

# OFFICIAL TRANSCRIPT OF PROCEEDINGS

Agency: Nuclear Regulatory Commission  
 Incident Investigation Team

Title: Nine Mile Point Nuclear Power Plant  
 Interview of: MIKE GARBUS

Docket No.

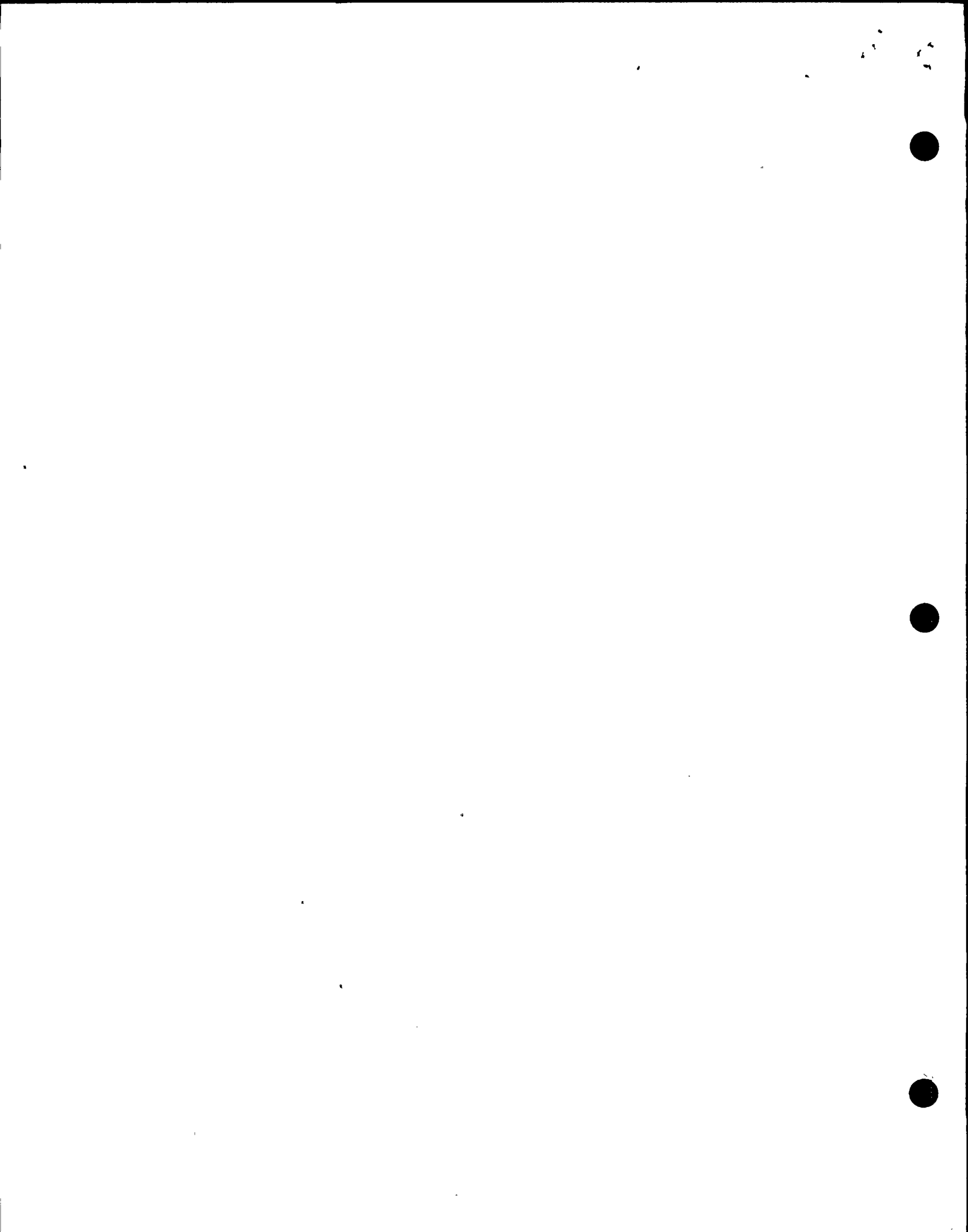
LOCATION: Scriba, New York

DATE: Tuesday, August 20, 1991

PAGES: 1 -- 20

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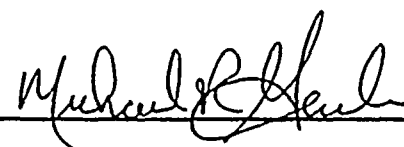
ADDENDUM TO INTERVIEW OF MIKE GARBUS / CSO  
(Name/Position)

Page            Line            Correction and Reason for Correction

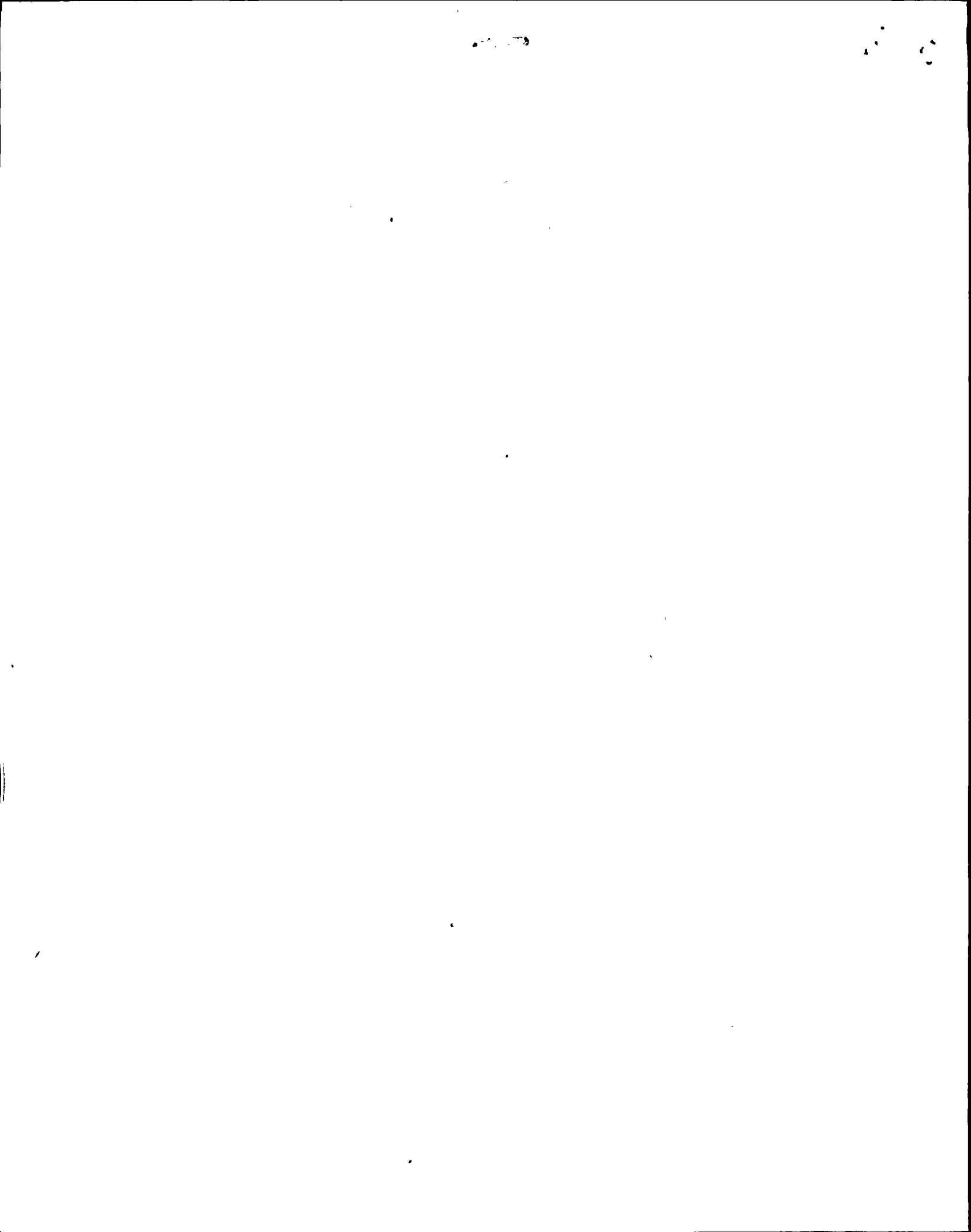
~~3~~          7          Should read "I bid back down for a  
~~time~~          time."  
3          9          Should read "I bid" not "I've been  
4          5          Change "Think" to thing  
18         7          Change Longs to logs

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Signature



Date 8/22/91



UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION  
INCIDENT INVESTIGATION TEAM

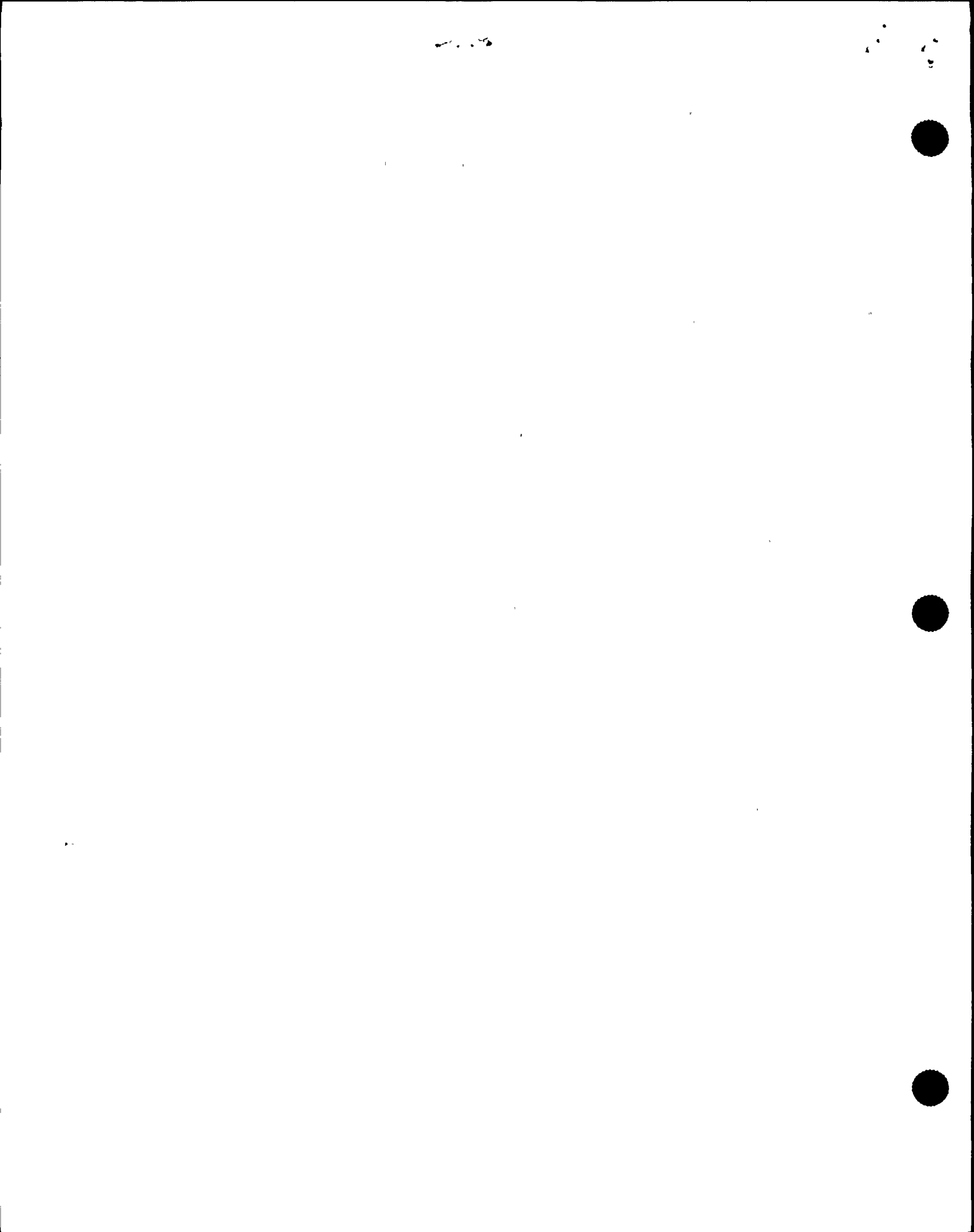
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Interview of :  
MIKE GARBUS :  
(Closed) :  
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Conference Room B  
Administration Building  
Nine Mile Point Nuclear  
Power Plant, Unit Two  
Lake Road  
Scriba, New York 13093  
Tuesday, August 20, 1991

The interview commenced, pursuant to notice,  
at 10:15 a.m.

PRESENT FOR THE IIT:  
Mike Jordan, NRC  
Rich Conte, NRC



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

[10:15 a.m.]

1  
2  
3 MR. JORDAN: It's August the 20th, 1991. It's  
4 10:15 in the morning. We're at Nine Mile Point, Unit Two.  
5 We're going to cover events having to do with a transient  
6 that occurred on August the 13th, 1991. My name is Michael  
7 Jordan. I'm with the NRC out of Region III.

8 MR. CONTE: Rich Conte, NRC Region I.

9 MR. GARBUS: Mike Garbus, Operations, Unit Two.

10 MR. JORDAN: Okay, Mike. Why don't we -- when we  
11 start off, why don't you just give us a background of where  
12 you -- who you are as far as -- and your background as far  
13 as your experience goes.

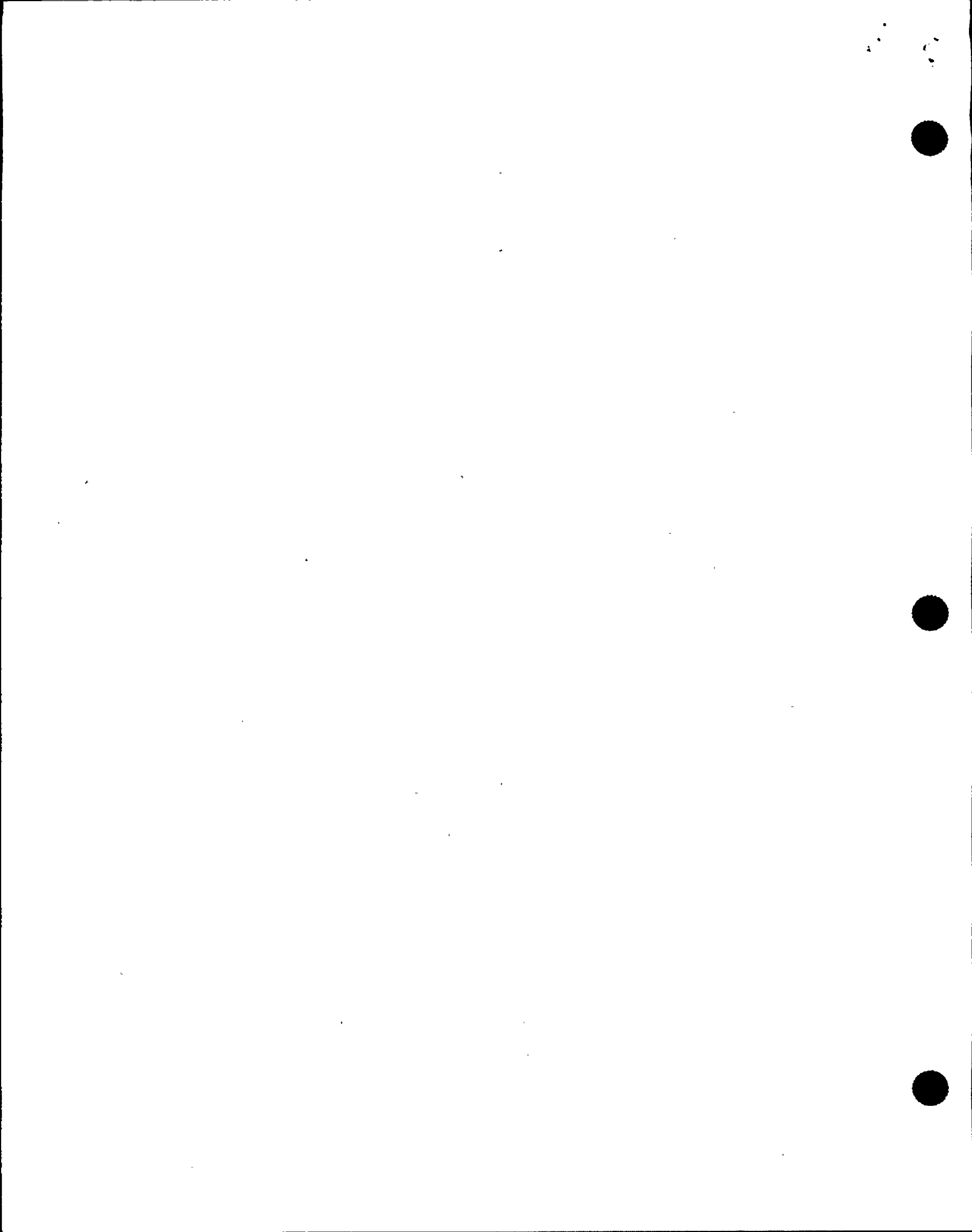
14 MR. GARBUS: Just as far as nuclear, or, how far  
15 back do you want to go? I mean --

16 MR. JORDAN: Well, give me your nuclear  
17 background.

18 MR. GARBUS: Well, let's see, we started  
19 operations in 1981 at a B operator.

20 MR. JORDAN: Here at --

21 MR. GARBUS: Here at -- well, this wasn't done  
22 yet, so I was at Unit One, but I was a Unit Two operations  
23 person. And then I spent a year as a B and progressed to a  
24 C. I think was just about a year as a C. And progressed to  
25 -- after license class -- to an E operator. And then I





1 think shortly after that -- it was a little over a year I  
2 became chief shift operator.

3 MR. CONTE: What year was that?

4 MR. GARBUS: I think '84.

5 MR. CONTE: Okay. And you've been a CSO ever  
6 since?

7 MR. GARBUS: I've been back down a long time just  
8 so I could get back out in the field and then the relief job  
9 came up, which is day work, so, I've been back as CSO, the  
10 relief.

11 MR. CONTE: Okay.

12 MR. JORDAN: So you're on the relief shift?

13 MR. GARBUS: Yes.

14 MR. JORDAN: Does that mean that the shift that  
15 was on is not your normal shift that you normally work for?

16 MR. GARBUS: Well, see, I just work Monday through  
17 Friday on days.

18 MR. CONTE: Was this a permanent assignment or is  
19 this a rotating assignment? You'll come off of relief and  
20 then --

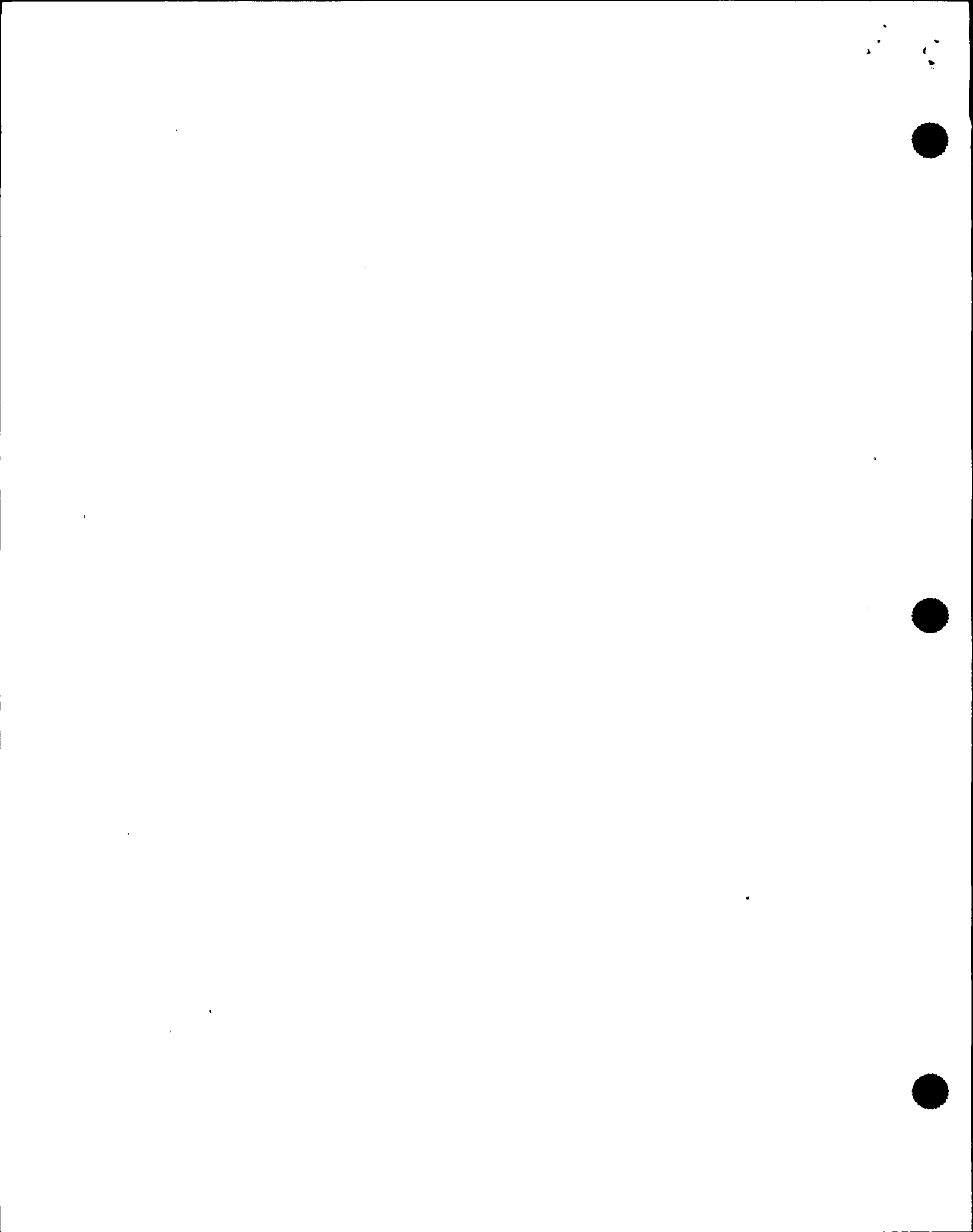
21 MR. GARBUS: Mine?

22 MR. CONTE: Yes.

23 MR. GARBUS: Mine -- permanent.

24 MR. CONTE: You're permanent relief?

25 MR. GARBUS: Yep. Cover for vacations.



1 MR. JORDAN: Okay. Now, why don't you give us the  
2 events from just prior to the event or when -- as far as the  
3 information that you know, as far as the event goes?

4 MR. GARBUS: Well, when I came in we had already  
5 scrambled. And the first think I noticed was quiet.

6 MR. JORDAN: Do you know what time this was?

7 MR. GARBUS: I've got to say shortly after six.

8 MR. JORDAN: Okay.

9 MR. GARBUS: But I'm not sure.

10 MR. JORDAN: Fine.

11 MR. GARBUS: Five, ten minutes after six, maybe.  
12 And then I made myself available to CSO. And let's see, the  
13 first assignment he gave me he handed me some mark-ups and  
14 said, "Here. Have somebody clear these." And they were on  
15 RHR B and C mark-ups, they had just hung during the night.

16 So, I got -- I don't remember who I -- I asked  
17 someone to clear them, but I don't remember who it was.

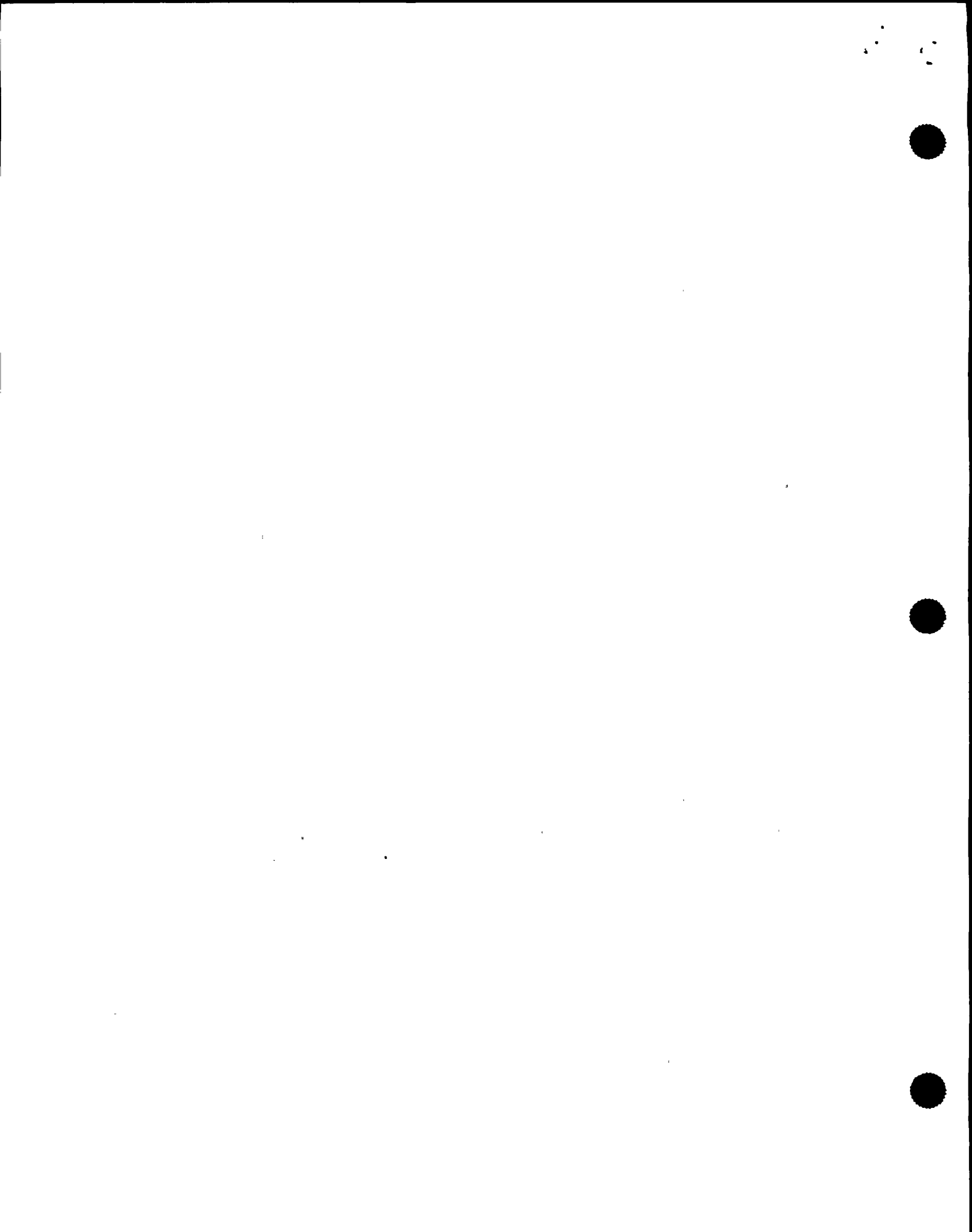
18 And then, let's see -- after that I think he  
19 asked me to go down and look at the UPS's. So, another RO  
20 and myself, we ran down to the locker room first and got a  
21 flashlight.

22 MR. CONTE: What other RO did you go with?

23 MR. GARBUS: Bob Spooner.

24 MR. CONTE: Okay.

25 MR. GARBUS: And then proceeded down to the UPS's.



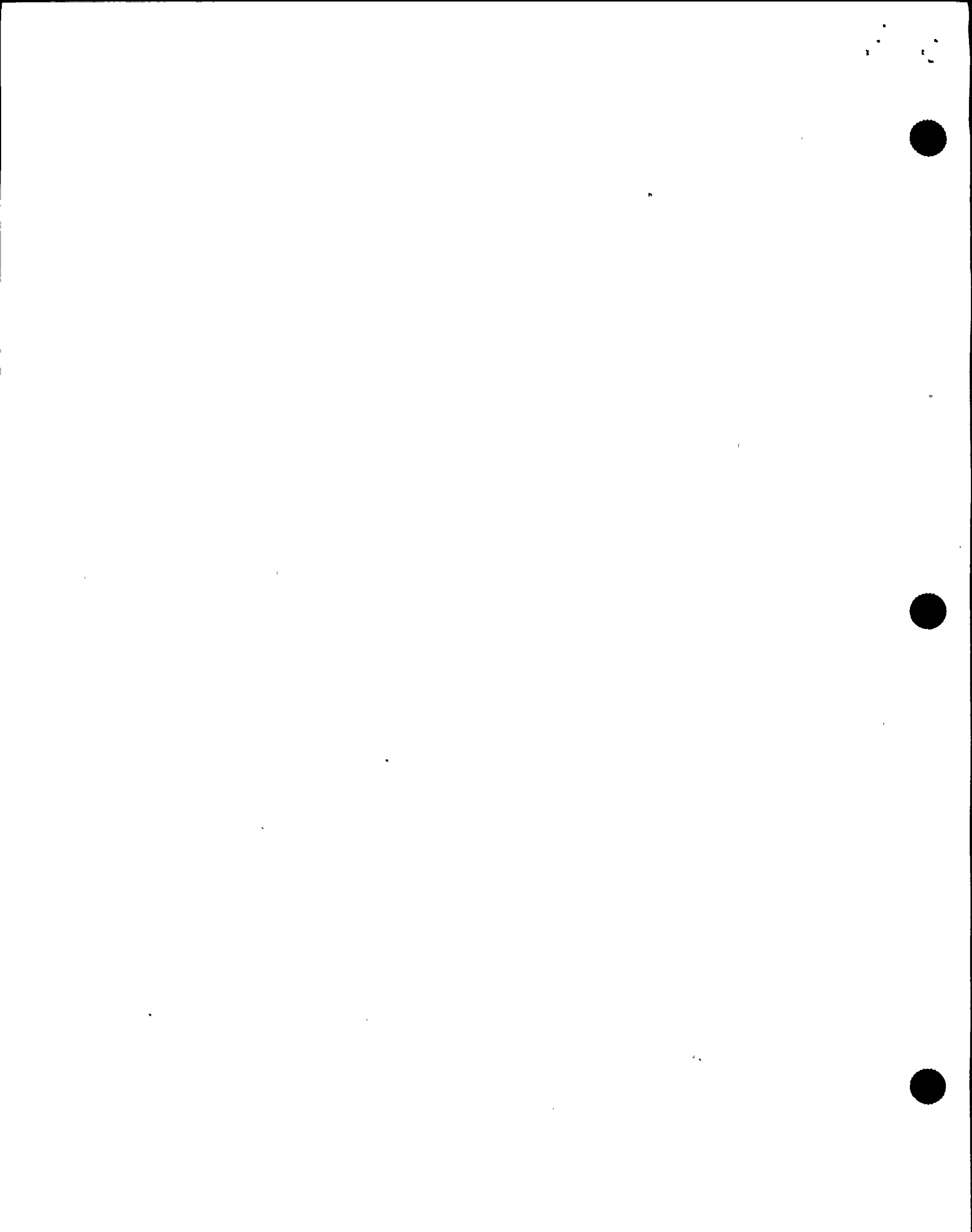
1 And --

2 MR. CONTE: So you automatically brought a  
3 flashlight with you?

4 MR. GARBUS: Yep. It was a little dark in the  
5 stairway when we headed down to the locker room, so we  
6 thought it might be a good idea.

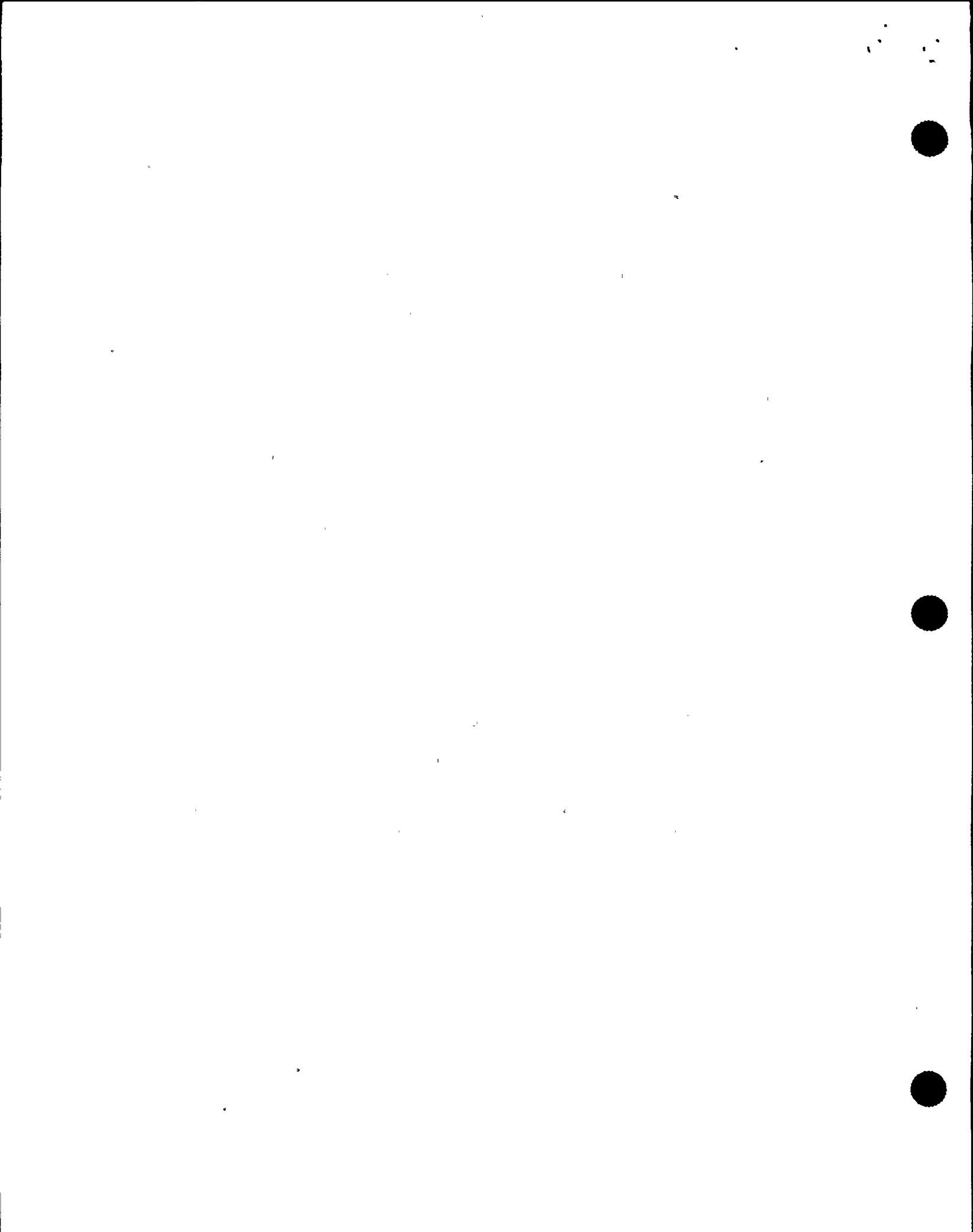
7 So, let's see -- when we got there, there was  
8 already -- I think Dave Hanczyk, I think Phil MacEwen and  
9 Jim Stevens, I believe was there. And I think there might  
10 have been somebody else, but I don't remember. And then,  
11 let's see -- then Bob and I went to one UPS, I can't tell  
12 you which one it was, I could walk to it, but -- and we  
13 looked at the mimic display on the front of it and both  
14 input breakers and the output breaker were open and the  
15 maintenance supply was also open. And it was somewhere  
16 around that time I heard Dave Hanczyk say something about  
17 the -- the procedure wasn't really written for that or  
18 something to that effect.

19 So, Bob and I, after looking at it, I think the  
20 next thing I did, there's a toggle switch for the CB-3  
21 breaker which is inverter output, so I took that off since  
22 the breaker was already opened and then Bob had opened the  
23 bottom -- or the cover for the CB-4, the maintenance supply  
24 breaker and he closed that in and then there was enough  
25 people down there that that's the only one we got to do.



1           So, then, back up to the control room. And by  
2 that time there was plenty of noise up there. And let's  
3 see, where did we go from there?

4           I think what I did was I just made myself  
5 available to the CSO again, which at the time was Mark  
6 Davis. And then -- oh, I took a call from Kim Dahlberg who  
7 apparently had been at Unit One for some other reason, but  
8 he said he -- he and someone else were in the TSC, but it  
9 wasn't completely staffed yet and he just wanted an update.  
10 So, I updated him as to what I knew, of course, I had just  
11 come back in the control room, so I wasn't fully aware of  
12 everything that was going on. And he had mentioned  
13 something about oil in the switchyard. So, after I had  
14 updated him -- or you know, briefed him on what I knew, then  
15 I told him I wasn't -- I told him that I'd just gotten  
16 there, so it wasn't a complete -- and so then after that I  
17 went down -- after talking to him, I went down to the  
18 switchyard and I saw in the -- you know, as soon as I  
19 entered the switchyard the first thing I saw was the oil on  
20 the concrete separators between the transformers. So I went  
21 over to the transformer and I walked around it trying to see  
22 where the leak was coming from. And then I saw, at the top  
23 of the transformer I saw the flange where it was leaking and  
24 I couldn't tell whether it was the flange or if the pipe had  
25 broke or what it was.





1           So the next thing I thought to do was I went  
2 around to the other side of the transformer and shut off the  
3 fan pump switches, figuring that might slow the leak, if  
4 nothing else.

5           And then I went back around on the north side of  
6 the transformer and looked at it again. I hadn't made much  
7 difference, so then it was back to the control room and --

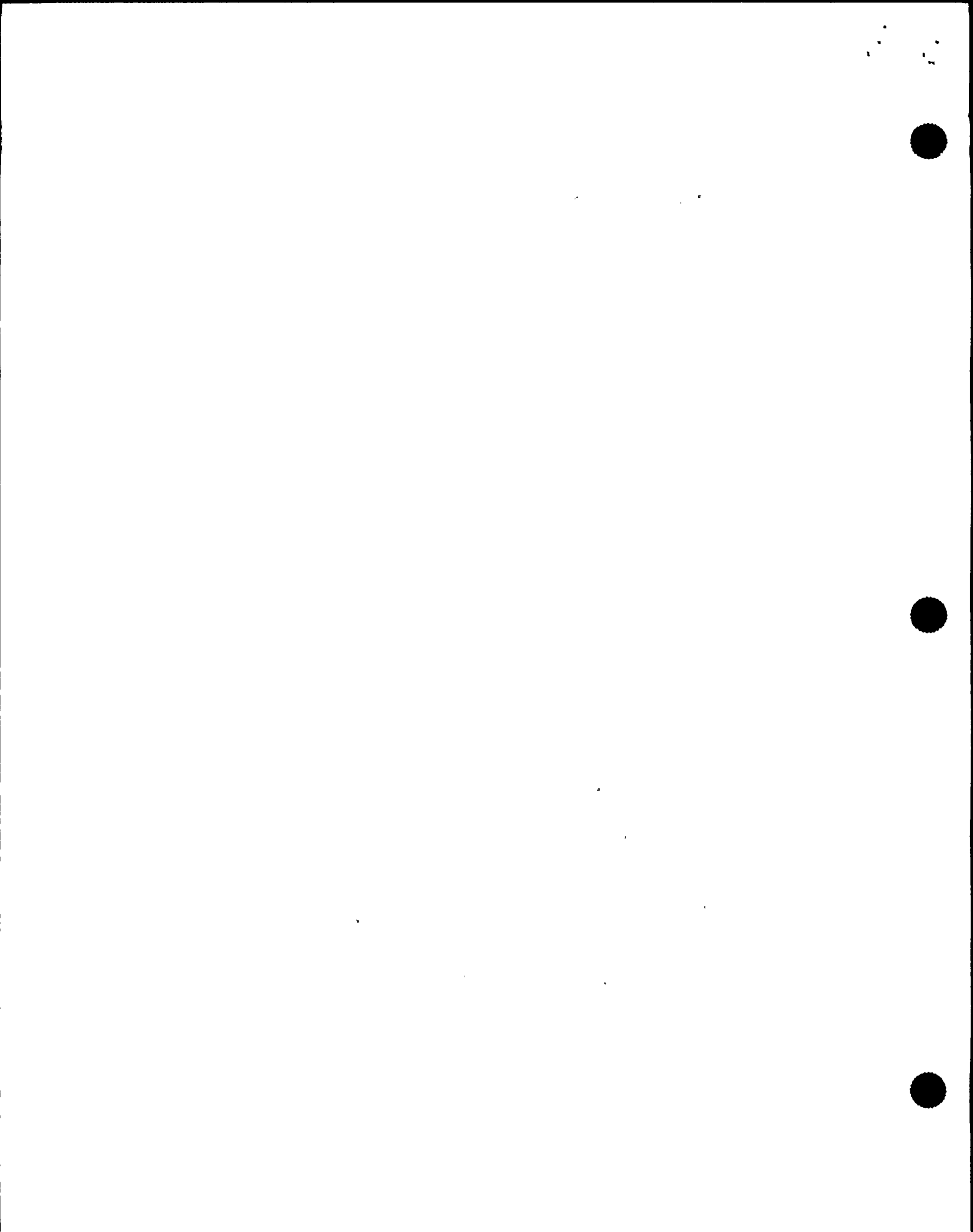
8           MR. CONTE: Were you alone when you went out to  
9 the switch gear?

10          MR. GARBUS: Yeah. I'm trying to think of who I  
11 talked to. I gave the information to someone. What I did  
12 was I drew a picture to make it easier and explained where  
13 the leak was. And I believe I told Mike Conway when he was  
14 in a low spot there, and wasn't real busy. And then after  
15 that I talked to George Moyer about it. And I wanted to see  
16 if he wanted to get firemen out there or anything like that.  
17 And then we discussed it, and, with the accountability and  
18 everything, George said, "Let's not send them out."

19          And I did talk to the fire chief. And he told me  
20 that that detection was in alarm only. So it would have to  
21 be actuated manually if we needed it.

22          Let's see. After that, I made myself available to  
23 the CSO again; I just let him know I was free.

24          MR. CONTE: About what time did you get back in  
25 the control room?



1 MR. GARBUS: Times -- I couldn't give you one. I  
2 have absolutely no idea.

3 MR. CONTE: At the time could you describe what  
4 was going on? That might help us pinpoint when you came.

5 MR. GARBUS: Let's see.

6 MR. CONTE: Were they starting condensate and  
7 feed?

8 MR. GARBUS: That was after I had arrived. They  
9 were starting up condensate pump.

10 MR. CONTE: Okay. At 6:22 power was restored.

11 MR. GARBUS: Right.

12 MR. CONTE: So it must be somewhere between 6:30  
13 and 7 that you went out to the switch gear.

14 MR. GARBUS: Probably --

15 MR. CONTE: I don't want to put words in your  
16 mouth. Would you say it was 6:30 to 7?

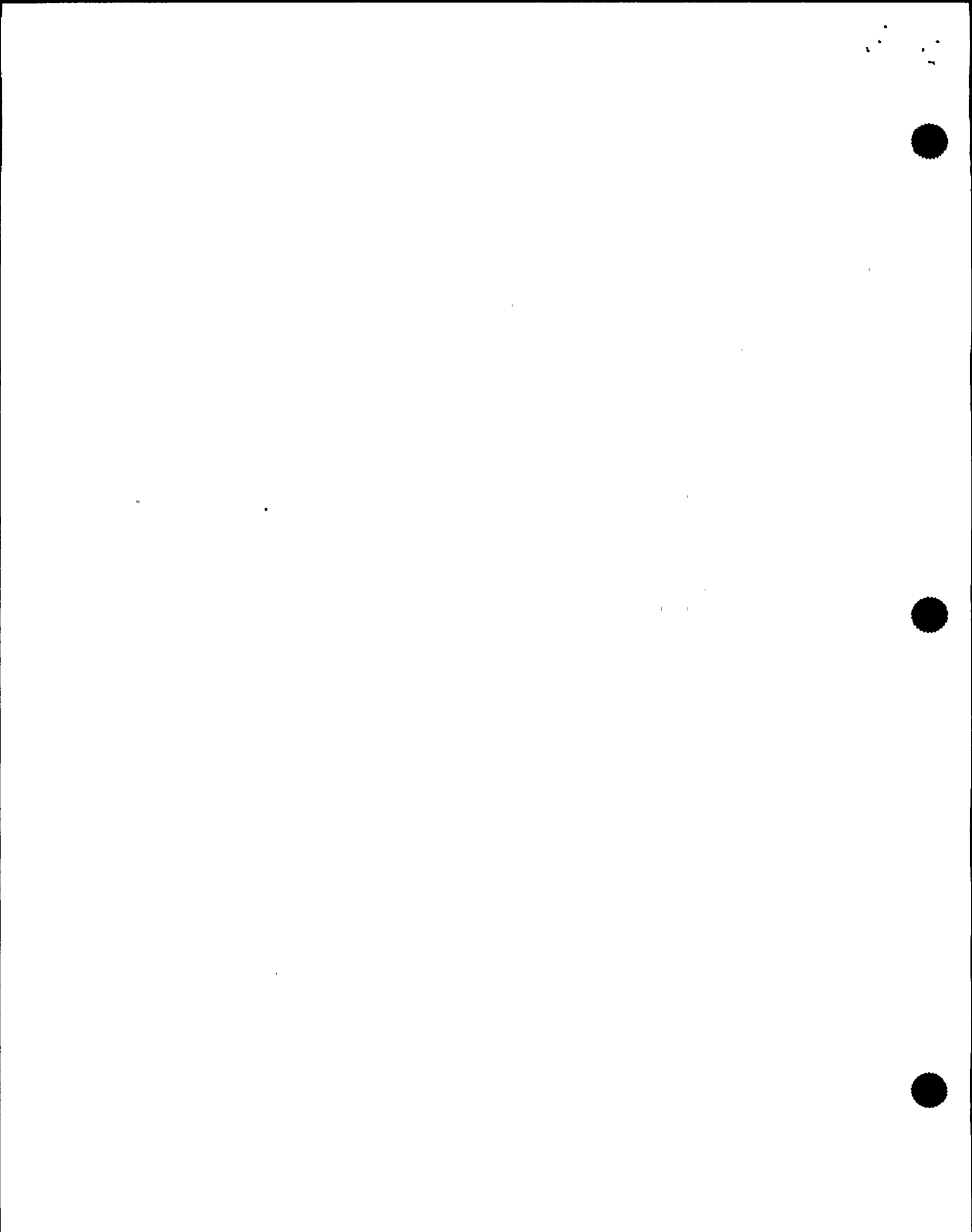
17 MR. GARBUS: Yes. I'd say it was probably closer  
18 to 7.

19 Let's see. I made myself available to Mark again,  
20 and I think the next thing he had me do was, I started  
21 keeping a log after that. As far as any manipulations or  
22 anything on the boards, I wasn't involved in there.

23 MR. CONTE: This log -- did you use the --

24 MR. GARBUS: I just used a yellow pad, like that.

25 MR. CONTE: Okay.



1 Did you turn them in to the company?

2 MR. GARBUS: Yes. Somebody's got them; I think  
3 Mike Conway made a copy for himself, and somebody else, one  
4 of the other SROs -- I don't remember who it was -- wanted a  
5 copy, I think -- Mike Eron maybe; I don't know. After that,  
6 it was pretty much just keeping a log of when anything major  
7 happened, starting pumps or --

8 MR. CONTE: You weren't involved in the -- that's  
9 essentially what you were doing for the cool-down, then,  
10 just keeping logs.

11 MR. GARBUS: Right. Well, up to the point. I  
12 think I left about -- George Moyer came to me -- he's one  
13 of the SSS's -- and Mark Davis was scheduled to come in  
14 early that night, but, since he stayed over the morning for  
15 the scram, George came to me and said that they wanted me to  
16 leave and then come back at 6:30 in the evening to cover  
17 that four hours he was supposed to come in early for.

18 I think I just kept log up until they got  
19 permission for me to leave.

20 MR. CONTE: What time did you leave the plant, or  
21 what time did you leave the control room, about?

22 MR. GARBUS: I want to say it was like 10:05, but,  
23 like I say, times -- [Laughs]. I guess I could better tell  
24 if I had the log of it.

25 MR. CONTE: Okay. We can go back over and review



1 some things.

2 Do you have a question theré, Mike?

3 MR. JORDAN: No. Go ahead and ask whatever  
4 questions you have.

5 MR. CONTE: Okay.

6 One of the first things that you mentioned here  
7 was that you were assigned to clear the mark-ups on RHR B  
8 and C. It's our understanding at this point that those  
9 systems were getting ready for maintenance, but all it was  
10 was a matter of clearing the tags to make them operable. Is  
11 that your understanding?

12 MR. GARBUS: Yes.

13 MR. CONTE: And that's normal practice, if work's  
14 going to start the day, to at the end of the midnight shift  
15 hang the tags so that everything's ready to go?

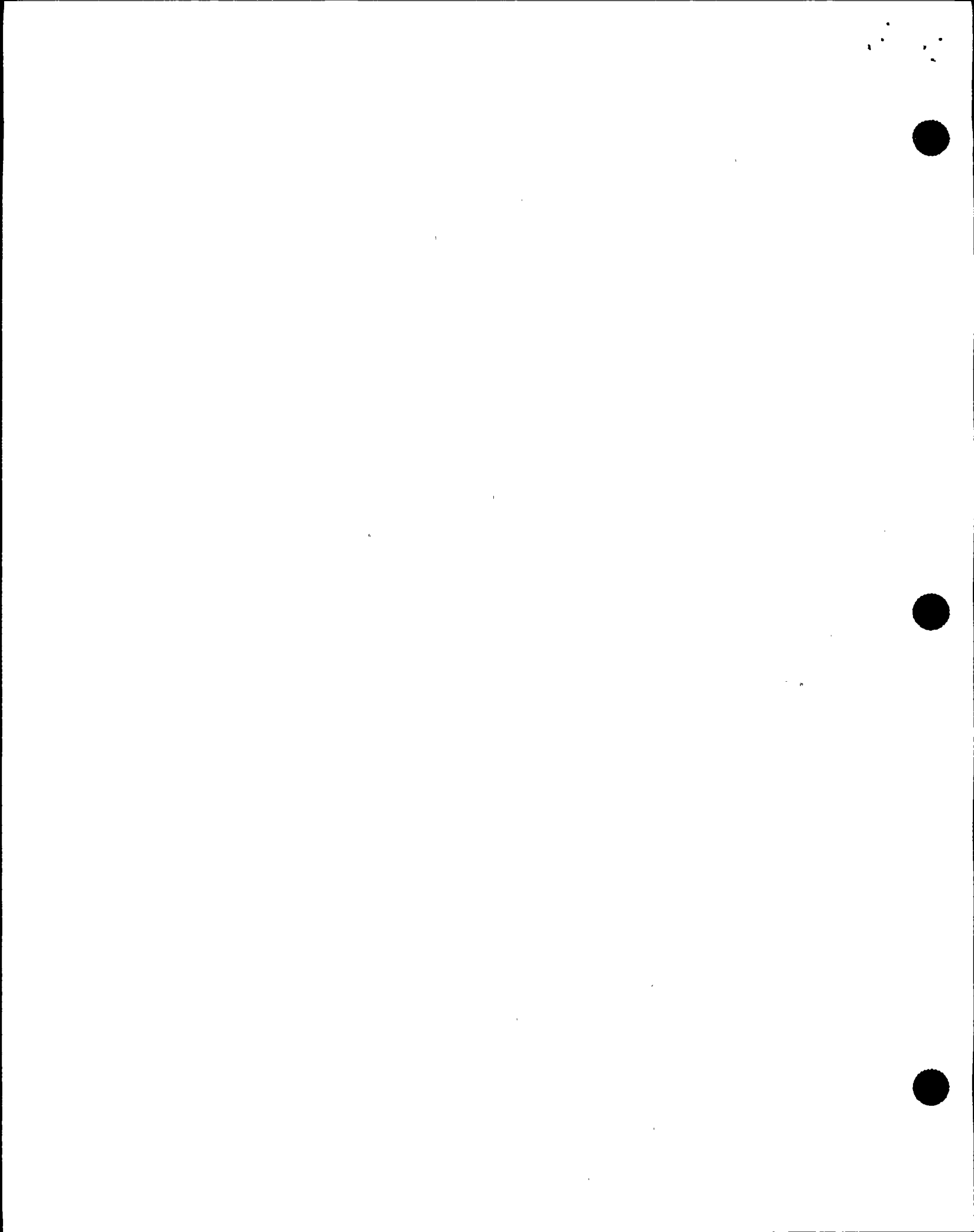
16 MR. GARBUS: Yes.

17 MR. CONTE: Were you aware of any safety-related  
18 equipment that was out of service? Let me put it this way:  
19 The emergency core cooling system, HPCS, core spray, RHR,  
20 those major pieces of equipment.

21 MR. GARBUS: Just the RHR.

22 MR. CONTE: Just the RHR.

23 MR. GARBUS: Yes, the mark-ups on it. I just  
24 looked briefly at them, and it looked like -- I don't even  
25 remember what it was.





1 MR. CONTE: Do you know the nature of the  
2 maintenance that was going to be done on those trains?

3 MR. GARBUS: No, I don't.

4 MR. CONTE: Could you describe the stairway -- In  
5 fact, could you retrace your path, when you left the control  
6 room, down to the UPS and various places that were dark,  
7 meaning black, and others that had maybe, you noticed,  
8 emergency light, or other observations, like fire panel  
9 alarms, things like that? Could you take us in that trip  
10 from the control room down to the UPS?

11 MR. GARBUS: Let's see. We went out the south  
12 door of the control room and then west down the hall, and  
13 turned left and went down that stairway -- it would be the  
14 southwest stairway.

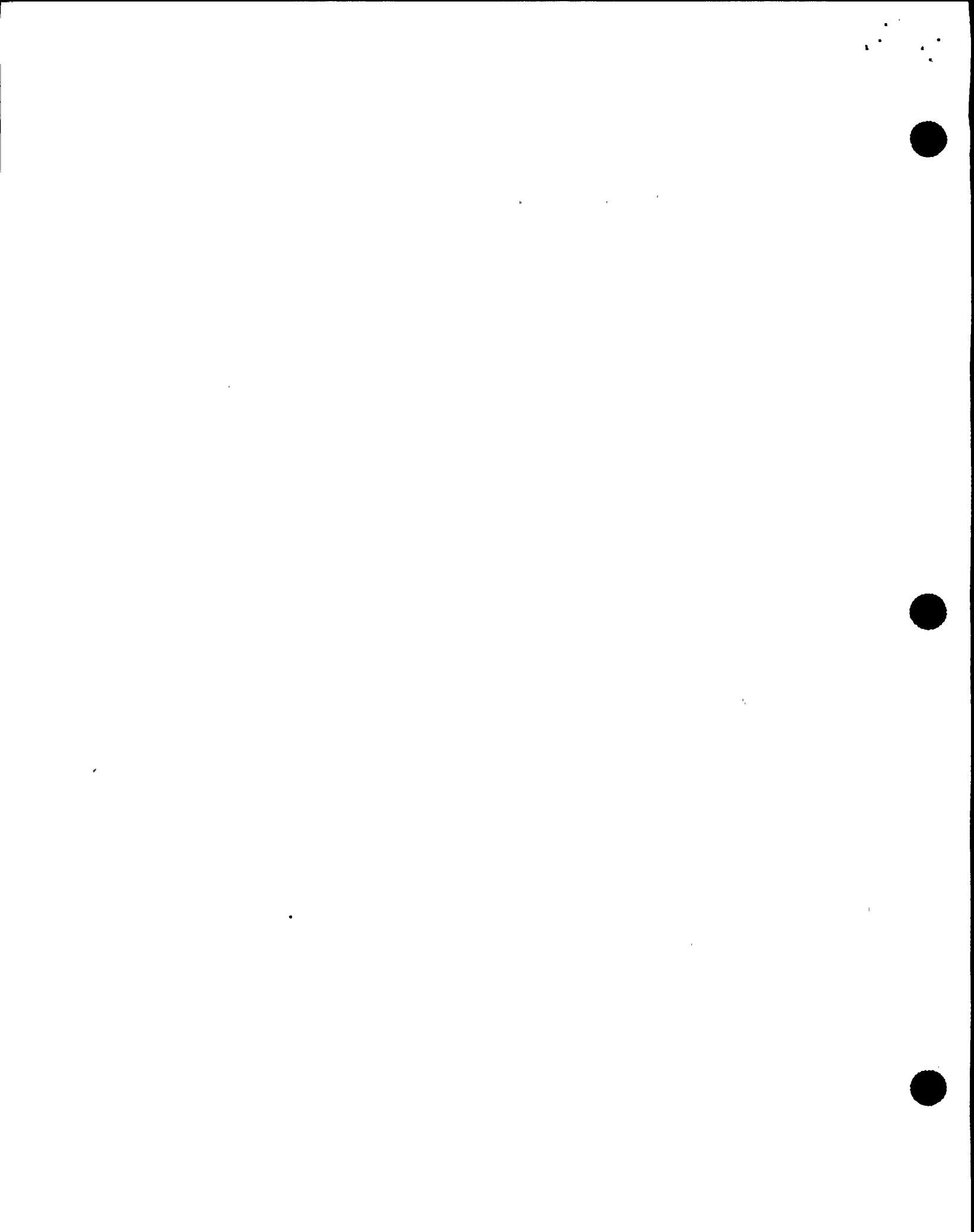
15 MR. CONTE: So this is the southwest stairway of  
16 the control building.

17 MR. GARBUS: Right.

18 MR. JORDAN: What was that elevation?

19 MR. GARBUS: We were on 306 at the time, but the  
20 entire stairway was black. There was no emergency lighting  
21 in the stairway.

22 On the way down, once we realized the stairway was  
23 black, we said, Let's go down to the locker room and get a  
24 flashlight. We went to -- let's see; I guess it would be  
25 west hallway in the control building, out through the double



1 doors and then into the cardox room, and into the locker  
2 room to get the flashlight.

3 MR. JORDAN: What was it like in the cardox room?

4 MR. GARBUS: It was light, but, then, I didn't pay  
5 attention. I mean, the overhead door was open and it was  
6 daylight by then, anyway.

7 MR. JORDAN: How about the locker room?

8 MR. GARBUS: The locker room had lights.

9 MR. JORDAN: From there, we retraced our steps  
10 back to the same stairway -- No, I take that back. We went  
11 back through normal switch gear and down.

12 MR. JORDAN: What were the conditions in normal  
13 switch gear?

14 MR. GARBUS: Normal switch gear seemed dim, but  
15 there was lighting.

16 And then right down the stairs.

17 MR. JORDAN: Are these the same stairs?

18 MR. GARBUS: No. We're in another building. This  
19 is the normal switch gear building.

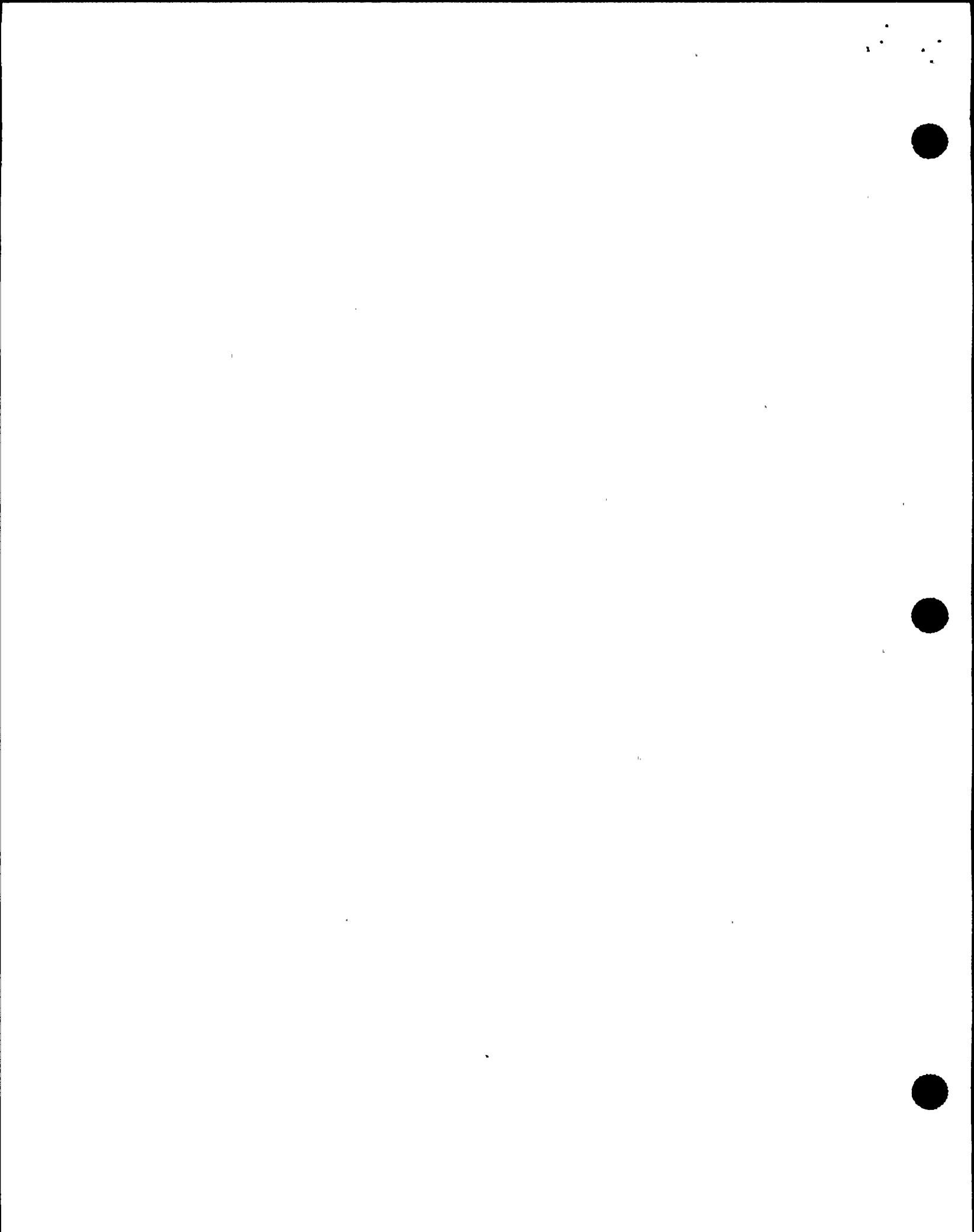
20 MR. JORDAN: Were those stairs lit or non-lit?

21 MR. CONTE: How about the stairs in the switch  
22 gear building?

23 MR. GARBUS: Those, I think, were lit.

24 MR. JORDAN: Okay.

25 Do you know which ones those were -- northwest,



1 southwest -- or is there only one set?

2 MR. GARBUS: It's kind of like right in the  
3 middle. You go through the 4.160 switch gear room and then  
4 into the 13.8 switch gear room, and right between is where  
5 that stairway is located.

6 MR. CONTE: Okay. Then did you get to the UPS, or  
7 was there another corridor or something?

8 MR. GARBUS: You're in the battery switch gear,  
9 and you just go through a set of double doors into the UPS  
10 rooms.

11 MR. CONTE: What were conditions like in the UPS?

12 MR. GARBUS: Seemed normal, if I recall.

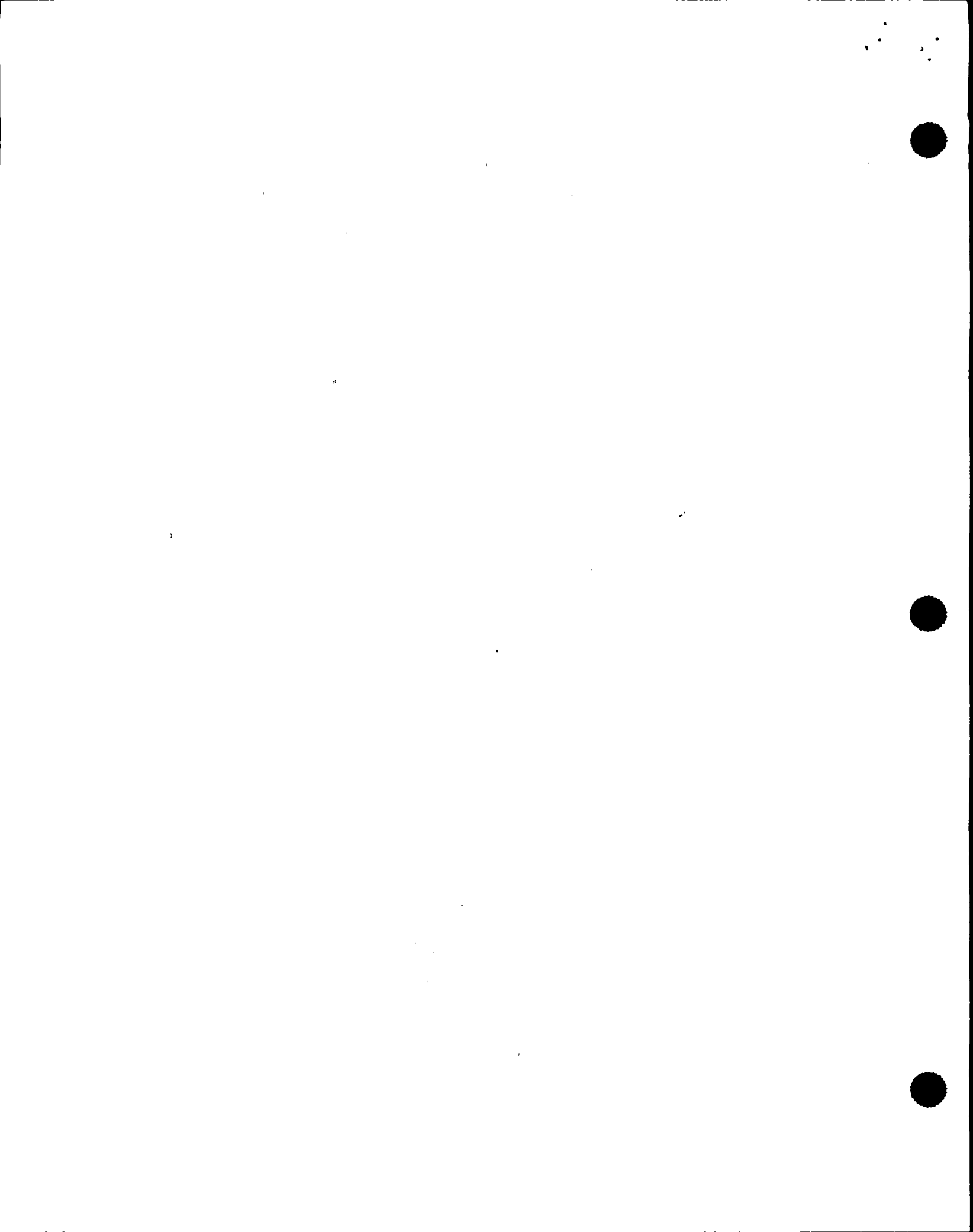
13 MR. CONTE: Okay.

14 The next question I had was when you got to the  
15 UPS's and you made your preliminary assessment that you gave  
16 details earlier, you basically noticed that the input  
17 breakers, CB-3 and CB-4 were open --

18 MR. GARBUS: Oh, CB-3 and 4 are not the inputs.  
19 The AC and the DC input were open, the CB-3 is the output --  
20 excuse me, and CB-4 is the maintenance supply.

21 MR. CONTE: Thank you for correcting that. Good.  
22 Had you been there alone would you have known how to get  
23 power to them or were you aware of this method of pulling  
24 the --

25 MR. GARBUS: Yes.



1 MR. CONTE: -- motor and operator cover. Okay.  
2 Did you happen to think about it, or did somebody else come  
3 in and say do that. You say you didn't do it, did someone  
4 else?

5 MR. GARBUS: Bob Spooner was -- yeah, he was down  
6 at the --

7 MR. CONTE: Bob Spooner?

8 MR. GARBUS: Yeah. And whoever was behind us said  
9 something about pulling the lever on the bottom and, you  
10 know, then Bob opened it up and closed in the supply.

11 MR. CONTE: You were responsible for opening the  
12 only -- only the one UPS, or you were responsible --

13 MR. GARBUS: Right.

14 MR. CONTE: You and Bob were responsible for  
15 closing the CB-4 on only one UPS?

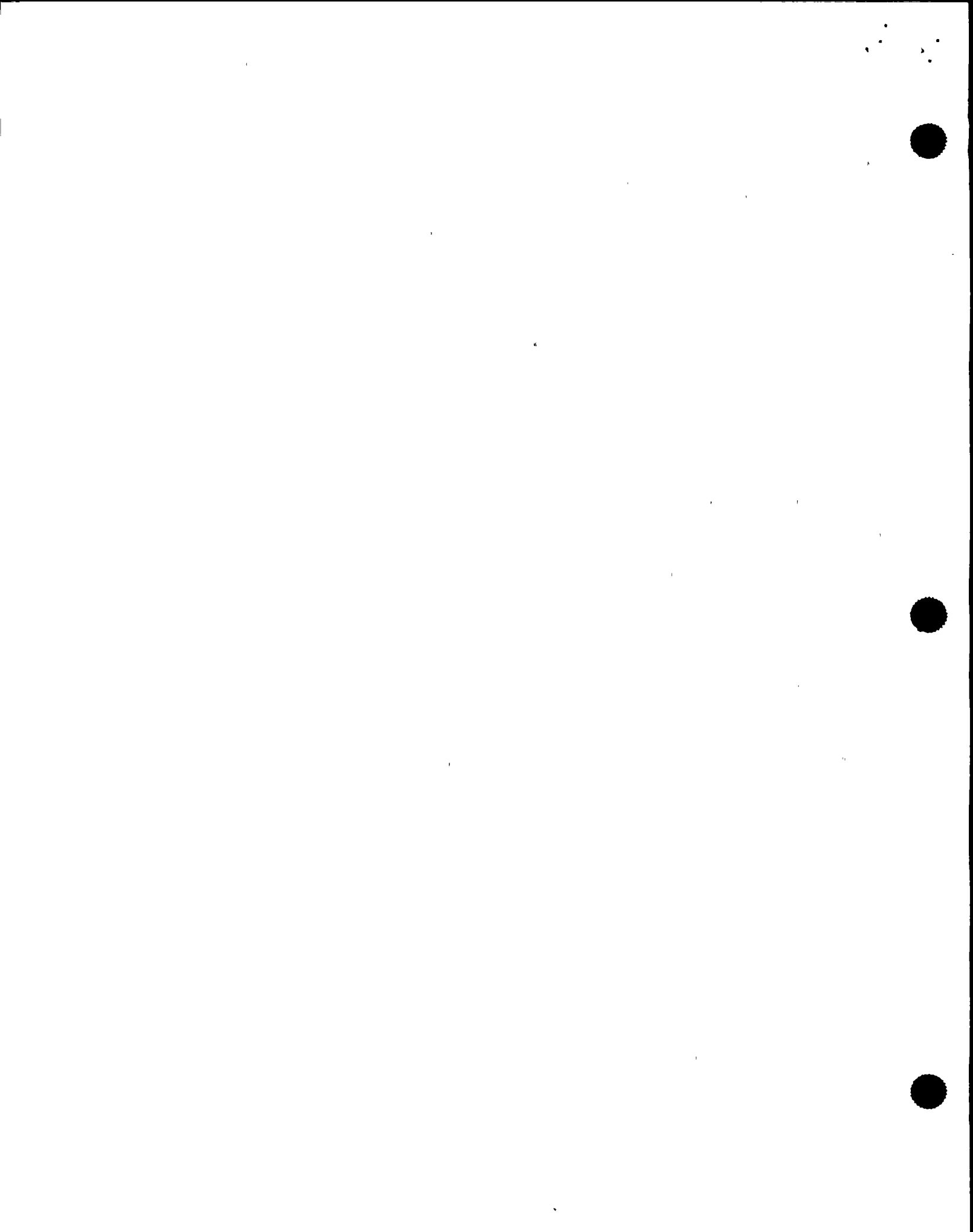
16 MR. GARBUS: Correct.

17 MR. CONTE: And you don't remember which  
18 designator that was?

19 MR. GARBUS: No. I would have to walk up to it.

20 MR. CONTE: The people -- you had mentioned  
21 something about the other operators, Mr. Hanczyk, and others  
22 working -- having this procedure out. Did you happen to see  
23 -- did you consult the procedure yourself, or did you  
24 happen to see what they were doing with it?

25 MR. GARBUS: No.





1 MR. CONTE: In terms of writing on it or --

2 MR. GARBUS: No. I went right over and looked at  
3 the -- Bob and I went right to one UPS and tried to assess  
4 what was happening.

5 MR. CONTE: Okay.

6 MR. JORDAN: Did you take any documentations of  
7 the conditions of the UPS before you -- you mentioned there  
8 were some flags up and the breakers were open. Was there  
9 any documentation on the condition of the breaker before --  
10 as far as alarm or whatever before you started working on  
11 it?

12 MR. GARBUS: I'm not sure, like the little alarm  
13 lights, is that what you mean?

14 MR. JORDAN: Well, you say you walked up and you  
15 opened the one little toggle switch.

16 MR. GARBUS: Right.

17 MR. JORDAN: Which was the CB-3.

18 MR. GARBUS: Okay.

19 MR. JORDAN: And you said you checked the mimic.

20 MR. GARBUS: right.

21 MR. JORDAN: Okay. Is there any other -- I mean,  
22 did you document the conditions of any of the stuff?

23 MR. GARBUS: No.

24 MR. JORDAN: Okay.

25 MR. CONTE: Why do you have to pull that switch up



1 on CB-3?

2 MR. GARBUS: Oh, the little toggle switch?

3 MR. CONTE: Yeah.

4 MR. GARBUS: I don't believe you have to.

5 MR. CONTE: Why did you do it?

6 MR. GARBUS: I just thought, we're going to close  
7 this supply, I don't want this one to reclose for any  
8 reason.

9 MR. CONTE: Oh, the switch effectively knows the  
10 interlock between the two breakers or something?

11 MR. GARBUS: I'm not sure.

12 MR. JORDAN: You said that you knew how to pose in  
13 the CB-4 breaker, can you tell us how you got that  
14 information?

15 MR. GARBUS: Back during start-up, I think,  
16 working with the engineer.

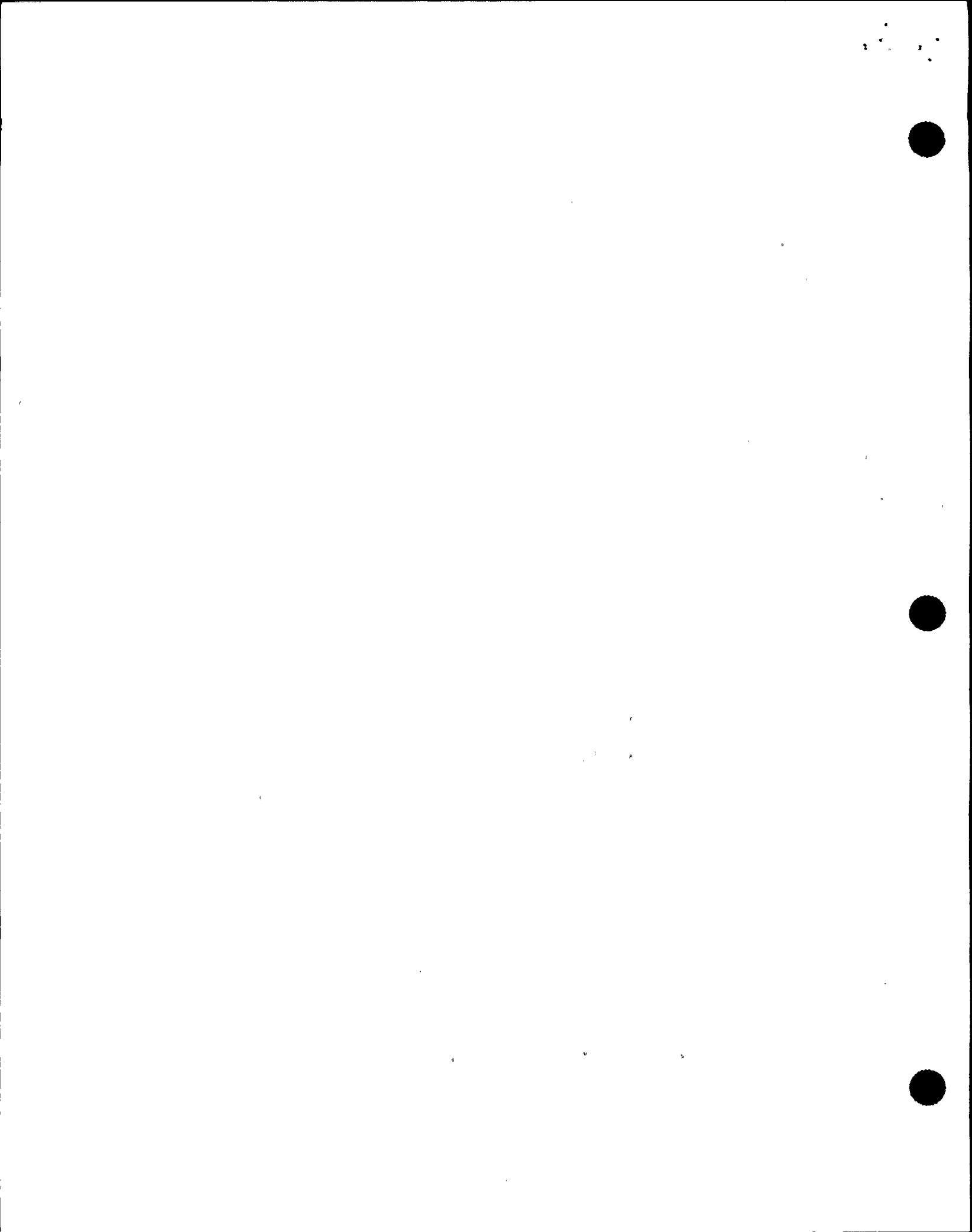
17 MR. JORDAN: So, if nobody would have been there,  
18 you would have been the only one on site, then returning  
19 power to the UPS's you felt you could have done that?g

20 MR. GARBUS: Yes.

21 MR. CONTE: Okay. Two more areas I would like to  
22 go over with you. Could you retrace your path from the  
23 control room to the switch gear?

24 MR. GARBUS: On the way up to the switch yard?

25 MR. CONTE: Yeah. And did you happen to notice



1 abnormal lighting in any one of those areas?

2 MR. GARBUS: Let's see. I believe I went down by  
3 the RAD protection office. That stairway would be east, I  
4 guess. It's right by the RAD protection office. Anyway,  
5 that stairway was lit and I went down through there --

6 MR. CONTE: This is the east stairway of what  
7 building? The service building?

8 MR. GARBUS: I think that would be considered the  
9 Aux service building.

10 MR. CONTE: East stairway --

11 MR. GARBUS: Right next to the elevator.

12 MR. CONTE: Nothing unusual?

13 MR. GARBUS: Not that I remember.

14 MR. CONTE: Okay.

15 MR. GARBUS: There may have been, but there was  
16 lighting. And then from there, just down the hall and out  
17 through normal switch gear, is the way I chose.

18 MR. CONTE: Nothing unusual with respect to  
19 waiting?

20 [No response.]

21 MR. CONTE: You indicated at the switch gear you  
22 made some attempt to shut something off in order to reduce  
23 the leak? I didn't quite get that.

24 MR. GARBUS: There's -- on the transformer control  
25 panel itself, there's two switches, one for each fan bank

11



1 and pump. And they're normally in auto, and there's an off  
2 position and I believe the other one is hand. And I placed  
3 both switches to off.

4 MR. CONTE: Okay. Did you return them back to  
5 normal or just leave them on.

6 MR. GARBUS: No. I left the like that and I noted  
7 it on that -- when I went up and started keeping logs, I  
8 noted it on there just so it didn't get forgotten.

9 MR. CONTE: At one point, I wasn't sure if it was  
10 your trip back from the UPS -- I guess on your trip back to  
11 the UPS, you entered the control room and you said there was  
12 plenty of noise, can you give us a sense of the mood in the  
13 control room? Granted, I guess part of the problem is,  
14 there is a lot of people there, people are talking, and that  
15 elevates the noise level.

16 MR. GARBUS: Yeah. Well, you had your  
17 annunciators back which was what I meant about noise.

18 MR. CONTE: Oh, I see. Okay. Not so much noise of  
19 people talking.

20 MR. GARBUS: No.

21 MR. CONTE: Can you give a sense of the mood in  
22 the control room with the number of people there. Were  
23 things under control? Were people in the back? Was there a  
24 lot of interference for the shift supervisor? Can you give  
25 us a sense for how the overall command and control was?

11





1 MR. GARBUS: I thought the command and control was  
2 good. I, myself, if I was in the position of CSO would not  
3 have wanted so many people in the -- I mean, non-operations  
4 personnel .

5 MR. CONTE: Are most of the people that are in the  
6 control room operations people or were there others?

7 MR. GARBUS: A majority of them were, but then  
8 later on in the day, or you know, I'm talking probably 9:00  
9 or so, then you had the OPS management and other people that  
10 I didn't even recognize.

11 MR. CONTE: That was later in the day?

12 MR. GARBUS: Yeah. But I mean that would just be  
13 my personal preference.

14 MR. CONTE: I think I'm done Mike. Why don't you  
15 go ahead.

16 MR. JORDAN: I got one more question. And this  
17 takes us back, which I don't normally do this, but I just  
18 thought of this. When you got ready to go to the UPS's, did  
19 you say you were directed by the SSS to go down there or was  
20 it just you and --

21 MR. GARBUS: No. The CSO.

22 MR. JORDAN: The CSO --

23 MR. GARBUS: Mark Davis asked me if I would go see  
24 if I could do something with the UPS's.

25 MR. JORDAN: Okay.

100



1 MR. GARBUS: And Bob Spooner was standing right  
2 next to me at the time and said, "Let's go." So, we went  
3 down. I didn't realize anybody was down there.

4 MR. CONTE: What was the nature of the direction  
5 or what did he want you to go down there for?

6 MR. GARBUS: He wanted me to go down and try to  
7 reset or restore. He wanted to know what was wrong with  
8 them.

9 MR. CONTE: Oh.

10 MR. JORDAN: That's all I have.

11 MR. CONTE: Did you see anybody trying to  
12 communicate with the control room from the UPS area?

13 MR. GARBUS: After we had restored, someone had  
14 called the control room.

15 MR. CONTE: How did they call?

16 MR. GARBUS: With the here-here.

17 MR. CONTE: With the here-here.

18 MR. GARBUS: I don't remember who it was though.

19 MR. JORDAN: Okay. Let's go off the record there.

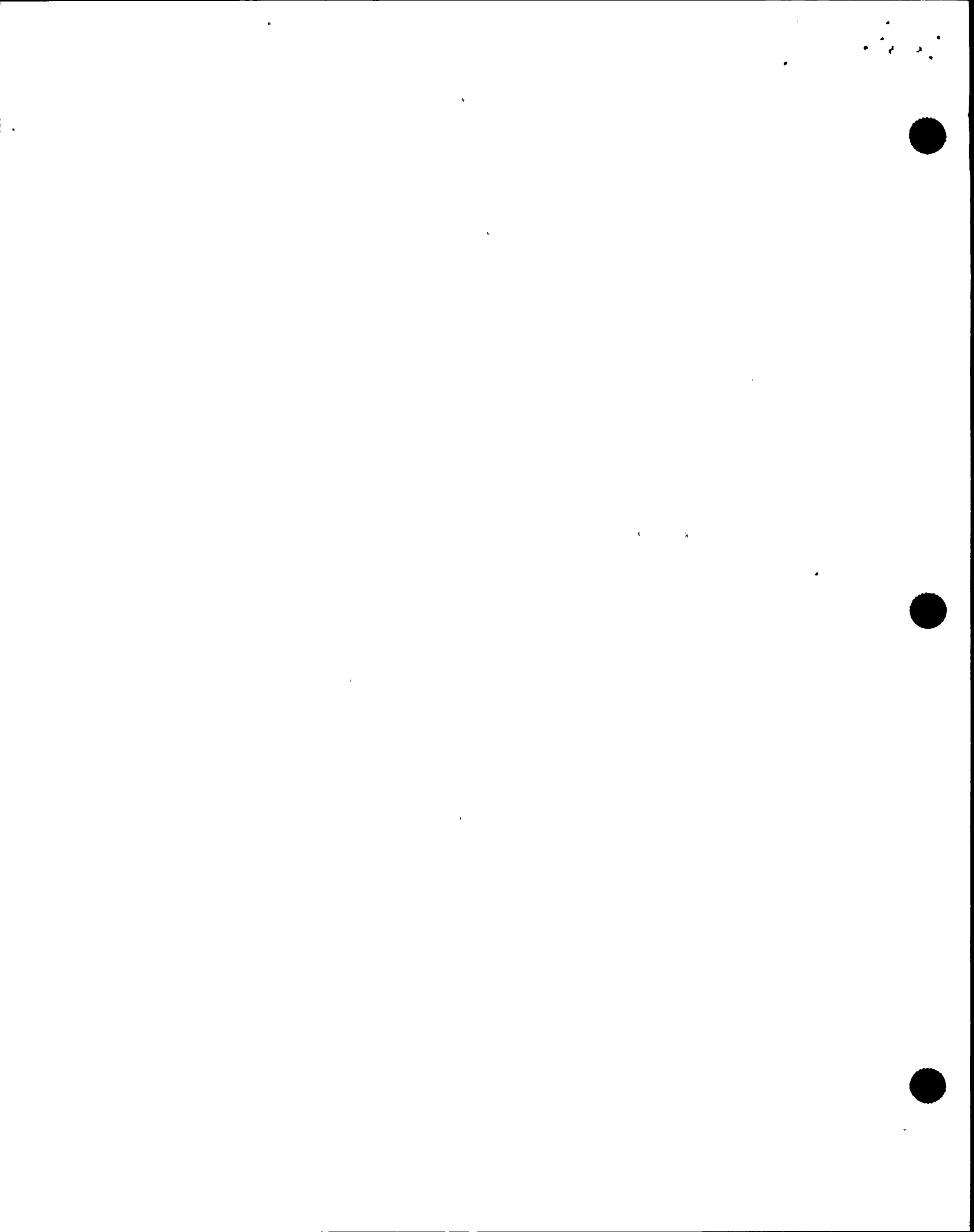
20 [Whereupon, at 10:44 a.m., the taking of the  
21 interview was concluded.]

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25



REPORTER'S CERTIFICATE

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

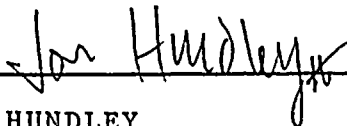
in the matter of:

NAME OF PROCEEDING: Int. of MIKE GARBUS

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.

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# ORIGINAL

## OFFICIAL TRANSCRIPT OF PROCEEDINGS

Agency: Nuclear Regulatory Commission  
 Incident Investigation Team

Title: Nine Mile Point Nuclear Power Plant  
 Interview of: MIKE GARBUS

Docket No.

LOCATION: Scriba, New York

DATE: Tuesday, August 20, 1991

PAGES: 1 - 20

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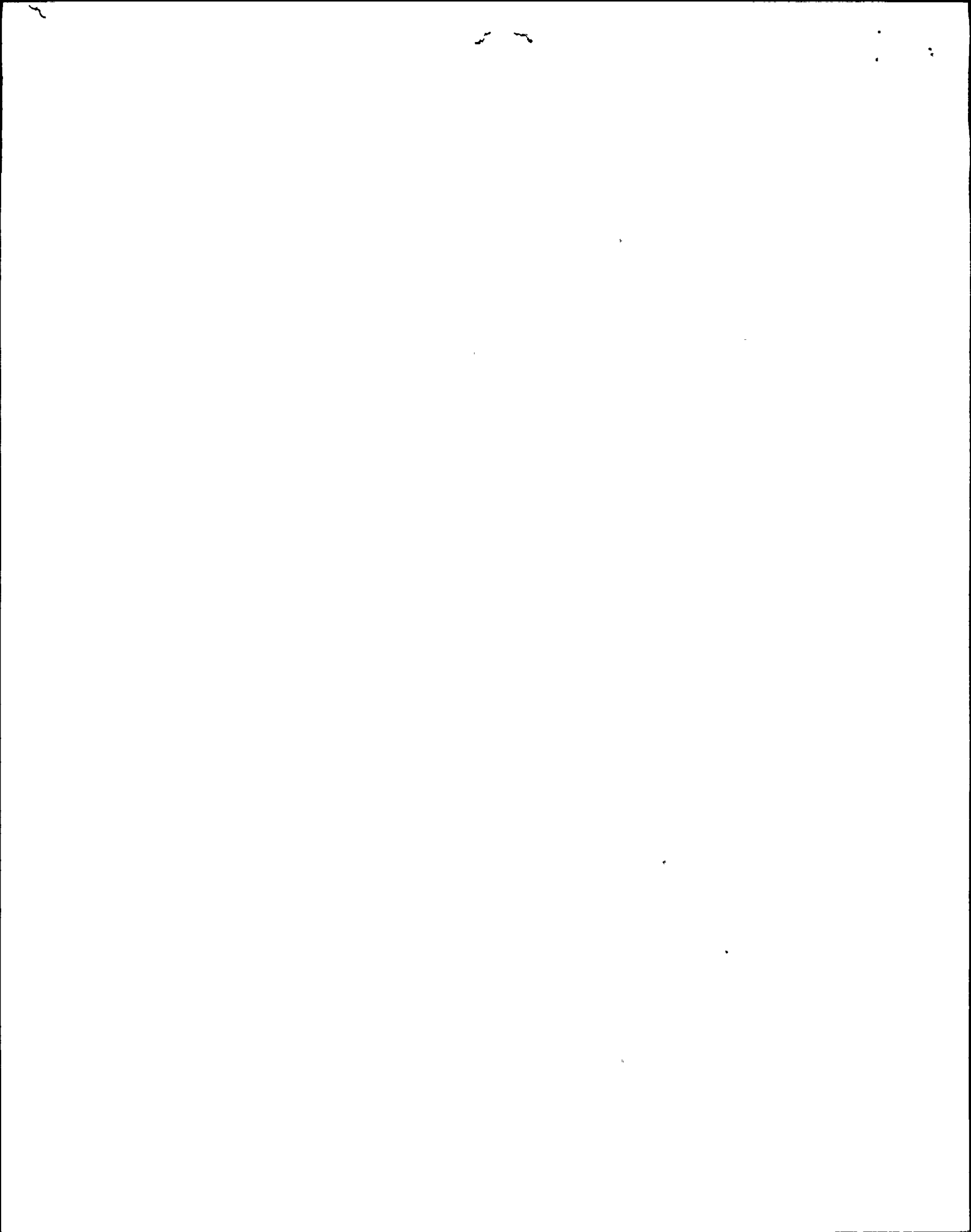




ADDENDUM TO INTERVIEW OF MIKE GARBUS / CSO  
(Name/Position)

<u>Page</u>	<u>Line</u>	<u>Correction and Reason for Correction</u>
3	7	Should read "I bid back down for a <del>time.</del> time."
3	9	Should read "I bid" not "I've been
4	5	Change "Think" to thing
18	7	Change Longs to logs

Page 1 of 1 Signature Michael R. Paul Date 8/22/91



UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION  
INCIDENT INVESTIGATION TEAM

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Interview of :  
MIKE GARBUS :  
(Closed) :  
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Conference Room B  
Administration Building  
Nine Mile Point Nuclear  
Power Plant, Unit Two  
Lake Road  
Scriba, New York 13093  
Tuesday, August 20, 1991

The interview commenced, pursuant to notice,  
at 10:15 a.m.

PRESENT FOR THE IIT:  
Mike Jordan, NRC  
Rich Conte, NRC

100



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

[10:15 a.m.]

1  
2  
3 MR. JORDAN: It's August the 20th, 1991. It's  
4 10:15 in the morning. We're at Nine Mile Point, Unit Two.  
5 We're going to cover events having to do with a transient  
6 that occurred on August the 13th, 1991. My name is Michael  
7 Jordan. I'm with the NRC out of Region III.

8 MR. CONTE: Rich Conte, NRC Region I.

9 MR. GARBUS: Mike Garbus, Operations, Unit Two.

10 MR. JORDAN: Okay, Mike. Why don't we -- when we  
11 start off, why don't you just give us a background of where  
12 you -- who you are as far as -- and your background as far  
13 as your experience goes.

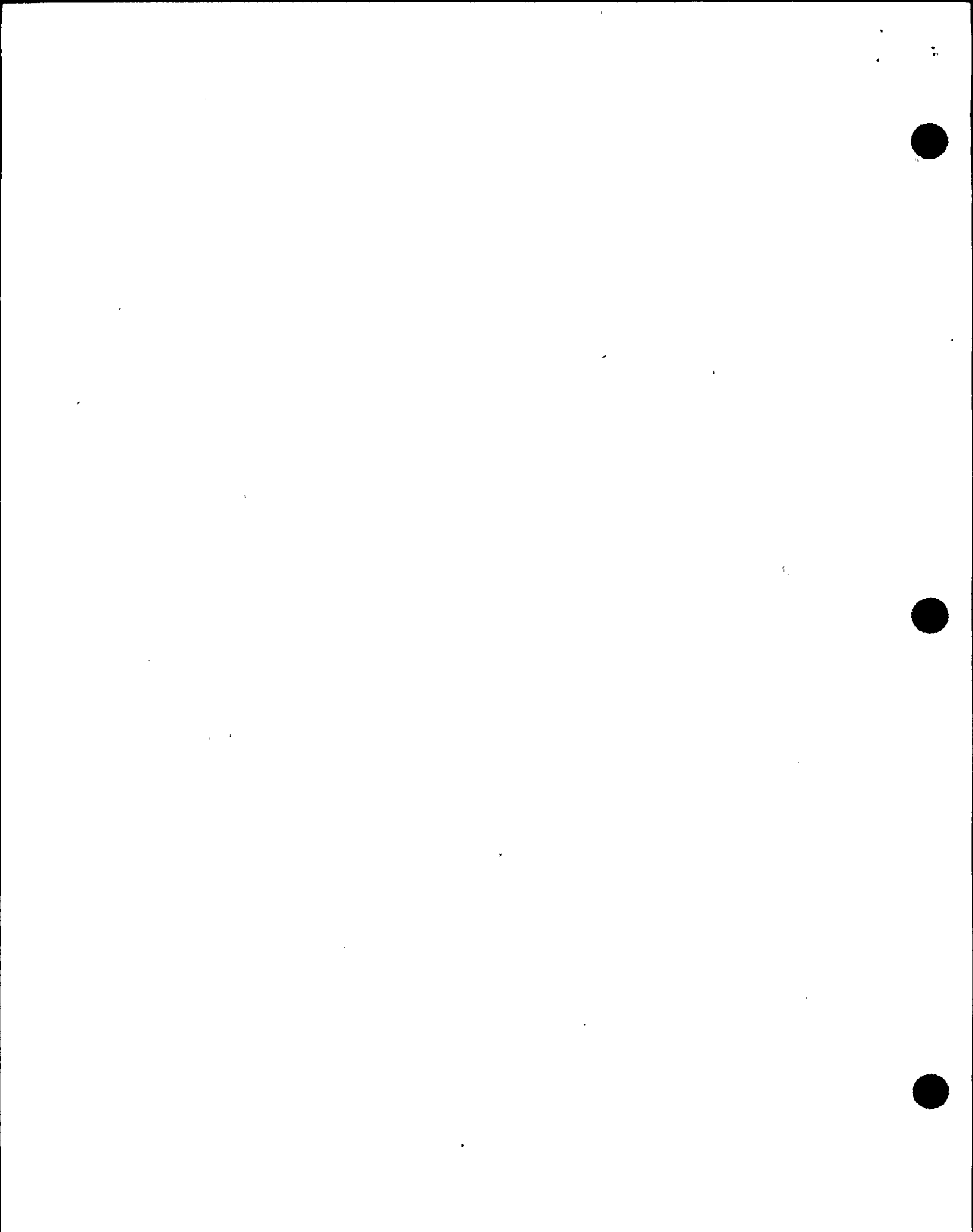
14 MR. GARBUS: Just as far as nuclear, or, how far  
15 back do you want to go? I mean --

16 MR. JORDAN: Well, give me your nuclear  
17 background.

18 MR. GARBUS: Well, let's see, we started  
19 operations in 1981 at a B operator.

20 MR. JORDAN: Here at --

21 MR. GARBUS: Here at -- well, this wasn't done  
22 yet, so I was at Unit One, but I was a Unit Two operations  
23 person. And then I spent a year as a B and progressed to a  
24 C. I think was just about a year as a C. And progressed to  
25 -- after license class -- to an E operator. And then I



1 think shortly after that -- it was a little over a year I  
2 became chief shift operator.

3 MR. CONTE: What year was that?

4 MR. GARBUS: I think '84.

5 MR. CONTE: Okay. And you've been a CSO ever  
6 since?

7 MR. GARBUS: I've been back down a long time just  
8 so I could get back out in the field and then the relief job  
9 came up, which is day work, so, I've been back as CSO, the  
10 relief.

11 MR. CONTE: Okay.

12 MR. JORDAN: So you're on the relief shift?

13 MR. GARBUS: Yes.

14 MR. JORDAN: Does that mean that the shift that  
15 was on is not your normal shift that you normally work for?

16 MR. GARBUS: Well, see, I just work Monday through  
17 Friday on days.

18 MR. CONTE: Was this a permanent assignment or is  
19 this a rotating assignment? You'll come off of relief and  
20 then --

21 MR. GARBUS: Mine?

22 MR. CONTE: Yes.

23 MR. GARBUS: Mine -- permanent.

24 MR. CONTE: You're permanent relief?

25 MR. GARBUS: Yep. Cover for vacations.





1 MR. JORDAN: Okay. Now, why don't you give us the  
2 events from just prior to the event or when -- as far as the  
3 information that you know, as far as the event goes?

4 MR. GARBUS: Well, when I came in we had already  
5 scrambled. And the first think I noticed was quiet.

6 MR. JORDAN: Do you know what time this was?

7 MR. GARBUS: I've got to say shortly after six.

8 MR. JORDAN: Okay.

9 MR. GARBUS: But I'm not sure.

10 MR. JORDAN: Fine.

11 MR. GARBUS: Five, ten minutes after six, maybe.  
12 And then I made myself available to CSO. And let's see, the  
13 first assignment he gave me he handed me some mark-ups and  
14 said, "Here. Have somebody clear these." And they were on  
15 RHR B and C mark-ups, they had just hung during the night.

16 So, I got -- I don't remember who I -- I asked  
17 someone to clear them, but I don't remember who it was.

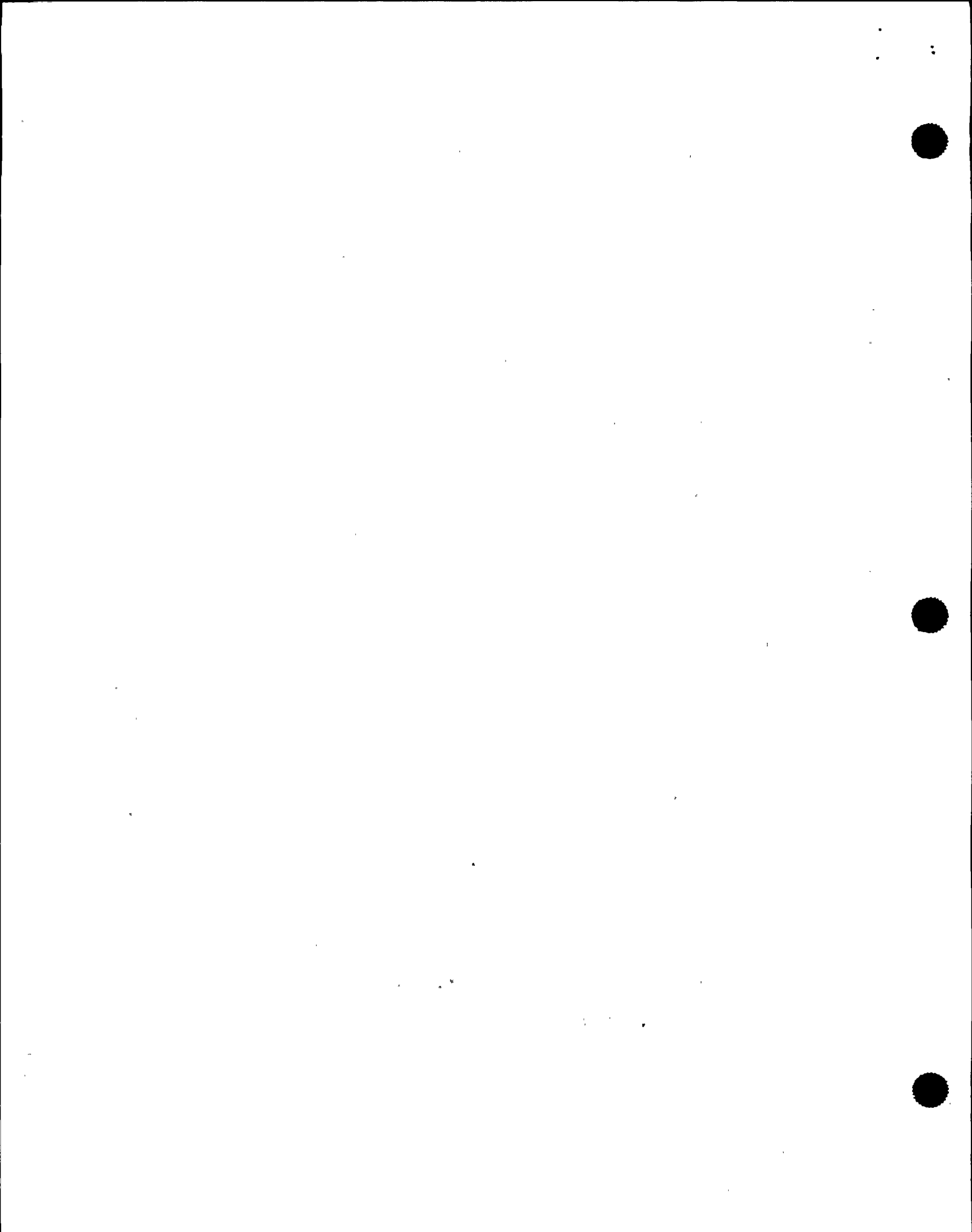
18 And then, let's see -- after that I think he  
19 asked me to go down and look at the UPS's. So, another RO  
20 and myself, we ran down to the locker room first and got a  
21 flashlight.

22 MR. CONTE: What other RO did you go with?

23 MR. GARBUS: Bob Spooner.

24 MR. CONTE: Okay.

25 MR. GARBUS: And then proceeded down to the UPS's.



1 And --

2 MR. CONTE: So you automatically brought a  
3 flashlight with you?

4 MR. GARBUS: Yep. It was a little dark in the  
5 stairway when we headed down to the locker room, so we  
6 thought it might be a good idea.

7 So, let's see -- when we got there, there was  
8 already -- I think Dave Hanczyk, I think Phil MacEwen and  
9 Jim Stevens, I believe was there. And I think there might  
10 have been somebody else, but I don't remember. And then,  
11 let's see -- then Bob and I went to one UPS, I can't tell  
12 you which one it was, I could walk to it, but -- and we  
13 looked at the mimic display on the front of it and both  
14 input breakers and the output breaker were open and the  
15 maintenance supply was also open. And it was somewhere  
16 around that time I heard Dave Hanczyk say something about  
17 the -- the procedure wasn't really written for that or  
18 something to that effect.

19 So, Bob and I, after looking at it, I think the  
20 next thing I did, there's a toggle switch for the CB-3  
21 breaker which is inverter output, so I took that off since  
22 the breaker was already opened and then Bob had opened the  
23 bottom -- or the cover for the CB-4, the maintenance supply  
24 breaker and he closed that in and then there was enough  
25 people down there that that's the only one we got to do.



1           So, then, back up to the control room. And by  
2 that time there was plenty of noise up there. And let's  
3 see, where did we go from there?

4           I think what I did was I just made myself  
5 available to the CSO again, which at the time was Mark  
6 Davis. And then -- oh, I took a call from Kim Dahlberg who  
7 apparently had been at Unit One for some other reason, but  
8 he said he -- he and someone else were in the TSC, but it  
9 wasn't completely staffed yet and he just wanted an update.  
10 So, I updated him as to what I knew, of course, I had just  
11 come back in the control room, so I wasn't fully aware of  
12 everything that was going on. And he had mentioned  
13 something about oil in the switchyard. So, after I had  
14 updated him -- or you know, briefed him on what I knew, then  
15 I told him I wasn't -- I told him that I'd just gotten  
16 there, so it wasn't a complete -- and so then after that I  
17 went down -- after talking to him, I went down to the  
18 switchyard and I saw in the -- you know, as soon as I  
19 entered the switchyard the first thing I saw was the oil on  
20 the concrete separators between the transformers. So I went  
21 over to the transformer and I walked around it trying to see  
22 where the leak was coming from. And then I saw, at the top  
23 of the transformer I saw the flange where it was leaking and  
24 I couldn't tell whether it was the flange or if the pipe had  
25 broke or what it was.



1           So the next thing I thought to do was I went  
2 around to the other side of the transformer and shut off the  
3 fan pump switches, figuring that might slow the leak, if  
4 nothing else.

5           And then I went back around on the north side of  
6 the transformer and looked at it again. I hadn't made much  
7 difference, so then it was back to the control room and --

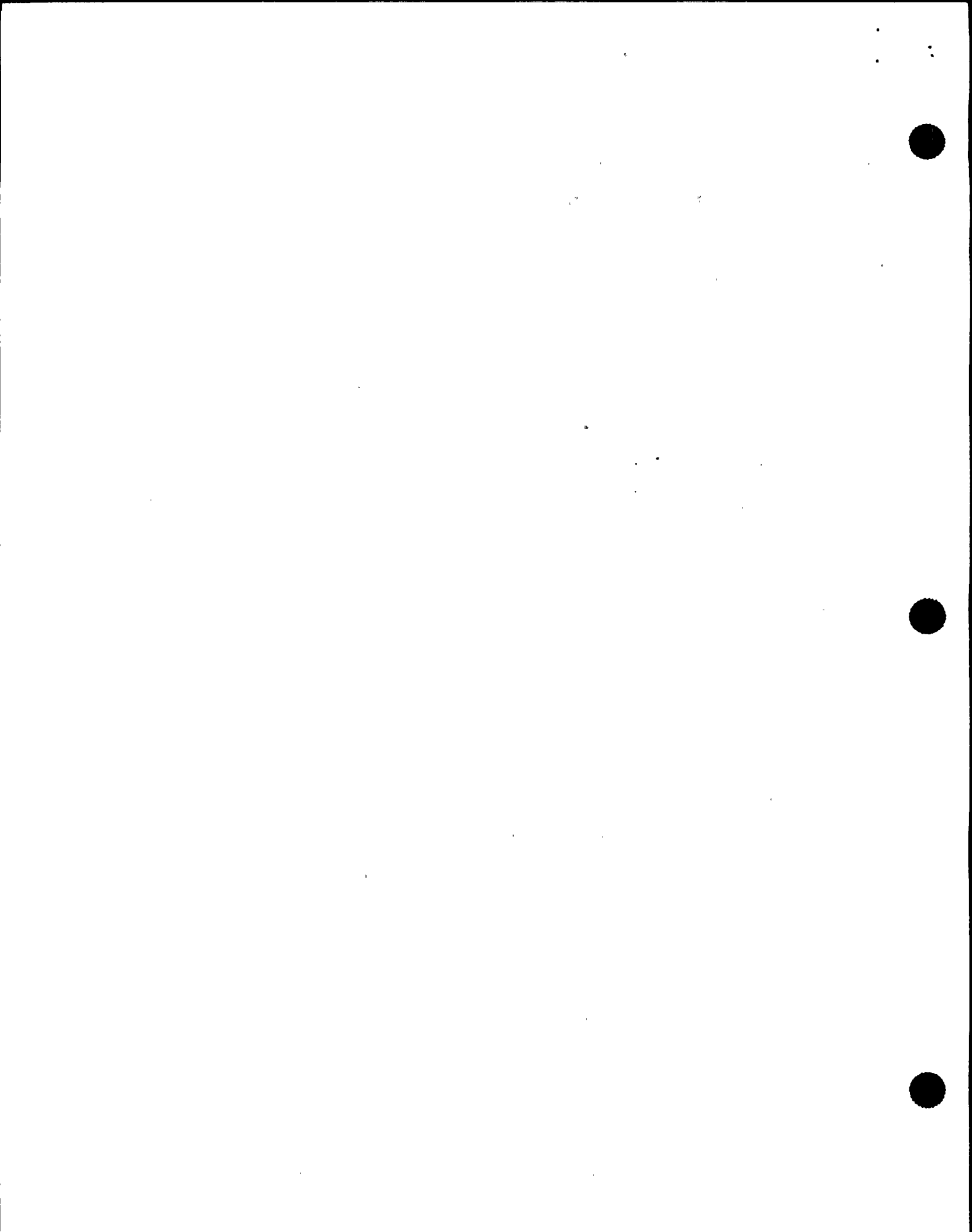
8           MR. CONTE: Were you alone when you went out to  
9 the switch gear?

10          MR. GARBUS: Yeah. I'm trying to think of who I  
11 talked to. I gave the information to someone. What I did  
12 was I drew a picture to make it easier and explained where  
13 the leak was. And I believe I told Mike Conway when he was  
14 in a low spot there, and wasn't real busy. And then after  
15 that I talked to George Moyer about it. And I wanted to see  
16 if he wanted to get firemen out there or anything like that.  
17 And then we discussed it, and, with the accountability and  
18 everything, George said, "Let's not send them out."

19          And I did talk to the fire chief. And he told me  
20 that that detection was in alarm only. So it would have to  
21 be actuated manually if we needed it.

22          Let's see. After that, I made myself available to  
23 the CSO again; I just let him know I was free.

24          MR. CONTE: About what time did you get back in  
25 the control room?





1 MR. GARBUS: Times -- I couldn't give you one. I  
2 have absolutely no idea.

3 MR. CONTE: At the time could you describe what  
4 was going on? That might help us pinpoint when you came.

5 MR. GARBUS: Let's see.

6 MR. CONTE: Were they starting condensate and  
7 feed?

8 MR. GARBUS: That was after I had arrived. They  
9 were starting up condensate pump.

10 MR. CONTE: Okay. At 6:22 power was restored.

11 MR. GARBUS: Right.

12 MR. CONTE: So it must be somewhere between 6:30  
13 and 7 that you went out to the switch gear.

14 MR. GARBUS: Probably --

15 MR. CONTE: I don't want to put words in your  
16 mouth. Would you say it was 6:30 to 7?

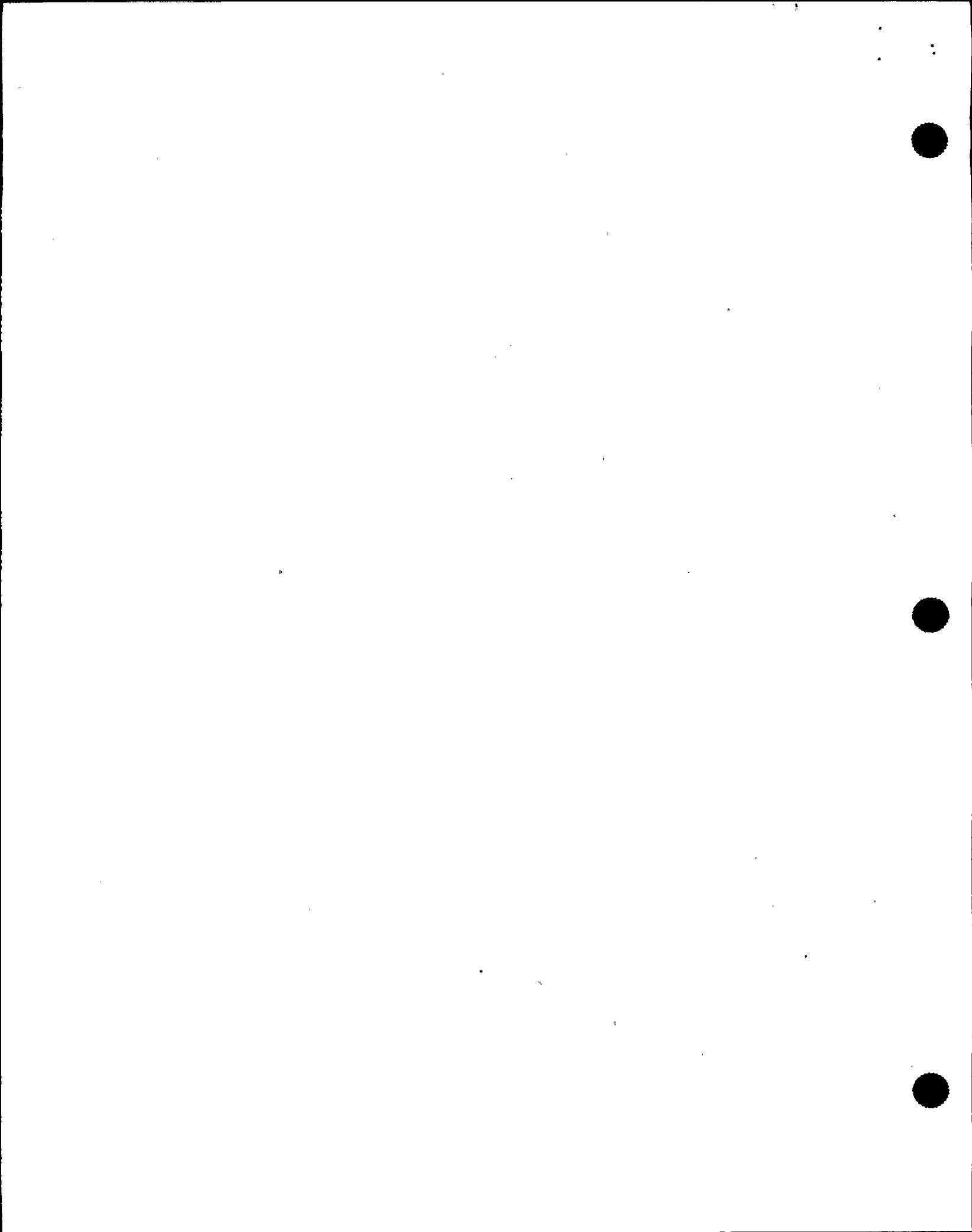
17 MR. GARBUS: Yes. I'd say it was probably closer  
18 to 7..

19 Let's see. I made myself available to Mark again,  
20 and I think the next thing he had me do was, I started  
21 keeping a log after that. As far as any manipulations or  
22 anything on the boards, I wasn't involved in there.

23 MR. CONTE: This log -- did you use the --

24 MR. GARBUS: I just used a yellow pad, like that.

25 MR. CONTE: Okay.



1 Did you turn them in to the company?

2 MR. GARBUS: Yes. Somebody's got them; I think  
3 Mike Conway made a copy for himself, and somebody else, one  
4 of the other SROs -- I don't remember who it was -- wanted a  
5 copy, I think -- Mike Eron maybe; I don't know. After that,  
6 it was pretty much just keeping a log of when anything major  
7 happened, starting pumps or --

8 MR. CONTE: You weren't involved in the -- that's  
9 essentially what you were doing for the cool-down, then,  
10 just keeping logs.

11 MR. GARBUS: Right. Well, up to the point. I  
12 think I left about -- George Moyer came to me -- he's one  
13 of the SSS's -- and Mark Davis was scheduled to come in  
14 early that night, but, since he stayed over the morning for  
15 the scram, George came to me and said that they wanted me to  
16 leave and then come back at 6:30 in the evening to cover  
17 that four hours he was supposed to come in early for.

18 I think I just kept log up until they got  
19 permission for me to leave.

20 MR. CONTE: What time did you leave the plant, or  
21 what time did you leave the control room, about?

22 MR. GARBUS: I want to say it was like 10:05, but,  
23 like I say, times -- [Laughs]. I guess I could better tell  
24 if I had the log of it.

25 MR. CONTE: Okay. We can go back over and review



1 some things.

2 Do you have a question there, Mike?

3 MR. JORDAN: No. Go ahead and ask whatever  
4 questions you have.

5 MR. CONTE: Okay.

6 One of the first things that you mentioned here  
7 was that you were assigned to clear the mark-ups on RHR B  
8 and C. It's our understanding at this point that those  
9 systems were getting ready for maintenance, but all it was  
10 was a matter of clearing the tags to make them operable. Is  
11 that your understanding?

12 MR. GARBUS: Yes.

13 MR. CONTE: And that's normal practice, if work's  
14 going to start the day, to at the end of the midnight shift  
15 hang the tags so that everything's ready to go?

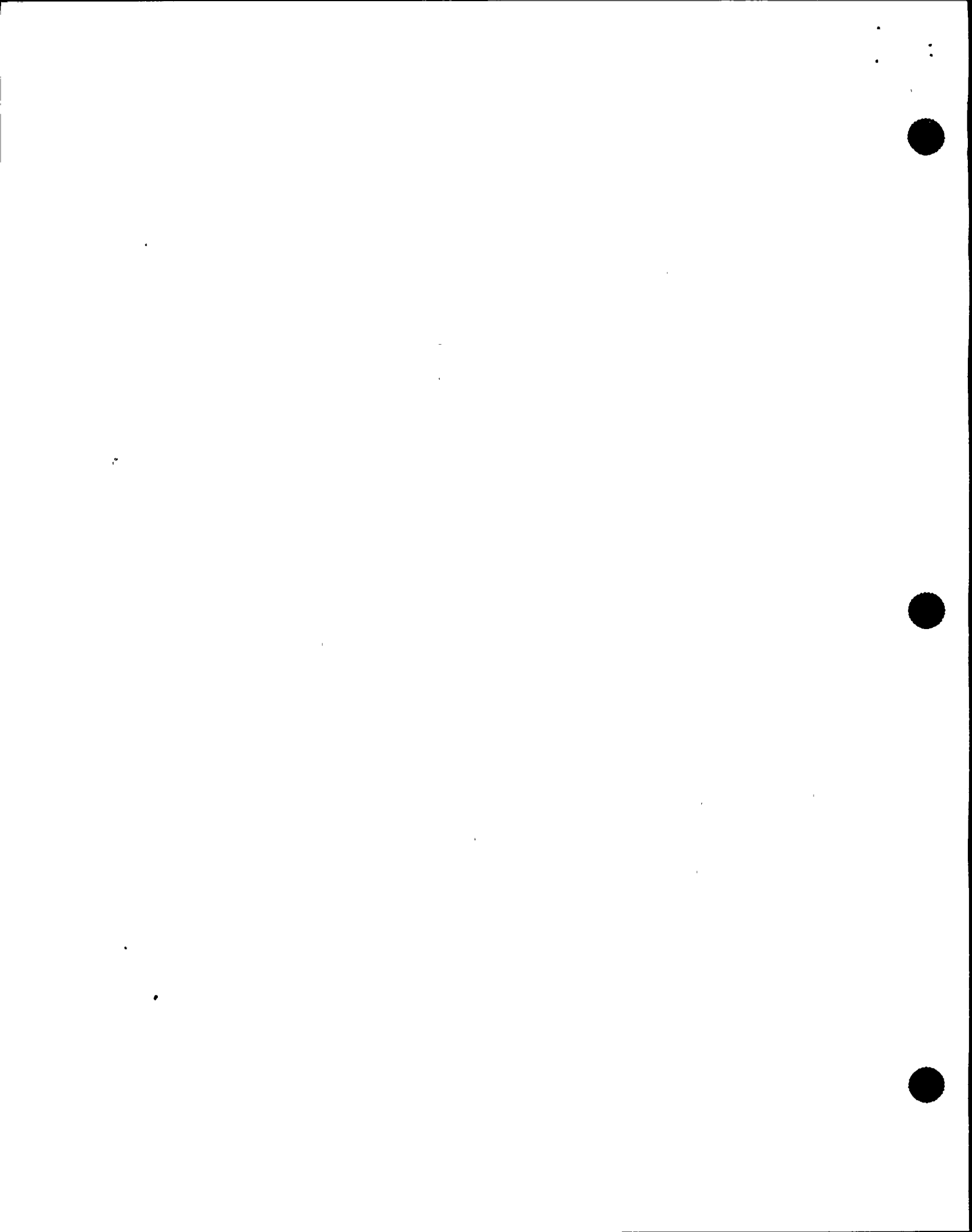
16 MR. GARBUS: Yes.

17 MR. CONTE: Were you aware of any safety-related  
18 equipment that was out of service? Let me put it this way:  
19 The emergency core cooling system, HPCS, core spray, RHR,  
20 those major pieces of equipment.

21 MR. GARBUS: Just the RHR.

22 MR. CONTE: Just the RHR.

23 MR. GARBUS: Yes, the mark-ups on it. I just  
24 looked briefly at them, and it looked like -- I don't even  
25 remember what it was.



1 MR. CONTE: Do you know the nature of the  
2 maintenance that was going to be done on those trains?

3 MR. GARBUS: No, I don't.

4 MR. CONTE: Could you describe the stairway -- In  
5 fact, could you retrace your path, when you left the control  
6 room, down to the UPS and various places that were dark,  
7 meaning black, and others that had maybe, you noticed,  
8 emergency light, or other observations, like fire panel  
9 alarms, things like that? Could you take us in that trip  
10 from the control room down to the UPS?

11 MR. GARBUS: Let's see. We went out the south  
12 door of the control room and then west down the hall, and  
13 turned left and went down that stairway -- it would be the  
14 southwest stairway.

15 MR. CONTE: So this is the southwest stairway of  
16 the control building.

17 MR. GARBUS: Right.

18 MR. JORDAN: What was that elevation?

19 MR. GARBUS: We were on 306 at the time, but the  
20 entire stairway was black. There was no emergency lighting  
21 in the stairway.

22 On the way down, once we realized the stairway was  
23 black, we said, Let's go down to the locker room and get a  
24 flashlight. We went to -- let's see; I guess it would be  
25 west hallway in the control building, out through the double





1 doors and then into the cardox room, and into the locker  
2 room to get the flashlight.

3 MR. JORDAN: What was it like in the cardox room?

4 MR. GARBUS: It was light, but, then, I didn't pay  
5 attention. I mean, the overhead door was open and it was  
6 daylight by then, anyway.

7 MR. JORDAN: How about the locker room?

8 MR. GARBUS: The locker room had lights.

9 MR. JORDAN: From there, we retraced our steps  
10 back to the same stairway -- No, I take that back. We went  
11 back through normal switch gear and down.

12 MR. JORDAN: What were the conditions in normal  
13 switch gear?

14 MR. GARBUS: Normal switch gear seemed dim, but  
15 there was lighting.

16 And then right down the stairs.

17 MR. JORDAN: Are these the same stairs?

18 MR. GARBUS: No. We're in another building. This  
19 is the normal switch gear building.

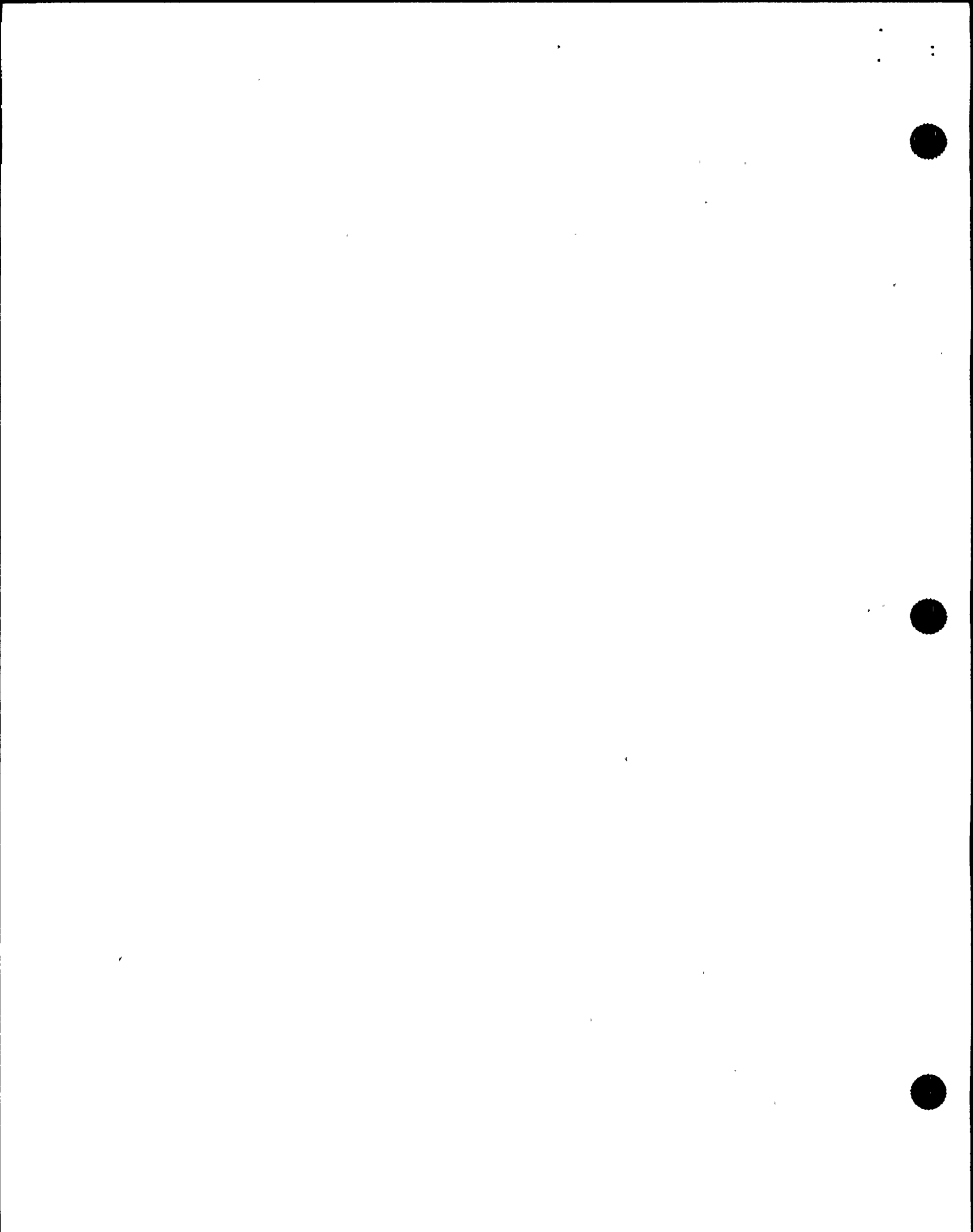
20 MR. JORDAN: Were those stairs lit or non-lit?

21 MR. CONTE: How about the stairs in the switch  
22 gear building?

23 MR. GARBUS: Those, I think, were lit.

24 MR. JORDAN: Okay.

25 Do you know which ones those were -- northwest,



1 southwest -- or is there only one set?

2 MR. GARBUS: It's kind of like right in the  
3 middle. You go through the 4.160 switch gear room and then  
4 into the 13.8 switch gear room, and right between is where  
5 that stairway is located.

6 MR. CONTE: Okay. Then did you get to the UPS, or  
7 was there another corridor or something?

8 MR. GARBUS: You're in the battery switch gear,  
9 and you just go through a set of double doors into the UPS  
10 rooms.

11 MR. CONTE: What were conditions like in the UPS?

12 MR. GARBUS: Seemed normal, if I recall.

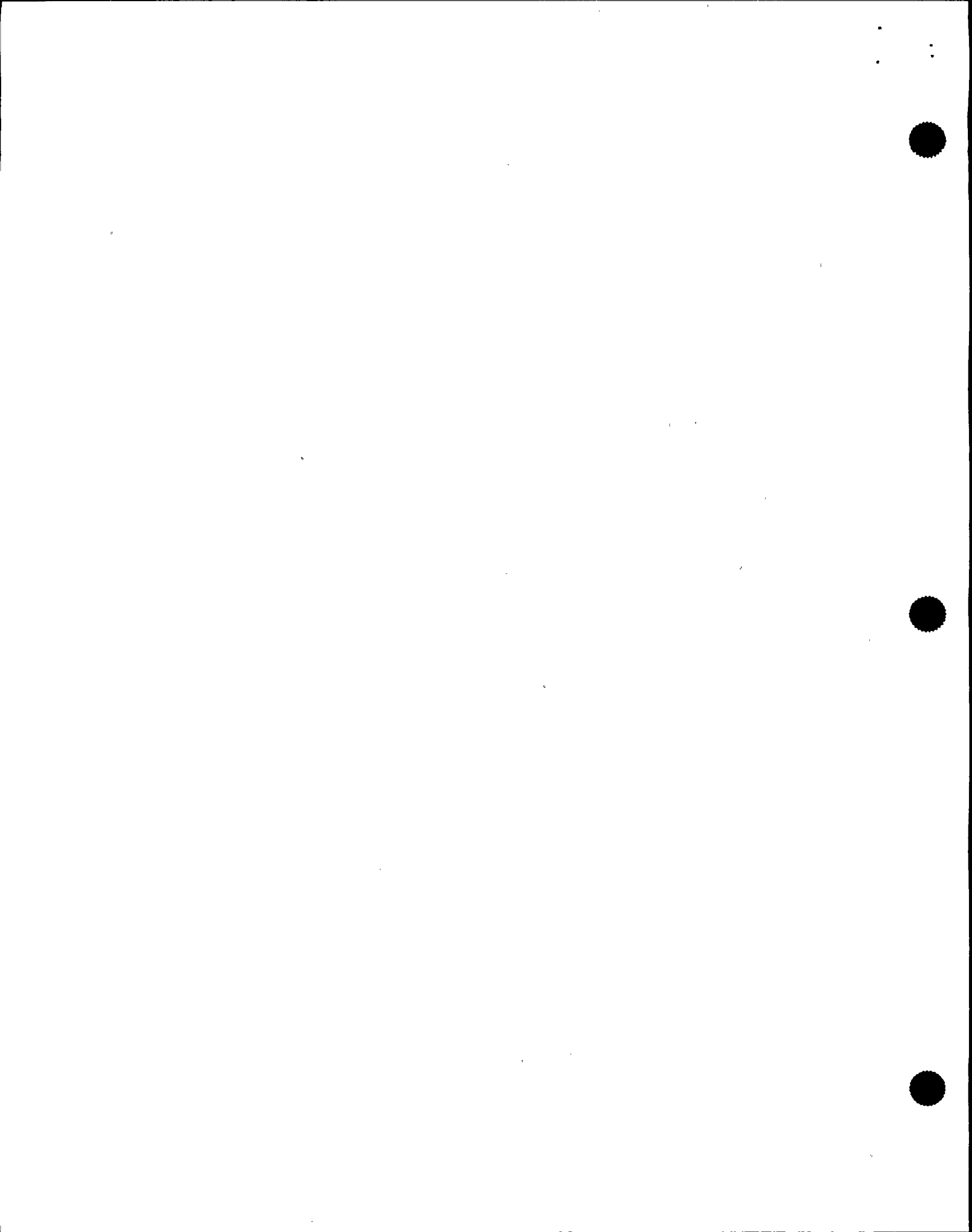
13 MR. CONTE: Okay.

14 The next question I had was when you got to the  
15 UPS's and you made your preliminary assessment that you gave  
16 details earlier, you basically noticed that the input  
17 breakers, CB-3 and CB-4 were open --

18 MR. GARBUS: Oh, CB-3 and 4 are not the inputs.  
19 The AC and the DC input were open, the CB-3 is the output --  
20 excuse me, and CB-4 is the maintenance supply.

21 MR. CONTE: Thank you for correcting that. Good.  
22 Had you been there alone would you have known how to get  
23 power to them or were you aware of this method of pulling  
24 the --

25 MR. GARBUS: Yes.



1 MR. CONTE: -- motor and operator cover. Okay.  
2 Did you happen to think about it, or did somebody else come  
3 in and say do that. You say you didn't do it, did someone  
4 else?

5 MR. GARBUS: Bob Spooner was -- yeah, he was down  
6 at the --

7 MR. CONTE: Bob Spooner?

8 MR. GARBUS: Yeah. And whoever was behind us said  
9 something about pulling the lever on the bottom and, you  
10 know, then Bob opened it up and closed in the supply.

11 MR. CONTE: You were responsible for opening the  
12 only -- only the one UPS, or you were responsible --

13 MR. GARBUS: Right.

14 MR. CONTE: You and Bob were responsible for  
15 closing the CB-4 on only one UPS?

16 MR. GARBUS: Correct.

17 MR. CONTE: And you don't remember which  
18 designator that was?

19 MR. GARBUS: No. I would have to walk up to it.

20 MR. CONTE: The people -- you had mentioned  
21 something about the other operators, Mr. Hanczyk, and others  
22 working -- having this procedure out. Did you happen to see  
23 -- did you consult the procedure yourself, or did you  
24 happen to see what they were doing with it?

25 MR. GARBUS: No.



1 MR. CONTE: In terms of writing on it or --

2 MR. GARBUS: No. I went right over and looked at  
3 the -- Bob and I went right to one UPS and tried to assess  
4 what was happening.

5 MR. CONTE: Okay.

6 MR. JORDAN: Did you take any documentations of  
7 the conditions of the UPS before you -- you mentioned there  
8 were some flags up and the breakers were open. Was there  
9 any documentation on the condition of the breaker before --  
10 as far as alarm or whatever before you started working on  
11 it?

12 MR. GARBUS: I'm not sure, like the little alarm  
13 lights, is that what you mean?

14 MR. JORDAN: Well, you say you walked up and you  
15 opened the one little toggle switch.

16 MR. GARBUS: Right.

17 MR. JORDAN: Which was the CB-3.

18 MR. GARBUS: Okay.

19 MR. JORDAN: And you said you checked the mimic.

20 MR. GARBUS: right.

21 MR. JORDAN: Okay. Is there any other -- I mean,  
22 did you document the conditions of any of the stuff?

23 MR. GARBUS: No.

24 MR. JORDAN: Okay.

25 MR. CONTE: Why do you have to pull that switch up





1 on CB-3?

2 MR. GARBUS: Oh, the little toggle switch?

3 MR. CONTE: Yeah.

4 MR. GARBUS: I don't believe you have to.

5 MR. CONTE: Why did you do it?

6 MR. GARBUS: I just thought, we're going to close  
7 this supply, I don't want this one to reclose for any  
8 reason.

9 MR. CONTE: Oh, the switch effectively knows the  
10 interlock between the two breakers or something?

11 MR. GARBUS: I'm not sure.

12 MR. JORDAN: You said that you knew how to pose in  
13 the CB-4 breaker, can you tell us how you got that  
14 information?

15 MR. GARBUS: Back during start-up, I think,  
16 working with the engineer.

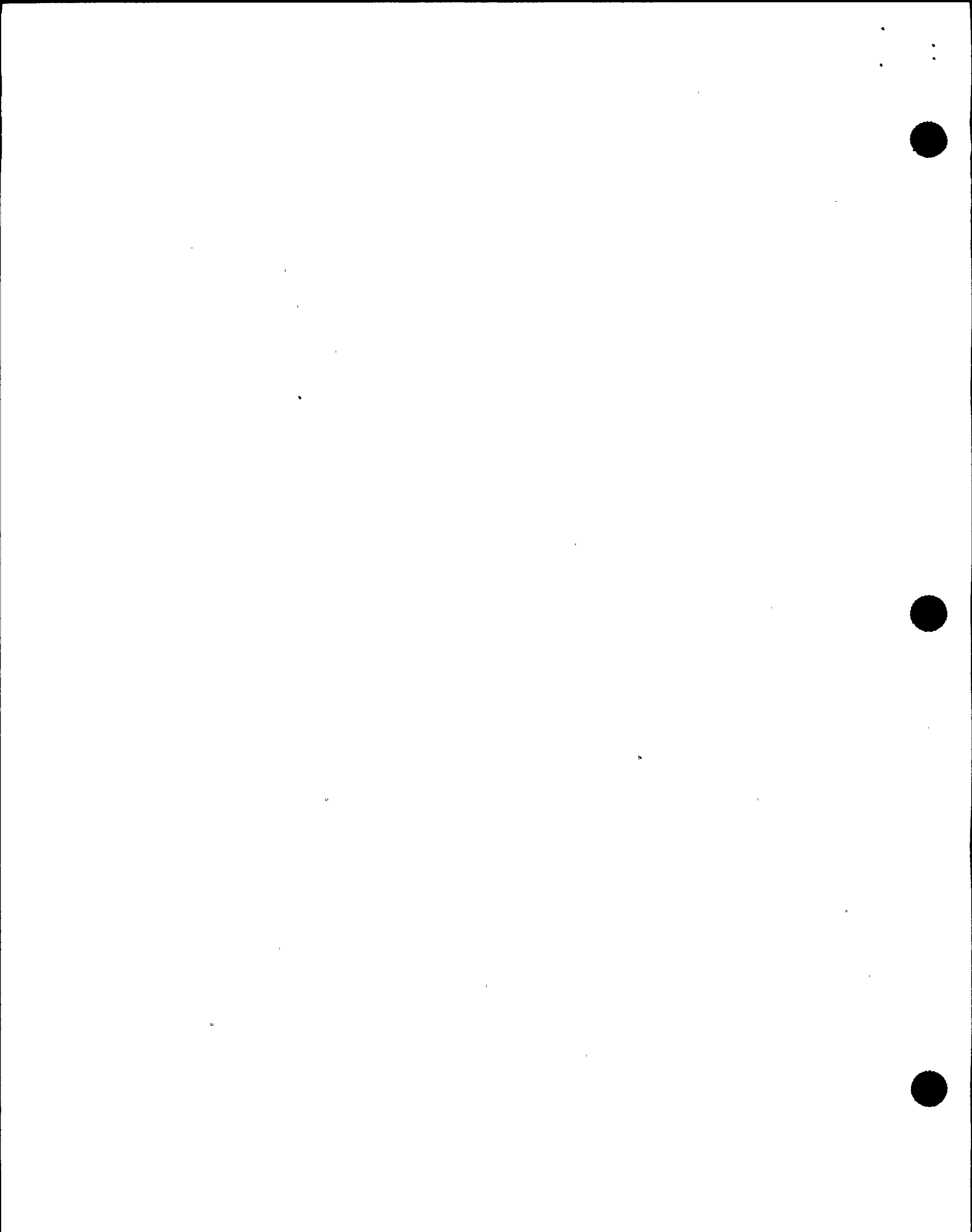
17 MR. JORDAN: So, if nobody would have been there,  
18 you would have been the only one on site, then returning  
19 power to the UPS's you felt you could have done that?g

20 MR. GARBUS: Yes.

21 MR. CONTE: Okay. Two more areas I would like to  
22 go over with you. Could you retrace your path from the  
23 control room to the switch gear?

24 MR. GARBUS: On the way up to the switch yard?

25 MR. CONTE: Yeah. And did you happen to notice



1 abnormal lighting in any one of those areas?

2 MR. GARBUS: Let's see. I believe I went down by  
3 the RAD protection office. That stairway would be east, I  
4 guess. It's right by the RAD protection office. Anyway,  
5 that stairway was lit and I went down through there --

6 MR. CONTE: This is the east stairway of what  
7 building? The service building?

8 MR. GARBUS: I think that would be considered the  
9 Aux service building.

10 MR. CONTE: East stairway --

11 MR. GARBUS: Right next to the elevator.

12 MR. CONTE: Nothing unusual?

13 MR. GARBUS: Not that I remember.

14 MR. CONTE: Okay.

15 MR. GARBUS: There may have been, but there was  
16 lighting. And then from there, just down the hall and out  
17 through normal switch gear, is the way I chose.

18 MR. CONTE: Nothing unusual with respect to  
19 waiting?

20 [No response.]

21 MR. CONTE: You indicated at the switch gear you  
22 made some attempt to shut something off in order to reduce  
23 the leak? I didn't quite get that.

24 MR. GARBUS: There's -- on the transformer control  
25 panel itself, there's two switches, one for each fan bank



1 and pump. And they're normally in auto, and there's an off  
2 position and I believe the other one is hand. And I placed  
3 both switches to off.

4 MR. CONTE: Okay. Did you return them back to  
5 normal or just leave them on.

6 MR. GARBUS: No. I left the like that and I noted  
7 it on that -- when I went up and started keeping longs, I  
8 noted it on there just so it didn't get forgotten.

9 MR. CONTE: At one point, I wasn't sure if it was  
10 your trip back from the UPS -- I guess on your trip back to  
11 the UPS, you entered the control room and you said there was  
12 plenty of noise, can you give us a sense of the mood in the  
13 control room? Granted, I guess part of the problem is,  
14 there is a lot of people there, people are talking, and that  
15 elevates the noise level.

16 MR. GARBUS: Yeah. Well, you had your  
17 annunciators back which was what I meant about noise.

18 MR. CONTE: Oh, I see. Okay. Not so much noise of  
19 people talking.

20 MR. GARBUS: No.

21 MR. CONTE: Can you give a sense of the mood in  
22 the control room with the number of people there. Were  
23 things under control? Were people in the back? Was there a  
24 lot of interference for the shift supervisor? Can you give  
25 us a sense for how the overall command and control was?



1 MR. GARBUS: I thought the command and control was  
2 good. I, myself, if I was in the position of CSO would not  
3 have wanted so many people in the -- I mean, non-operations  
4 personnel .

5 MR. CONTE: Are most of the people that are in the  
6 control room operations people or were there others?

7 MR. GARBUS: A majority of them were, but then  
8 later on in the day, or you know, I'm talking probably 9:00  
9 or so, then you had the OPS management and other people that  
10 I didn't even recognize.

11 MR. CONTE: That was later in the day?

12 MR. GARBUS: Yeah. But I mean that would just be  
13 my personal preference.

14 MR. CONTE: I think I'm done Mike. Why don't you  
15 go ahead.

16 MR. JORDAN: I got one more question. And this  
17 takes us back, which I don't normally do this, but I just  
18 thought of this. When you got ready to go to the UPS's, did  
19 you say you were directed by the SSS to go down there or was  
20 it just you and --

21 MR. GARBUS: No. The CSO.

22 MR. JORDAN: The CSO --

23 MR. GARBUS: Mark Davis asked me if I would go see  
24 if I could do something with the UPS's.

25 MR. JORDAN: Okay.





1           MR. GARBUS: And Bob Spooner was standing right  
2 next to me at the time and said, "Let's go." So, we went  
3 down. I didn't realize anybody was down there.

4           MR. CONTE: What was the nature of the direction  
5 or what did he want you to go down there for?

6           MR. GARBUS: He wanted me to go down and try to  
7 reset or restore. He wanted to know what was wrong with  
8 them.

9           MR. CONTE: Oh.

10          MR. JORDAN: That's all I have.

11          MR. CONTE: Did you see anybody trying to  
12 communicate with the control room from the UPS area?

13          MR. GARBUS: After we had restored, someone had  
14 called the control room.

15          MR. CONTE: How did they call?

16          MR. GARBUS: With the here-here.

17          MR. CONTE: With the here-here.

18          MR. GARBUS: I don't remember who it was though.

19          MR. JORDAN: Okay. Let's go off the record there.

20                 [Whereupon, at 10:44 a.m., the taking of the  
21 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

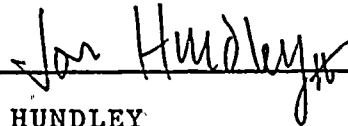
in the matter of:

NAME OF PROCEEDING: Int. of MIKE GARBUS

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.



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