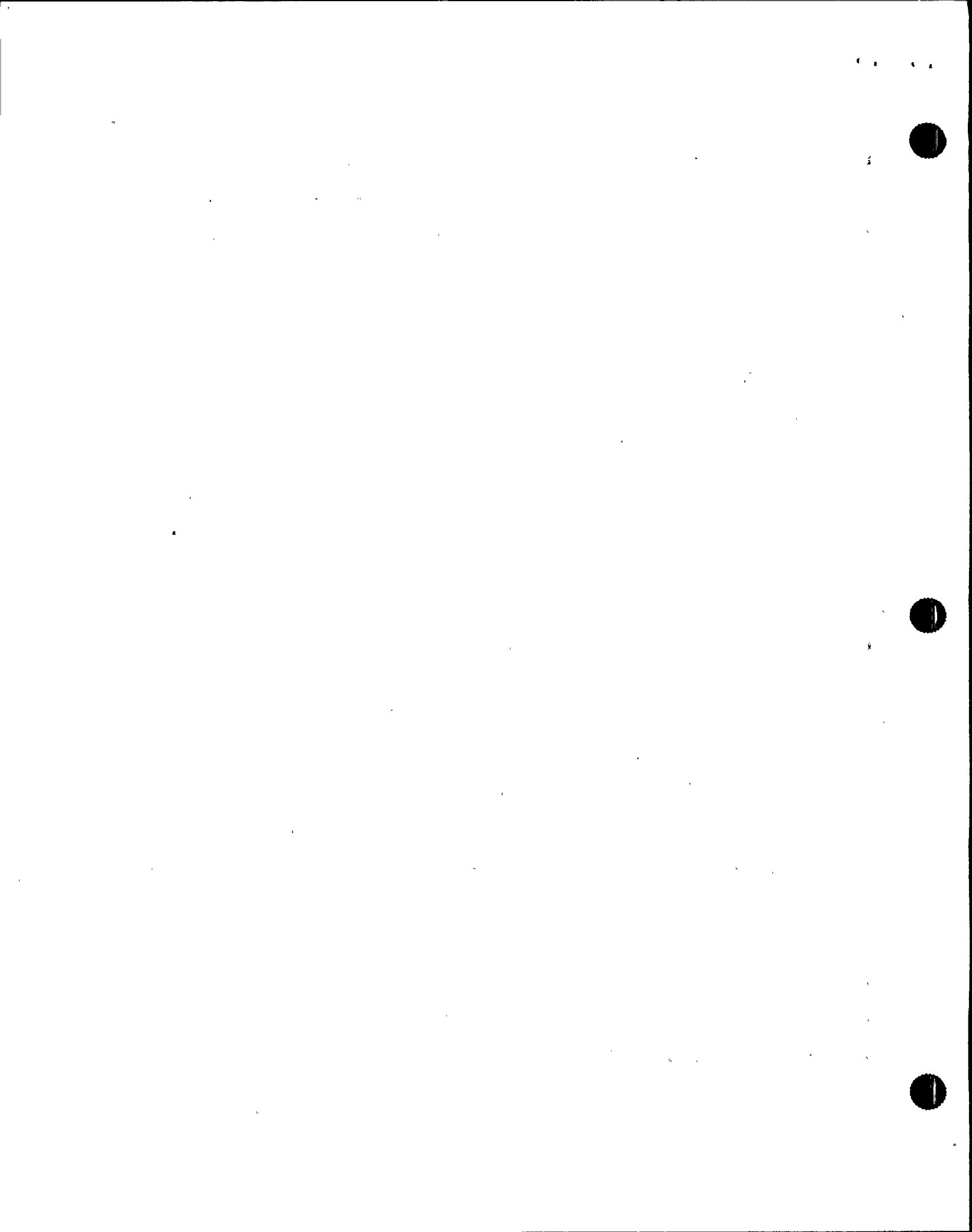
13 At that point Mike Garbus took the -- or said that
14 he was going to go down, he was going to take Bob Spooner
15 with him down to the UPS, so they both left.

16 The markups were grabbed by the auxiliary
17 operator. At that point he had asked me for a set of
18 containment parameters, like drywell pressure and
19 suppression pool level, those type of things, so being at
20 the point that that seemed like that's what he wanted the
21 priority so I did that.

22 Got him some numbers --

23 MR. JORDAN: Any abnormal ones?

24 MR. LAWRENCE: Pretty much the drywell. The
25 drywell was at like .6 at that time and let's see --



1 suppression pool level was fine. The drywell air
2 temperatures -- there were a couple that were reading kind
3 of high. They were like 165. The majority of them were
4 reading less than 150, which is the EOP.

5 Mike and I discussed it and he determined that we
6 were not in EOP entry condition.

7 MR. KAUFFMAN: Which instruments did you use to
8 get that information?

9 MR. LAWRENCE: They were back on the 870 series
10 panels on the chart recorders and there is also -- there are
11 indicators above them also, which corresponds to some of the
12 recorders.

13 MR. JORDAN: All working?

14 MR. LAWRENCE: Yes, they were working.

15 MR. JORDAN: They were working?

16 MR. LAWRENCE: Yes.

17 MR. JORDAN: Fine.

18 MR. LAWRENCE: And also Mike Eron and myself were
19 discussing trying to restart drywell cooling and taking the
20 overrides to override, to restore it, because we had lost it
21 but I don't remember but it was reminded to me that -- I
22 can't remember whether it was in our discussion or with
23 maybe Mark or Mike that there are isolators in that system
24 that are de-energized which won't allow you to restart them
25 no matter what you do.



1 That was the extent of what I was doing until the
2 power got back. I tried to stay back out of his way when I
3 wasn't throwing parameters at him because he was trying to
4 get, you know, other information and send out other
5 information at that time. That was basically what I did
6 till they got the power back.

7 MR. JORDAN: And after they got the power back?

8 MR. LAWRENCE: I did a bunch of different things.
9 I was -- I cleaned up the boards as far as the electrical
10 plant, as far as matching up the house service transfer, red
11 flagged the breakers that were shut and green flagged the
12 ones that were open, the generator breakers, the exciter
13 breakers, put them in green flag.

14 I was watching the turbine coast-down and checking
15 to make sure that went on in the turning gear and it also,
16 when we got the annunciators back I noticed -- and the power
17 back -- noticed that the off-gas inlet pressure was pegged
18 high. We were going to send somebody out there but that was
19 at the point where we were telling everybody to stay out of
20 the turbine building.

21 Oh -- it might have been prior to that but anyway
22 we were discussing it, Dave Hanczyk and myself were
23 discussing trying to get it back realizing that maybe the
24 103 valve went shut caused by the UPS loss. Well, we didn't
25 know but we saw the annunciator and for off-gas radiation,



1 high, we determined that we couldn't restore off-gas and
2 that was leading to going into starting up the mechanical
3 vacuum pumps or the hoppers to use vacuum or keep our vacuum
4 and put the aux boilers on - use the aux boilers to supply
5 the reboilers for gland seam. I got involved with that
6 also.

7 I was pretty much sort of jumping around that when
8 the turbine coasted, finally coasted down to zero and the
9 turning gear didn't engage. They tried to engage and ended
10 up tripping off the gear, so we were -- I spent a lot of the
11 morning trying to determine why it wouldn't go on the gear
12 and we did various things to see why it would-- you know,
13 reset the breaker.

14 I went down, had to show one of the non-licensed
15 operators how to re-charge the breaker. The turning gear
16 breaker is one of the, in fact it is the only breaker, it's
17 a 600 volt breaker that has a charging motor but is not
18 electrically connected and you have to manually recharge the
19 breaker down at the switchgear, so I went down there and
20 R.J. Reynolds was helping me with that. He was also in the
21 -- he was controlling pressure with the bypass valves at the
22 time so he was right in that vicinity to give us a hand with
23 that.

24 We tried different things. Well, we couldn't send
25 anybody out to see if the turning gear or the turbine was



1 actually turning -- maybe the valves were leaking by, which
2 has happened in the past, or whether it was at a dead stop.

3 We tried, thinking it was -- well, our indications
4 were sort of leading us to believe that it was trying to
5 start it, and then was tripping off because of the high
6 speed, thinking that it was kicking out of the -- off the
7 turbine, thinking it was in the process of a turbine roll,
8 so we, for the procedure we pulled lift pumps off and we
9 lowered the oil temperature to see if that would help give
10 us some drag, until we went out into the turbine building.

11 I went out myself as soon as they had cleared the
12 way to let people out there, and I went out to see that the
13 turbine wasn't moving at all and I stayed out there trying
14 to -- I tried to manually engage it.

15 MR. JORDAN: What do you use to determine that?
16 How do you know the turbine is not rotating?

17 MR. LAWRENCE: Oh, the shaft, the shaft was
18 stopped. The shaft wasn't moving.

19 MR. JORDAN: The output shaft to the generator?

20 MR. LAWRENCE: No, no. The turbine shaft itself
21 was --

22 MR. JORDAN: Where did you see that at?

23 MR. LAWRENCE: The turbine. I was looking right
24 at the turbine.

25 MR. JORDAN: Well, your turbine isn't behind



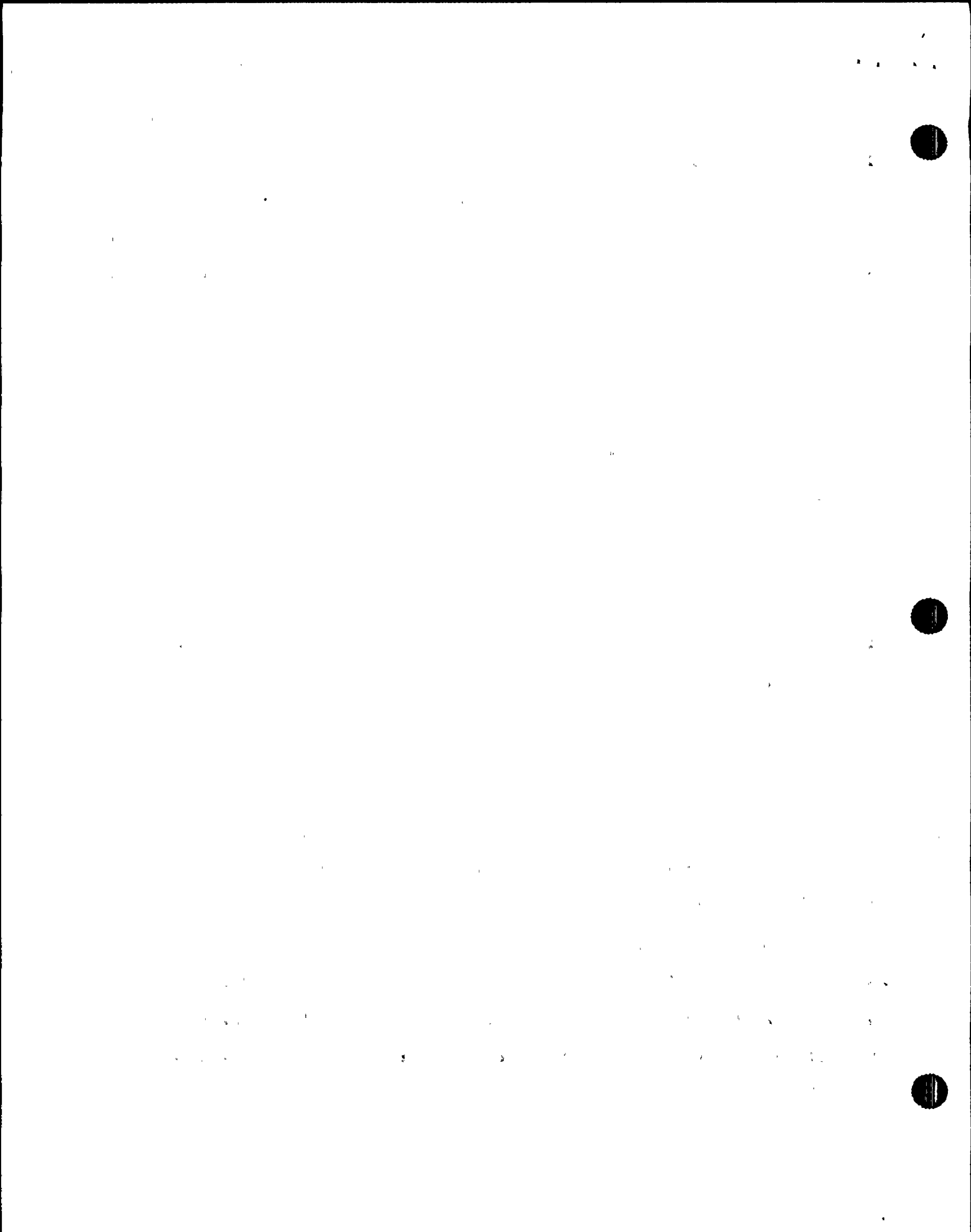
1 concrete walls?

2 MR. LAWRENCE: Oh, yes, but it was -- Rad
3 Protection had surveyed the area and I had checked with them
4 prior to going in there and they said it was okay to go in.

5 At that point whenever we sent an operator we made
6 sure that -- because at that time our indications were not
7 good as far as radiation levels -- because of the power
8 failure, so Mike -- well, first of all, the fact that I got
9 involved with trying -- the steam supply valve from the aux
10 boiler to the reboiler was not working, the air skid to it
11 was off and air was leaking to the valve itself and it
12 wouldn't stay open. We've had this problem in the past.
13 And we're going to have an operator go out and --

14 MR. JORDAN: Could you go over that one more time?
15 Which valves to where?

16 MR. LAWRENCE: Oh, the -- it's the -- the valve
17 number itself is 2AAS -- ASSS, I'm sorry, AOV-145. It's the
18 aux boiler supply to the 145. It's the aux boiler supply to
19 the reboiler and we were trying to get that open. I was
20 going to send an operator out to try to get it open, well,
21 to get it to stay open and we had to call him back because
22 that was when we -- that was when Mike determined that
23 nobody should be in the turbine building at that time. That
24 was before the thing with the turbine started and then it
25 was shortly after that that the turbine stopped going and



1 tried to go on the turning gear.

2 MR. KAUFFMAN: Do you have an approximate time for
3 when you're talking about?

4 MR. LAWRENCE: Well, I remember -- I remember
5 distinctly that the turbine was around 20 minutes to quarter
6 of seven when it first tried to go on the gear.

7 MR. KAUFFMAN: Can I back track you a little bit?

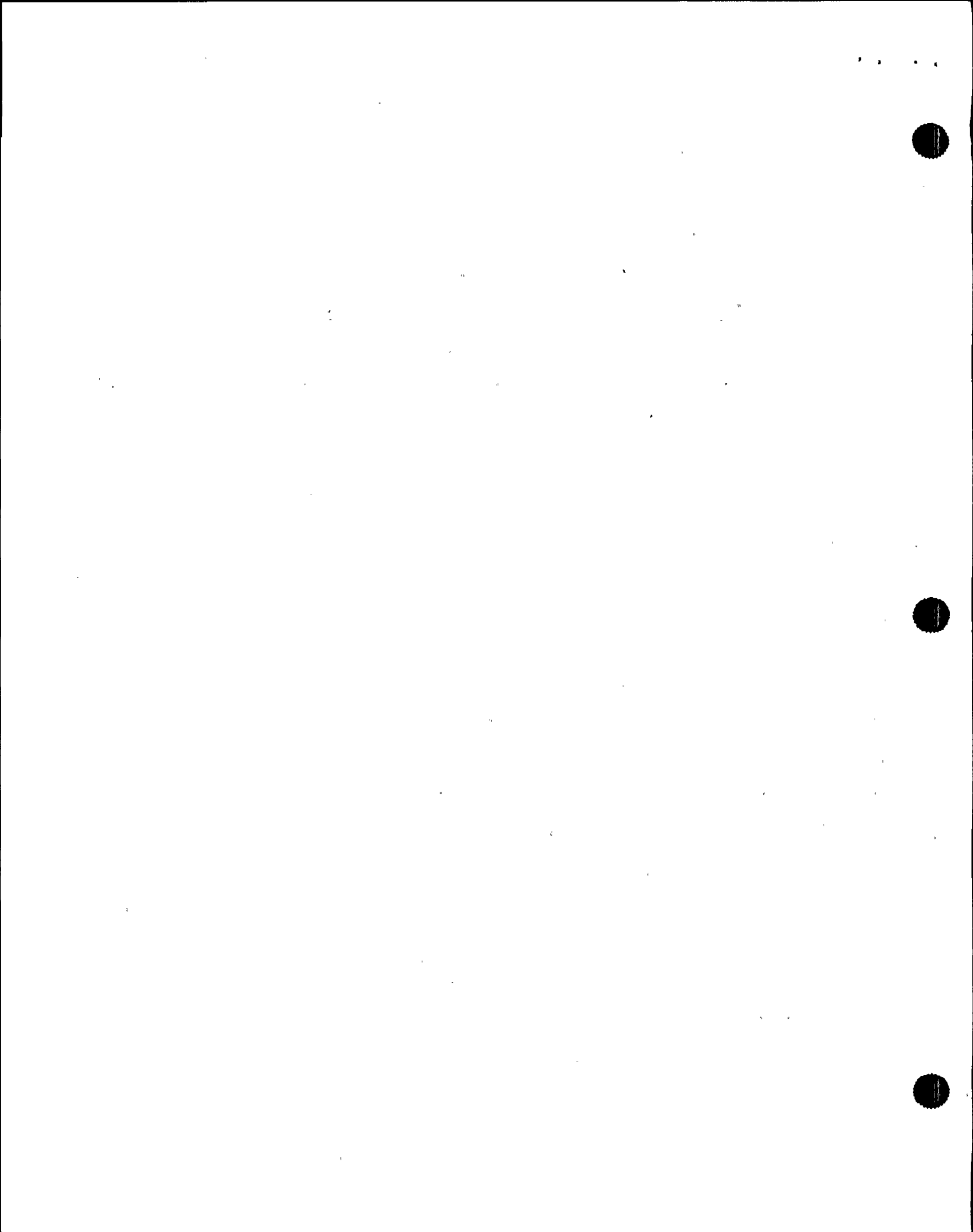
8 MR. LAWRENCE: Sure.

9 MR. KAUFFMAN: I would just like to pick your
10 memory a little bit about the detailed indications you had
11 when the turning gear wouldn't engage, for example, the
12 turbine speed zero alarm come in -- or any other indications
13 you might have seen?

14 MR. LAWRENCE: Well, we don't really have a
15 turbine zero speed alarm.

16 MR. KAUFFMAN: Okay.

17 MR. LAWRENCE: It was basically -- I mean, there's
18 not an alarm that tells you to stop. That's why it was
19 there because I had a feeling in the -- you know, the way
20 everything was going, it might be forgotten. So, I just
21 happened to be there watching it and I would periodically
22 look at it. And it -- and right around, well, less than 100
23 RPM's anyway, it's kind of shaky as to what, you know, the
24 actual speed is. I mean, especially when you get down into
25 the ten RPM range, but I saw the gear try to engage and



1 shortly after that the breaker popped -- opened, and we lost
2 -- what happened, all the lights went out on the board for
3 the turning gear.

4 MR. JORDAN: So you were working on trying to get
5 it back?

6 MR. LAWRENCE: Right. Oh, no and go forward, --
7 well, I was working on it for a while and I believe it was
8 Craig Shawcross, he was the -- he was one of the -- I guess
9 he's a vendor rep, or one of our engineers. I'm not really
10 sure what his -- what his title is, but he -- they got a
11 hold of him and he was in the control room asking us
12 questions about, you know, what we saw, and stuff like that
13 and in the interim we were getting ready to start up the
14 cleanup system and --

15 MR. JORDAN: By this time have you gotten to
16 turning gear around?

17 MR. LAWRENCE: No. As a matter of fact, no. The
18 turning gear never get engaged until -- I believe it was
19 like 3:30 in the afternoon.

20 MR. JORDAN: Were you taken off of that job?

21 MR. LAWRENCE: Yes. Jim Burr was working on it
22 and he had some non-licensed operators working with him.

23 MR. JORDAN: Okay. So you got taken off the
24 turning gear?

25 MR. LAWRENCE: Yes.



1 MR. JORDAN: And the aux boiler was -- you were
2 put on that before the turning gear, did you say, or after?

3 MR. LAWRENCE: Yeah. I kind of jumped from one to
4 the other.

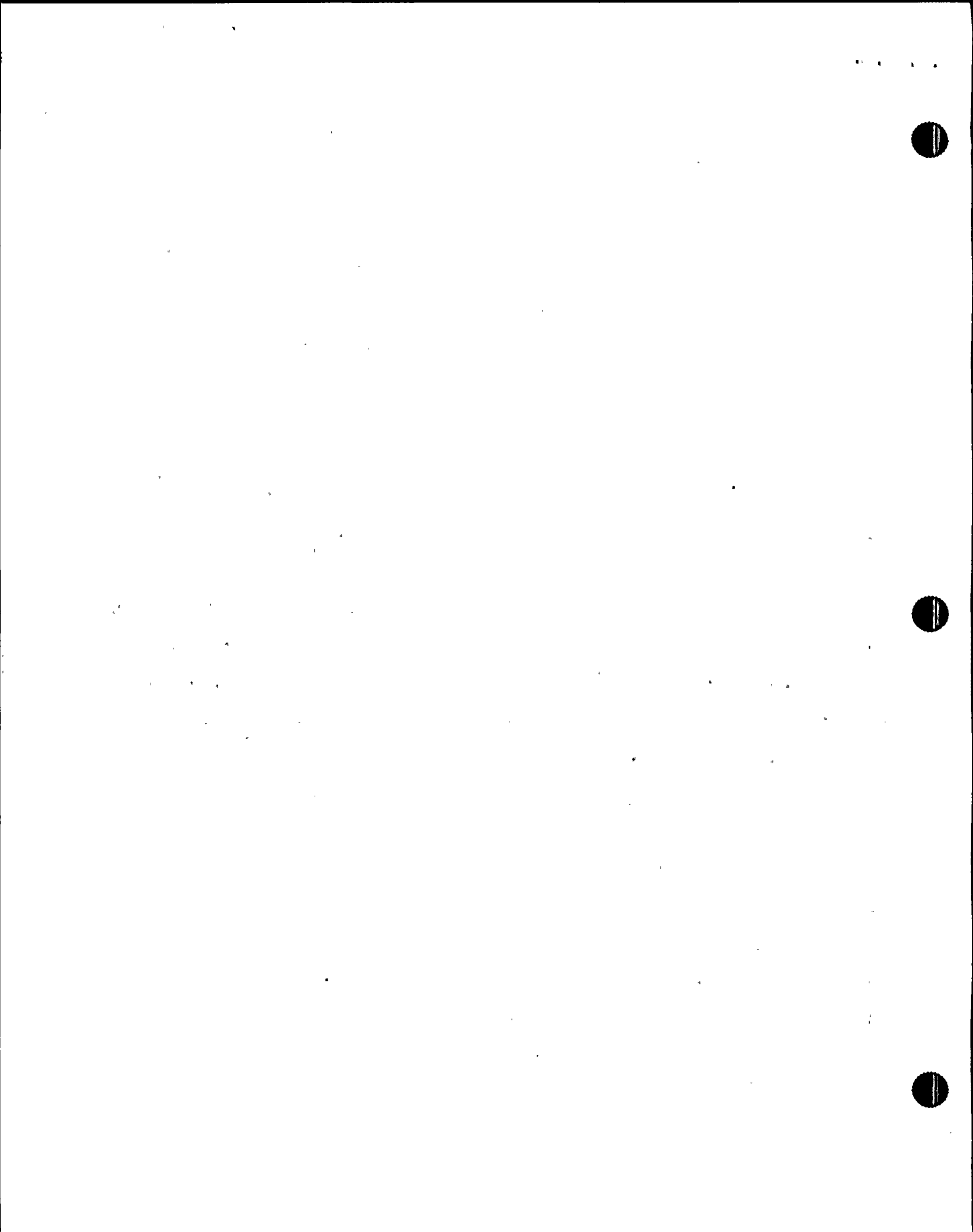
5 MR. JORDAN: Okay. So the aux boiler you were
6 signed in first and there was a problem with getting the
7 valve opened?

8 MR. LAWRENCE: Right.

9 MR. JORDAN: And what did you do there? Did you
10 get the valve opened or did you not get the valve opened?
11 What happened on that?

12 MR. LAWRENCE: Well, I wasn't actually in --
13 present when they got the valve opened. I had sort of like
14 turned it over to one of the other -- I believe it was Jim
15 Emery who's -- he's an "E" on my shift and he got -- he got
16 him and Dan Hulme which was the operator that was going to
17 go out -- he did eventually go out and they took care of it.
18 I guess they -- the air skid was not running. They started
19 the air skid and got the valve -- they had to pin the valve
20 open which we've had to do in the past, to hold it open.
21 But I didn't get to that part because I kind of got shifted
22 back and forth.

23 I had started the procedure -- I had lined up some
24 of the valves on the panel and I don't recall -- it might
25 have been Mark Davis, I'm not sure that they actually



1 switched me over to the turning gear, because I brought it
2 up to him that the turning gear didn't go on the jack. So
3 the panel -- well, the auxiliary steam system and the
4 turbine are right near each other, so, while I was messing
5 with that I looked at the -- you know, I was watching the
6 turbine speed, so that's how I sort of got shifted.

7 MR. JORDAN: So you went from the aux boiler to
8 the turning gear --

9 MR. LAWRENCE: And then --

10 MR. JORDAN: -- and then?

11 MR. LAWRENCE: -- I went to -- they were getting
12 ready to restart cleanup and I was watching right at the
13 water level for Jim Emery when he was getting ready to start
14 that up. And so I -- I was watching the level on 603 when
15 he started the pump and the level was all right, but the
16 cleanup system ended up eventually isolating on the
17 differential flow.

18 Jim was checking the timers and I went over to --
19 I looked and we had a high amount of flow on the -- it was
20 about 800 gallons a minute on the total system flow and
21 tried to shut the dement bypass to bring the flow down. And
22 it did eventually come down, but there was like 10 seconds
23 left on the timer. I didn't want to shut it all the way
24 because if I had done that it would have deadheaded the
25 pump. And I didn't want to do that. And it did come down



1 like 200 gallons a minute and then shortly after that it
2 isolated and then the pump tripped.

3 Oh, I did forget to mention that after we got
4 power back the first thing I did do was restore drywell
5 cooling. I did that. And then we were successful.

6 MR. JORDAN: You were successful getting zero
7 locks that weren't energized that once you got the power
8 back --

9 MR. LAWRENCE: We got the isolator -- well, we got
10 power back to the isolators.

11 MR. JORDAN: Isolators.

12 MR. LAWRENCE: And then --

13 MR. JORDAN: Any problems doing that --
14 difficulties?

15 MR. LAWRENCE: No. No, we -- I believe we put the
16 switches -- there are override switches we put in override
17 just as a precaution in case it didn't work, but we later
18 took them out because there was no need to have them. But
19 they started up and containment pressure came down -- down
20 to normal levels and it was not very long.

21 MR. JORDAN: Okay. So you stored the drywell
22 coolers?

23 MR. LAWRENCE: Yeah. That was before -- yeah,
24 that was before I even did the aux boiler.

25 MR. JORDAN: Right. Drywell coolers, aux boiler,



1 turbine gear, dredge water cleanup, and you got to the point
2 where it isolated or tripped on high delta flow?

3 MR. LAWRENCE: Yes.

4 MR. JORDAN: It was about 200 GPM?

5 MR. LAWRENCE: Yes. And then, I believe it was
6 shortly after that, I -- around 10:30 was when -- was when I
7 was on -- I had relieved Dave Hanczyk, he was my relief, my
8 normal relief, so they could go home. It might have been a
9 little longer that -- he was on the damage control team for
10 the UPS which they had -- no, they had asked me again, in
11 the interim -- Mark had asked me if I would go down with Bob
12 Crandall, I would walk with the team to help them trouble
13 shoot the UPS and I had -- I brought the suggestion that
14 they're on maintenance, maybe we ought to -- should leave
15 them -- you know, I mean, we have a power supply to them,
16 maybe we shouldn't mess with them, maybe see the possibility
17 of loosing them again.

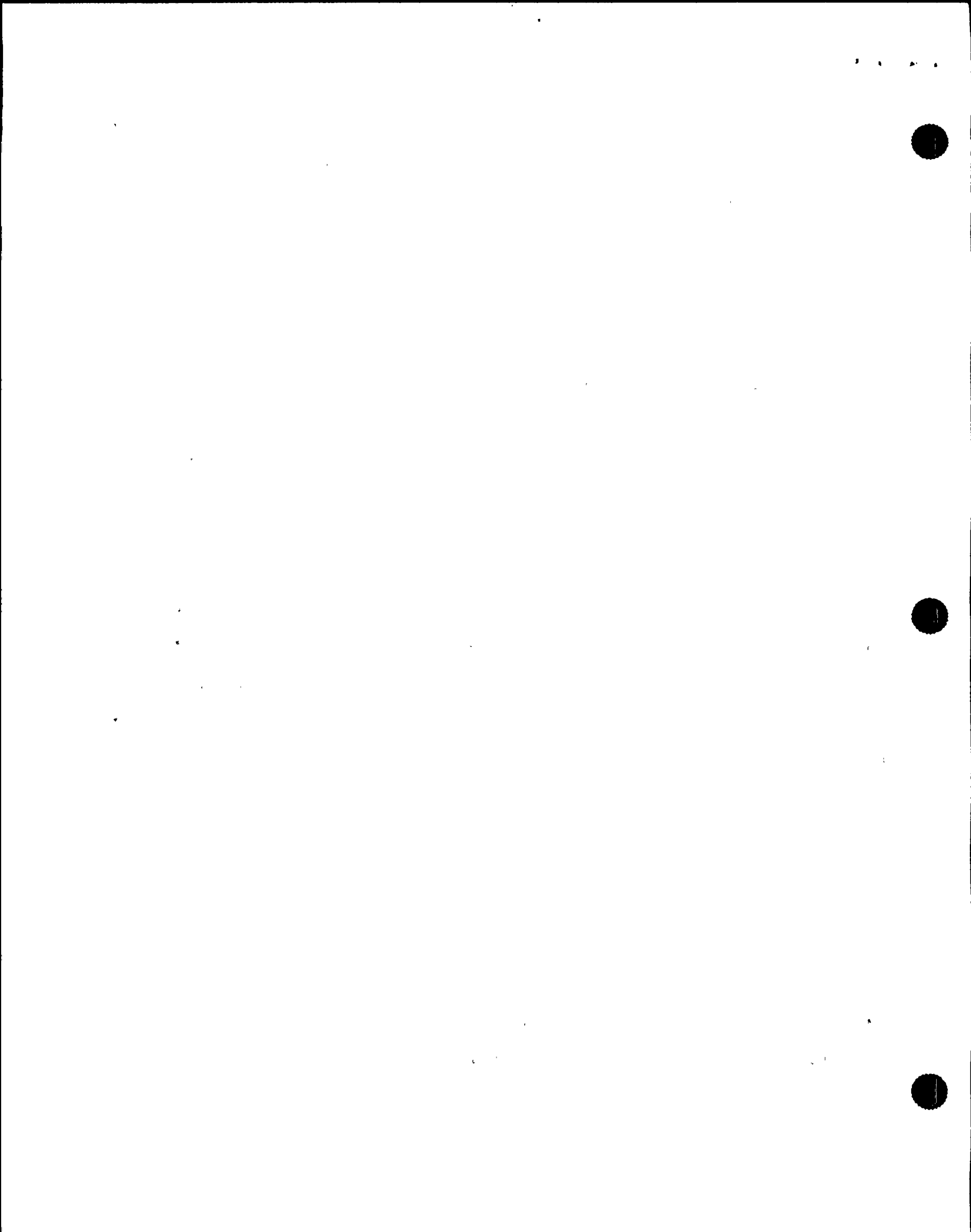
18 So he kind of like discussed it with Mike.

19 MR. JORDAN: Who did you bring this up with?

20 MR. LAWRENCE: Mark Davis the CSO.

21 MR. JORDAN: Okay.

22 MR. LAWRENCE: And what eventually happened is
23 Dave Hanczyk ended up going down with the team so I got
24 relieved when they finally decided for our shift to take
25 over it was -- it was probably after 10:30 because it was --



1 because he was down there -- he couldn't leave until the
2 team was done, I guess. I mean, they wouldn't allow him to
3 be relieved until he was done down there with the damage
4 control team. But it was 10:30 approximately, quarter to
5 11, somewhere and so I was -- had basically control room
6 duties and I got involved with the drywell vacuum breaker
7 surveillance because we had to -- we had SRV's lifting so we
8 had to -- anytime you send energy you're required to
9 perform this surveillance test on the general vacuum
10 breakers, so I did that.

11 MR. KAUFFMAN: When is that required?

12 MR. LAWRENCE: Well, it says two hour -- I believe
13 it's two hours after -- it says energy release to the pool.

14 MR. KAUFFMAN: So that would be an SRV RCIC?

15 MR. LAWRENCE: Yeah. It could -- yes. You could
16 say that. So they had -- I was working on that and
17 completed that surveillance and --

18 MR. KAUFFMAN: Do you recall about when that was?

19 MR. LAWRENCE: Well, it was -- I know -- I can't
20 remember when I started it, but I was informed that it had
21 to be done before noon. And it was done before noon.
22 Between 11:30 and 12:00.

23 And then I did a short -- I guess there was a
24 short surveillance that we had to perform on -- it was a
25 PMT, I believe, for RHS MOV-40 Alpha to time that for a PMT,



1 a post maintenance test, and I did that with Jim Emery. We
2 did that.

3 MR. KAUFFMAN: Do you recall if that valves non-
4 name is?

5 MR. LAWRENCE: Oh, it's -- I'm sorry, it's the
6 shut down cooling return to the -- to RCS.

7 MR. KAUFFMAN: Okay.

8 MR. LAWRENCE: And that was -- after that it was
9 really -- I don't believe I participated in anything major
10 other than what I've mentioned. I left work about 2:30.
11 They had -- they went around to people to ask them if they
12 wanted to stay or go. At that point we were just about
13 ready to put shutdown cooling on; and they had plenty of
14 people to do that so they asked me if I wanted to stay and I
15 said if you don't need me I'll go. If you do, why -- you
16 know, and he said, "Well, we have enough people," so I opted
17 to go home. So I left around 2:30.

18 MR. JORDAN: Is that your normal time?

19 MR. LAWRENCE: Yes. It's normally our shift.

20 [Pause.]

21 MR. JORDAN: I've got just a few questions. You
22 mentioned early on that you originally were told to take the
23 RHR system and clear some tags on them and you mentioned
24 that one of the aux operators had grabbed up a bunch of the
25 tags. Did you go out and clear those tags or did somebody



1 else do that?

2 MR. LAWRENCE: No. What -- well, the thing of it
3 was -- like I said before, the tags were hung, okay. This
4 is for work that was going to be that morning on that --
5 that system. And they were never issued so they had --
6 there was no problem with pulling the tags. I mean, the
7 work never started, so --

8 MR. JORDAN: Was power taken off of the equipment?

9 MR. LAWRENCE: Yeah. Oh, yeah, the breakers were
10 opened.

11 MR. JORDAN: So somebody had to go out there and
12 reset the breakers?

13 MR. LAWRENCE: Right. Pull the tags and re-
14 energize them.

15 MR. JORDAN: Is that what you did?

16 MR. LAWRENCE: Well, no, I didn't go. My role was
17 to be, I believe, the second verifier for the tags. So they
18 had the -- so the auxiliary operator did them and I don't
19 know who it was, but somebody later on second verified them,
20 I believe. I am not really sure.

21 MR. JORDAN: Okay. But you didn't?

22 MR. LAWRENCE: No. I did not go.

23 MR. JORDAN: You originally were going to do that?

24 MR. LAWRENCE: Right. It was like -- it was sort
25 of like -- I kind of like had a couple jobs fired on me at



1 the same time, type of thing. And it kind of like worked
2 itself out, I guess is the best way to put it.

3 MR. JORDAN: Do you happen to know about when
4 those tags on RHR got pulled off and the equipment was
5 restored and made available?

6 MR. LAWRENCE: No. Not -- no, I don't. I know it
7 was -- well, they'd already made the -- they had already had
8 them all together. Well, they were laying on the desk at
9 6:00 and that was about their intention. It wa around 6:00
10 when he gave the -- because it was just shortly after it got
11 there. So they went -- they grabbed and made copies of
12 them so that, you know, they knew which breakers to go to
13 and they took them.

14 MR. JORDAN: You said you were using -- you were
15 out working on the turning gear, was there a procedure for
16 how to get this thing on the turning gear if there was
17 difficulty on getting it on the turning gear?

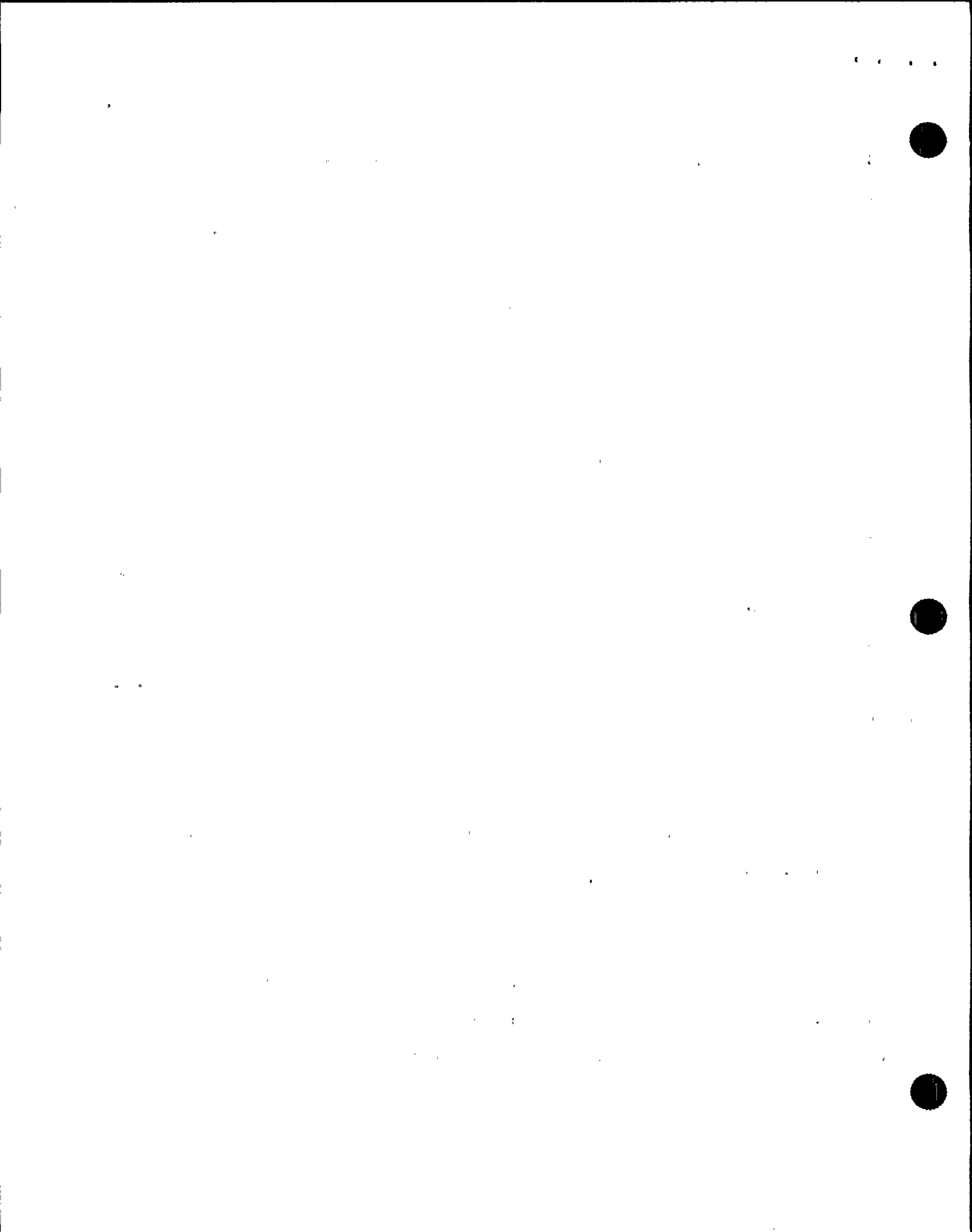
18 MR. LAWRENCE: Yes.

19 MR. JORDAN: Do you happen to know that procedure
20 number?

21 MR. LAWRENCE: It's OP-21.

22 MR. KAUFFMAN: When people were out in the turbine
23 building, is there a means to manually jack the turbine over
24 or is it just sitting there --

25 MR. LAWRENCE: Just sitting there.



1 MR. KAUFFMAN: -- stopped and there's nothing you
2 could do?

3 MR. LAWRENCE: There is -- we tried using a --
4 there is a jog button on the turning gear and we attempted
5 to use the jog button to try to engage it and it wouldn't --
6 it looked like it would engage, but it was -- the mortar
7 was -- you could tell it was drawing a lot of current, in
8 fact you every time you put it on it had a sustained high
9 amperage on it. So I let it go and when I had gotten off of
10 it they had talked about trying to move it with a crane,
11 turning it with a crane and I don't think they ever got to
12 that point. They tried it again, I believe in the afternoon,
13 from what I understand, later on they attempted to do the
14 jog and they managed to get it to move a couple of inches.
15 The idea of it, I guess, was to try to get it to move at 180
16 degrees from where it was. And they managed' to do that with
17 the jog button.

18 Why it didn't do that when I was there I have no
19 idea. Because I held it long enough where I thought that
20 maybe while the motor was humming to the point where it kind
21 of bothered me that I had my finger on the button, I let it
22 go.

23 MR. KAUFFMAN: To your knowledge and experience
24 have there been similar problems with the turning gear in
25 the past or is this about the first time it has happened?



1 MR. LAWRENCE: We've had problems with it in
2 start-up of the kicking off of the gear when we go into
3 shell warming, but never -- never that I recall in this
4 situation on shutdown.

5 MR. KAUFFMAN: Okay. I was going to ask you a
6 similar question about clean up. Are you aware of problems
7 or personal experience problems with cleanup isolating
8 before when you start up the system?

9 MR. LAWRENCE: We have -- we have had problems
10 with it in the past, yes.

11 MR. KAUFFMAN: Similar problems or --

12 MR. LAWRENCE: Uh -- different -- we were in
13 different operating situations. Some -- well, most of them
14 I recall we were hot. I mean, it was a -- one I recall -- a
15 couple that I recall we were at 100 percent power and we
16 lost -- we had like blown a seal on one of the pumps and
17 tried to restart it. And ended up isolating the system.
18 That type of thing, but there have been others.

19 We have had -- we have taken a lot of isolations
20 on cleanups.

21 MR. JORDAN: Do you have any idea what caused this
22 isolation?

23 MR. LAWRENCE: Well, it was high differential
24 flow.

25 MR. JORDAN: Do you know why you had it?



1 MR. LAWRENCE: I -- I'm really not sure. I wasn't
2 really directly involved with it and I couldn't really say
3 what the main cause was. Maybe -- the only thing I could
4 think of is that maybe -- just that the piping may have been
5 emptied and they tried to fill the piping up too fast, I
6 guess. That would be my only guess.

7 MR. JORDAN: You mentioned that around 10:30, I
8 guess, Dave Hanson?

9 MR. LAWRENCE: Hanczyk.

10 MR. JORDAN: Hanczyk, yes, you basically relieved
11 him and then he went out with the team down in the room to -
12 -

13 MR. LAWRENCE: No, no, no.

14 MR. JORDAN: Let's go off the record for just a
15 second, we're interrupted.

16 [Pause to answer door.]

17 [Discussion held off the record.]

18 MR. JORDAN: We're back on the record, we had an
19 interruption for the replacement of some tapes.

20 You explained that Dave Hanczyk going down to the
21 UPS room around 10:30?

22 MR. LAWRENCE: Oh, that. No, he got back from
23 that to relieve me. He was -- that was his -- basically he
24 was just about ready to go home. I believe after he
25 relieved me he may have -- I think he had to fill out a



1 reactor analyst sheet of what he saw, which is standard
2 procedure for when we take a scram so that they can
3 ascertain as to what the events -- what events occurred.

4 MR. JORDAN: Okay. So the transfer back to normal
5 power from the maintenance power and the UPS happened prior
6 to 10:30?

7 MR. LAWRENCE: Oh, yeah. Oh, yes.

8 MR. JORDAN: Okay. When that was --

9 MR. LAWRENCE: Say that again?

10 MR. JORDAN: What, from maintenance power to
11 normal power on the UPS's that's what he went down there
12 for, right?

13 MR. LAWRENCE: Oh, yes. Yes. I guess they had --
14 they had a problem with one. One or two, I don't recall,
15 but, yes.

16 MR. JORDAN: And that's where you mentioned that
17 you had a concern or voiced a concern to Mark Davis that why
18 don't they leave it on maintenance power?

19 MR. LAWRENCE: Yes. That was a while before
20 10:30. I'm not really sure when he actually went down, but
21 this was like -- he was down there quite a while and this
22 was prior to that.

23 MR. JORDAN: Okay.

24 MR. LAWRENCE: And he had discussed doing that --
25 what Mike Conway thought about doing, I don't know if Mike



1 talked to the TSC or what -- how he determined it because I
2 might have even been out of the control room at the time,
3 but --

4 MR. JORDAN: At the time of the transfer?

5 MR. LAWRENCE: No, at the time that he decided to
6 have Dave go down to do that.

7 MR. JORDAN: Okay. When Dave went down to do it,
8 were you in the control room when they actually did the
9 transfer, do you know?

10 MR. LAWRENCE: I was listening -- you could hear
11 them talking -- they were -- I believe they were using the
12 radios and talking to each other and you could overhear the
13 conversation.

14 MR. JORDAN: Okay. Do you know who was talking to
15 whom and who had knowledge of the transfer? Everybody in
16 the control room? Was it over the gaitronics or was it just
17 one-on-one or who was communicating with who that they were
18 going to do the transfer?

19 MR. LAWRENCE: I believe it was Dave and Mark --
20 well, Dave wasn't by himself, he was with a bunch of other
21 people.

22 MR. JORDAN: I was just asking who was
23 communicating to who? Who all knew that the transfer was
24 occurring and when it was curing and how -- what kind of a
25 communication set up was set up so that not everybody knew



1 that they were taken off of maintenance and being put on --
2 MR. LAWRENCE: Oh, I see --
3 MR. JORDAN: -- so if they lost the power --
4 MR. LAWRENCE: Right.
5 MR. JORDAN: -- and everybody is sitting there
6 going, gee, I didn't know that was happening.
7 MR. LAWRENCE: No. Mark was in control of that
8 situation.
9 MR. JORDAN: Mark?
10 MR. LAWRENCE: Davis.
11 MR. JORDAN: Davis?
12 MR. LAWRENCE: Yes.
13 MR. JORDAN: And he's -- his position?
14 MR. LAWRENCE: He was a CSR.
15 MR. JORDAN: And you think he was in
16 communications with --
17 MR. LAWRENCE: Dave.
18 MR. JORDAN: Who is down in the UPS room?
19 MR. LAWRENCE: Right.
20 MR. JORDAN: Anybody else?
21 MR. LAWRENCE: Down there or --
22 MR. JORDAN: No. In the control room.
23 MR. LAWRENCE: Oh. Not that I remember.
24 MR. JORDAN: Was Mark Davis making any type of
25 announcements that they're transferring over? Did you have



1 a feeling for -- you knew when they transferred over?

2 MR. LAWRENCE: Well, it was -- I know, it was --

3 MR. JORDAN: Not time, but did you have a feeling
4 for when you knew that they were going to transfer over?

5 MR. LAWRENCE: Oh, yeah. I mean, you could hear
6 them talking about it, so it wasn't like --

7 MR. JORDAN: On the gaitronics, where -- how were
8 they --

9 MR. LAWRENCE: On the radio.

10 MR. JORDAN: On the radio?

11 MR. LAWRENCE: Yeah. I mean you could over hear
12 it, but I mean it wasn't -- they didn't directly come to me
13 and say, they're going to transfer UPS to normal, I mean
14 that -- but

15 MR. JORDAN: but you had a feeling for knowing
16 when it was occurring?

17 MR. LAWRENCE: Yes.

18 MR. JORDAN: And occurred?

19 MR. LAWRENCE: Yes.

20 MR. JORDAN: So if something went abnormal in the
21 control room you would have an idea of why it went abnormal?

22 MR. LAWRENCE: Oh, yes.

23 MR. JORDAN: Is that correct?

24 MR. LAWRENCE: Well, I guess I don't understand
25 the --



1 MR. JORDAN: What I was looking for is the
2 communications. If somebody is out in the plant operating a
3 piece of equipment, okay, particularly if all of a sudden
4 all of the lights -- it has the potential for all of the
5 lights going out and that's one of the things you expressed
6 your concern about --

7 MR. LAWRENCE: Oh, I see what you're saying.

8 MR. JORDAN: Okay. Now, and I'm going to go out
9 and I'm going to operate a piece of equipment out in the
10 plant that has that potential. How many people in the
11 control room were aware that I'm now in the process of
12 transferring it so that if I'm over here and all of a sudden
13 I loose my indication that I have an indication or a
14 reasonable knowledge of why I lost it, you know, that I'm
15 not sitting over here in the dark, not knowing what's going
16 on out in the plant that all of a sudden I'm going to loose
17 my communications. So I was just curious of what kind of
18 communications were going on during the transfer?

19 MR. LAWRENCE: Oh, I see.

20 MR. JORDAN: So that everybody in the control room
21 knew what was going to go, it's going, or was it that the
22 two people knew what was going on and the other people got
23 the information just by overhearing it? I don't know what
24 was going on. I don't know how the communication was
25 communicated in the control room or what was going on out in



1 the plant?

2 MR. LAWRENCE: Well, I guess the best way to say
3 it would be that I wasn't really doing anything to directly
4 -- that would directly affect me. So I guess that wasn't
5 really a direct concern of mine, but what I should say is
6 that I could hear the conversation over the radio, I mean,
7 but as far as it directly affecting me, no.

8 MR. JORDAN: Okay.

9 MR. LAWRENCE: What I was doing, no.

10 MR. JORDAN: Okay. Later on in the day when you
11 were in the process of -- because of the SRV lifting, you do
12 the procedure for the --

13 MR. LAWRENCE: The drywell vacuum breakers, yes.

14 MR. JORDAN: Is there a procedure for that?

15 MR. LAWRENCE: Yes. It's a surveillance test.

16 MR. JORDAN: Do you know what it is?

17 MR. LAWRENCE: It's a monthly. And I -- I'll have
18 to dig for this one, but I think it's N2OSPISCM at 01, I
19 think. I think it's M at 001.

20 MR. JORDAN: M?

21 MR. LAWRENCE: At.

22 MR. JORDAN: Like in --

23 MR. LAWRENCE: Like an -- what do you call that A
24 with a circle? What do you call that?

25 MR. JORDAN: Oh, an at. 01?



1 MR. LAWRENCE: 001. Yeah. Yes. I believe that's
2 it. In fact, if you look -- a good way to find it, to
3 insure that's right is to look in the shutdown procedure,
4 because it will mention -- in fact, it will mention that
5 very statement that I told -- any time and energy that is
6 put into the suppression pool, you're required to do that
7 surveillance and it lists that surveillance in there.

8 MR. JORDAN: Any questions on procedures?

9 MR. KAUFFMAN: Do you want to do the general
10 question?

11 MR. JORDAN: The question I always like to work
12 towards and the question is, you can take this as the
13 positive and the negative. The positive is that, what did
14 you find or was there anything that during the event or
15 during your activities that you said to yourself, gee, I'm
16 glad I had that with me, and you know, and the vice versa
17 says, what do you say that gee, I just, you know, I didn't
18 have this, but I sure wish I had it?

19 One is, it was there and it was available and I'm
20 glad I had it and the classic example is the guy that goes
21 out -- out in the plant and says Mr. Aux Operator, a valve
22 and he goes out there and he says boy am I glad that that
23 wrench was hanging on that valve when I go there, because
24 whoever staged that, that really helped me in accomplishing
25 my goals.



1 And the contrary of that is, when I got out there,
2 I wish there would have been a switch or a wrench hanging on
3 that valve or and you can say, gee, I'm glad I had good
4 training, or the procedures that I had helped me through or
5 you know, it could be a myriad of things. Is there anything
6 in which you felt were outstanding that you said to
7 yourself, gee, I'm glad I had that?

8 MR. LAWRENCE: I would say I'm glad we had the
9 simulator time to work on EOP's. That's definitely the
10 first thing that comes to my mind. The simulator training
11 that we've had, I thought the communications were very good
12 in that instance and I -- and previous ones, since we've --
13 since we have worked on our communications since -- well, I
14 was involved in the instrument air scram last year that was
15 -- you could definitely see where working the simulator
16 helped us in the real thing in the plant.

17 And communications, I thought were very very good.
18 And the EOP stepping through seemed to be very very
19 controlled and everybody seemed like we were going in the
20 right direction and there weren't a lot of things that -- in
21 fact, I can't think of anything that really compounded the
22 problem, I mean, made the problem worse to where we -- to
23 get to cold shutdown.

24 MR. JORDAN: So there was nothing that you sit
25 back and say, other than the fact that you wish you had UPS



1 back?

2 MR. LAWRENCE: Right.

3 MR. JORDAN: Nothing else that you had come up
4 with that you say, gee, I wish if this transient were to
5 happen again, you know, why don't we have this available
6 for our people?

7 MR. LAWRENCE: But on the -- as far as the
8 contrary thing is, I think maybe a scenario in the simulator
9 to see what indications we have when we loose the computer
10 and our non-safety related instrumentation. That would -- I
11 mean --

12 MR. KAUFFMAN: I think they're working on it.

13 MR. LAWRENCE: Yeah. But --

14 MR. KAUFFMAN: I'm sure it would have been nicer
15 to have it beforehand.

16 MR. LAWRENCE: No, not to take anything from
17 training, but just --

18 MR. KAUFFMAN: We understand that -- unless you
19 did an infinite amount of training that you could -- there's
20 no way that you could cover possibly every situation exactly
21 as it unfolded.

22 MR. LAWRENCE: Absolutely.

23 MR. JORDAN: If training were to hit you with five
24 UPS losses, you would have been all over training saying
25 that's an impossible nature of the beast.



1 MR. LAWRENCE: Oh, they do some good stuff to us.
2 You know, like you say, you know, they can't do everything.
3 They're always thinking of scenarios to throw at us.

4 MR. JORDAN: Anything else?

5 MR. LAWRENCE: No.

6 MR. JORDAN: Okay. And my last statement is, if
7 there's anything that we haven't covered that you have
8 knowledge of that you would like to tell us about that would
9 help us in our investigation?

10 MR. LAWRENCE: The only thing -- well, I didn't
11 mention about the turning gear which is -- I don't know, one
12 of the lift pumps didn't -- at some time point had tripped
13 and that -- when it happened, I have no idea, but it did
14 trip. In fact, we had to restart it locally due to that
15 fact, but that was the only thing I failed to mention.

16 MR. JORDAN: But you got it back then locally?

17 MR. LAWRENCE: Yes, we did get it back.

18 MR. JORDAN: Okay. Anything else? John?

19 MR. KAUFFMAN: No.

20 MR. JORDAN: Go off the record.

21 [Whereupon, at 2:21 p.m., the taking of the
22 interview was concluded.]

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 JAY LAWRENCE

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.



IAN ROTHROCK
Official Reporter
Ann Riley & Associates, Ltd.



XXXXXXXXXXXXXXXXXXXX

XXXXXXXXXXXXXXXXXXXX

XXXXXXXXXXXXXXXXXXXX



XXXXXXXXXXXXXXXXXXXX



OFFICIAL TRANSCRIPT OF PROCEEDINGS

Agency: Nuclear Regulatory Commission
 Incident Investigation Team

Title: Nine Mile Point Nuclear Power Plant
 Interview of: JAY LAWRENCE

Docket No.

LOCATION: Scriba, New York

DATE: Wednesday, August 21, 1991

PAGES: 1 - 34

ANN RILEY & ASSOCIATES, LTD.

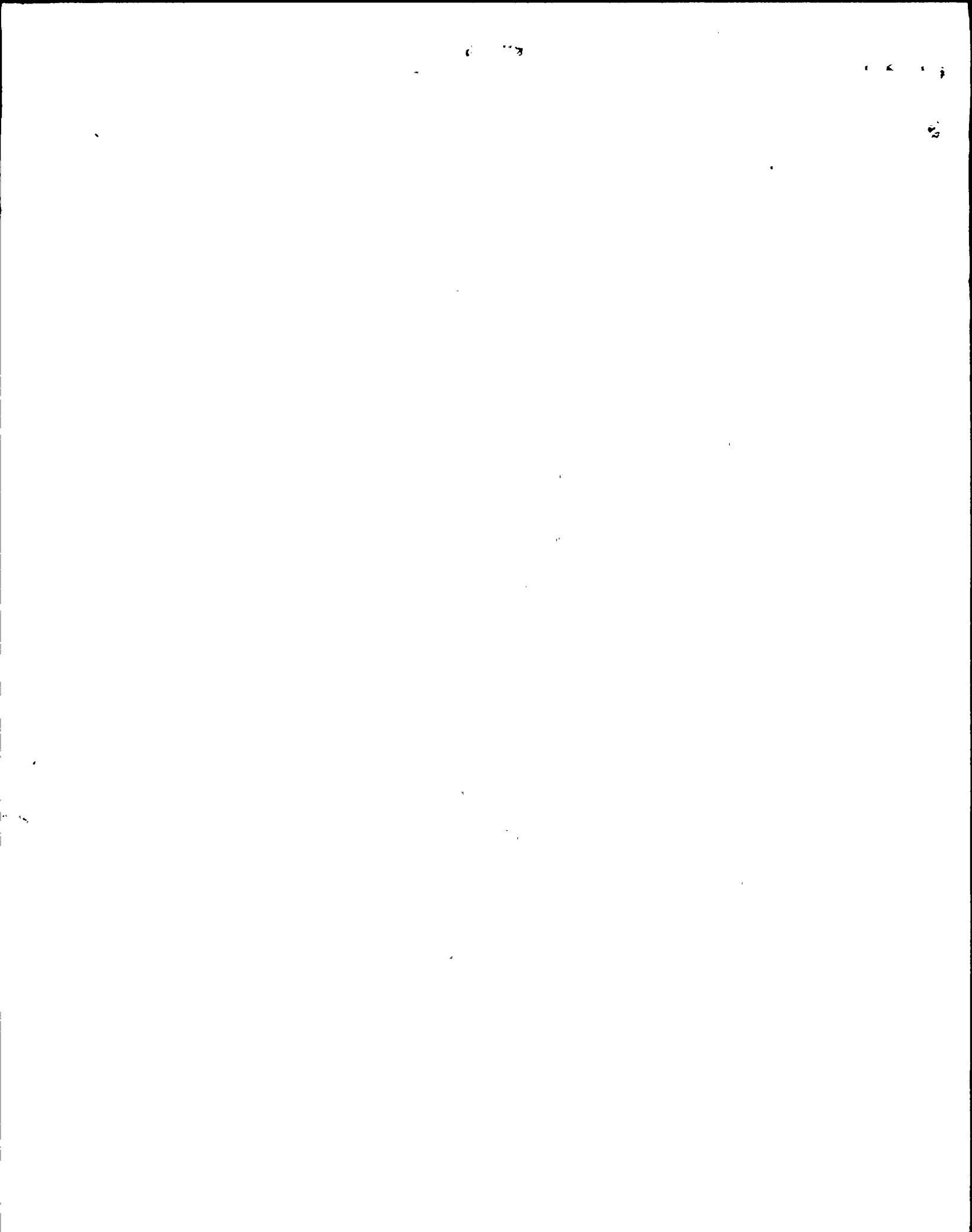
1612 K St. N.W., Suite 300

Washington, D.C. 20006

(202) 293-3950.

9305070297





UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
INCIDENT INVESTIGATION TEAM

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

Interview of :
JAY LAWRENCE :
(Closed) :

Conference Room B
Administration Building
Nine Mile Point Nuclear
Power Plant, Unit Two
Lake Road
Scriba, New York 13093
Wednesday, August 21, 1991

The interview commenced, pursuant to notice,
at 1:35 p.m.

PRESENT FOR THE IIT:
Michael Jordan, NRC
John Kauffman, NRC
Jack Taylor, NRC



1

2

P R O C E E D I N G S

3

[1:35 p.m.]

4

5

6

MR. JORDAN: It's August 21st, 1991. It's about 1:35 in the p.m. We are at the Nine Mile Point, Unit Two, in the P Building.

7

8

We are conducting interviews concerning a transient that occurred on August 13th, 1991.

9

10

My name is Michael Jordan. I am with the U.S. NRC out of Region III.

11

12

MR. KAUFFMAN: My name is John Kauffman. I am with the NRC out of headquarters, AEOD.

13

14

MR. LAWRENCE: My name is Jay Lawrence. I am a nuc auxiliary operator E from Nine Mile Point, Unit Two.

15

16

MR. JORDAN: And sitting in on the interview also is Jack Taylor out of Washington.

17

18

Okay, Jay. Why don't you just go ahead and give us a background of what your experiences are?

19

20

21

MR. LAWRENCE: I am a licensed operator on the Unit Two reactor. I believe it was since 1985 when I got my Unit Two license. I was previously licensed on Unit One.

22

23

Prior to that I was in the Navy for six years.

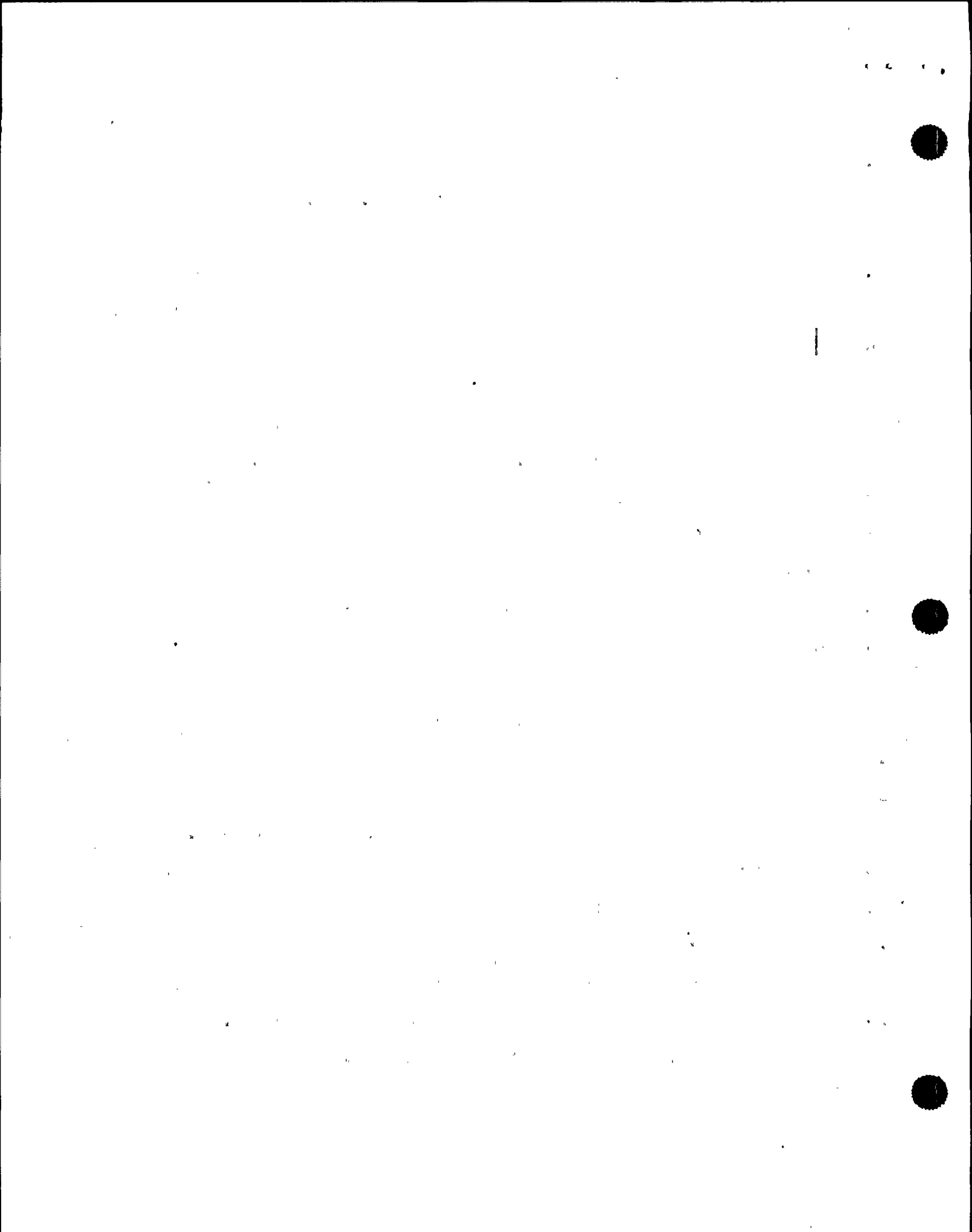
24

I have been with the company for eight years now.

25

MR. JORDAN: Navy Nuc. reactor operator?

MR. LAWRENCE: Yes, I was a Navy - Nuc.



1 MR. JORDAN: Okay, Jay. In your own words, why
2 don't you tell us -- were you on day shift? Were you on the
3 mid-shift? Which shift were you on?

4 MR. LAWRENCE: I was coming in on the day shift to
5 relieve the night shift when this happened.

6 MR. JORDAN: Why don't you, in your own words,
7 just tell us when you came through the gate what you saw.

8 MR. LAWRENCE: When I came in, I was going down
9 the walkway and I was just going into what we call the
10 Cardox room.

11 MR. JORDAN: Can you give us some idea what time
12 it was? I'm sorry.

13 MR. LAWRENCE: Oh, it was around six o'clock, and
14 I had just heard -- I heard Unit One's evacuation alarm go
15 off, which I had originally thought that somebody had like
16 hit the wrong bottom or something and I didn't hear an
17 announcement after that.

18 I went into the locker room to change my shoes --
19 oh, another thing that -- I noticed that there was no,
20 usually there's operators there waiting to turn over to the
21 day shift the various buildings and I noticed that they
22 weren't around.

23 I went into the locker room to change my shoes, my
24 hard hat, what-not, and the guards were talking about the
25 plant scram so I kind of like stepped up my preparation,



1 walked outside the locker room and I ran into the firemen
2 who were telling me that some of their fire panels had gone
3 dead and they were concerned about the lighting in the
4 buildings were out.

5 I proceeded to go up the stairs --

6 MR. JORDAN: Any lighting problem when you went up
7 the stairs?

8 MR. LAWRENCE: No. No, you could pretty well see
9 good going up the stairway.

10 MR. JORDAN: Which stairway did you use?

11 MR. LAWRENCE: I used the control -- the one by
12 the elevator there they call the -- it's the one that goes
13 up to the Rad Protection office. I guess that's the best
14 way to explain it. It's sort of part of the aux service
15 building.

16 MR. JORDAN: Aux service building?

17 MR. LAWRENCE: Aux service building, yes.

18 MR. JORDAN: By the elevator?

19 MR. LAWRENCE: Yes -- I'm sorry, did I say the
20 stairs?

21 MR. JORDAN: Yes.

22 MR. LAWRENCE: I went up the elevator.

23 MR. JORDAN: You went up in the elevator?

24 MR. LAWRENCE: Yes. I did go up in the elevator.

25 MR. JORDAN: Aux service building elevator.



1 MR. LAWRENCE: Yes.

2 MR. JORDAN: And the elevator was lit?

3 MR. LAWRENCE: Yes. The elevator was working,
4 which was kind of strange also.

5 MR. JORDAN: Lit and working.

6 MR. LAWRENCE: The lights were out -- I mean --
7 you could tell there were some lights out.

8 MR. JORDAN: But in the elevator the lights were
9 lit or the lights were out?

10 MR. LAWRENCE: Yes. The lights -- I believe they
11 were lit. Yes, they were lit. I definitely would have
12 noticed that but I got up to the top floor and off the
13 elevator, went through the first set of double doors and I
14 ran in Dave Hanczyk with a radio in his hand going down the
15 hallway. At the time I didn't know where he was going but he
16 said they need you in the control room.

17 I went into the control room, walked in the back
18 way, as we call it, down through the back panels like I
19 normally do, and walked into the control room envelope, and
20 that's when I first noticed that the full core display had
21 no light indication at all.

22 Mike Conway was standing at the OP -- where the
23 EOPs were -- and Mark Davis, who was the CSO, was there and
24 the DROs also were there with the exception of Dave Hanczyk
25 who had left.



1 What I did was step back behind the barriers to
2 get out of the way because I had no inkling of what was
3 going on and I was more a hindrance than a help at that
4 particular moment, just to sit back and stay out of their
5 way.

6 So I sat back and kind of like, you know, stood
7 with the other guys that were there, and I believe it was
8 Mark first asked me if I would go with one of the operators,
9 the non-licensed operators to clear some markups they had
10 hung on the B RHR system on the midnights for work that day.
11 Then Mike Conway asked me to go down and see about restoring
12 the UPS, the uninterruptable power supplies.

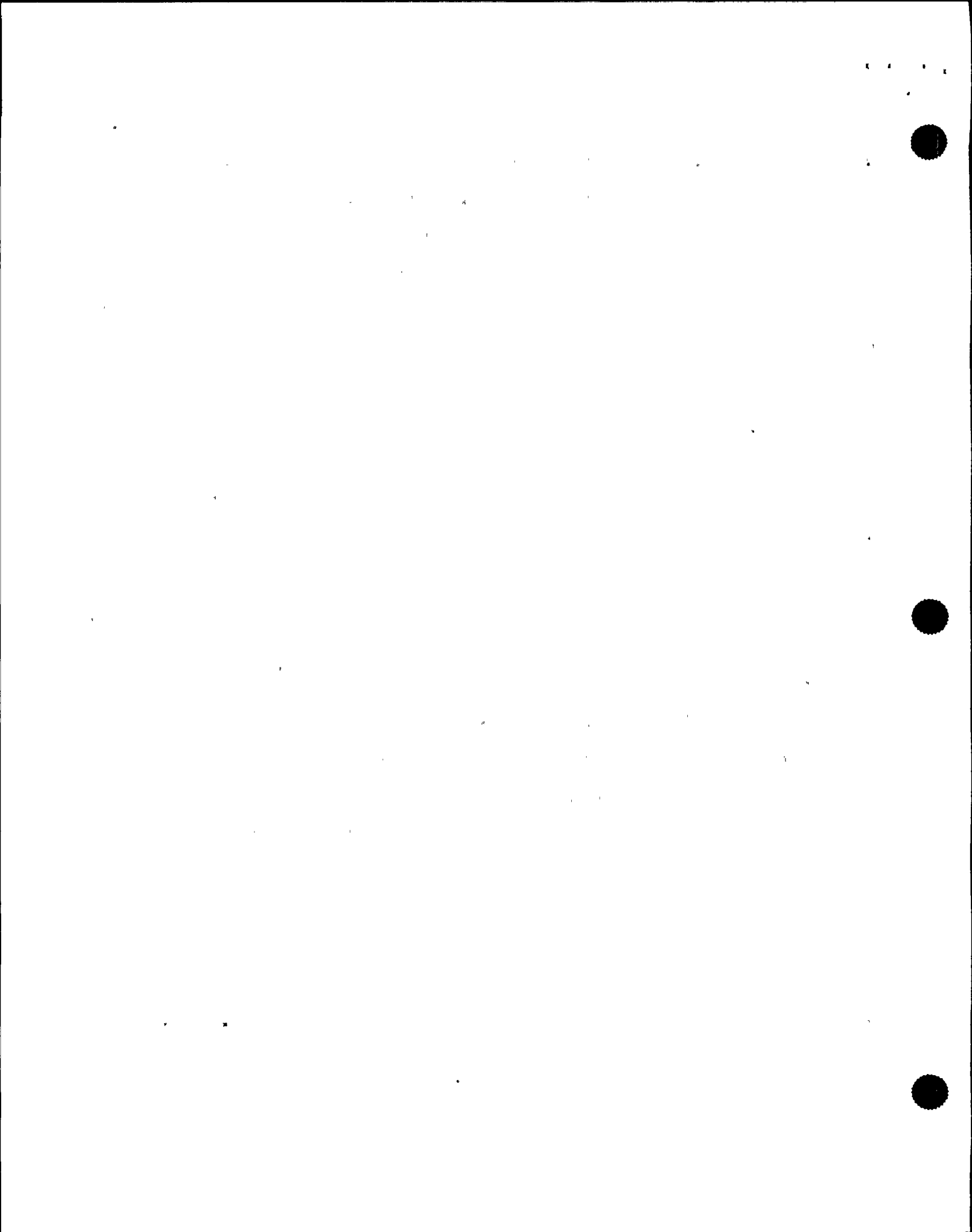
13 At that point Mike Garbus took the -- or said that
14 he was going to go down, he was going to take Bob Spooner
15 with him down to the UPS, so they both left.

16 The markups were grabbed by the auxiliary
17 operator. At that point he had asked me for a set of
18 containment parameters, like drywell pressure and
19 suppression pool level, those type of things, so being at
20 the point that that seemed like that's what he wanted the
21 priority so I did that.

22 Got him some numbers --

23 MR. JORDAN: Any abnormal ones?

24 MR. LAWRENCE: Pretty much the drywell. The
25 drywell was at like .6 at that time and let's see --



1 suppression pool level was fine. The drywell air
2 temperatures -- there were a couple that were reading kind
3 of high. They were like 165. The majority of them were
4 reading less than 150, which is the EOP.

5 Mike and I discussed it and he determined that we
6 were not in EOP entry condition.

7 MR. KAUFFMAN: Which instruments did you use to
8 get that information?

9 MR. LAWRENCE: They were back on the 870 series
10 panels on the chart recorders and there is also -- there are
11 indicators above them also, which corresponds to some of the
12 recorders.

13 MR. JORDAN: All working?

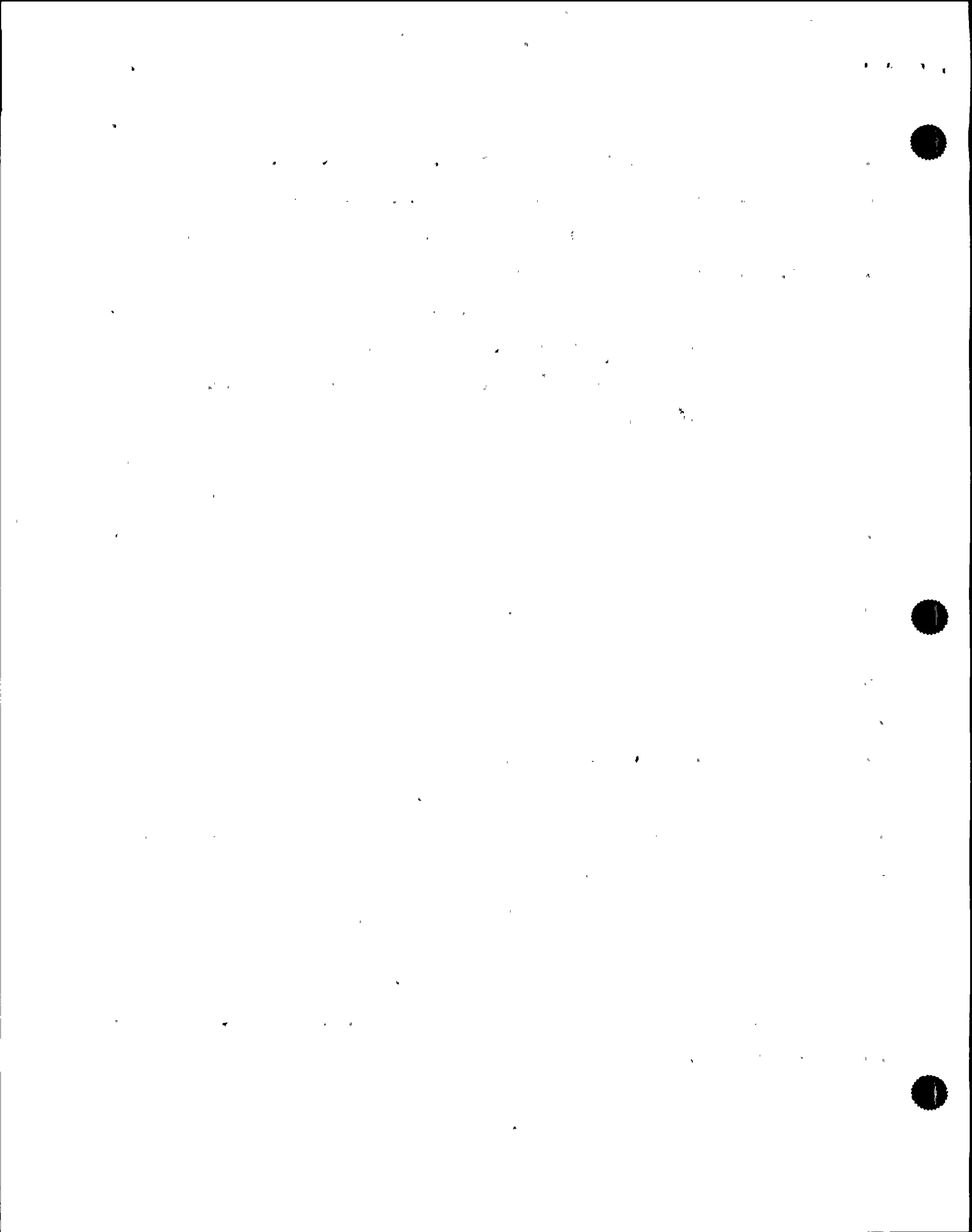
14 MR. LAWRENCE: Yes, they were working.

15 MR. JORDAN: They were working?

16 MR. LAWRENCE: Yes.

17 MR. JORDAN: Fine.

18 MR. LAWRENCE: And also Mike Eron and myself were
19 discussing trying to restart drywell cooling and taking the
20 overrides to override, to restore it, because we had lost it
21 but I don't remember but it was reminded to me that -- I
22 can't remember whether it was in our discussion or with
23 maybe Mark or Mike that there are isolators in that system
24 that are de-energized which won't allow you to restart them
25 no matter what you do.



1 That was the extent of what I was doing until the
2 power got back. I tried to stay back out of his way when I
3 wasn't throwing parameters at him because he was trying to
4 get, you know, other information and send out other
5 information at that time. That was basically what I did
6 till they got the power back.

7 MR. JORDAN: And after they got the power back?

8 MR. LAWRENCE: I did a bunch of different things.
9 I was -- I cleaned up the boards as far as the electrical
10 plant, as far as matching up the house service transfer, red
11 flagged the breakers that were shut and green flagged the
12 ones that were open, the generator breakers, the exciter
13 breakers, put them in green flag.

14 I was watching the turbine coast-down and checking
15 to make sure that went on in the turning gear and it also,
16 when we got the annunciators back I noticed -- and the power
17 back -- noticed that the off-gas inlet pressure was pegged
18 high. We were going to send somebody out there but that was
19 at the point where we were telling everybody to stay out of
20 the turbine building.

21 Oh -- it might have been prior to that but anyway
22 we were discussing it, Dave Hanczyk and myself were
23 discussing trying to get it back realizing that maybe the
24 103 valve went shut caused by the UPS loss. Well, we didn't
25 know but we saw the annunciator and for off-gas radiation,



1 high, we determined that we couldn't restore off-gas and
2 that was leading to going into starting up the mechanical
3 vacuum pumps or the hoppers to use vacuum or keep our vacuum
4 and put the aux boilers on - use the aux boilers to supply
5 the reboilers for gland seam. I got involved with that
6 also.

7 I was pretty much sort of jumping around that when
8 the turbine coasted, finally coasted down to zero and the
9 turning gear didn't engage. They tried to engage and ended
10 up tripping off the gear, so we were -- I spent a lot of the
11 morning trying to determine why it wouldn't go on the gear
12 and we did various things to see why it would-- you know,
13 reset the breaker.

14 I went down, had to show one of the non-licensed
15 operators how to re-charge the breaker. The turning gear
16 breaker is one of the, in fact it is the only breaker, it's
17 a 600 volt breaker that has a charging motor but is not
18 electrically connected and you have to manually recharge the
19 breaker down at the switchgear, so I went down there and
20 R.J. Reynolds was helping me with that. He was also in the
21 -- he was controlling pressure with the bypass valves at the
22 time so he was right in that vicinity to give us a hand with
23 that.

24 We tried different things. Well, we couldn't send
25 anybody out to see if the turning gear or the turbine was



1 actually turning -- maybe the valves were leaking by, which
2 has happened in the past, or whether it was at a dead stop.

3 We tried, thinking it was -- well, our indications
4 were sort of leading us to believe that it was trying to
5 start it, and then was tripping off because of the high
6 speed, thinking that it was kicking out of the -- off the
7 turbine, thinking it was in the process of a turbine roll,
8 so we, for the procedure we pulled lift pumps off and we
9 lowered the oil temperature to see if that would help give
10 us some drag, until we went out into the turbine building.

11 I went out myself as soon as they had cleared the
12 way to let people out there, and I went out to see that the
13 turbine wasn't moving at all and I stayed out there trying
14 to -- I tried to manually engage it.

15 MR. JORDAN: What do you use to determine that?
16 How do you know the turbine is not rotating?

17 MR. LAWRENCE: Oh, the shaft, the shaft was
18 stopped. The shaft wasn't moving.

19 MR. JORDAN: The output shaft to the generator?

20 MR. LAWRENCE: No, no. The turbine shaft itself
21 was --

22 MR. JORDAN: Where did you see that at?

23 MR. LAWRENCE: The turbine. I was looking right
24 at the turbine.

25 MR. JORDAN: Well, your turbine isn't behind



1 concrete walls?

2 MR. LAWRENCE: Oh, yes, but it was -- Rad
3 Protection had surveyed the area and I had checked with them
4 prior to going in there and they said it was okay to go in.

5 At that point whenever we sent an operator we made
6 sure that -- because at that time our indications were not
7 good as far as radiation levels -- because of the power
8 failure, so Mike -- well, first of all, the fact that I got
9 involved with trying -- the steam supply valve from the aux
10 boiler to the reboiler was not working, the air skid to it
11 was off and air was leaking to the valve itself and it
12 wouldn't stay open. We've had this problem in the past.
13 And we're going to have an operator go out and --

14 MR. JORDAN: Could you go over that one more time?
15 Which valves to where?

16 MR. LAWRENCE: Oh, the -- it's the -- the valve
17 number itself is 2AAS -- ASSS, I'm sorry, AOV-145. It's the
18 aux boiler supply to the 145. It's the aux boiler supply to
19 the reboiler and we were trying to get that open. I was
20 going to send an operator out to try to get it open, well,
21 to get it to stay open and we had to call him back because
22 that was when we -- that was when Mike determined that
23 nobody should be in the turbine building at that time. That
24 was before the thing with the turbine started and then it
25 was shortly after that that the turbine stopped going and



1 tried to go on the turning gear.

2 MR. KAUFFMAN: Do you have an approximate time for
3 when you're talking about?

4 MR. LAWRENCE: Well, I remember -- I remember
5 distinctly that the turbine was around 20 minutes to quarter
6 of seven when it first tried to go on the gear.

7 MR. KAUFFMAN: Can I back track you a little bit?

8 MR. LAWRENCE: Sure.

9 MR. KAUFFMAN: I would just like to pick your
10 memory a little bit about the detailed indications you had
11 when the turning gear wouldn't engage, for example, the
12 turbine speed zero alarm come in -- or any other indications
13 you might have seen?

14 MR. LAWRENCE: Well, we don't really have a
15 turbine zero speed alarm.

16 MR. KAUFFMAN: Okay.

17 MR. LAWRENCE: It was basically -- I mean, there's
18 not an alarm that tells you to stop. That's why it was
19 there because I had a feeling in the -- you know, the way
20 everything was going, it might be forgotten. So, I just
21 happened to be there watching it and I would periodically
22 look at it. And it -- and right around, well, less than 100
23 RPM's anyway, it's kind of shaky as to what, you know, the
24 actual speed is. I mean, especially when you get down into
25 the ten RPM range, but I saw the gear try to engage and



1 shortly after that the breaker popped -- opened, and we lost
2 -- what happened, all the lights went out on the board for
3 the turning gear.

4 MR. JORDAN: So you were working on trying to get
5 it back?

6 MR. LAWRENCE: Right. Oh, no and go forward, --
7 well, I was working on it for a while and I believe it was
8 Craig Shawcross, he was the -- he was one of the -- I guess
9 he's a vendor rep, or one of our engineers. I'm not really
10 sure what his -- what his title is, but he -- they got a
11 hold of him and he was in the control room asking us
12 questions about, you know, what we saw, and stuff like that
13 and in the interim we were getting ready to start up the
14 cleanup system and --

15 MR. JORDAN: By this time have you gotten to
16 turning gear around?

17 MR. LAWRENCE: No. As a matter of fact, no. The
18 turning gear never get engaged until -- I believe it was
19 like 3:30 in the afternoon.

20 MR. JORDAN: Were you taken off of that job?

21 MR. LAWRENCE: Yes. Jim Burr was working on it
22 and he had some non-licensed operators working with him.

23 MR. JORDAN: Okay. So you got taken off the
24 turning gear?

25 MR. LAWRENCE: Yes.



1 MR. JORDAN: And the aux boiler was -- you were
2 put on that before the turning gear, did you say, or after?

3 MR. LAWRENCE: Yeah. I kind of jumped from one to
4 the other.

5 MR. JORDAN: Okay. So the aux boiler you were
6 signed in first and there was a problem with getting the
7 valve opened?

8 MR. LAWRENCE: Right.

9 MR. JORDAN: And what did you do there? Did you
10 get the valve opened or did you not get the valve opened?
11 What happened on that?

12 MR. LAWRENCE: Well, I wasn't actually in --
13 present when they got the valve opened. I had sort of like
14 turned it over to one of the other -- I believe it was Jim
15 Emery who's -- he's an "E" on my shift and he got -- he got
16 him and Dan Hulme which was the operator that was going to
17 go out -- he did eventually go out and they took care of it.
18 I guess they -- the air skid was not running. They started
19 the air skid and got the valve -- they had to pin the valve
20 open which we've had to do in the past, to hold it open.
21 But I didn't get to that part because I kind of got shifted
22 back and forth.

23 I had started the procedure -- I had lined up some
24 of the valves on the panel and I don't recall -- it might
25 have been Mark Davis, I'm not sure that they actually



1 switched me over to the turning gear, because I brought it
2 up to him that the turning gear didn't go on the jack. So
3 the panel -- well, the auxiliary steam system and the
4 turbine are right near each other, so, while I was messing
5 with that I looked at the -- you know, I was watching the
6 turbine speed, so that's how I sort of got shifted.

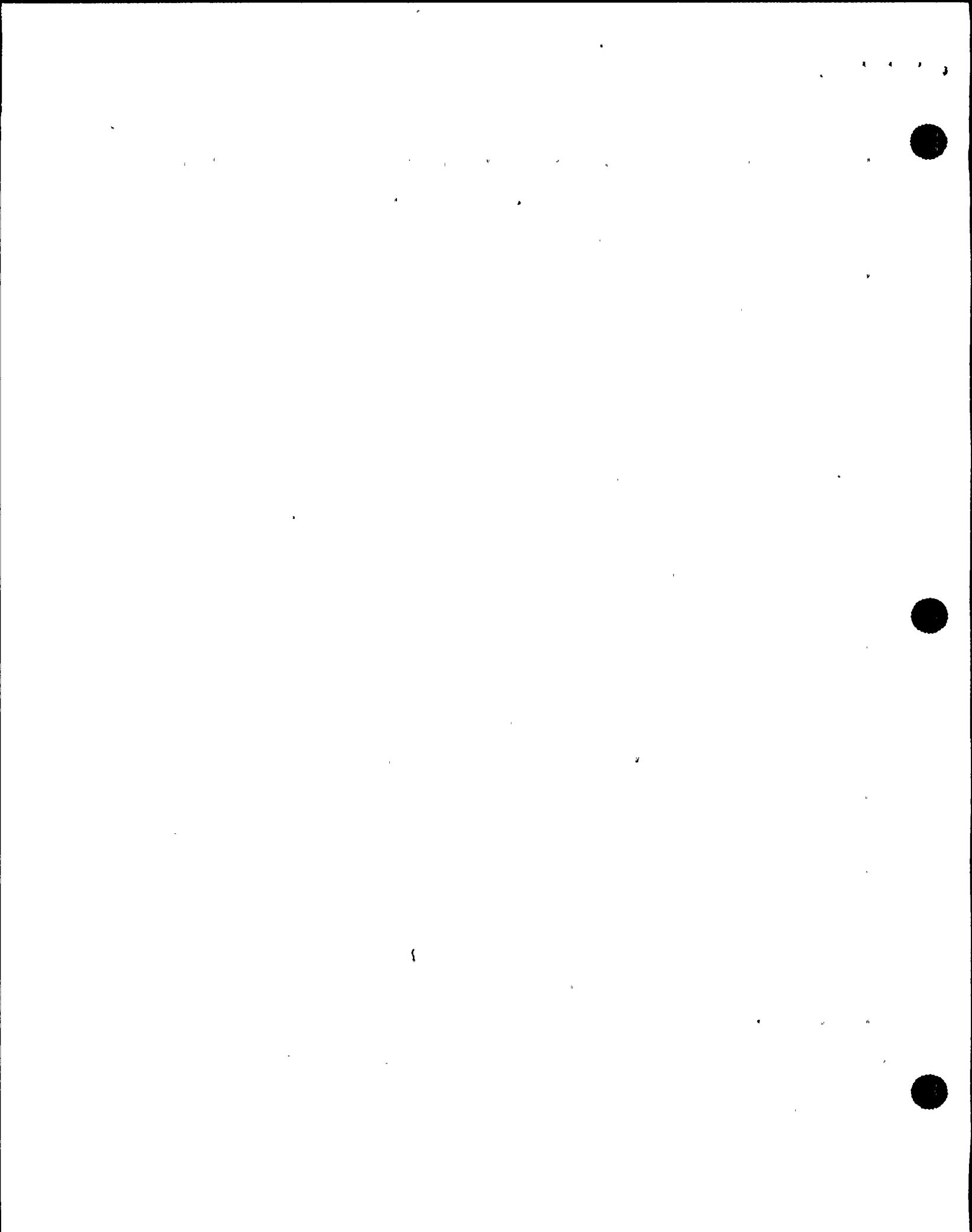
7 MR. JORDAN: So you went from the aux boiler to
8 the turning gear --

9 MR. LAWRENCE: And then --

10 MR. JORDAN: -- and then?

11 MR. LAWRENCE: -- I went to -- they were getting
12 ready to restart cleanup and I was watching right at the
13 water level for Jim Emery when he was getting ready to start
14 that up. And so I -- I was watching the level on 603 when
15 he started the pump and the level was all right, but the
16 cleanup system ended up eventually isolating on the
17 differential flow.

18 Jim was checking the timers and I went over to --
19 I looked and we had a high amount of flow on the -- it was
20 about 800 gallons a minute on the total system flow and
21 tried to shut the dement bypass to bring the flow down. And
22 it did eventually come down, but there was like 10 seconds
23 left on the timer. I didn't want to shut it all the way
24 because if I had done that it would have deadheaded the
25 pump. And I didn't want to do that. And it did come down



1 like 200 gallons a minute and then shortly after that it
2 isolated and then the pump tripped.

3 Oh, I did forget to mention that after we got
4 power back the first thing I did do was restore drywell
5 cooling. I did that. And then we were successful.

6 MR. JORDAN: You were successful getting zero
7 locks that weren't energized that once you got the power
8 back --

9 MR. LAWRENCE: We got the isolator -- well, we got
10 power back to the isolators.

11 MR. JORDAN: Isolators.

12 MR. LAWRENCE: And then --

13 MR. JORDAN: Any problems doing that --
14 difficulties?

15 MR. LAWRENCE: No. No, we -- I believe we put the
16 switches -- there are override switches we put in override
17 just as a precaution in case it didn't work, but we later
18 took them out because there was no need to have them. But
19 they started up and containment pressure came down -- down
20 to normal levels and it was not very long.

21 MR. JORDAN: Okay. So you stored the drywell
22 coolers?

23 MR. LAWRENCE: Yeah. That was before -- yeah,
24 that was before I even did the aux boiler.

25 MR. JORDAN: Right. Drywell coolers, aux boiler,



1 turbine gear, dredge water cleanup, and you got to the point
2 where it isolated or tripped on high delta flow?

3 MR. LAWRENCE: Yes.

4 MR. JORDAN: It was about 200 GPM?

5 MR. LAWRENCE: Yes. And then, I believe it was
6 shortly after that, I -- around 10:30 was when -- was when I
7 was on -- I had relieved Dave Hanczyk, he was my relief, my
8 normal relief, so they could go home. It might have been a
9 little longer that -- he was on the damage control team for
10 the UPS which they had -- no, they had asked me again, in
11 the interim -- Mark had asked me if I would go down with Bob
12 Crandall, I would walk with the team to help them trouble
13 shoot the UPS and I had -- I brought the suggestion that
14 they're on maintenance, maybe we ought to -- should leave
15 them -- you know, I mean, we have a power supply to them,
16 maybe we shouldn't mess with them, maybe see the possibility
17 of loosing them again.

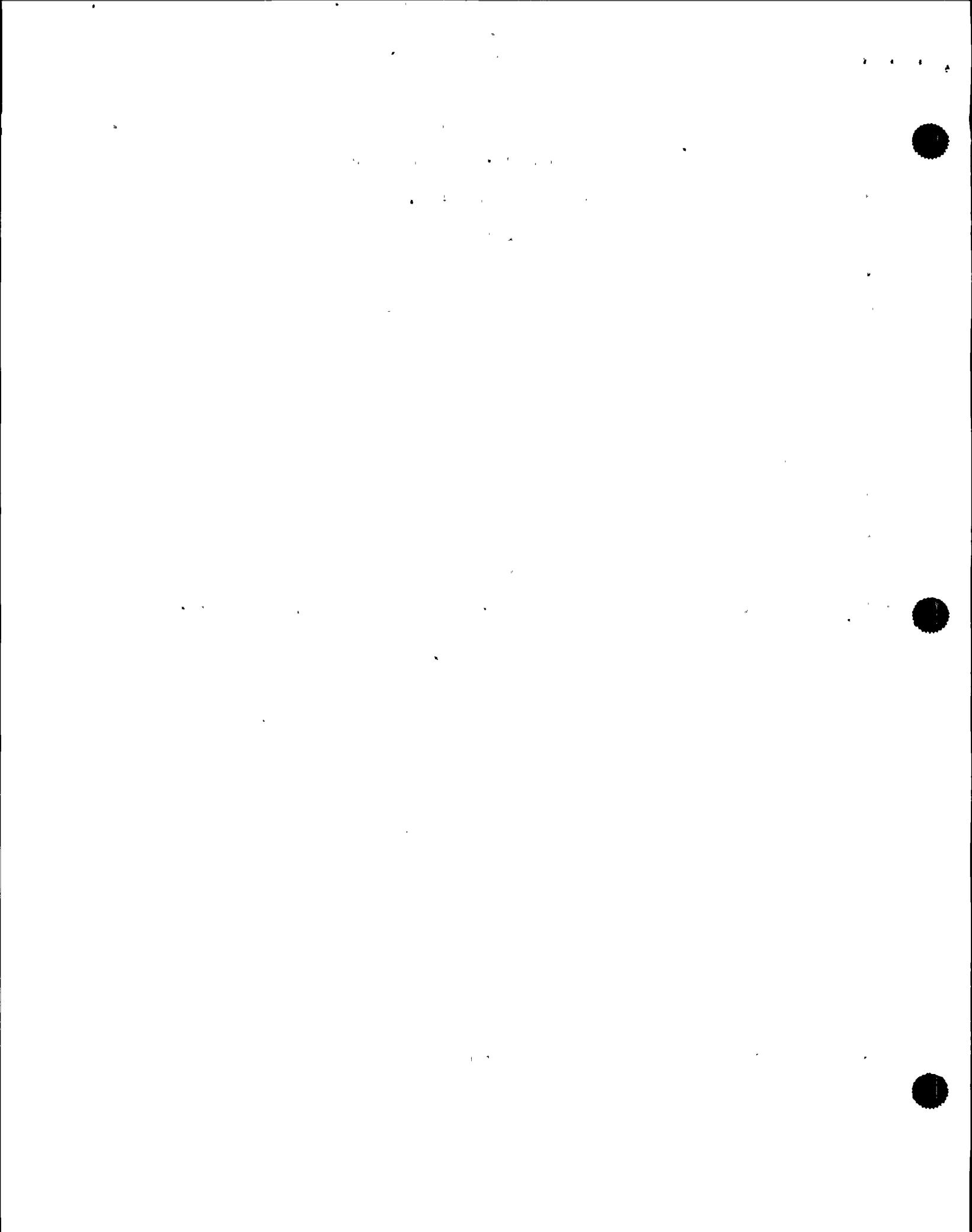
18 So he kind of like discussed it with Mike.

19 MR. JORDAN: Who did you bring this up with?

20 MR. LAWRENCE: Mark Davis the CSO.

21 MR. JORDAN: Okay.

22 MR. LAWRENCE: And what eventually happened is
23 Dave Hanczyk ended up going down with the team so I got
24 relieved when they finally decided for our shift to take
25 over it was -- it was probably after 10:30 because it was --



1 because he was down there -- he couldn't leave until the
2 team was done, I guess. I mean, they wouldn't allow him to
3 be relieved until he was done down there with the damage
4 control team. But it was 10:30 approximately, quarter to
5 11, somewhere and so I was -- had basically control room
6 duties and I got involved with the drywell vacuum breaker
7 surveillance because we had to -- we had SRV's lifting so we
8 had to -- anytime you send energy you're required to
9 perform this surveillance test on the general vacuum
10 breakers, so I did that.

11 MR. KAUFFMAN: When is that required?

12 MR. LAWRENCE: Well, it says two hour -- I believe
13 it's two hours after -- it says energy release to the pool.

14 MR. KAUFFMAN: So that would be an SRV RCIC?

15 MR. LAWRENCE: Yeah. It could -- yes. You could
16 say that. So they had -- I was working on that and
17 completed that surveillance and --

18 MR. KAUFFMAN: Do you recall about when that was?

19 MR. LAWRENCE: Well, it was -- I know -- I can't
20 remember when I started it, but I was informed that it had
21 to be done before noon. And it was done before noon.
22 Between 11:30 and 12:00.

23 And then I did a short -- I guess there was a
24 short surveillance that we had to perform on -- it was a
25 PMT, I believe, for RHS MOV-40 Alpha to time that for a PMT,



1 a post maintenance test, and I did that with Jim Emery. We
2 did that.

3 MR. KAUFFMAN: Do you recall if that valves non-
4 name is?

5 MR. LAWRENCE: Oh, it's -- I'm sorry, it's the
6 shut down cooling return to the -- to RCS.

7 MR. KAUFFMAN: Okay.

8 MR. LAWRENCE: And that was -- after that it was
9 really -- I don't believe I participated in anything major
10 other than what I've mentioned. I left work about 2:30.
11 They had -- they went around to people to ask them if they
12 wanted to stay or go. At that point we were just about
13 ready to put shutdown cooling on; and they had plenty of
14 people to do that so they asked me if I wanted to stay and I
15 said if you don't need me I'll go. If you do, why -- you
16 know, and he said, "Well, we have enough people," so I opted
17 to go home. So I left around 2:30.

18 MR. JORDAN: Is that your normal time?

19 MR. LAWRENCE: Yes. It's normally our shift.

20 [Pause.]

21 MR. JORDAN: I've got just a few questions. You
22 mentioned early on that you originally were told to take the
23 RHR system and clear some tags on them and you mentioned
24 that one of the aux operators had grabbed up a bunch of the
25 tags. Did you go out and clear those tags or did somebody



1 else do that?

2 MR. LAWRENCE: No. What -- well, the thing of it
3 was -- like I said before, the tags were hung, okay. This
4 is for work that was going to be that morning on that --
5 that system. And they were never issued so they had --
6 there was no problem with pulling the tags. I mean, the
7 work never started, so --

8 MR. JORDAN: Was power taken off of the equipment?

9 MR. LAWRENCE: Yeah. Oh, yeah, the breakers were
10 opened.

11 MR. JORDAN: So somebody had to go out there and
12 reset the breakers?

13 MR. LAWRENCE: Right. Pull the tags and re-
14 energize them.

15 MR. JORDAN: Is that what you did?

16 MR. LAWRENCE: Well, no, I didn't go. My role was
17 to be, I believe, the second verifier for the tags. So they
18 had the -- so the auxiliary operator did them and I don't
19 know who it was, but somebody later on second verified them,
20 I believe. I am not really sure.

21 MR. JORDAN: Okay. But you didn't?

22 MR. LAWRENCE: No. I did not go.

23 MR. JORDAN: You originally were going to do that?

24 MR. LAWRENCE: Right. It was like -- it was sort
25 of like -- I kind of like had a couple jobs fired on me at



1 the same time, type of thing. And it kind of like worked
2 itself out, I guess is the best way to put it.

3 MR. JORDAN: Do you happen to know about when
4 those tags on RHR got pulled off and the equipment was
5 restored and made available?

6 MR. LAWRENCE: No. Not -- no, I don't. I know it
7 was -- well, they'd already made the -- they had already had
8 them all together. Well, they were laying on the desk at
9 6:00 and that was about their intention. It wa around 6:00
10 when he gave the -- because it was just shortly after it got
11 there. So they went -- they grabbed and made copies of
12 them so that, you know, they knew which breakers to go to
13 and they took them.

14 MR. JORDAN: You said you were using -- you were
15 out working on the turning gear, was there a procedure for
16 how to get this thing on the turning gear if there was
17 difficulty on getting it on the turning gear?

18 MR. LAWRENCE: Yes.

19 MR. JORDAN: Do you happen to know that procedure
20 number?

21 MR. LAWRENCE: It's OP-21.

22 MR. KAUFFMAN: When people were out in the turbine
23 building, is there a means to manually jack the turbine over
24 or is it just sitting there --

25 MR. LAWRENCE: Just sitting there.

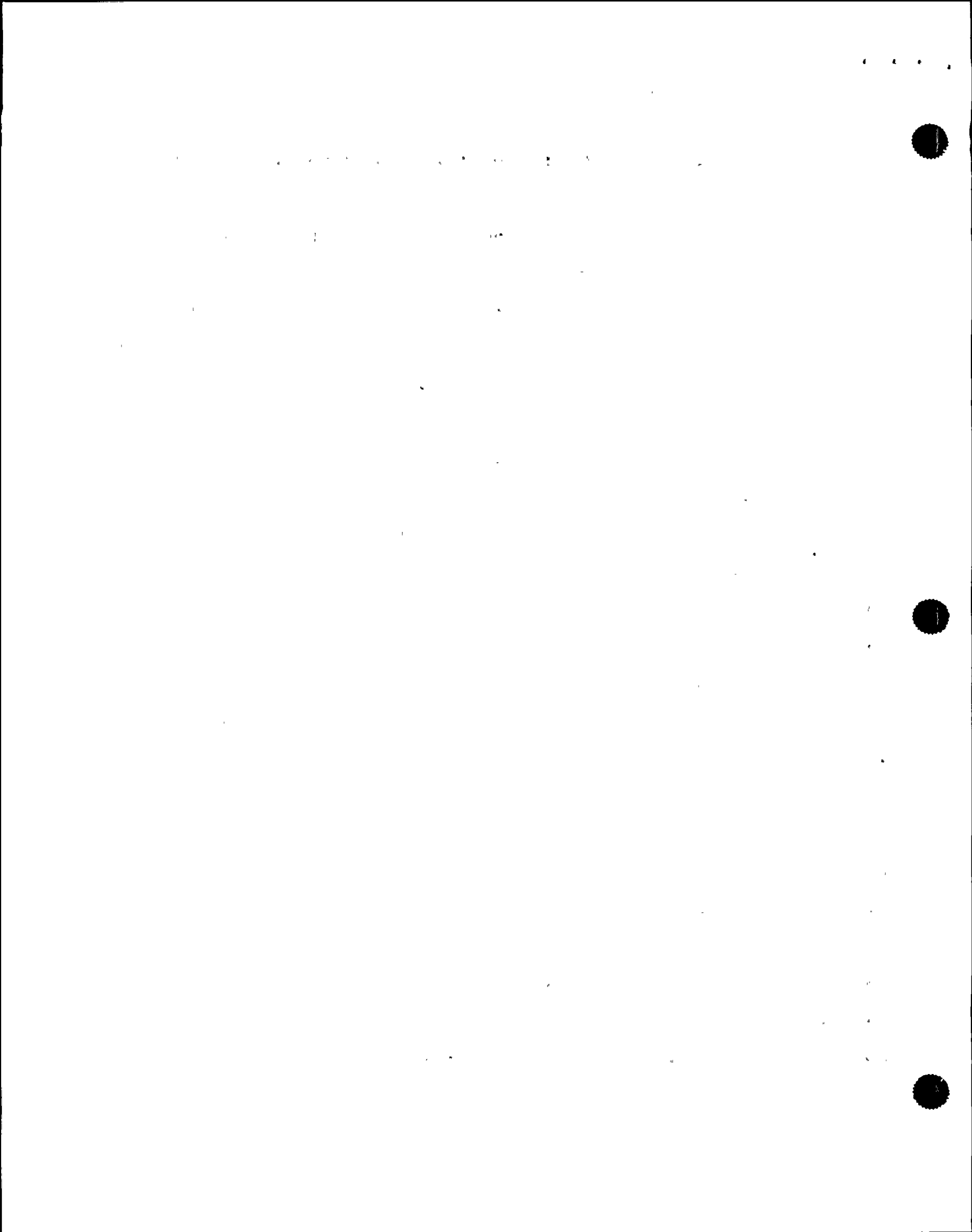


1 MR. KAUFFMAN: -- stopped and there's nothing you
2 could do?

3 MR. LAWRENCE: There is -- we tried using a --
4 there is a jog button on the turning gear and we attempted
5 to use the jog button to try to engage it and it wouldn't --
6 it looked like it would engage, but it was -- the mortar
7 was -- you could tell it was drawing a lot of current, in
8 fact you every time you put it on it had a sustained high
9 amperage on it. So I let it go and when I had gotten off of
10 it they had talked about trying to move it with a crane,
11 turning it with a crane and I don't think they ever got to
12 that point. They tried it again, I believe in the afternoon,
13 from what I understand, later on they attempted to do the
14 jog and they managed to get it to move a couple of inches.
15 The idea of it, I guess, was to try to get it to move at 180
16 degrees from where it was. And they managed to do that with
17 the jog button.

18 Why it didn't do that when I was there I have no
19 idea. Because I held it long enough where I thought that
20 maybe while the motor was humming to the point where it kind
21 of bothered me that I had my finger on the button, I let it
22 go.

23 MR. KAUFFMAN: To your knowledge and experience
24 have there been similar problems with the turning gear in
25 the past or is this about the first time it has happened?



1 MR. LAWRENCE: We've had problems with it in
2 start-up of the kicking off of the gear when we go into
3 shell warming, but never -- never that I recall in this
4 situation on shutdown.

5 MR. KAUFFMAN: Okay. I was going to ask you a
6 similar question about clean up. Are you aware of problems
7 or personal experience problems with cleanup isolating
8 before when you start up the system?

9 MR. LAWRENCE: We have -- we have had problems
10 with it in the past, yes.

11 MR. KAUFFMAN: Similar problems or --

12 MR. LAWRENCE: Uh -- different -- we were in
13 different operating situations. Some -- well, most of them
14 I recall we were hot. I mean, it was a -- one I recall -- a
15 couple that I recall we were at 100 percent power and we
16 lost -- we had like blown a seal on one of the pumps and
17 tried to restart it. And ended up isolating the system.
18 That type of thing, but there have been others.

19 We have had -- we have taken a lot of isolations
20 on cleanups.

21 MR. JORDAN: Do you have any idea what caused this
22 isolation?

23 MR. LAWRENCE: Well, it was high differential
24 flow.

25 MR. JORDAN: Do you know why you had it?



1 MR. LAWRENCE: I -- I'm really not sure. I wasn't
2 really directly involved with it and I couldn't really say
3 what the main cause was. Maybe -- the only thing I could
4 think of is that maybe -- just that the piping may have been
5 emptied and they tried to fill the piping up too fast, I
6 guess. That would be my only guess.

7 MR. JORDAN: You mentioned that around 10:30, I
8 guess, Dave Hanson?

9 MR. LAWRENCE: Hanczyk.

10 MR. JORDAN: Hanczyk, yes, you basically relieved
11 him and then he went out with the team down in the room to -
12 -

13 MR. LAWRENCE: No, no, no.

14 MR. JORDAN: Let's go off the record for just a
15 second, we're interrupted.

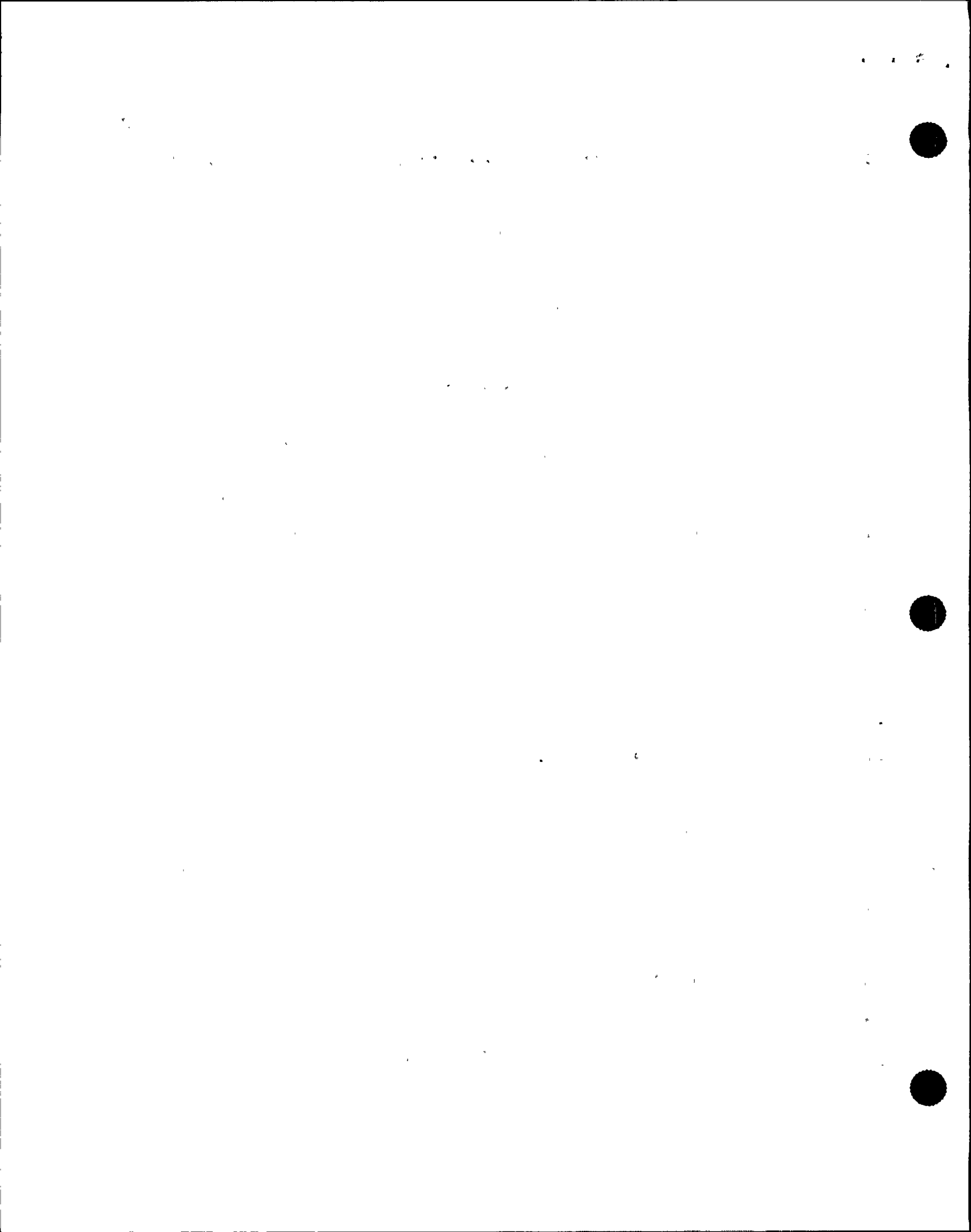
16 [Pause to answer door.]

17 [Discussion held off the record.]

18 MR. JORDAN: We're back on the record, we had an
19 interruption for the replacement of some tapes.

20 You explained that Dave Hanczyk going down to the
21 UPS room around 10:30?

22 MR. LAWRENCE: Oh, that. No, he got back from
23 that to relieve me. He was -- that was his -- basically he
24 was just about ready to go home. I believe after he
25 relieved me he may have -- I think he had to fill out a



1 reactor analyst sheet of what he saw, which is standard
2 procedure for when we take a scram so that they can
3 ascertain as to what the events -- what events occurred.

4 MR. JORDAN: Okay. So the transfer back to normal
5 power from the maintenance power and the UPS happened prior
6 to 10:30?

7 MR. LAWRENCE: Oh, yeah. Oh, yes.

8 MR. JORDAN: Okay. When that was --

9 MR. LAWRENCE: Say that again?

10 MR. JORDAN: What, from maintenance power to
11 normal power on the UPS's that's what he went down there
12 for, right?

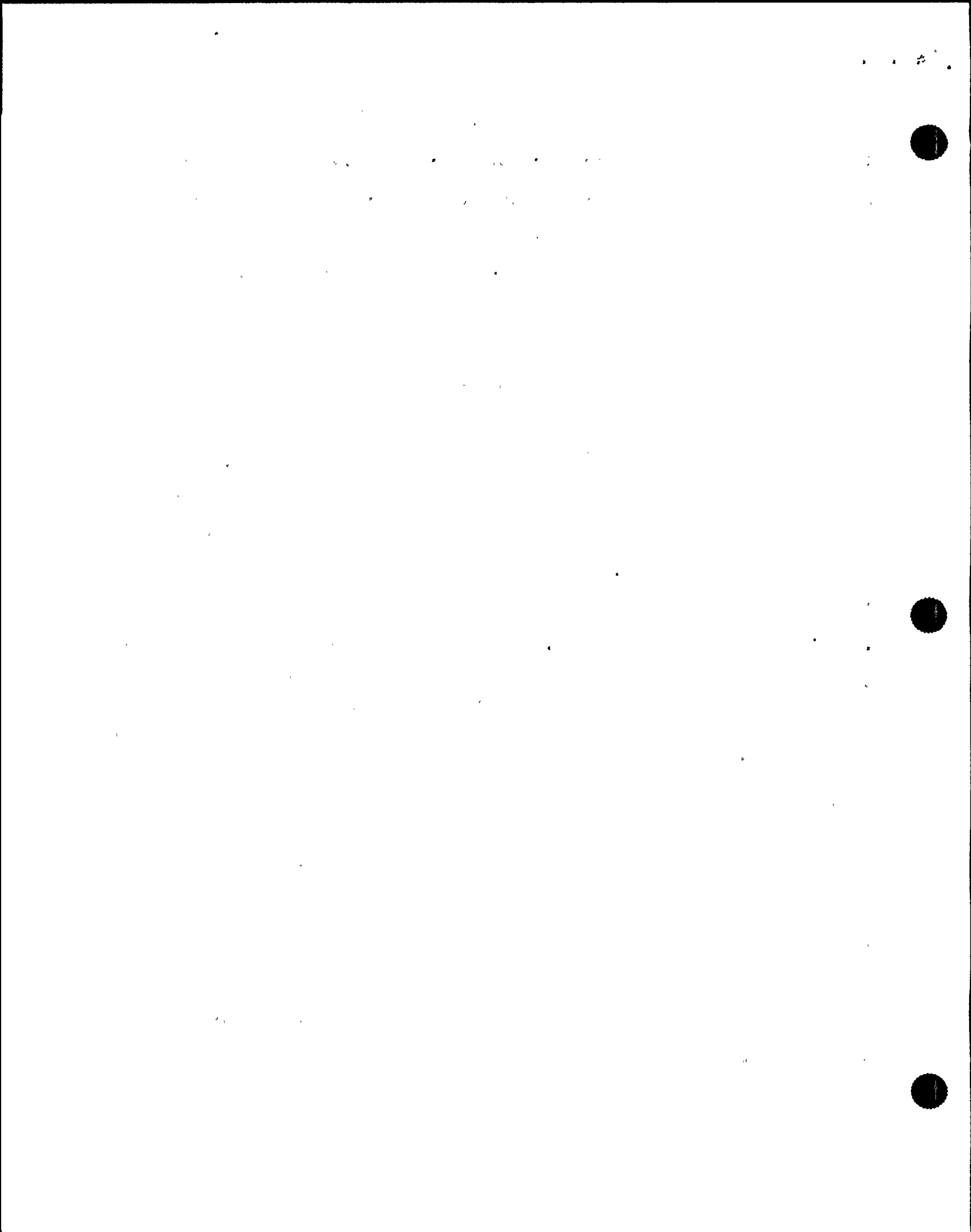
13 MR. LAWRENCE: Oh, yes. Yes. I guess they had --
14 they had a problem with one. One or two, I don't recall,
15 but, yes.

16 MR. JORDAN: And that's where you mentioned that
17 you had a concern or voiced a concern to Mark Davis that why
18 don't they leave it on maintenance power?

19 MR. LAWRENCE: Yes. That was a while before
20 10:30. I'm not really sure when he actually went down, but
21 this was like -- he was down there quite a while and this
22 was prior to that.

23 MR. JORDAN: Okay.

24 MR. LAWRENCE: And he had discussed doing that --
25 what Mike Conway thought about doing, I don't know if Mike



1 talked to the TSC or what -- how he determined it because I
2 might have even been out of the control room at the time,
3 but --

4 MR. JORDAN: At the time of the transfer?

5 MR. LAWRENCE: No, at the time that he decided to
6 have Dave go down to do that.

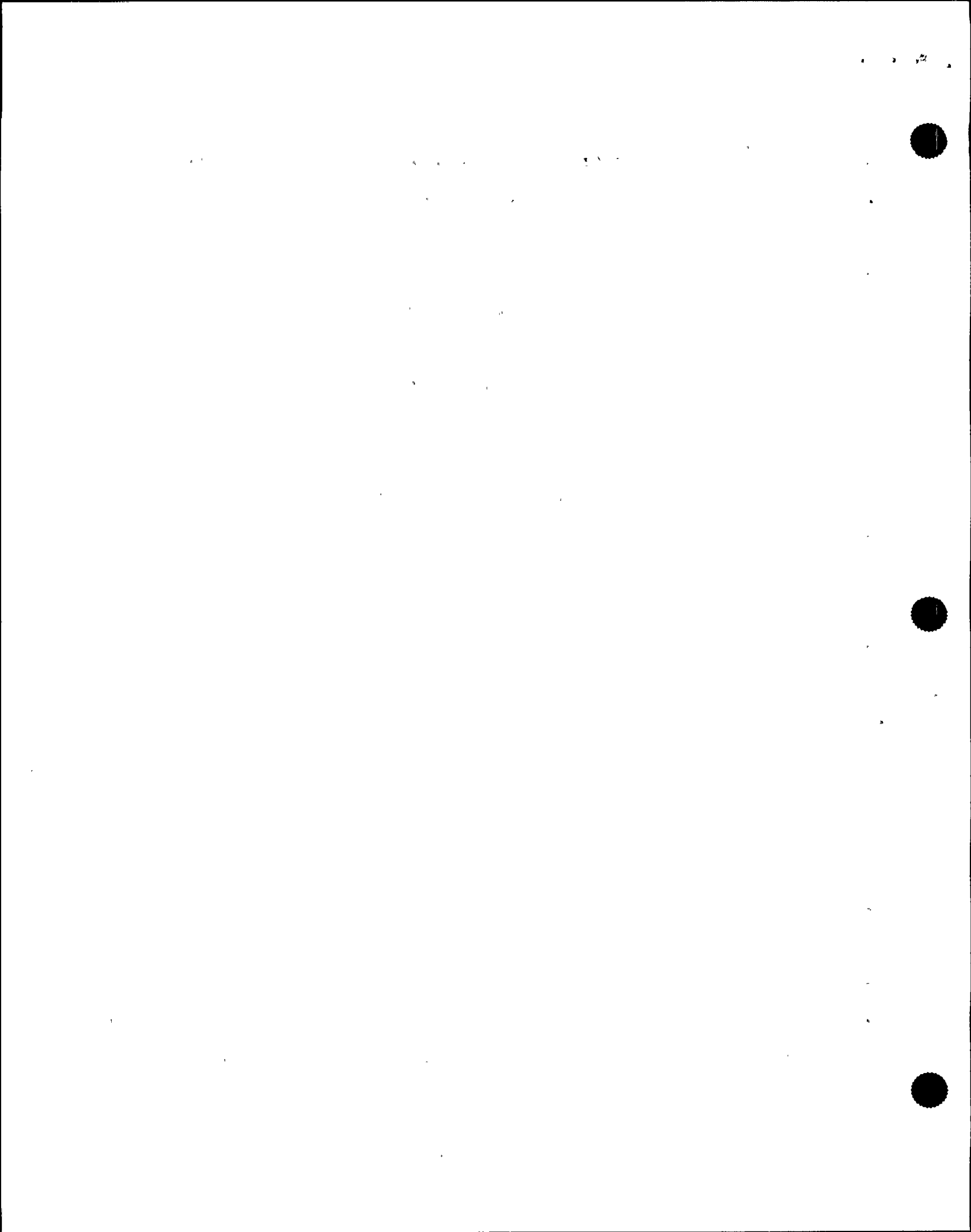
7 MR. JORDAN: Okay. When Dave went down to do it,
8 were you in the control room when they actually did the
9 transfer, do you know?

10 MR. LAWRENCE: I was listening -- you could hear
11 them talking -- they were -- I believe they were using the
12 radios and talking to each other and you could overhear the
13 conversation.

14 MR. JORDAN: Okay. Do you know who was talking to
15 whom and who had knowledge of the transfer? Everybody in
16 the control room? Was it over the gaitronics or was it just
17 one-on-one or who was communicating with who that they were
18 going to do the transfer?

19 MR. LAWRENCE: I believe it was Dave and Mark --
20 well, Dave wasn't by himself, he was with a bunch of other
21 people.

22 MR. JORDAN: I was just asking who was
23 communicating to who? Who all knew that the transfer was
24 occurring and when it was curing and how -- what kind of a
25 communication set up was set up so that not everybody knew



1 that they were taken off of maintenance and being put on --

2 MR. LAWRENCE: Oh, I see --

3 MR. JORDAN: -- so if they lost the power --

4 MR. LAWRENCE: Right.

5 MR. JORDAN: -- and everybody is sitting there

6 going, gee, I didn't know that was happening.

7 MR. LAWRENCE: No. Mark was in control of that

8 situation.

9 MR. JORDAN: Mark?

10 MR. LAWRENCE: Davis.

11 MR. JORDAN: Davis?

12 MR. LAWRENCE: Yes.

13 MR. JORDAN: And he's -- his position?

14 MR. LAWRENCE: He was a CSR.

15 MR. JORDAN: And you think he was in

16 communications with --

17 MR. LAWRENCE: Dave.

18 MR. JORDAN: Who is down in the UPS room?

19 MR. LAWRENCE: Right.

20 MR. JORDAN: Anybody else?

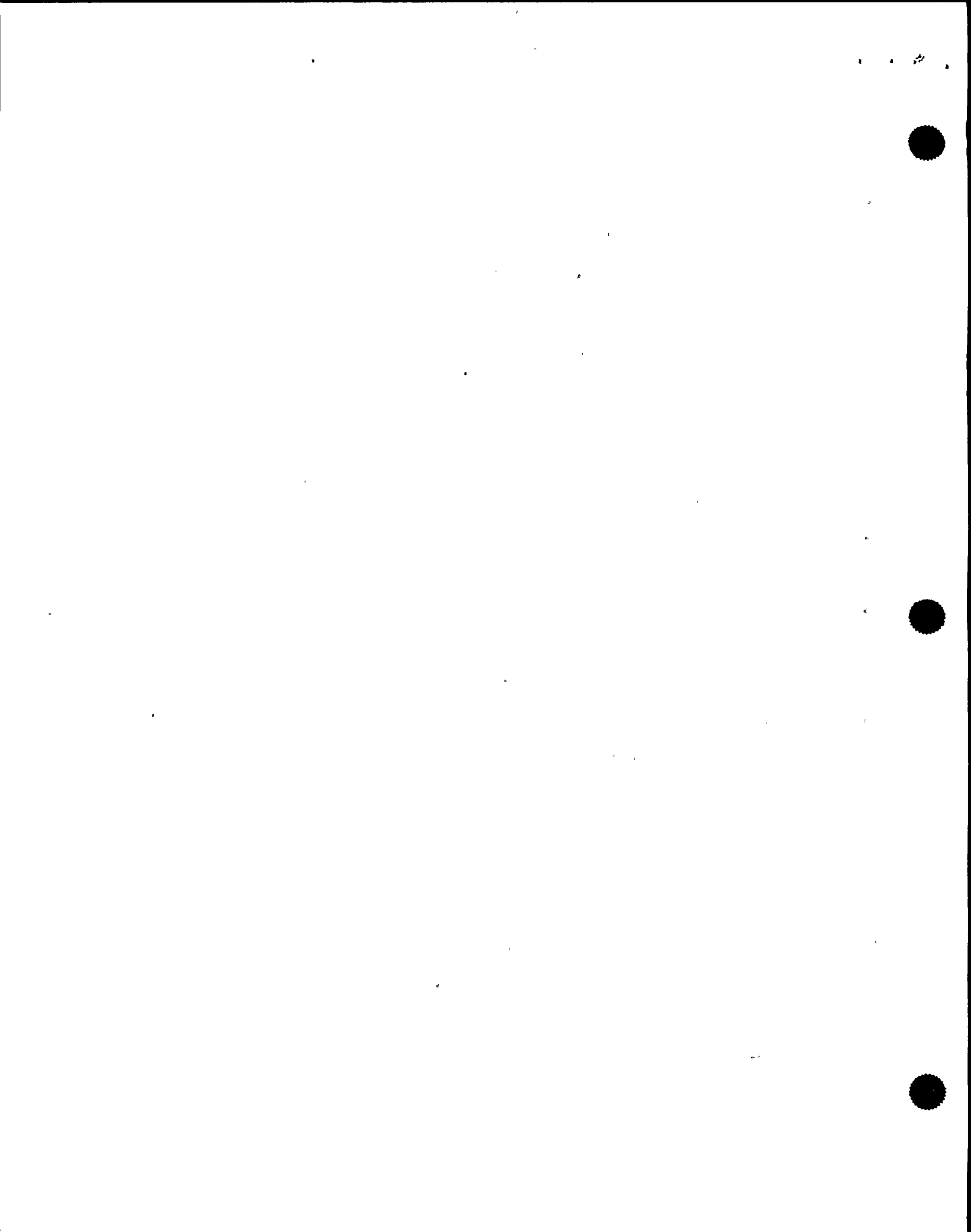
21 MR. LAWRENCE: Down there or --

22 MR. JORDAN: No. In the control room.

23 MR. LAWRENCE: Oh. Not that I remember.

24 MR. JORDAN: Was Mark Davis making any type of

25 announcements that they're transferring over? Did you have



1 a feeling for -- you knew when they transferred over?

2 MR. LAWRENCE: Well, it was -- I know, it was --

3 MR. JORDAN: Not time, but did you have a feeling
4 for when you knew that they were going to transfer over?

5 MR. LAWRENCE: Oh, yeah. I mean, you could hear
6 them talking about it, so it wasn't like --

7 MR. JORDAN: On the gaitronics, where -- how were
8 they --

9 MR. LAWRENCE: On the radio.

10 MR. JORDAN: On the radio?

11 MR. LAWRENCE: Yeah. I mean you could over hear
12 it, but I mean it wasn't -- they didn't directly come to me
13 and say, they're going to transfer UPS to normal, I mean
14 that -- but

15 MR. JORDAN: but you had a feeling for knowing
16 when it was occurring?

17 MR. LAWRENCE: Yes.

18 MR. JORDAN: And occurred?

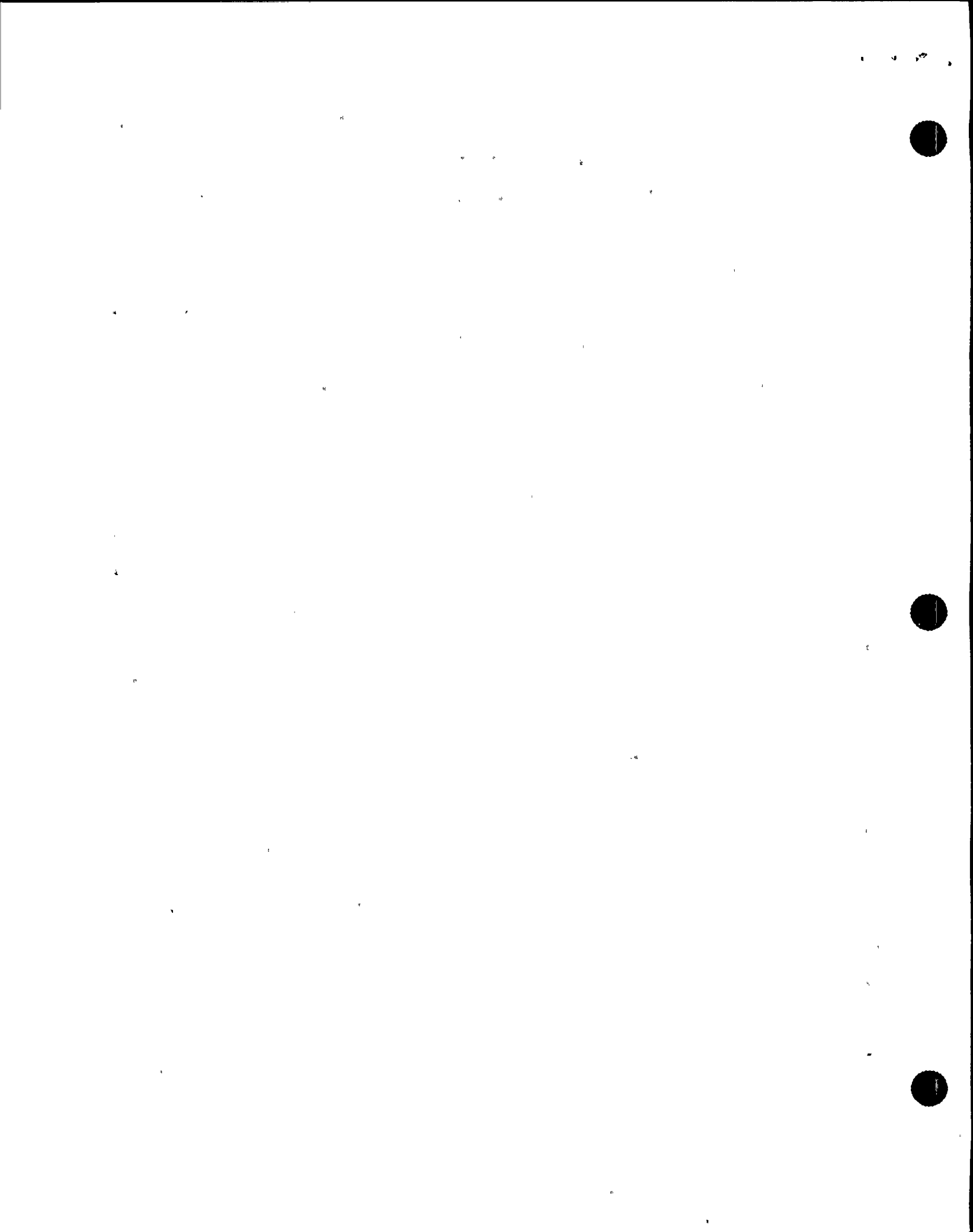
19 MR. LAWRENCE: Yes.

20 MR. JORDAN: So if something went abnormal in the
21 control room you would have an idea of why it went abnormal?

22 MR. LAWRENCE: Oh, yes.

23 MR. JORDAN: Is that correct?

24 MR. LAWRENCE: Well, I guess I don't understand
25 the --



1 MR. JORDAN: What I was looking for is the
2 communications. If somebody is out in the plant operating a
3 piece of equipment, okay, particularly if all of a sudden
4 all of the lights -- it has the potential for all of the
5 lights going out and that's one of the things you expressed
6 your concern about --

7 MR. LAWRENCE: Oh, I see what you're saying.

8 MR. JORDAN: Okay. Now, and I'm going to go out
9 and I'm going to operate a piece of equipment out in the
10 plant that has that potential. How many people in the
11 control room were aware that I'm now in the process of
12 transferring it so that if I'm over here and all of a sudden
13 I loose my indication that I have an indication or a
14 reasonable knowledge of why I lost it, you know, that I'm
15 not sitting over here in the dark, not knowing what's going
16 on out in the plant that all of a sudden I'm going to loose
17 my communications. So I was just curious of what kind of
18 communications were going on during the transfer?

19 MR. LAWRENCE: Oh, I see.

20 MR. JORDAN: So that everybody in the control room
21 knew what was going to go, it's going, or was it that the
22 two people knew what was going on and the other people got
23 the information just by overhearing it? I don't know what
24 was going on. I don't know how the communication was
25 communicated in the control room or what was going on out in



1 the plant?

2 MR. LAWRENCE: Well, I guess the best way to say
3 it would be that I wasn't really doing anything to directly
4 -- that would directly affect me. So I guess that wasn't
5 really a direct concern of mine, but what I should say is
6 that I could hear the conversation over the radio, I mean,
7 but as far as it directly affecting me, no.

8 MR. JORDAN: Okay.

9 MR. LAWRENCE: What I was doing, no.

10 MR. JORDAN: Okay. Later on in the day when you
11 were in the process of -- because of the SRV lifting, you do
12 the procedure for the --

13 MR. LAWRENCE: The drywell vacuum breakers, yes.

14 MR. JORDAN: Is there a procedure for that?

15 MR. LAWRENCE: Yes. It's a surveillance test.

16 MR. JORDAN: Do you know what it is?

17 MR. LAWRENCE: It's a monthly. And I -- I'll have
18 to dig for this one, but I think it's N2OSPISCM at 01, I
19 think. I think it's M at 001.

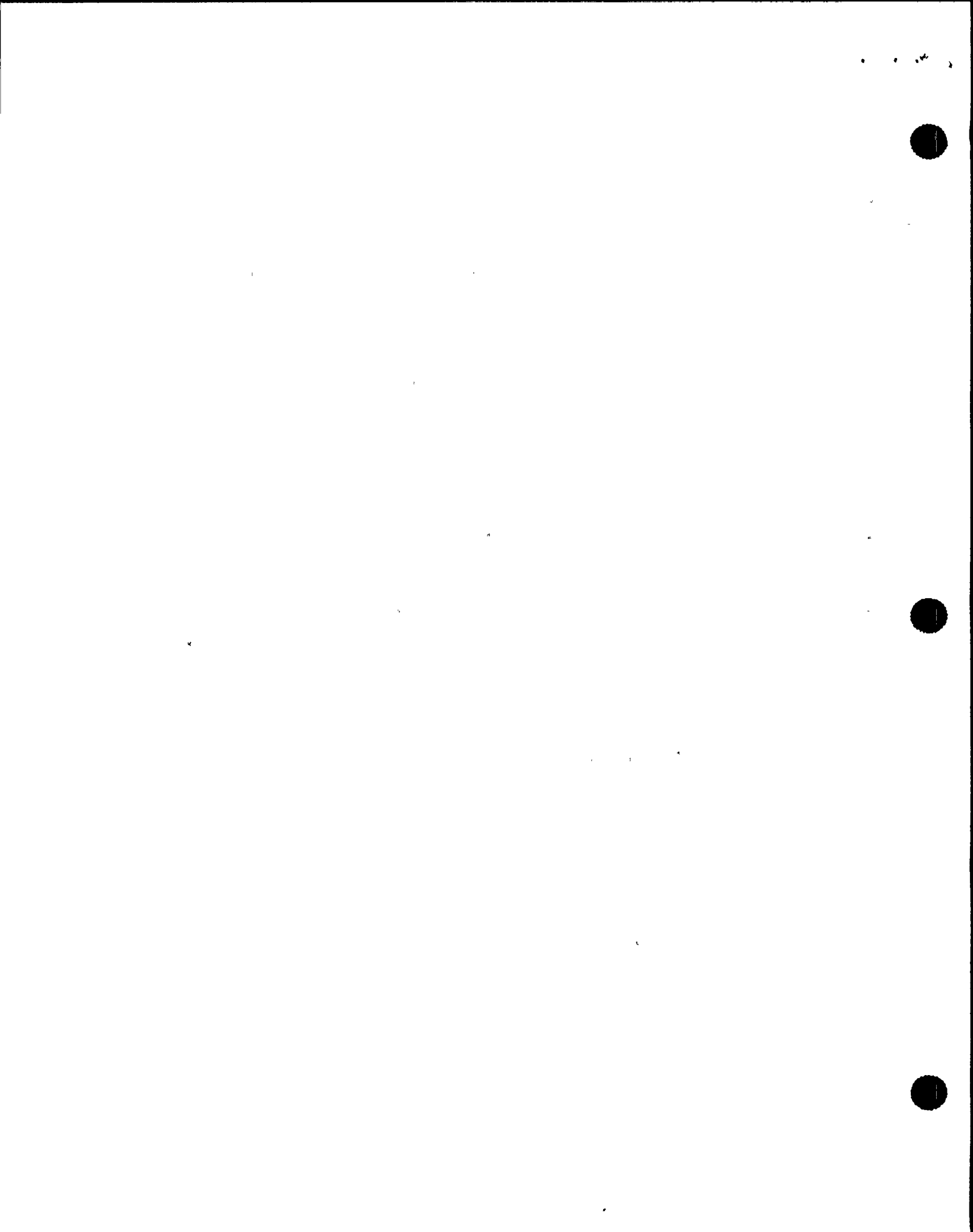
20 MR. JORDAN: M?

21 MR. LAWRENCE: At.

22 MR. JORDAN: Like in --

23 MR. LAWRENCE: Like an -- what do you call that A
24 with a circle? What do you call that?

25 MR. JORDAN: Oh, an at. 01?



1 MR. LAWRENCE: 001. Yeah. Yes. I believe that's
2 it. In fact, if you look -- a good way to find it, to
3 insure that's right is to look in the shutdown procedure,
4 because it will mention -- in fact, it will mention that
5 very statement that I told -- any time and energy that is
6 put into the suppression pool, you're required to do that
7 surveillance and it lists that surveillance in there.

8 MR. JORDAN: Any questions on procedures?

9 MR. KAUFFMAN: Do you want to do the general
10 question?

11 MR. JORDAN: The question I always like to work
12 towards and the question is, you can take this as the
13 positive and the negative. The positive is that, what did
14 you find or was there anything that during the event or
15 during your activities that you said to yourself, gee, I'm
16 glad I had that with me, and you know, and the vice versa
17 says, what do you say that gee, I just, you know, I didn't
18 have this, but I sure wish I had it?

19 One is, it was there and it was available and I'm
20 glad I had it and the classic example is the guy that goes
21 out -- out in the plant and says Mr. Aux Operator, a valve
22 and he goes out there and he says boy am I glad that that
23 wrench was hanging on that valve when I go there, because
24 whoever staged that, that really helped me in accomplishing
25 my goals.



1 And the contrary of that is, when I got out there,
2 I wish there would have been a switch or a wrench hanging on
3 that valve or and you can say, gee, I'm glad I had good
4 training, or the procedures that I had helped me through or
5 you know, it could be a myriad of things. Is there anything
6 in which you felt were outstanding that you said to
7 yourself, gee, I'm glad I had that?

8 MR. LAWRENCE: I would say I'm glad we had the
9 simulator time to work on EOP's. That's definitely the
10 first thing that comes to my mind. The simulator training
11 that we've had, I thought the communications were very good
12 in that instance and I -- and previous ones, since we've --
13 since we have worked on our communications since -- well, I
14 was involved in the instrument air scram last year that was
15 -- you could definitely see where working the simulator
16 helped us in the real thing in the plant.

17 And communications, I thought were very very good.
18 And the EOP stepping through seemed to be very very
19 controlled and everybody seemed like we were going in the
20 right direction and there weren't a lot of things that -- in
21 fact, I can't think of anything that really compounded the
22 problem, I mean, made the problem worse to where we -- to
23 get to cold shutdown.

24 MR. JORDAN: So there was nothing that you sit
25 back and say, other than the fact that you wish you had UPS



1 back?

2 MR. LAWRENCE: Right.

3 MR. JORDAN: Nothing else that you had come up
4 with that you say, gee, I wish if this transient were to
5 happen again, you know, why don't we have this available
6 for our people?

7 MR. LAWRENCE: But on the -- as far as the
8 contrary thing is, I think maybe a scenario in the simulator
9 to see what indications we have when we loose the computer
10 and our non-safety related instrumentation. That would -- I
11 mean --

12 MR. KAUFFMAN: I think they're working on it.

13 MR. LAWRENCE: Yeah. But --

14 MR. KAUFFMAN: I'm sure it would have been nicer
15 to have it beforehand.

16 MR. LAWRENCE: No, not to take anything from
17 training, but just --

18 MR. KAUFFMAN: We understand that -- unless you
19 did an infinite amount of training that you could -- there's
20 no way that you could cover possibly every situation exactly
21 as it unfolded.

22 MR. LAWRENCE: Absolutely.

23 MR. JORDAN: If training were to hit you with five
24 UPS losses, you would have been all over training saying
25 that's an impossible nature of the beast.



1 MR. LAWRENCE: Oh, they do some good stuff to us.
2 You know, like you say, you know, they can't do everything.
3 They're always thinking of scenarios to throw at us.

4 MR. JORDAN: Anything else?

5 MR. LAWRENCE: No.

6 MR. JORDAN: Okay. And my last statement is, if
7 there's anything that we haven't covered that you have
8 knowledge of that you would like to tell us about that would
9 help us in our investigation?

10 MR. LAWRENCE: The only thing -- well, I didn't
11 mention about the turning gear which is -- I don't know, one
12 of the lift pumps didn't -- at some time point had tripped
13 and that -- when it happened, I have no idea, but it did
14 trip. In fact, we had to restart it locally due to that
15 fact, but that was the only thing I failed to mention.

16 MR. JORDAN: But you got it back then locally?

17 MR. LAWRENCE: Yes, we did get it back.

18 MR. JORDAN: Okay. Anything else? John?

19 MR. KAUFFMAN: No.

20 MR. JORDAN: Go off the record.

21 [Whereupon, at 2:21 p.m., the taking of the
22 interview was concluded.]

23

24

25



REPORTER'S CERTIFICATE

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

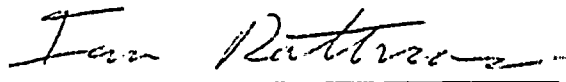
in the matter of:

NAME OF PROCEEDING: Int. of JAY LAWRENCE

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.



IAN ROTHROCK
Official Reporter
Ann Riley & Associates, Ltd.

