

ORIGINAL

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OFFICIAL TRANSCRIPT OF PROCEEDINGS

Agency: Nuclear Regulatory Commission  
Incident Investigation Team

Title: Nine Mile Point Nuclear Power Plant  
Interview of: James R. Spadafore

Docket No.

LOCATION: Scriba, New York

DATE: Saturday, August 24, 1991

PAGES: 1 - 25

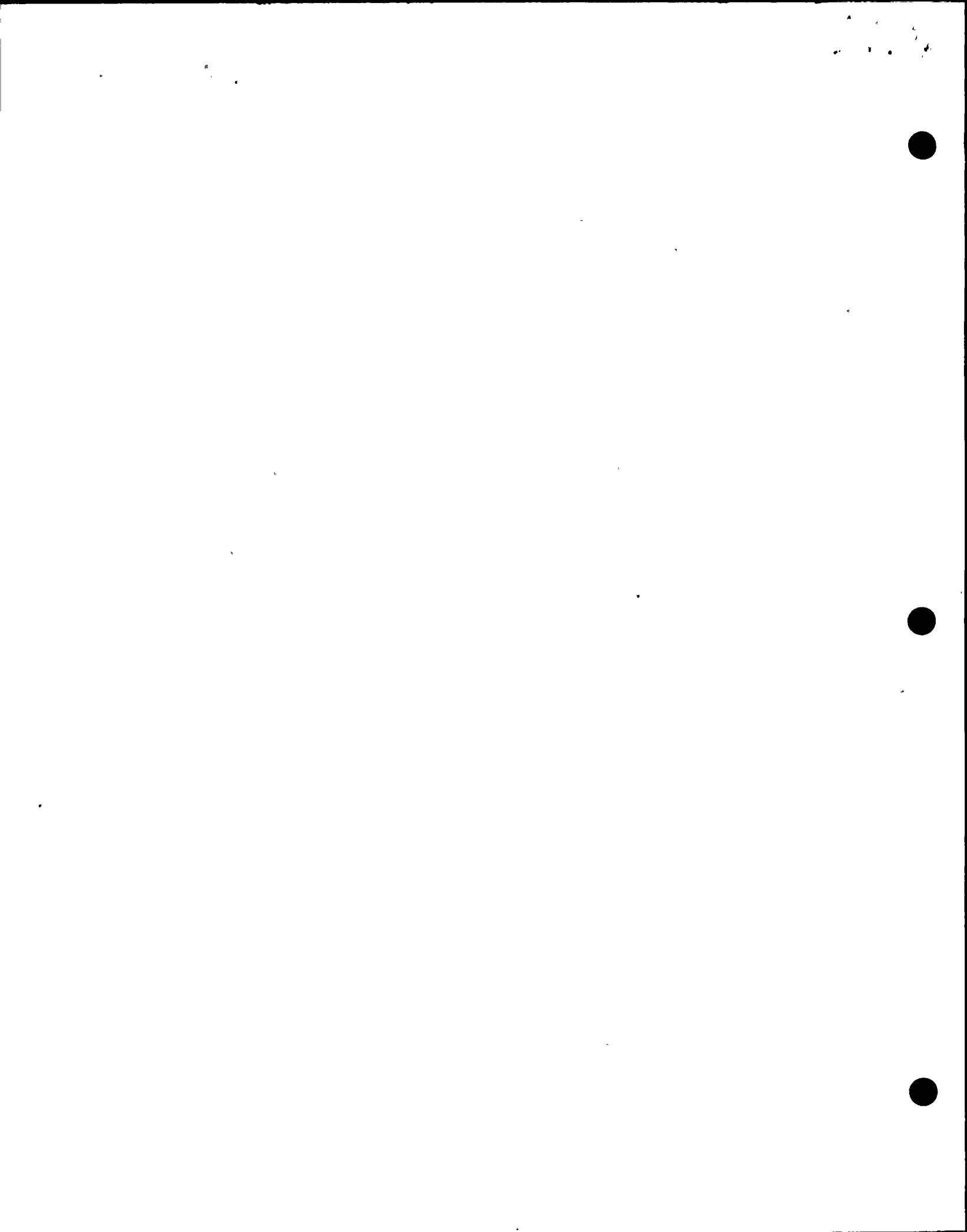
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UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION I  
475 ALLENDALE ROAD  
KING OF PRUSSIA, PENNSYLVANIA 19406

September 27, 1991

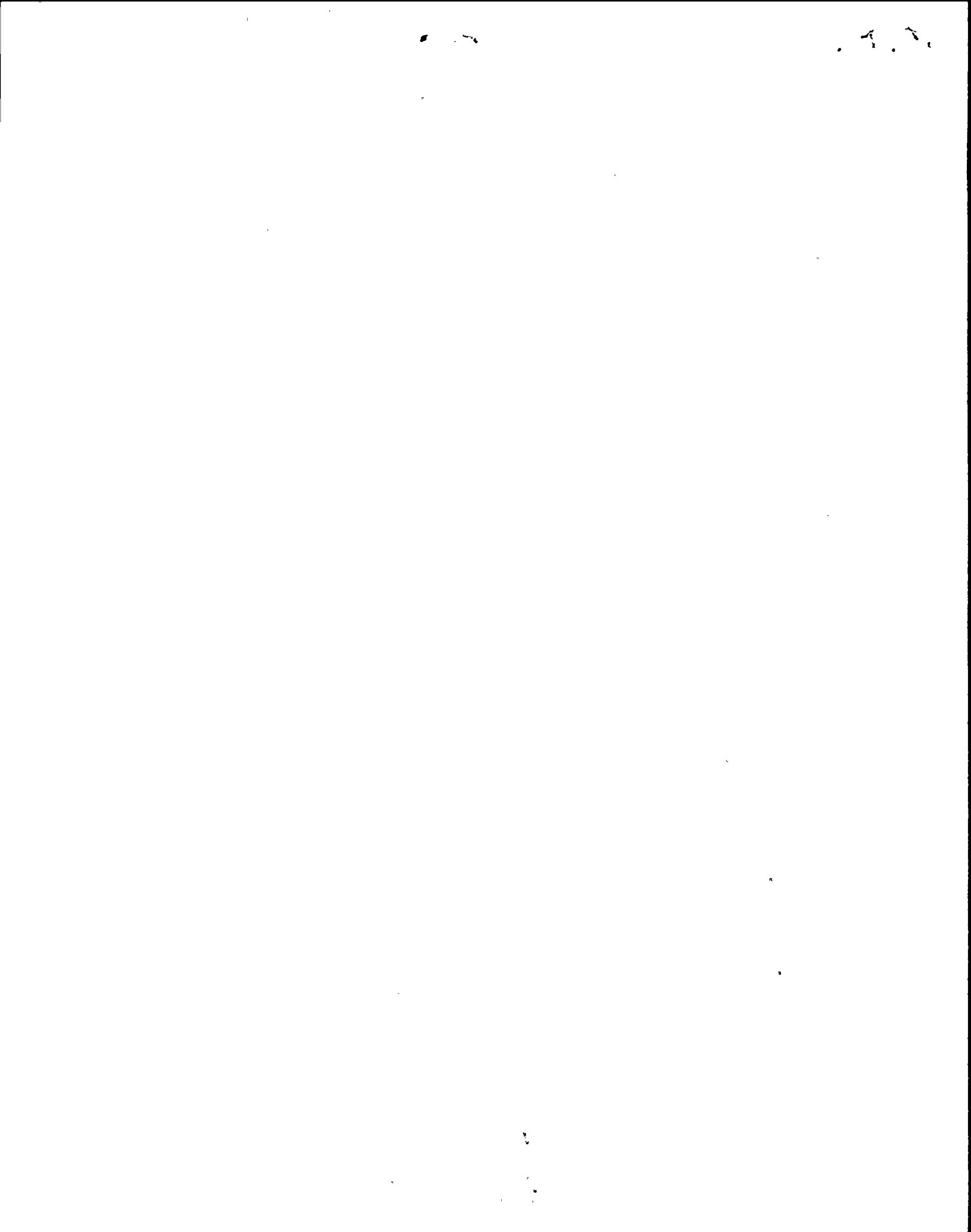
MEMORANDUM FOR: Martin J. McCormick, Plant Manager, Nine Mile Point Unit 2  
FROM: Wayne L. Schmidt, Senior Resident Inspector, Nine Mile Point  
SUBJECT: Review of IIT Interview Transcripts

The IIT has sent the transcripts of interviews conducted with the personnel listed below to the resident inspector's office. If any of the listed individuals wish to review the transcripts they should do so at the resident inspector's office by October 4, 1991. Guidelines for the review of transcripts are provided in the enclosure. If an individual does not review his transcript by that date we will assume that he did not wish to do so and that the statement is correct to the best of his knowledge.

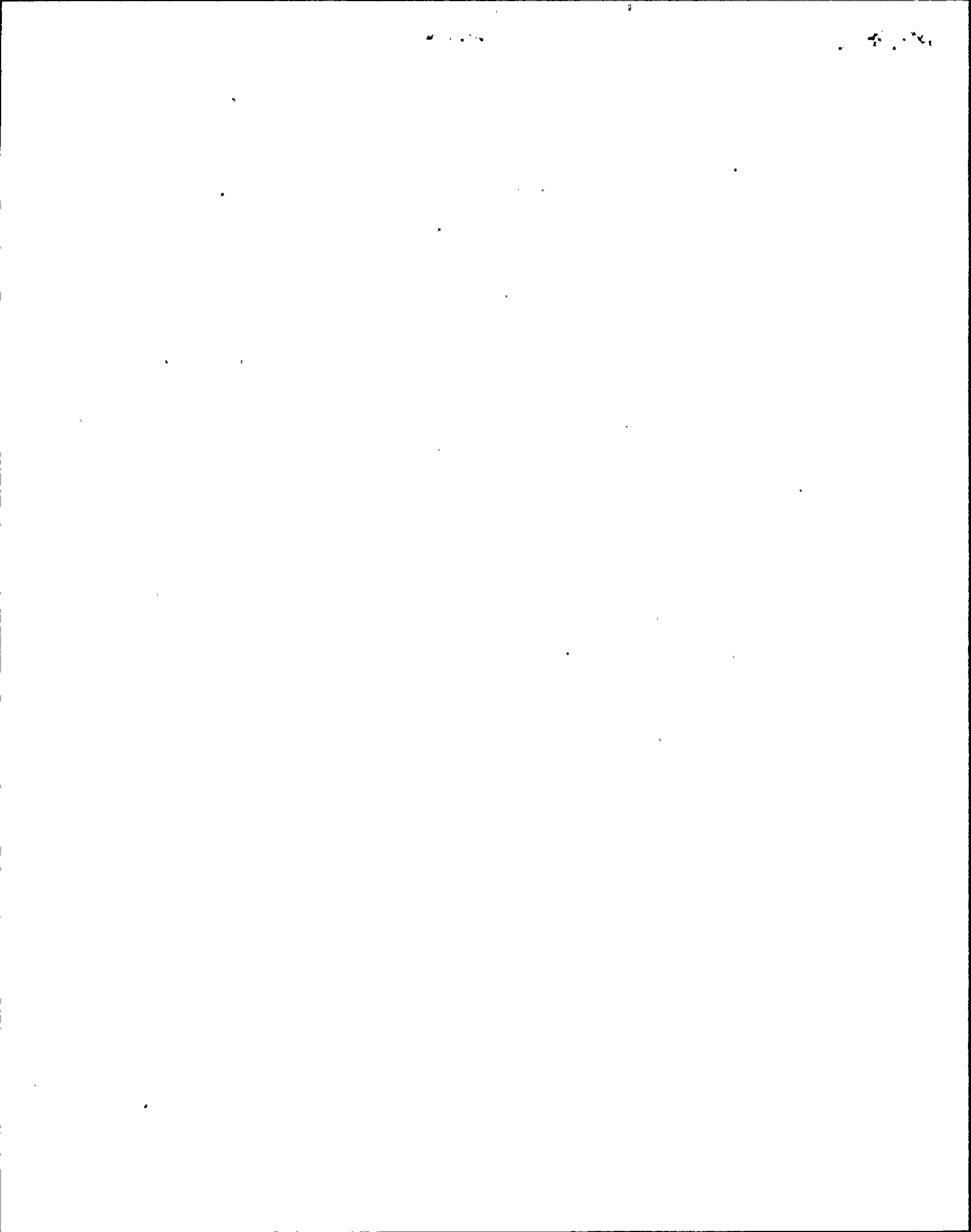
Alan DeGarcia, Steve Doty, Dave Barrett, Jerry Helker, Jim Burr, Bob Crandall, Robert Brown, Amil Julka, Perry Bertsch, James Spadafore, Joe Savoca, Mike Colomb, James Kinsley, Marty McCormick, Chris Kolod, Irineo Ferrer, Fred Gerardine, Anthony Petrelli, Jim Reid, Fred White, Rick Slade, Bruce Hennigan, and Tom Tomlinson.

Thank you for your help. If there are any questions please contact me.

*Wayne L. Schmidt*  
Wayne L. Schmidt  
Senior Resident Inspector  
Nine Mile Point







UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION  
INCIDENT INVESTIGATION TEAM

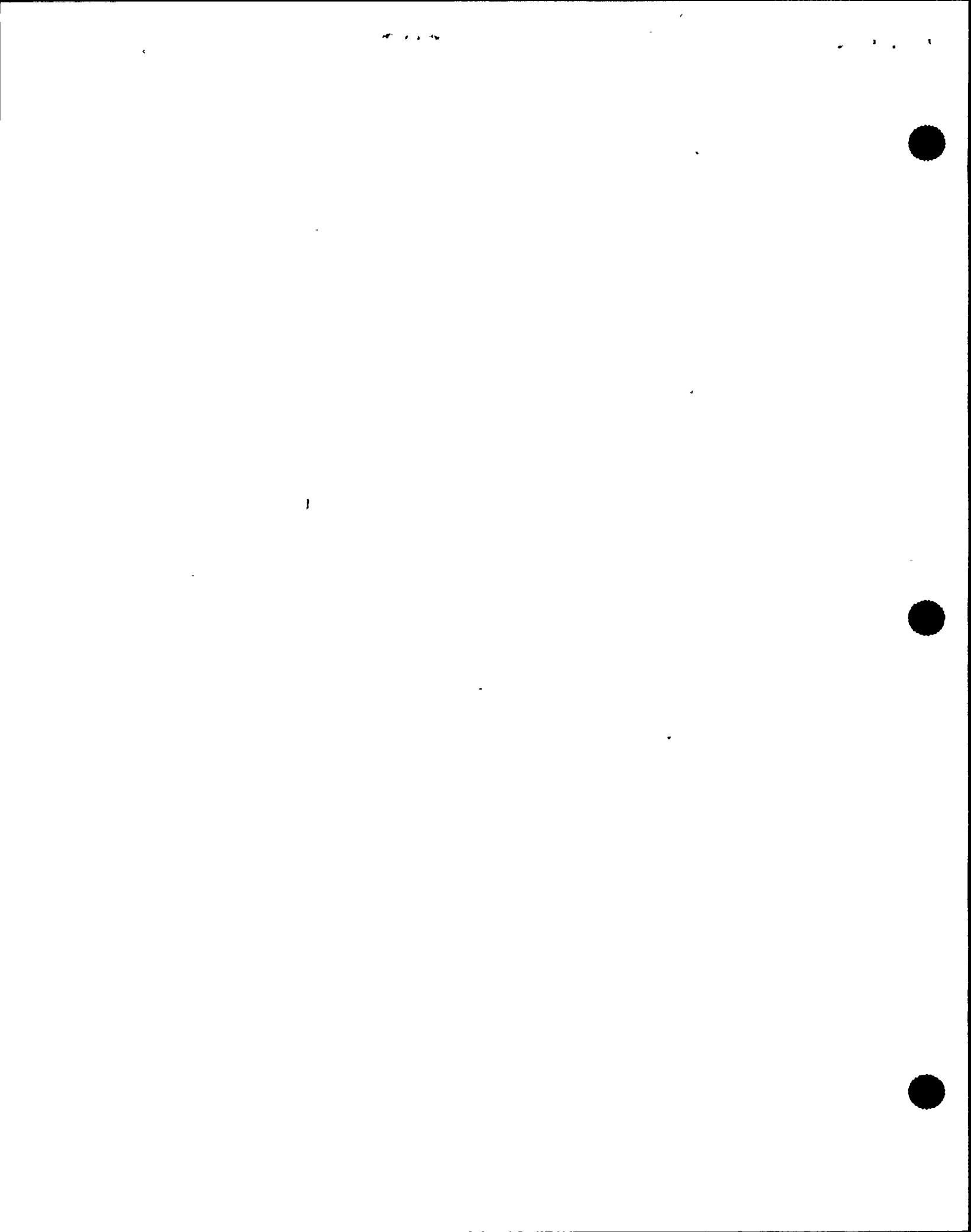
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Interview of :  
JAMES R. SPADAFORE :  
(Closed) :  
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Conference Room B  
Administration Building  
Nine Mile Point Nuclear  
Power Plant, Unit Two  
Lake Road  
Scriba, New York 13093  
Saturday, August 24, 1991

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

PRESENT FOR THE IIT:  
John Kauffman, NRC  
Rich Conte, INPO





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

[10:10 a.m.]

1  
2  
3 MR. KAUFFMAN: Good morning. It's August 24th,  
4 1991, 10:10 a.m.

5 We're in the Nine Mile Point Unit Two P Admin  
6 Building to conduct an interview of Jim Spadafore concerning  
7 the transient that occurred at the Nine Mile Point Two on  
8 August 13th, 1991.

9 I'm John Kauffman, I'm out of NRC Headquarters.

10 MR. CONTE: Rich Conte, Region I.

11 MR. SPADAFORE: Jim Spadafore, Niagara Mohawk.

12 MR. KAUFFMAN: Jim, at this point we would like  
13 you to just tell us a little bit about your background and  
14 experience you bring to your current job.

15 MR. SPADAFORE: Okay. I've been with Niagara  
16 Mohawk since 1975 and I was in the generation department for  
17 15 years holding positions of assistant supervisor  
18 instrument and control, computer supervisor, technical  
19 services superintendent, technical superintendent and INC  
20 superintendent.

21 After I left generation with the reorganization  
22 over a year ago, I joined the nuclear engineering department  
23 as the manager of the independent safety engineering group.  
24 During the timeframe that I was with the nuclear generation  
25 I was a member of the site operations review committee, the



1 joint test group for Unit Two and other committees as they  
2 came up.

3 My background is that I'm a -- I have a bachelor's  
4 degree in double E from Clarkson. I have a master's degree  
5 in systems management from USC and I have a P license. And  
6 I'm additionally presently inactive, but I've been in the  
7 PhD program at Syracuse University for the last few years.

8 MR. KAUFFMAN: Okay, good. Jim, could you tell us  
9 a little bit about your activities and things you saw on the  
10 day of the event?

11 MR. SPADAFORE: Yeah. The day of the event I was  
12 driving to Syracuse early in the morning for a meeting at  
13 7:00 a.m. and I received a page in my vehicle reflecting  
14 that the -- the code that we got was that it was a real  
15 emergency. At that point, since I'm in the Army Reserve as  
16 well, I have a phone in my car and I picked up the phone and  
17 contacted the control room at Unit Two to assess whether  
18 this was a false activation or whether it was a real paging.  
19 They quickly told me it was a real paging.

20 At that point I started calling out individuals in  
21 the nuclear engineering and licensing organization that  
22 would support activities within the TSC, EOF and corporate  
23 EOC. We did not -- I was not able to make all those phone  
24 calls because of the timeframe, in my car, so when I arrived  
25 at the site and got through the traffic and entered the



1 security building we ended up finishing those phone calls  
2 from the tech support center.

3 I then took over in the position of nuclear  
4 engineering and licensing coordinator within the TSC. So I  
5 arrived in the TSC somewhere around 7:40 - 7:45 in the  
6 morning from Syracuse. I was almost at the -- I was at the  
7 intersection of 481 and 81 when I did get the page, so it  
8 took me about 30-35 minutes to drive back up.

9 At that point in time I was met by only one other  
10 individual from engineering, Ken Korcz, who was over at the  
11 training center getting requal training, RP/GET training, at  
12 the time. So he and I made all the other call outs to the  
13 individuals in engineering and then we proceeded to get  
14 involved with the event as required following the duties  
15 that are in the binder in the TSC that we have to do.  
16 Contact people and get things moving for engineering support  
17 as need be.

18 MR. CONTE: What issues were you involved in?  
19 What technical issues were you involved in at the TSC?

20 MR. SPADAFORE: The engineering group pretty much  
21 provides support in the areas of observing and trending  
22 information and trying to assess potential changes to plant  
23 conditions, trying to assess potential fixes to plant  
24 conditions where maintenance or operations needs support.

25 And during the day of that event we were involved



1 with a couple of issues related to the cleanup system. They  
2 wanted us to perform a walkdown on the cleanup system which  
3 one of our site engineers did do. They asked us to perform  
4 a walkdown on the RHR system which a couple of our site  
5 engineers did, as well, for us. And we were looking for  
6 visual observations of piping system degradation, snubbers,  
7 hangers, anything that looked out of the ordinary. It was  
8 all visual observation walkdown.

9 In addition, we provided support to the technical  
10 data coordinator in the TSC as well as tried to review plant  
11 conditions based on the situation that some of the computer  
12 systems had failed in the TSC or actually they're in the  
13 plant and they had failed and we were trying to assess what  
14 information was good and what information needed to be  
15 looked at to assess whether or not it was good data or bad  
16 data.

17 We also kept an eye on the EOP's that plant  
18 operators were following to see where they were in relation  
19 to those EOP's, but we had no remarks to make. Everything  
20 looked like they were following everything according to the  
21 plan.

22 We activated the EOF and Rick Abbott took over as  
23 the liaison -- technical liaison to us in the EOF and we --

24 MR. CONTE: About what time was the EOF activated?

25 MR. SPADAFORE: I don't recall. I'd have to look





1 it up in our write-up.

2 MR. CONTE: Okay.

3 MR. SPADAFORE: There were different people that  
4 were actually getting to the EOF first and then others would  
5 take over after they got things rolling.

6 At the same time our corporate EOC was activated  
7 and there were -- in fact, all the individuals I talked to I  
8 knew were qualified individuals within those positions. In  
9 the corporate EOC, Ted Kulczyky started and then he was  
10 replaced by Jack Druczeck, Bob Hammelmann and Bill Nowicki  
11 all corporate EOC coordinators that got involved during that  
12 day's scenario.

13 MR. CONTE: Are there any other issues that you  
14 can remember? You said you did the walkdown, or you were  
15 requested to do the walkdown on the reactor water cleanup.

16 MR. SPADAFORE: Right. And that was the line --  
17 that was only a portion of the cleanup system, but that was  
18 the line that went to rad waste.

19 MR. CONTE: Is it --

20 MR. SPADAFORE: From cleanup.

21 MR. CONTE: -- is it correct -- I believe the  
22 reason you did that, based on what we know is there was  
23 indications of water hammer --

24 MR. SPADAFORE: That's correct.

25 MR. CONTE: -- in those two systems?



1 MR. SPADAFORE: That's correct.

2 MR. CONTE: Okay. You can't remember any other  
3 issues that you dealt with other than the observations  
4 following along the EOP's?

5 MR. SPADAFORE: I have a pretty good log that we  
6 took the day of that event. Without going into all the  
7 issues, I'm not sure what you want me to discuss, so I would  
8 rather not.

9 MR. CONTE: So, you kept that log at the TSC?

10 MR. SPADAFORE: Yes.

11 MR. CONTE: Okay.

12 MR. SPADAFORE: Yeah. That was picked up by the  
13 emergency response organization.

14 MR. CONTE: Okay. It's my understanding and the  
15 timing is kind of close to when you arrived at 7:40 that  
16 there was -- I think throughout the day there was a lot of  
17 discussions, especially with Region I on the transfer of the  
18 UPS power supply -- U-P-S power supplies back to normal.  
19 Were you involved in that decision?

20 MR. SPADAFORE: No, I was not involved with that  
21 decision. Although I was there listening like everyone else  
22 was.

23 MR. KAUFFMAN: What groups were involved with that  
24 decision, or what people talked about that decision?

25 MR. SPADAFORE: Mr. McCormick and electrical



1 maintenance were pretty well involved with those decisions  
2 and he was talking with several different people at the EOF  
3 and in the Unit One -- or Unit Two control room.

4 MR. CONTE: Were you asked for advice on that  
5 decision return in the normal or not?

6 MR. SPADAFORE: No.

7 MR. CONTE: You weren't? Okay. Do you have any  
8 new information on the water hammer issue with respect  
9 reactor water cleanup in RHR in terms of misoperation of  
10 valves or procedural problem or just --

11 MR. SPADAFORE: I haven't seen anything that would  
12 reflect that, no.

13 MR. CONTE: Okay. And based on your walkdown -- I  
14 guess you're not -- being a part of ISEG, you're not really  
15 in line, you're kind of independent --

16 MR. SPADAFORE: That's correct. We're  
17 independent.

18 MR. CONTE: -- so, I would assume that there's an  
19 in-line engineering organization that's going to make a call  
20 on the adequacy of those systems to support startup, is that  
21 correct?

22 MR. SPADAFORE: That's correct. That comes out of  
23 mechanical maintenance or mechanical design organization.

24 MR. CONTE: Okay. John, do you have any other  
25 questions about the functions in the tech support center?



1 MR. KAUFFMAN: No.

2 MR. CONTE: Okay. One of the reasons that we did  
3 want to talk to you is because of your lead on the safety  
4 significance of the event in the assessment group.

5 MR. SPADAFORE: Yes.

6 MR. CONTE: I realize you need to write a -- you  
7 are probably writing a report on that?

8 MR. SPADAFORE: That's correct.

9 MR. CONTE: Writing recommendations and  
10 conclusions and we really don't want to -- if you can share  
11 recommendations and conclusions, fine, but I would imagine  
12 that might be premature at this point.

13 MR. SPADAFORE: That's definitely correct. The  
14 information we've received from the individual team leaders  
15 in the emergency recovery organization has been very  
16 preliminary. We have been trying to keep on top of the  
17 situation in all those teams to try to -- just to have a  
18 better handle on the information we're looking at. As we  
19 find something that looks like a potential problem, we're  
20 doing investigations to determine whether or not it is or  
21 not. And we have found things that were, in fact, done  
22 correctly that worked by design and we've so reflected it.  
23 And we are in coincidence with those teams finishing their  
24 work, trying to prepare a preliminary draft report to  
25 provide to our management and several other review groups.





1 MR. CONTE: When you talk about these teams,  
2 you're talking about the other groups within your -- Rick  
3 Abbott's assessment group?

4 MR. SPADAFORE: That's correct.

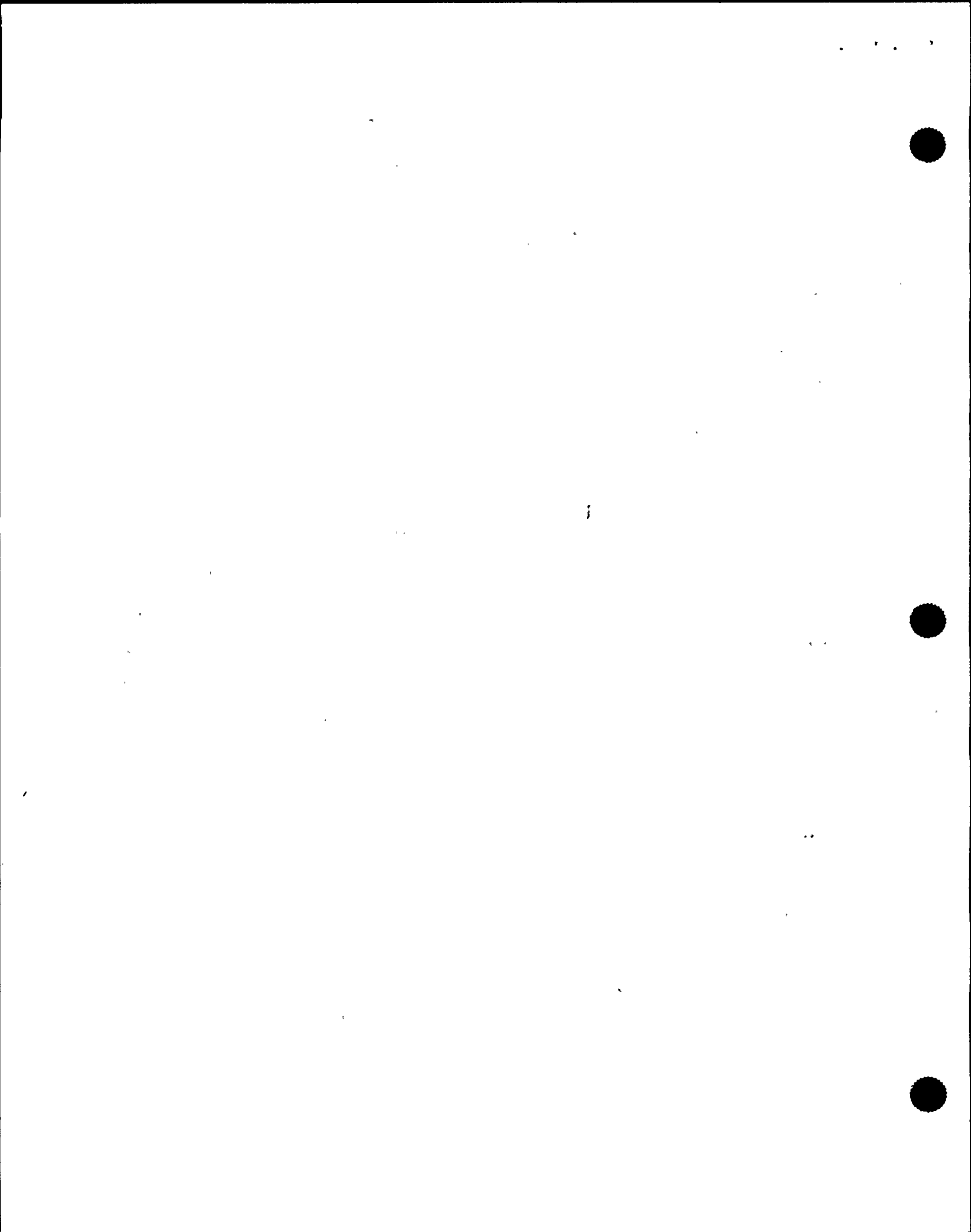
5 MR. CONTE: Okay.

6 MR. SPADAFORE: The Steve Doty transformer group,  
7 the John Conway UPS group, Anil Julka with system  
8 disturbance and so on. Those groups of people, those team  
9 leaders. Al Salemi from emergency preparedness, those  
10 groups.

11 MR. CONTE: Are there any -- are there any  
12 preliminary findings that you can share at this point in  
13 terms of, not so much the root cause of what happened, but  
14 from the operator end and the potential impact on safety, if  
15 you will; the operators having to deal with this situation  
16 of somewhat running blind, but they still had safety grade  
17 instrumentation?

18 MR. SPADAFORE: From all the data we've observed  
19 and the people we've talked to, both from operations and  
20 from the technical issues that are out there, many of the  
21 root causes need to be finalized.

22 I know they are getting closer to doing that with  
23 both the transformer and the UPS and so on. Operationally,  
24 everything we've seen appears to reflect that the operators  
25 did things in an appropriate manner, that where they did not



1 have direct procedures in place, their skills of the trade  
2 and their training provided that direction.

3 MR. KAUFFMAN: We have a charter on our team of  
4 what we're supposed to look at in our investigation, could  
5 you describe the breadth that your investigation is looking  
6 at?

7 MR. SPADAFORE: Yeah, most definitely. Our  
8 investigation is looking at safety system response, non-  
9 safety system responses, two-safety system responses, the  
10 operations and maintenances responses during the drill and  
11 afterwards. We're looking at the emergency planning  
12 organization's activities, the response to the emergency  
13 plan during the event and afterwards and we're looking at  
14 the human factors aspect of those situations where people  
15 were involved. And we're going to be drawing conclusions  
16 based on our review of our FSAR, our tech specs, operating  
17 experience, plant data from other utilities to determine  
18 whether or not we've got problems that not only affect us,  
19 that need to be resolved, but also any other utilities as  
20 well. So, very similar in nature to what I'm hearing from  
21 you folks. It's good.

22 MR. KAUFFMAN: What's the size of your team?

23 MR. SPADAFORE: Okay. My group consists of  
24 several members from my ISEG department doing certain  
25 functions as well as I pulled in some expertise from Stone



1 & Webster Corporation who is on our retainer, from  
2 individuals from our plant evaluations group, individuals in  
3 our risk assessment group, individuals in our licensing  
4 group. The team size, by number, would be almost 10 people  
5 with different varied backgrounds and different functional  
6 organization activities within Niagara Mohawk right now.  
7 And I've been able to pull them from anyplace I needed  
8 them.

9 MR. CONTE: What kind of a schedule are you on for  
10 making a report? Are you part of the report to management  
11 before startup on this event?

12 MR. SPADAFORE: Everything I've been doing goes  
13 directly to Rick Abbott and he's been involved with an  
14 advisory group of the organization. He's also been involved  
15 with the outage group that's going -- doing their HPCS  
16 activities, so he's been kind of the center of direction for  
17 all of us in the emergency recovery organization.

18 The rough draft that I have just issued this  
19 morning -- preliminary rough draft went out to some of the  
20 team leaders for their review, it also went to our legal  
21 department for review and it also has gone to some external  
22 SORC members, Mr. Eisenhut, Mr. Jeffries, Mr. Oleck, all  
23 part of the safety review and audit board.

24 We issued to them this preliminary rough draft to  
25 give them a feeling for where we're headed. Not necessarily



1 to give them the impression that we've been able to draw all  
2 the final conclusions at all.

3 In fact, the report identifies in italics things  
4 that we're looking at and that we're trying to get  
5 resolution on or get resolved one way or the other. It  
6 identifies, to some extent, the scope of our activities,  
7 some of the preliminary recommendations, lessons learned and  
8 so on that we're capturing so far.

9 Again, it's very rough, very preliminary, and  
10 we're hoping to get every -- all the team leaders' final  
11 documentation packages this coming Monday; that's what we've  
12 been directed to do. Under ideal situations from Rick  
13 Abbott he told us that he would like all the team leaders to  
14 get to my group their final remarks so I can then do another  
15 review and assessment and then a reissue of our rough draft.

16 We're trying to wrap things up as soon as we can,  
17 but without all the information it's difficult and everybody  
18 knows it and there's really -- I'm not getting the push to  
19 get it done for startup. I'm getting the push to make sure  
20 that it gets done with accuracy and completeness.

21 MR. CONTE: Okay. Let's talk about your normal  
22 function in the last year.

23 MR. SPADAFORE: Yes.

24 MR. CONTE: Unless John has a question on the  
25 status of that report on the assessment group.





1 MR. KAUFFMAN: No.

2 MR. CONTE: Okay. Any involvement of the ISEG in  
3 the electrical area, the non-safety UPS's that are subject  
4 of this event?

5 MR. SPADAFORE: Not in the last year. Our  
6 attention has really focused on plant outage activities,  
7 reviewing system line-ups during outages for risks. We've  
8 been involved with reviewing modification packages for  
9 completeness, accuracy and effectiveness of the mods.

10 We issue an activity report every month which our  
11 residents get a copy of which identifies many of the  
12 activities we do that would be too numerous to mention here  
13 at this time.

14 MR. CONTE: Anything in the are of safety versus  
15 non-safety electrical distribution? Other than associated  
16 with mod packages?

17 MR. SPADAFORE: Relative to this event, no.  
18 However, we have looked at other issues that have been  
19 safety issues, ISI, IST activities, fuel oil transfer pumps;  
20 why they took the fuel oil transfer pumps out of the ISI/IST  
21 program and other issues that we've seen where there have  
22 been changes to plant organization activities in electrical.  
23 We've tried to keep on top of the diesel generators. Some  
24 of those safety system aspects.

25 MR. CONTE: That's a memory jolt for me, the fuel



1 oil transfer pumps, when the AIT was here and we were trying  
2 to distinguish safety versus non-safety loads on the UPS,  
3 there was an issue about the fuel oil transfer pump not  
4 getting non-safety grade power. Do you know anything about  
5 that?

6 MR. SPADAFORE: I don't recall.

7 MR. CONTE: Okay. It was just a curiosity  
8 question.

9 MR. SPADAFORE: No, I don't recall.

10 MR. CONTE: Okay. How about in the last year, is  
11 there anything on the human factors aspect in the control  
12 room -- control room instrumentation at Unit Two?

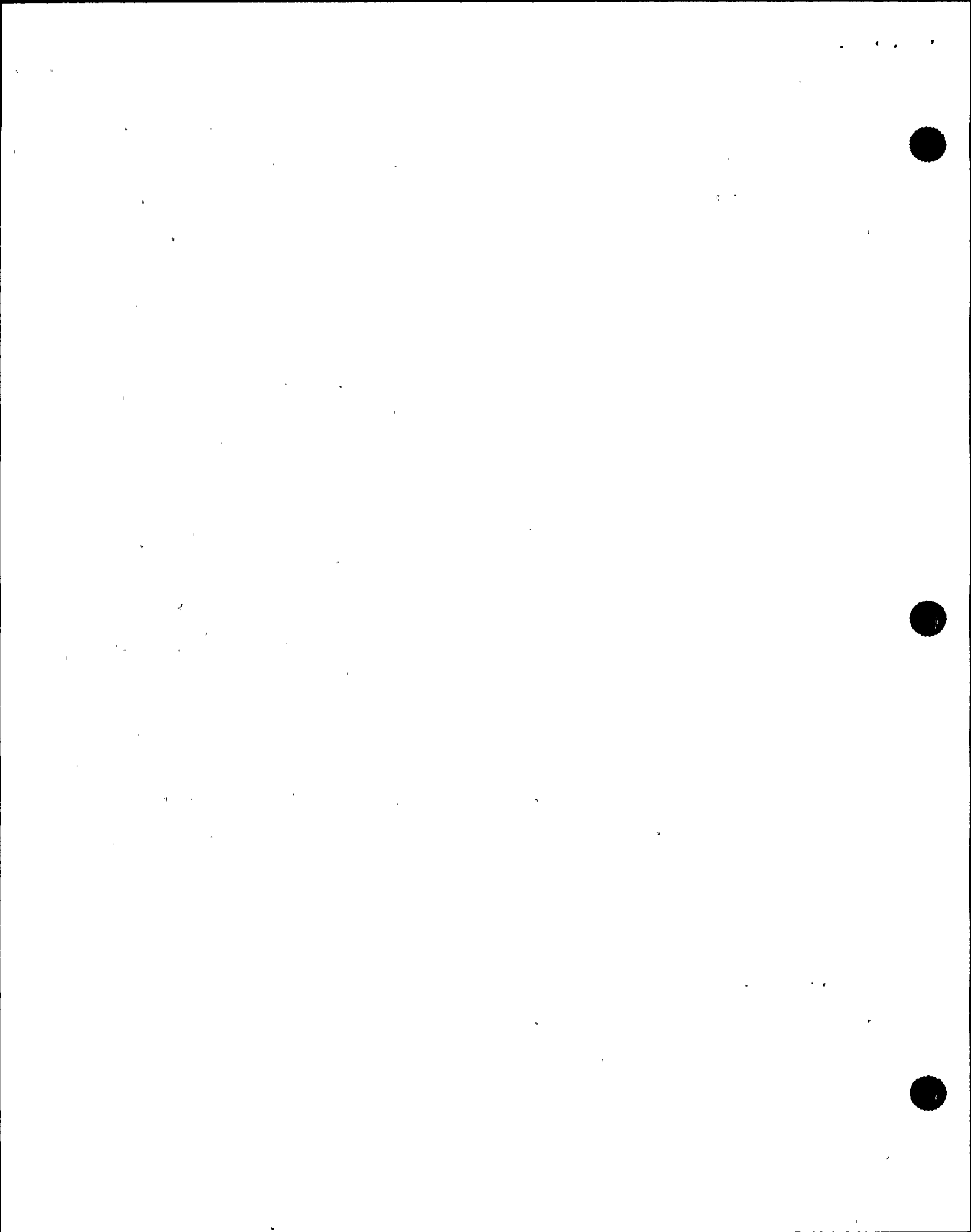
13 MR. SPADAFORE: There has been a big push by the  
14 plant to clean up their annunciators and we've been watching  
15 that progress over the last year. We have also observed  
16 plant operators on what we call our plant tours -- ISEG  
17 tours -- we have observed their activities and actions.

18 We've looked at shift turnovers and how they have  
19 been accomplished and for the most part we've seen pretty  
20 good results from them. And we've reflected that in our  
21 activity reports as well.

22 MR. CONTE: On the annunciators, is it getting  
23 better?

24 MR. SPADAFORE: Yes.

25 MR. CONTE: What's the measure of that?



1 MR. SPADAFORE: The measure has been -- in  
2 reviewing the operator logs and equipment status logs that  
3 we've observed over the last year, the measure of bad  
4 annunciators has eliminated a lot of their nuisance  
5 activities that they have had to log in the past. When  
6 something came in they'd log it in and then reflect that it  
7 was a nuisance.

8 So they've been able to draw more attention to  
9 what is significant and what is going on in their control  
10 room.

11 MR. CONTE: Can you give me a feel of how bad the  
12 normally lit annunciators were, in terms of numbers? Were  
13 there a hundred, fifty, twenty-five?

14 MR. SPADAFORE: I can't give you specific numbers,  
15 but it's significant. When you walked into the control room  
16 a year ago, or even further back than that, and saw many  
17 annunciators that you know yourself are nuisance  
18 annunciators, and now you go in there and you see that  
19 they're gone -- so when an alarm does come in, people  
20 recognize it as something to watch.

21 MR. CONTE: Any other questions?

22 MR. KAUFFMAN: Not if we're not going to talk  
23 about the event. That's all preliminary.

24 MR. CONTE: Yes.

25 MR. SPADAFORE: I don't know what the actions are



1 on our part to provide you documentation on a schedule, but  
2 I know we are supposed to provide you everything we have  
3 sometime. I'm not sure when that is.

4 MR. CONTE: We'll have to talk with Rick Abbott as  
5 to what he wants to share. This report that you mentioned,  
6 we'll have to talk with him.

7 MR. SPADAFORE: Yes. I brought a copy of it with  
8 me. It's up to them, I guess, to decide what they want to  
9 do with it. As far as I'm concerned, as we get it to the  
10 point of finalization in all aspects, it's supposed to be  
11 available.

12 MR. CONTE: Let me ask you, as kind of a final  
13 question, is your group pursuing a what-if type situation?  
14 Had the UPS's stayed out of service for a long time, like  
15 many hours or what have you, what impact --

16 MR. SPADAFORE: That has been the most difficult  
17 issue to pursue, but we have been doing a lot what-ifs.  
18 There are a lot of what-ifs that people bring up that aren't  
19 really related that our group can see related to either the  
20 situation we're in now, possibly if the event had gone even  
21 further than it did. We've been trying to filter the waht-  
22 ifs that are just what-ifs for the sake of a question and  
23 focus in on all the big-picture aspects of what has been  
24 going on.

25 Our report tries to address many of those, because





1 we did get some preliminary questions from the safety review  
2 and audit board last week that they wanted us to look at.  
3 What if the reserve transformer failed? Would that happen  
4 the same way, and so on and so forth? There are a lot of  
5 comparative studies that people want us to do. I'm not sure  
6 we're going to have the ability to do all that in a very  
7 short turn-around, but there are a lot of questions that  
8 people would like what-ifs to. It's trying to determine  
9 what are the priority what-ifs versus what are the nice-to-  
10 know what-ifs for some other reason.

11 MR. CONTE: Let me see if I have the design of the  
12 plant correct on that what-if situation. Had the reserve  
13 transformers failed, would that have been considered a  
14 station blackout?

15 MR. SPADAFORE: That's a what-if.

16 MR. CONTE: Okay. Emergency diesels, assuming  
17 they were operable, you had two of them; they would have  
18 worked.

19 MR. SPADAFORE: Right.

20 MR. CONTE: Okay. And theoretically, with the  
21 emergency diesels, the plant could cool down.

22 MR. SPADAFORE: That's right.

23 MR. CONTE: Using the safety instruments that were  
24 in the control room at the time.

25 MR. SPADAFORE: Yes.



1 MR. CONTE: Okay.

2 MR. KAUFFMAN: Just one final question, for me, at  
3 least. I'm trying to get a picture on the time frame of the  
4 event that you're focusing on reconstruction. I presume  
5 it's from some time prior to the event start to establish  
6 initial conditions.

7 MR. SPADAFORE: Exactly -- initial conditions,  
8 activities during the event, and layup of the plant after  
9 the event.

10 MR. KAUFFMAN: So you're stopping at cold  
11 shutdown, when the site area was terminated? At what point  
12 are you stopping?

13 MR. SPADAFORE: No, not really. I would say a day  
14 later is really the window. We're looking at things they  
15 did every after they got to the evening cold shutdown and  
16 declassification. We looked at the day afterwards as well;  
17 that's the window.

18 MR. CONTE: From an independent safety engineering  
19 group point of view, are you aware of any excessive number  
20 of equipment problems, out of service? Has that been a  
21 problem in the past? And maybe at the time of the event --  
22 do you have a feel for how many pieces of equipment were out  
23 of service?

24 MR. SPADAFORE: Well, from the data we were given  
25 as I entered the TSC, it appeared that there were two loops



1 of RHR out for maintenance for that day, and I was surprised  
2 to see that myself. Knowing what division of electrical bus  
3 they're on, I can see why they went to do that. That did  
4 surprise me. Reviewing other identified equipment out-of-  
5 service issues -- it's a real judgement call. I don't know.

6 MR. CONTE: The other piece of equipment, SRM A,  
7 was out of service -- that's source range monitor, for the  
8 record. You had three others; is that correct?

9 MR. SPADAFORE: That's correct.

10 MR. CONTE: Does that pose a problem to you, with  
11 one of them being out of service?

12 MR. SPADAFORE: At full power, not to me.

13 MR. CONTE: Do you happen to know why it was out  
14 of service?

15 MR. SPADAFORE: Not at the moment, no.

16 MR. CONTE: Okay. I think we've asked for any  
17 outstanding work requests on that.

18 MR. CONTE: I guess there a couple of SRVs that  
19 are considered leakers, and there's supposedly a work  
20 request in on them.

21 MR. SPADAFORE: That's correct. Yes. We're  
22 looking at SRV temperatures, tailpipe temperatures the day  
23 of the event from the display screens that we had in the  
24 TSC, looking for that kind of activity, where relief valves  
25 might have opened, or so on.



1 MR. CONTE: Are you aware of any other big pieces  
2 of equipment that were out of service?

3 MR. SPADAFORE: They had some problems with RCIC  
4 the day of the event. They had indication that a valve was  
5 in a different position than it should have been, but, after  
6 further review, they found out that everything was fine.  
7 It's just one of those many indications they had that day  
8 that they worked on where initially they had an indication  
9 of one position or one value, and they had to reassess  
10 whether that value was correct or not, because of so many  
11 things' being out of service when they were.

12 MR. CONTE: When you were talking, I had a  
13 thought, and it slipped my mind.

14 [To Mr. Kauffman:] Anything else?

15 MR. SPADAFORE: I didn't mention, but I was an SRO  
16 at Unit One for quite a few years, too, but am no longer in  
17 that role.

18 MR. CONTE: I guess the thought that just came to  
19 my mind is, do you perceive that as a problem currently, in  
20 terms of living with problems, if you will, or do you think  
21 that the existing outstanding equipment status problem list,  
22 or whatever you call it, is normal, and reflective of what  
23 normally happens at any of these plants?

24 MR. SPADAFORE: We've been trying to do  
25 benchmarking in that regard, looking at what other plants





1 have for work to do, versus equipment that's bad. I think  
2 what we've seen so far, from the data we've obtained from  
3 NPRDS and from NOMIS, as well as talking to other plants,  
4 Unit Two is in the ball park of, I would say, the median.

5 MR. KAUFFMAN: NOMIS -- what is NOMIS?

6 MR. SPADAFORE: Nuclear Operations Management  
7 Information System. They're a data base activity out of the  
8 NUS Corporation. We pay so much money to be able to see  
9 what information they have on other plants or other  
10 equipment.

11 MR. CONTE: You say "median." What's the measure  
12 of it? Number of safety-related equipment out of service at  
13 any time at full power? What's the measure of that?

14 MR. SPADAFORE: Our company has got a couple of  
15 performance monitoring reports that they use to assess  
16 comparatively their actions going on in the plant versus  
17 industry versus INPO guides and INPO norms. I'd have to  
18 refer you to look at that to see what kind of information is  
19 available.

20 MR. CONTE: I wasn't aware of that. I was aware  
21 most plants do that; it had slipped my mind to pursue that  
22 angle. Thank you for bringing that up. Good.

23 I think I'm done.

24 MR. KAUFFMAN: Just as a background question, do  
25 you have a feel for the maintenance backlog in Unit Two?



1           MR. SPADAFORE: Yes. We have goals that are now  
2 part of the PSC's review of our efficiency and effectiveness  
3 in the plant, and we have goals to be below certain levels  
4 at certain times. I know that we are getting driven to get  
5 better at getting work accomplished and get better at  
6 getting work closed for good. It's going to be to the  
7 benefit of others in the form of compensation, but, at the  
8 same time, there are certain things you just can't do when  
9 you're running, and ISEG's looking at people because we  
10 don't want them to enter LCOs and things for the sake of a  
11 goal. We want them to keep out of things. So we're the  
12 conscience of a lot of work activities, to make sure that  
13 they don't do something just because they're getting  
14 external pressures or whatever from the PSC.

15           I think it's normal to have a backlog of work, so  
16 that you can plan on this work and get it done properly and  
17 not get pressured to do things just because somebody's out  
18 there pushing a goal at you. The flavor for most of the  
19 individual's I've spoken to has been a pretty well balanced  
20 flavor, which surprised me; I thought a lot of these folks  
21 would push themselves to try to get below certain goals, and  
22 I haven't seen that, which I'm pleased with, quite frankly.  
23 But I'm kind of on the other side of the fence when you look  
24 at the PSC pushing Niagara Mohawk for things to get below  
25 for the sake of a merit, and at the same time we're pushing



1 them to make sure they don't do something wrong for safety  
2 reasons.

3 That's really a conscious effort by our group,  
4 ISEG.

5 MR. CONTE: Can you reiterate what the goal is on  
6 the equipment out of service?

7 MR. SPADAFORE: Equipment out of service, I can't  
8 tell you, but number of requests has got to be below 500.  
9 There's a whole set of goals.

10 MR. KAUFFMAN: Is that safety-related, non-safety-  
11 related?

12 MR. SPADAFORE: No, there's no relationship  
13 between the safety-related and non-safety-related; it's just  
14 numbers, raw numbers.

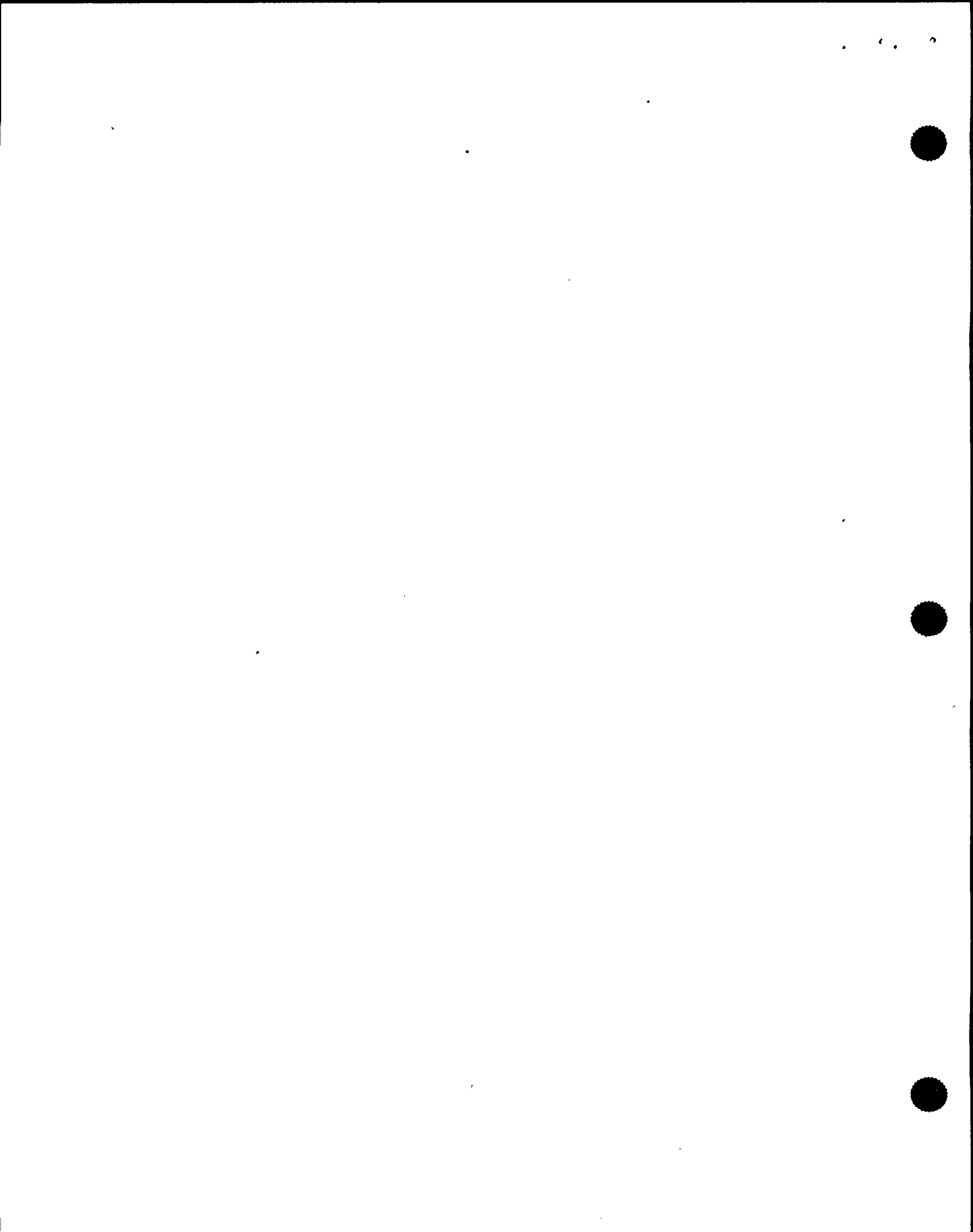
15 MR. KAUFFMAN: So they could be things like  
16 painting.

17 MR. SPADAFORE: It could be anything under the  
18 sun.

19 MR. KAUFFMAN: Okay.

20 MR. SPADAFORE: It could be anything under the  
21 sun, but if there's work that has to be done on a safety-  
22 related aspect, that's usually number-one priority.

23 MR. CONTE: Would these work request numbers be  
24 reflected in the performance report that you're talking  
25 about?



1 MR. SPADAFORE: Yes, most definitely.

2 MR. CONTE: Okay.

3 I'm done.

4 MR. KAUFFMAN: I'm done.

5 MR. CONTE: Let's go off the record.

6 [Whereupon, at 10:40 a.m., the taking of the  
7 interview was completed.]

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REPORTER'S CERTIFICATE

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

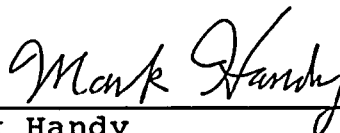
In the Matter of:

NAME OF PROCEEDING: Interview of James Spadafore

DOCKET NUMBER: (Not applicable)

PLACE OF PROCEEDING: Scriba, New York

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.



---

Mark Handy  
Official Reporter  
Ann Riley & Associates, Ltd.



11

# OFFICIAL TRANSCRIPT OF PROCEEDINGS

Agency: Nuclear Regulatory Commission  
Incident Investigation Team

Title: Nine Mile Point Nuclear Power Plant  
Interview of: James R. Spadafore

Docket No.

LOCATION: Scriba, New York

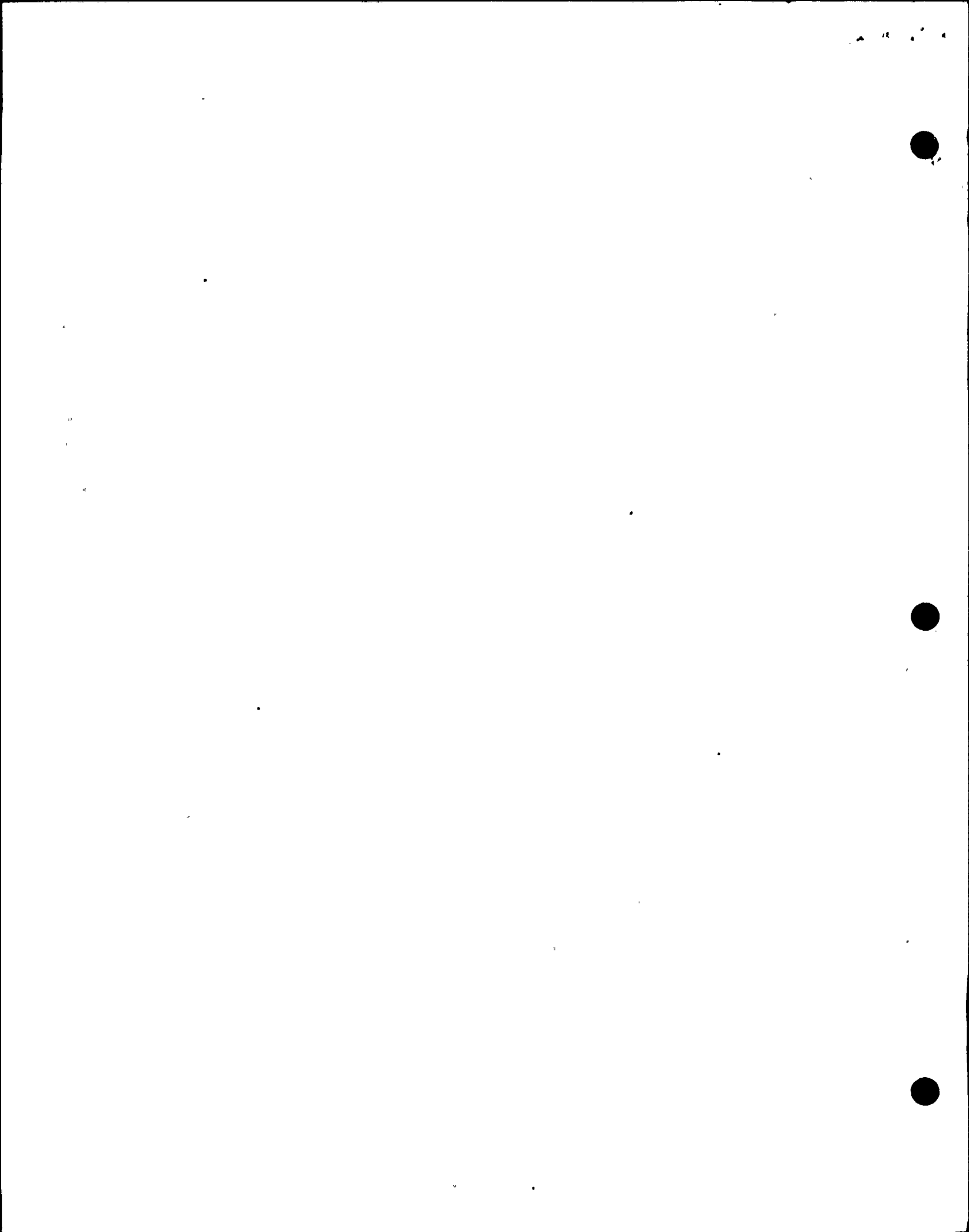
DATE: Saturday, August 24, 1991

PAGES: 1 - 25

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UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION I  
475 ALLENDALE ROAD  
KING OF PRUSSIA, PENNSYLVANIA 19406

September 27, 1991

MEMORANDUM FOR: Martin J. McCormick, Plant Manager, Nine Mile Point Unit 2  
FROM: Wayne L. Schmidt, Senior Resident Inspector, Nine Mile Point  
SUBJECT: Review of IIT Interview Transcripts

The IIT has sent the transcripts of interviews conducted with the personnel listed below to the resident inspector's office. If any of the listed individuals wish to review the transcripts they should do so at the resident inspector's office by October 4, 1991. Guidelines for the review of transcripts are provided in the enclosure. If an individual does not review his transcript by that date we will assume that he did not wish to do so and that the statement is correct to the best of his knowledge.

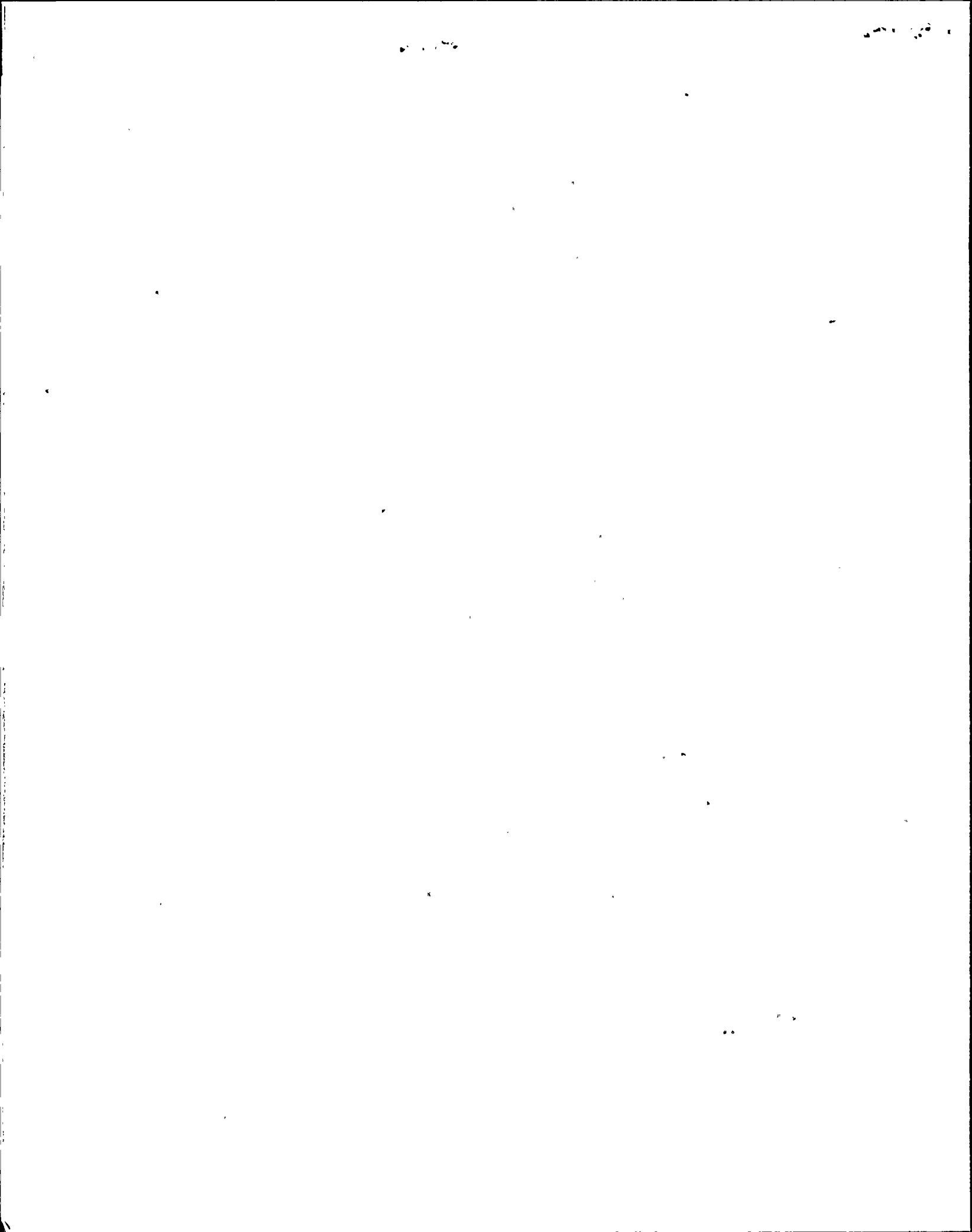
Alan DeGarcia, Steve Doty, Dave Barrett, Jerry Holker, Jim Burr, Bob Crandall, Robert Brown, Amil Julka, Perry Bertsch, James Spadafore, Joe Savoca, Mike Colomb, James Kinsley, Marty McCormick, Chris Kolod, Irineo Ferrer, Fred Gerardine, Anthony Petrelli, Jim Reid, Fred White, Rick Slade, Bruce Hennigan, and Tom Tomlinson.

Thank you for your help. If there are any questions please contact me.

*Wayne L. Schmidt*  
Wayne L. Schmidt  
Senior Resident Inspector  
Nine Mile Point









UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION  
INCIDENT INVESTIGATION TEAM

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Interview of :  
JAMES R. SPADAFORE :  
(Closed) :  
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Conference Room B  
Administration Building  
Nine Mile Point Nuclear  
Power Plant, Unit Two  
Lake Road  
Scriba, New York 13093  
Saturday, August 24, 1991

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

PRESENT FOR THE IIT:  
John Kauffman, NRC  
Rich Conte, INPO

1.1.1



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

[10:10 a.m.]

1  
2  
3 MR. KAUFFMAN: Good morning. It's August 24th,  
4 1991, 10:10 a.m.

5 We're in the Nine Mile Point Unit Two P Admin  
6 Building to conduct an interview of Jim Spadafore concerning  
7 the transient that occurred at the Nine Mile Point Two on  
8 August 13th, 1991.

9 I'm John Kauffman, I'm out of NRC Headquarters.

10 MR. CONTE: Rich Conte, Region I.

11 MR. SPADAFORE: Jim Spadafore, Niagara Mohawk.

12 MR. KAUFFMAN: Jim, at this point we would like  
13 you to just tell us a little bit about your background and  
14 experience you bring to your current job.

15 MR. SPADAFORE: Okay. I've been with Niagara  
16 Mohawk since 1975 and I was in the generation department for  
17 15 years holding positions of assistant supervisor  
18 instrument and control, computer supervisor, technical  
19 services superintendent, technical superintendent and INC  
20 superintendent.

21 After I left generation with the reorganization  
22 over a year ago, I joined the nuclear engineering department  
23 as the manager of the independent safety engineering group.  
24 During the timeframe that I was with the nuclear generation  
25 I was a member of the site operations review committee, the



1 joint test group for Unit Two and other committees as they  
2 came up.

3 My background is that I'm a -- I have a bachelor's  
4 degree in double E from Clarkson. I have a master's degree  
5 in systems management from USC and I have a P license. And  
6 I'm additionally presently inactive, but I've been in the  
7 PhD program at Syracuse University for the last few years.

8 MR. KAUFFMAN: Okay, good. Jim, could you tell us  
9 a little bit about your activities and things you saw on the  
10 day of the event?

11 MR. SPADAFORE: Yeah. The day of the event I was  
12 driving to Syracuse early in the morning for a meeting at  
13 7:00 a.m. and I received a page in my vehicle reflecting  
14 that the -- the code that we got was that it was a real  
15 emergency. At that point, since I'm in the Army Reserve as  
16 well, I have a phone in my car and I picked up the phone and  
17 contacted the control room at Unit Two to assess whether  
18 this was a false activation or whether it was a real paging.  
19 They quickly told me it was a real paging.

20 At that point I started calling out individuals in  
21 the nuclear engineering and licensing organization that  
22 would support activities within the TSC, EOF and corporate  
23 EOC. We did not -- I was not able to make all those phone  
24 calls because of the timeframe, in my car, so when I arrived  
25 at the site and got through the traffic and entered the



1 security building we ended up finishing those phone calls  
2 from the tech support center.

3 I then took over in the position of nuclear  
4 engineering and licensing coordinator within the TSC. So I  
5 arrived in the TSC somewhere around 7:40 - 7:45 in the  
6 morning from Syracuse. I was almost at the -- I was at the  
7 intersection of 481 and 81 when I did get the page, so it  
8 took me about 30-35 minutes to drive back up.

9 At that point in time I was met by only one other  
10 individual from engineering, Ken Korcz, who was over at the  
11 training center getting requal training, RP/GET training, at  
12 the time. So he and I made all the other call outs to the  
13 individuals in engineering and then we proceeded to get  
14 involved with the event as required following the duties  
15 that are in the binder in the TSC that we have to do.  
16 Contact people and get things moving for engineering support  
17 as need be.

18 MR. CONTE: What issues were you involved in?  
19 What technical issues were you involved in at the TSC?

20 MR. SPADAFORE: The engineering group pretty much  
21 provides support in the areas of observing and trending  
22 information and trying to assess potential changes to plant  
23 conditions, trying to assess potential fixes to plant  
24 conditions where maintenance or operations needs support.

25 And during the day of that event we were involved





1 with a couple of issues related to the cleanup system. They  
2 wanted us to perform a walkdown on the cleanup system which  
3 one of our site engineers did do. They asked us to perform  
4 a walkdown on the RHR system which a couple of our site  
5 engineers did, as well, for us. And we were looking for  
6 visual observations of piping system degradation, snubbers,  
7 hangers, anything that looked out of the ordinary. It was  
8 all visual observation walkdown.

9 In addition, we provided support to the technical  
10 data coordinator in the TSC as well as tried to review plant  
11 conditions based on the situation that some of the computer  
12 systems had failed in the TSC or actually they're in the  
13 plant and they had failed and we were trying to assess what  
14 information was good and what information needed to be  
15 looked at to assess whether or not it was good data or bad  
16 data.

17 We also kept an eye on the EOP's that plant  
18 operators were following to see where they were in relation  
19 to those EOP's, but we had no remarks to make. Everything  
20 looked like they were following everything according to the  
21 plan.

22 We activated the EOF and Rick Abbott took over as  
23 the liaison -- technical liaison to us in the EOF and we --

24 MR. CONTE: About what time was the EOF activated?

25 MR. SPADAFORE: I don't recall. I'd have to look



1 it up in our write-up.

2 MR. CONTE: Okay.

3 MR. SPADAFORE: There were different people that  
4 were actually getting to the EOF first and then others would  
5 take over after they got things rolling.

6 At the same time our corporate EOC was activated  
7 and there were -- in fact, all the individuals I talked to I  
8 knew were qualified individuals within those positions. In  
9 the corporate EOC, Ted Kulczyky started and then he was  
10 replaced by Jack Druczeck, Bob Hammelmann and Bill Nowicki  
11 all corporate EOC coordinators that got involved during that  
12 day's scenario.

13 MR. CONTE: Are there any other issues that you  
14 can remember? You said you did the walkdown, or you were  
15 requested to do the walkdown on the reactor water cleanup.

16 MR. SPADAFORE: Right. And that was the line --  
17 that was only a portion of the cleanup system, but that was  
18 the line that went to rad waste.

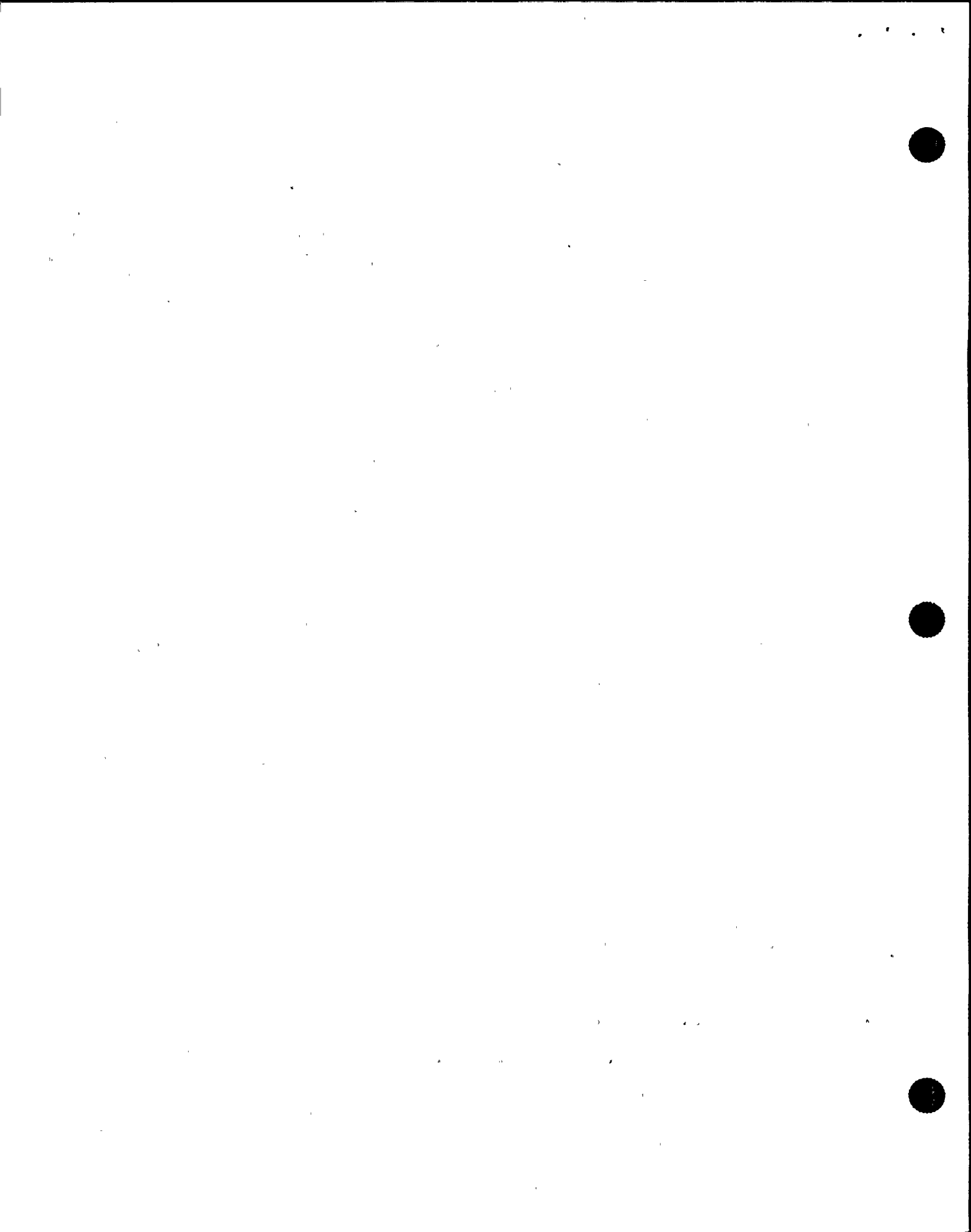
19 MR. CONTE: Is it --

20 MR. SPADAFORE: From cleanup.

21 MR. CONTE: -- is it correct -- I believe the  
22 reason you did that, based on what we know is there was  
23 indications of water hammer --

24 MR. SPADAFORE: That's correct.

25 MR. CONTE: -- in those two systems?



1 MR. SPADAFORE: That's correct.

2 MR. CONTE: Okay. You can't remember any other  
3 issues that you dealt with other than the observations  
4 following along the EOP's?

5 MR. SPADAFORE: I have a pretty good log that we  
6 took the day of that event. Without going into all the  
7 issues, I'm not sure what you want me to discuss, so I would  
8 rather not.

9 MR. CONTE: So, you kept that log at the TSC?

10 MR. SPADAFORE: Yes.

11 MR. CONTE: Okay.

12 MR. SPADAFORE: Yeah. That was picked up by the  
13 emergency response organization.

14 MR. CONTE: Okay. It's my understanding and the  
15 timing is kind of close to when you arrived at 7:40 that  
16 there was -- I think throughout the day there was a lot of  
17 discussions, especially with Region I on the transfer of the  
18 UPS power supply -- U-P-S power supplies back to normal.  
19 Were you involved in that decision?

20 MR. SPADAFORE: No, I was not involved with that  
21 decision. Although I was there listening like everyone else  
22 was.

23 MR. KAUFFMAN: What groups were involved with that  
24 decision, or what people talked about that decision?

25 MR. SPADAFORE: Mr. McCormick and electrical



1 maintenance were pretty well involved with those decisions  
2 and he was talking with several different people at the EOF  
3 and in the Unit One -- or Unit Two control room.

4 MR. CONTE: Were you asked for advice on that  
5 decision return in the normal or not?

6 MR. SPADAFORE: No.

7 MR. CONTE: You weren't? Okay. Do you have any  
8 new information on the water hammer issue with respect  
9 reactor water cleanup in RHR in terms of misoperation of  
10 valves or procedural problem or just --

11 MR. SPADAFORE: I haven't seen anything that would  
12 reflect that, no.

13 MR. CONTE: Okay. And based on your walkdown -- I  
14 guess you're not -- being a part of ISEG, you're not really  
15 in line, you're kind of independent --

16 MR. SPADAFORE: That's correct. We're  
17 independent.

18 MR. CONTE: -- so, I would assume that there's an  
19 in-line engineering organization that's going to make a call  
20 on the adequacy of those systems to support startup, is that  
21 correct?

22 MR. SPADAFORE: That's correct. That comes out of  
23 mechanical maintenance or mechanical design organization.

24 MR. CONTE: Okay. John, do you have any other  
25 questions about the functions in the tech support center?





1 MR. KAUFFMAN: No.

2 MR. CONTE: Okay. One of the reasons that we did  
3 want to talk to you is because of your lead on the safety  
4 significance of the event in the assessment group.

5 MR. SPADAFORE: Yes.

6 MR. CONTE: I realize you need to write a -- you  
7 are probably writing a report on that?

8 MR. SPADAFORE: That's correct.

9 MR. CONTE: Writing recommendations and  
10 conclusions and we really don't want to -- if you can share  
11 recommendations and conclusions, fine, but I would imagine  
12 that might be premature at this point.

13 MR. SPADAFORE: That's definitely correct. The  
14 information we've received from the individual team leaders  
15 in the emergency recovery organization has been very  
16 preliminary. We have been trying to keep on top of the  
17 situation in all those teams to try to -- just to have a  
18 better handle on the information we're looking at. As we  
19 find something that looks like a potential problem, we're  
20 doing investigations to determine whether or not it is or  
21 not. And we have found things that were, in fact, done  
22 correctly that worked by design and we've so reflected it.  
23 And we are in coincidence with those teams finishing their  
24 work, trying to prepare a preliminary draft report to  
25 provide to our management and several other review groups.



1 MR. CONTE: When you talk about these teams,  
2 you're talking about the other groups within your -- Rick  
3 Abbott's assessment group?

4 MR. SPADAFORE: That's correct.

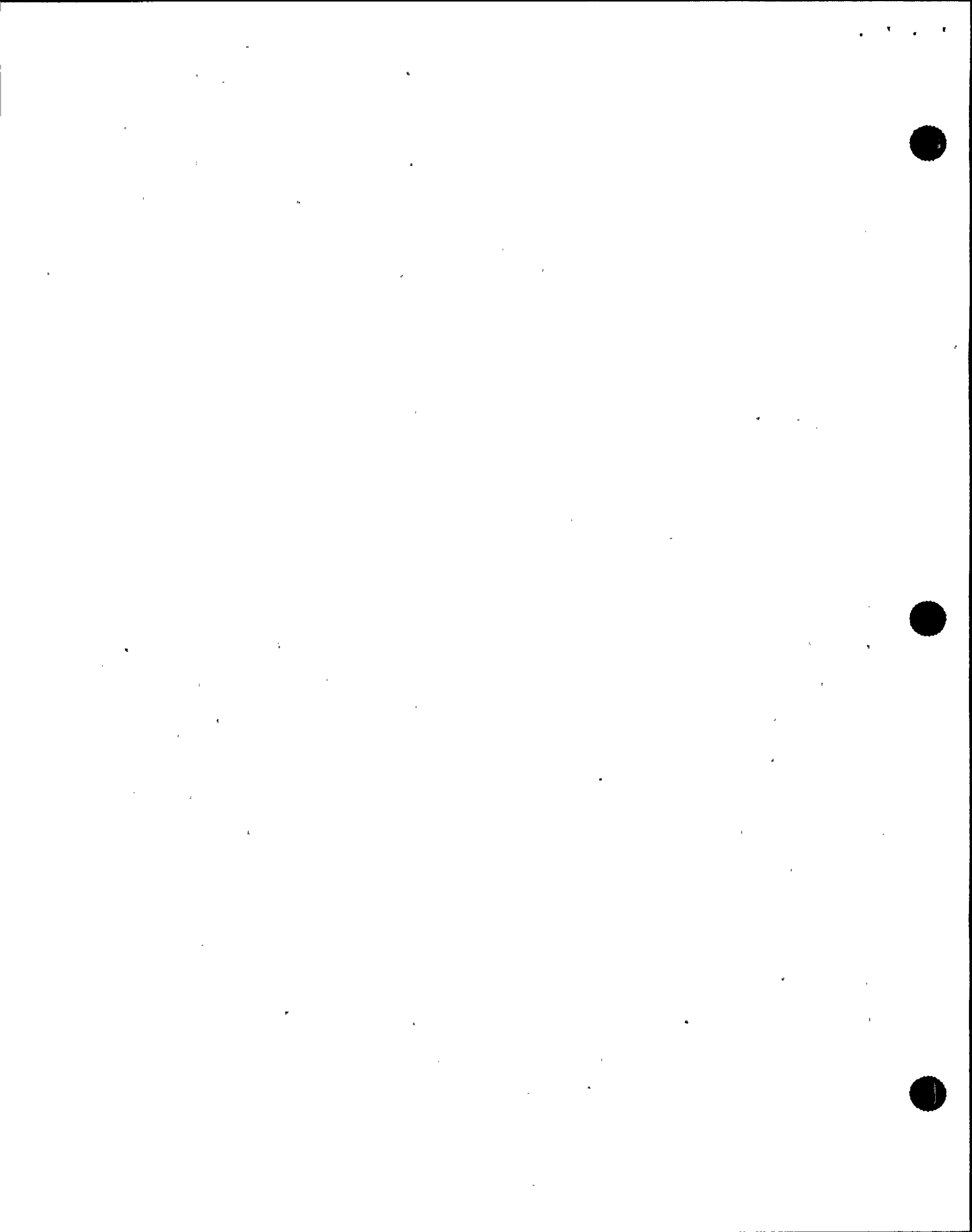
5 MR. CONTE: Okay.

6 MR. SPADAFORE: The Steve Doty transformer group,  
7 the John Conway UPS group, Anil Julka with system  
8 disturbance and so on. Those groups of people, those team  
9 leaders. Al Salemi from emergency preparedness, those  
10 groups.

11 MR. CONTE: Are there any -- are there any  
12 preliminary findings that you can share at this point in  
13 terms of, not so much the root cause of what happened, but  
14 from the operator end and the potential impact on safety, if  
15 you will; the operators having to deal with this situation  
16 of somewhat running blind, but they still had safety grade  
17 instrumentation?

18 MR. SPADAFORE: From all the data we've observed  
19 and the people we've talked to, both from operations and  
20 from the technical issues that are out there, many of the  
21 root causes need to be finalized.

22 I know they are getting closer to doing that with  
23 both the transformer and the UPS and so on. Operationally,  
24 everything we've seen appears to reflect that the operators  
25 did things in an appropriate manner, that where they did not



1 have direct procedures in place, their skills of the trade  
2 and their training provided that direction.

3 MR. KAUFFMAN: We have a charter on our team of  
4 what we're supposed to look at in our investigation, could  
5 you describe the breadth that your investigation is looking  
6 at?

7 MR. SPADAFORE: Yeah, most definitely. Our  
8 investigation is looking at safety system response, non-  
9 safety system responses, two-safety system responses, the  
10 operations and maintenances responses during the drill and  
11 afterwards. We're looking at the emergency planning  
12 organization's activities, the response to the emergency  
13 plan during the event and afterwards and we're looking at  
14 the human factors aspect of those situations where people  
15 were involved. And we're going to be drawing conclusions  
16 based on our review of our FSAR, our tech specs, operating  
17 experience, plant data from other utilities to determine  
18 whether or not we've got problems that not only affect us,  
19 that need to be resolved, but also any other utilities as  
20 well. So, very similar in nature to what I'm hearing from  
21 you folks. It's good.

22 MR. KAUFFMAN: What's the size of your team?

23 MR. SPADAFORE: Okay. My group consists of  
24 several members from my ISEG department doing certain  
25 functions as well as I pulled in some expertise from Stone



1 & Webster Corporation who is on our retainer, from  
2 individuals from our plant evaluations group, individuals in  
3 our risk assessment group, individuals in our licensing  
4 group. The team size, by number, would be almost 10 people  
5 with different varied backgrounds and different functional  
6 organization activities within Niagara Mohawk right now.  
7 And I've been able to pull them from anyplace I needed  
8 them.

9 MR. CONTE: What kind of a schedule are you on for  
10 making a report? Are you part of the report to management  
11 before startup on this event?

12 MR. SPADAFORE: Everything I've been doing goes  
13 directly to Rick Abbott and he's been involved with an  
14 advisory group of the organization. He's also been involved  
15 with the outage group that's going -- doing their HPCS  
16 activities, so he's been kind of the center of direction for  
17 all of us in the emergency recovery organization.

18 The rough draft that I have just issued this  
19 morning -- preliminary rough draft went out to some of the  
20 team leaders for their review, it also went to our legal  
21 department for review and it also has gone to some external  
22 SORC members, Mr. Eisenhut, Mr. Jeffries, Mr. Oleck, all  
23 part of the safety review and audit board.

24 We issued to them this preliminary rough draft to  
25 give them a feeling for where we're headed. Not necessarily





1 to give them the impression that we've been able to draw all  
2 the final conclusions at all.

3 In fact, the report identifies in italics things  
4 that we're looking at and that we're trying to get  
5 resolution on or get resolved one way or the other. It  
6 identifies, to some extent, the scope of our activities,  
7 some of the preliminary recommendations, lessons learned and  
8 so on that we're capturing so far.

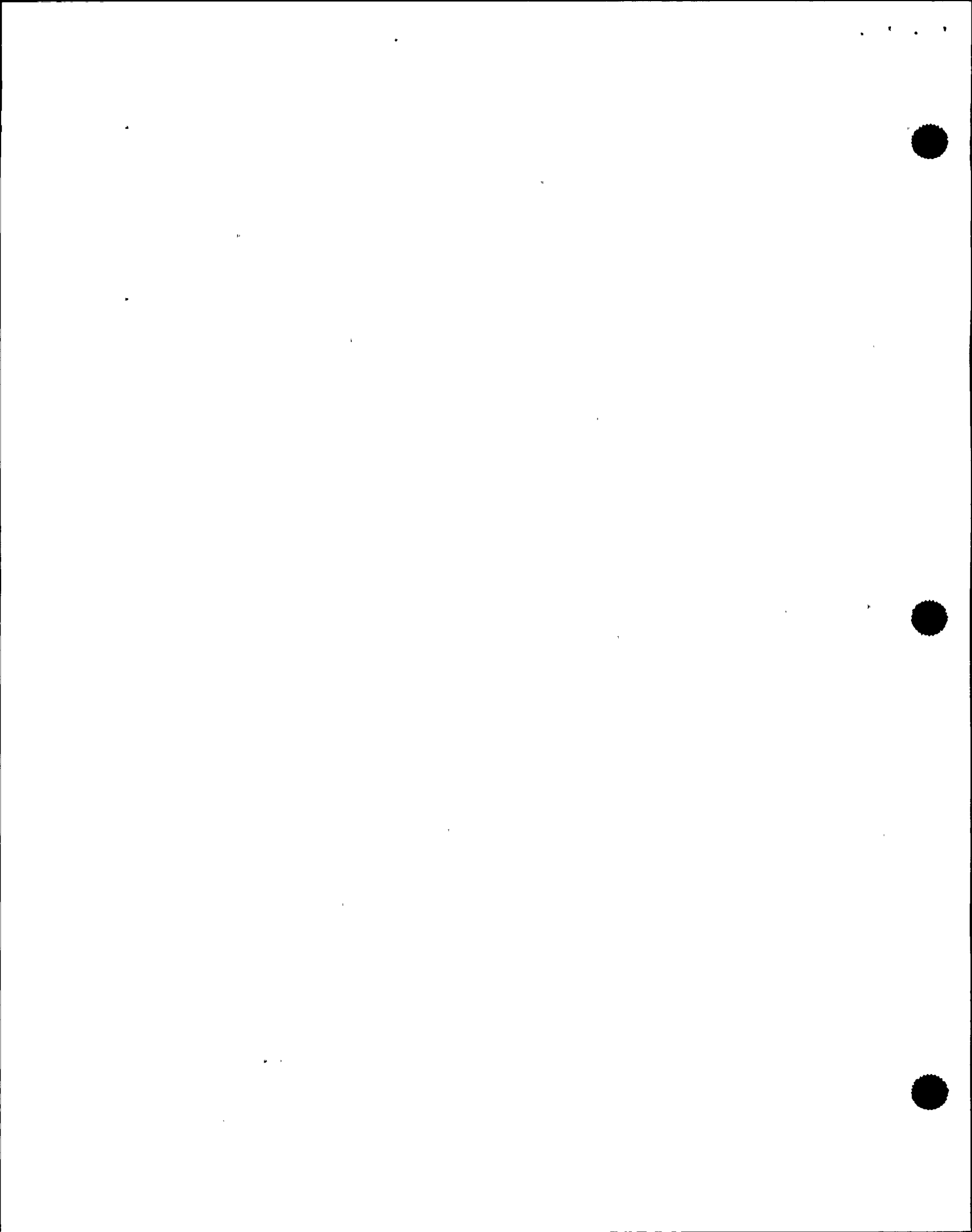
9 Again, it's very rough, very preliminary, and  
10 we're hoping to get every -- all the team leaders' final  
11 documentation packages this coming Monday; that's what we've  
12 been directed to do. Under ideal situations from Rick  
13 Abbott he told us that he would like all the team leaders to  
14 get to my group their final remarks so I can then do another  
15 review and assessment and then a reissue of our rough draft.

16 We're trying to wrap things up as soon as we can,  
17 but without all the information it's difficult and everybody  
18 knows it and there's really -- I'm not getting the push to  
19 get it done for startup. I'm getting the push to make sure  
20 that it gets done with accuracy and completeness.

21 MR. CONTE: Okay. Let's talk about your normal  
22 function in the last year.

23 MR. SPADAFORE: Yes.

24 MR. CONTE: Unless John has a question on the  
25 status of that report on the assessment group.



1 MR. KAUFFMAN: No.

2 MR. CONTE: Okay. Any involvement of the ISEG in  
3 the electrical area, the non-safety UPS's that are subject  
4 of this event?

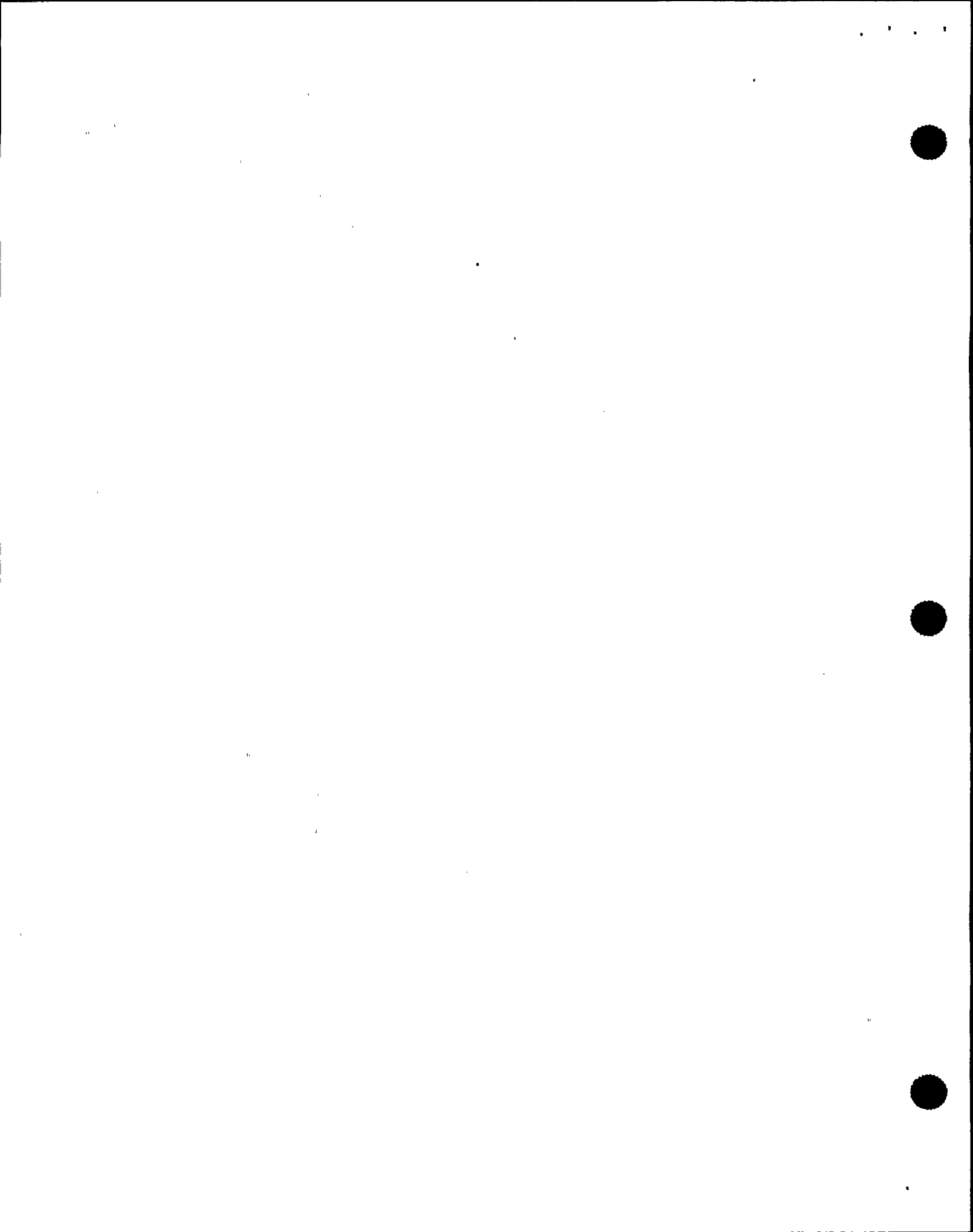
5 MR. SPADAFORE: Not in the last year. Our  
6 attention has really focused on plant outage activities,  
7 reviewing system line-ups during outages for risks. We've  
8 been involved with reviewing modification packages for  
9 completeness, accuracy and effectiveness of the mods.

10 We issue an activity report every month which our  
11 residents get a copy of which identifies many of the  
12 activities we do that would be too numerous to mention here  
13 at this time.

14 MR. CONTE: Anything in the are of safety versus  
15 non-safety electrical distribution? Other than associated  
16 with mod packages?

17 MR. SPADAFORE: Relative to this event, no.  
18 However, we have looked at other issues that have been  
19 safety issues, ISI, IST activities, fuel oil transfer pumps;  
20 why they took the fuel oil transfer pumps out of the ISI/IST  
21 program and other issues that we've seen where there have  
22 been changes to plant organization activities in electrical.  
23 We've tried to keep on top of the diesel generators. Some  
24 of those safety system aspects.

25 MR. CONTE: That's a memory jolt for me, the fuel



1 oil transfer pumps, when the AIT was here and we were trying  
2 to distinguish safety versus non-safety loads on the UPS,  
3 there was an issue about the fuel oil transfer pump not  
4 getting non-safety grade power. Do you know anything about  
5 that?

6 MR. SPADAFORE: I don't recall.

7 MR. CONTE: Okay. It was just a curiosity  
8 question.

9 MR. SPADAFORE: No, I don't recall.

10 MR. CONTE: Okay. How about in the last year, is  
11 there anything on the human factors aspect in the control  
12 room -- control room instrumentation at Unit Two?

13 MR. SPADAFORE: There has been a big push by the  
14 plant to clean up their annunciators and we've been watching  
15 that progress over the last year. We have also observed  
16 plant operators on what we call our plant tours -- ISEG  
17 tours -- we have observed their activities and actions.

18 We've looked at shift turnovers and how they have  
19 been accomplished and for the most part we've seen pretty  
20 good results from them. And we've reflected that in our  
21 activity reports as well.

22 MR. CONTE: On the annunciators, is it getting  
23 better?

24 MR. SPADAFORE: Yes.

25 MR. CONTE: What's the measure of that?



1           MR. SPADAFORE: The measure has been -- in  
2 reviewing the operator logs and equipment status logs that  
3 we've observed over the last year, the measure of bad  
4 annunciators has eliminated a lot of their nuisance  
5 activities that they have had to log in the past. When  
6 something came in they'd log it in and then reflect that it  
7 was a nuisance.

8           So they've been able to draw more attention to  
9 what is significant and what is going on in their control  
10 room.

11           MR. CONTE: Can you give me a feel of how bad the  
12 normally lit annunciators were, in terms of numbers? Were  
13 there a hundred, fifty, twenty-five?

14           MR. SPADAFORE: I can't give you specific numbers,  
15 but it's significant. When you walked into the control room  
16 a year ago, or even further back than that, and saw many  
17 annunciators that you know yourself are nuisance  
18 annunciators, and now you go in there and you see that  
19 they're gone -- so when an alarm does come in, people  
20 recognize it as something to watch.

21           MR. CONTE: Any other questions?

22           MR. KAUFFMAN: Not if we're not going to talk  
23 about the event. That's all preliminary.

24           MR. CONTE: Yes.

25           MR. SPADAFORE: I don't know what the actions are





1 on our part to provide you documentation on a schedule, but  
2 I know we are supposed to provide you everything we have  
3 sometime. I'm not sure when that is.

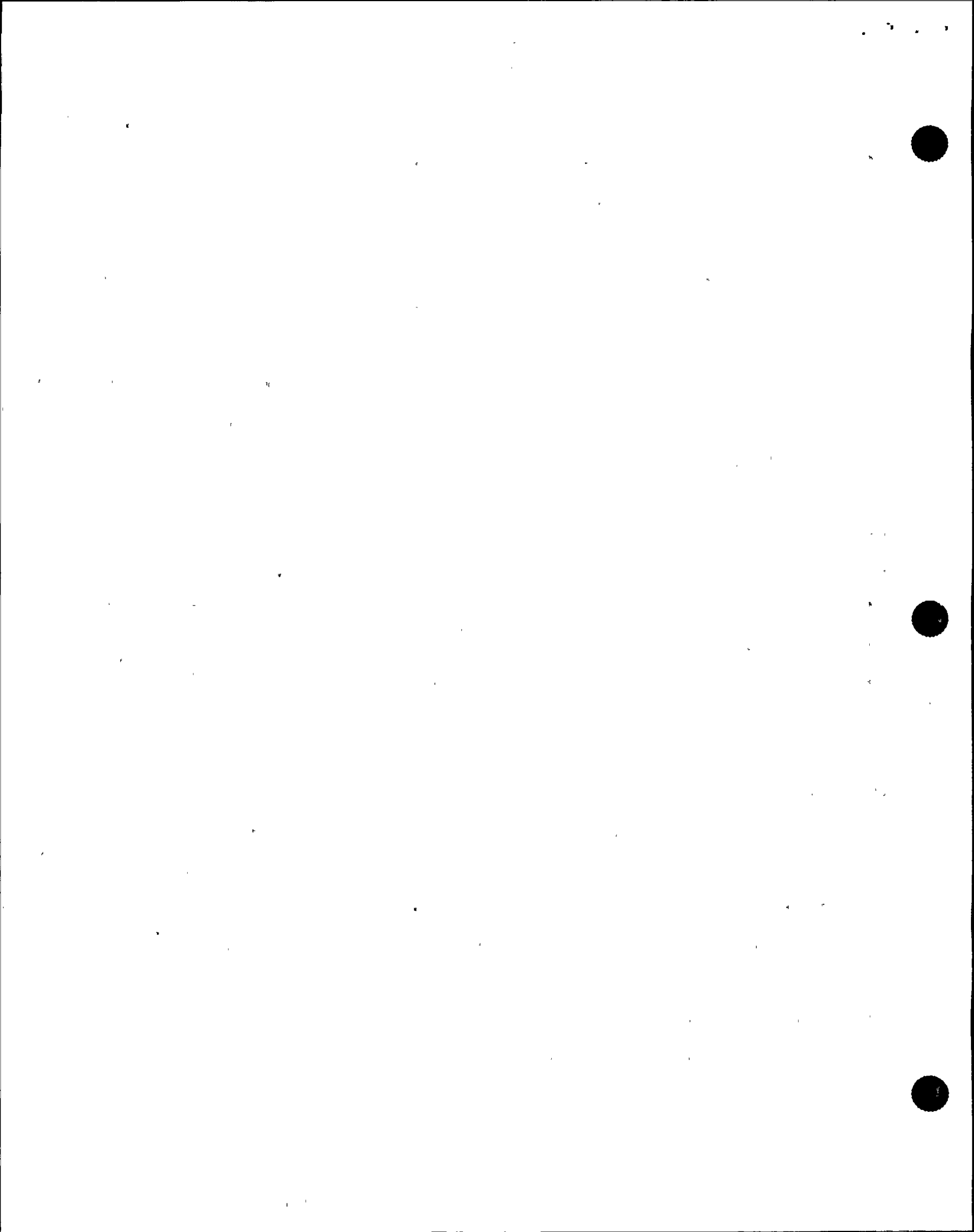
4 MR. CONTE: We'll have to talk with Rick Abbott as  
5 to what he wants to share. This report that you mentioned,  
6 we'll have to talk with him.

7 MR. SPADAFORE: Yes. I brought a copy of it with  
8 me. It's up to them, I guess, to decide what they want to  
9 do with it. As far as I'm concerned, as we get it to the  
10 point of finalization in all aspects, it's supposed to be  
11 available.

12 MR. CONTE: Let me ask you, as kind of a final  
13 question, is your group pursuing a what-if type situation?  
14 Had the UPS's stayed out of service for a long time, like  
15 many hours or what have you, what impact --

16 MR. SPADAFORE: That has been the most difficult  
17 issue to pursue, but we have been doing a lot what-ifs.  
18 There are a lot of what-ifs that people bring up that aren't  
19 really related that our group can see related to either the  
20 situation we're in now, possibly if the event had gone even  
21 further than it did. We've been trying to filter the waht-  
22 ifs that are just what-ifs for the sake of a question and  
23 focus in on all the big-picture aspects of what has been  
24 going on.

25 Our report tries to address many of those, because



1 we did get some preliminary questions from the safety review  
2 and audit board last week that they wanted us to look at.  
3 What if the reserve transformer failed? Would that happen  
4 the same way, and so on and so forth? There are a lot of  
5 comparative studies that people want us to do. I'm not sure  
6 we're going to have the ability to do all that in a very  
7 short turn-around, but there are a lot of questions that  
8 people would like what-ifs to. It's trying to determine  
9 what are the priority what-ifs versus what are the nice-to-  
10 know what-ifs for some other reason.

11 MR. CONTE: Let me see if I have the design of the  
12 plant correct on that what-if situation. Had the reserve  
13 transformers failed, would that have been considered a  
14 station blackout?

15 MR. SPADAFORE: That's a what-if.

16 MR. CONTE: Okay. Emergency diesels, assuming  
17 they were operable, you had two of them; they would have  
18 worked.

19 MR. SPADAFORE: Right.

20 MR. CONTE: Okay. And theoretically, with the  
21 emergency diesels, the plant could cool down.

22 MR. SPADAFORE: That's right.

23 MR. CONTE: Using the safety instruments that were  
24 in the control room at the time.

25 MR. SPADAFORE: Yes.



1 MR. CONTE: Okay.

2 MR. KAUFFMAN: Just one final question, for me, at  
3 least. I'm trying to get a picture on the time frame of the  
4 event that you're focusing on reconstruction. I presume  
5 it's from some time prior to the event start to establish  
6 initial conditions.

7 MR. SPADAFORE: Exactly -- initial conditions,  
8 activities during the event, and layup of the plant after  
9 the event.

10 MR. KAUFFMAN: So you're stopping at cold  
11 shutdown, when the site area was terminated? At what point  
12 are you stopping?

13 MR. SPADAFORE: No, not really. I would say a day  
14 later is really the window. We're looking at things they  
15 did every after they got to the evening cold shutdown and  
16 declassification. We looked at the day afterwards as well;  
17 that's the window.

18 MR. CONTE: From an independent safety engineering  
19 group point of view, are you aware of any excessive number  
20 of equipment problems, out of service? Has that been a  
21 problem in the past? And maybe at the time of the event --  
22 do you have a feel for how many pieces of equipment were out  
23 of service?

24 MR. SPADAFORE: Well, from the data we were given  
25 as I entered the TSC, it appeared that there were two loops



1 of RHR out for maintenance for that day, and I was surprised  
2 to see that myself. Knowing what division of electrical bus  
3 they're on, I can see why they went to do that. That did  
4 surprise me. Reviewing other identified equipment out-of-  
5 service issues -- it's a real judgement call. I don't know.

6 MR. CONTE: The other piece of equipment, SRM A,  
7 was out of service -- that's source range monitor, for the  
8 record. You had three others; is that correct?

9 MR. SPADAFORE: That's correct.

10 MR. CONTE: Does that pose a problem to you, with  
11 one of them being out of service?

12 MR. SPADAFORE: At full power, not to me.

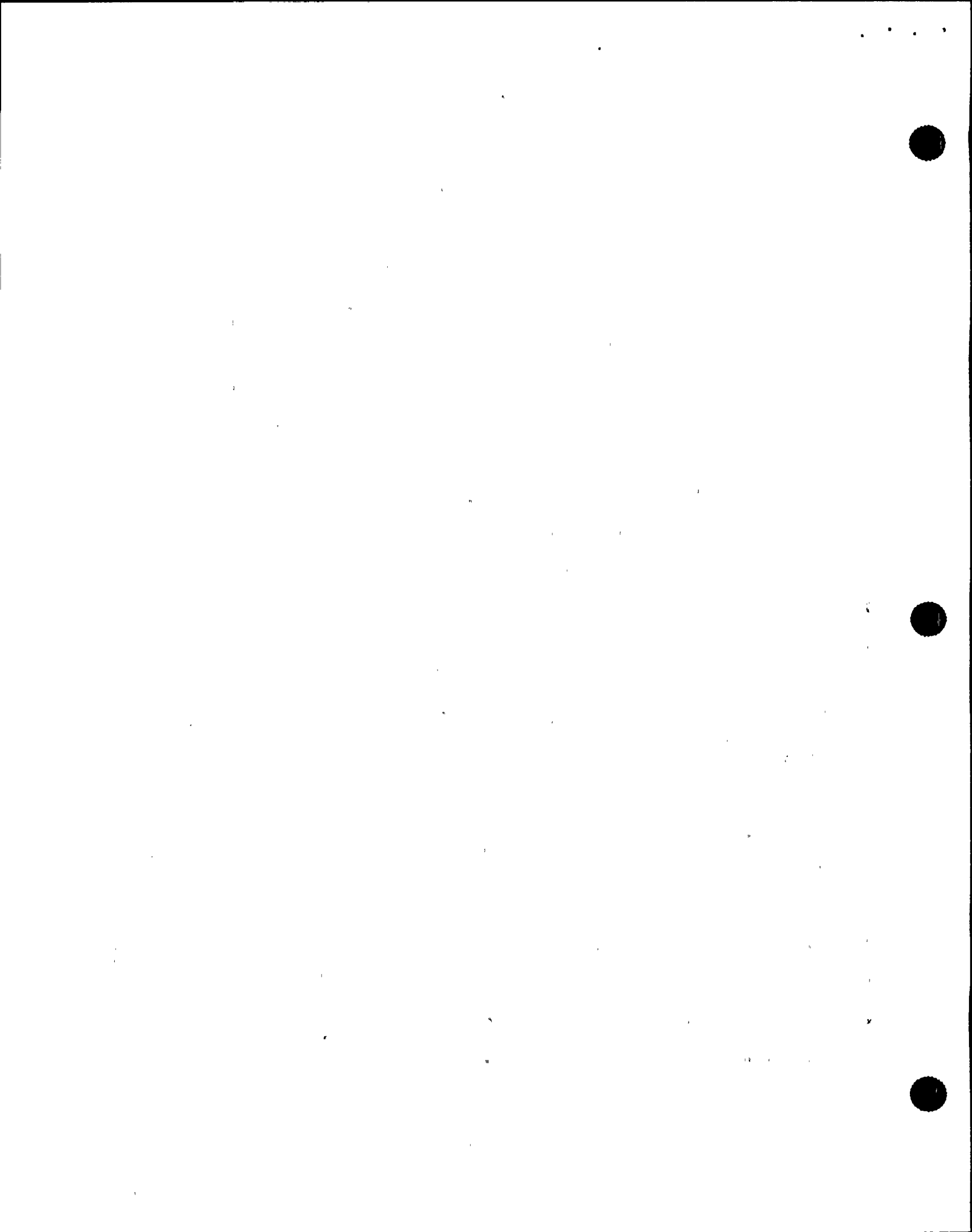
13 MR. CONTE: Do you happen to know why it was out  
14 of service?

15 MR. SPADAFORE: Not at the moment, no.

16 MR. CONTE: Okay. I think we've asked for any  
17 outstanding work requests on that.

18 MR. CONTE: I guess there a couple of SRVs that  
19 are considered leakers, and there's supposedly a work  
20 request in on them.

21 MR. SPADAFORE: That's correct. Yes. We're  
22 looking at SRV temperatures, tailpipe temperatures the day  
23 of the event from the display screens that we had in the  
24 TSC, looking for that kind of activity, where relief valves  
25 might have opened, or so on.





1 MR. CONTE: Are you aware of any other big pieces  
2 of equipment that were out of service?

3 MR. SPADAFORE: They had some problems with RCIC  
4 the day of the event. They had indication that a valve was  
5 in a different position than it should have been, but, after  
6 further review, they found out that everything was fine.  
7 It's just one of those many indications they had that day  
8 that they worked on where initially they had an indication  
9 of one position or one value, and they had to reassess  
10 whether that value was correct or not, because of so many  
11 things' being out of service when they were.

12 MR. CONTE: When you were talking, I had a  
13 thought, and it slipped my mind.

14 [To Mr. Kauffman:] Anything else?

15 MR. SPADAFORE: I didn't mention, but I was an SRO  
16 at Unit One for quite a few years, too, but am no longer in  
17 that role.

18 MR. CONTE: I guess the thought that just came to  
19 my mind is, do you perceive that as a problem currently, in  
20 terms of living with problems, if you will, or do you think  
21 that the existing outstanding equipment status problem list,  
22 or whatever you call it, is normal, and reflective of what  
23 normally happens at any of these plants?

24 MR. SPADAFORE: We've been trying to do  
25 benchmarking in that regard, looking at what other plants



1 have for work to do, versus equipment that's bad. I think  
2 what we've seen so far, from the data we've obtained from  
3 NPRDS and from NOMIS, as well as talking to other plants,  
4 Unit Two is in the ball park of, I would say, the median.

5 MR. KAUFFMAN: NOMIS -- what is NOMIS?

6 MR. SPADAFORE: Nuclear Operations Management  
7 Information System. They're a data base activity out of the  
8 NUS Corporation. We pay so much money to be able to see  
9 what information they have on other plants or other  
10 equipment.

11 MR. CONTE: You say "median." What's the measure  
12 of it? Number of safety-related equipment out of service at  
13 any time at full power? What's the measure of that?

14 MR. SPADAFORE: Our company has got a couple of  
15 performance monitoring reports that they use to assess  
16 comparatively their actions going on in the plant versus  
17 industry versus INPO guides and INPO norms. I'd have to  
18 refer you to look at that to see what kind of information is  
19 available.

20 MR. CONTE: I wasn't aware of that. I was aware  
21 most plants do that; it had slipped my mind to pursue that  
22 angle. Thank you for bringing that up. Good.

23 I think I'm done.

24 MR. KAUFFMAN: Just as a background question, do  
25 you have a feel for the maintenance backlog in Unit Two?



1           MR. SPADAFORE: Yes. We have goals that are now  
2 part of the PSC's review of our efficiency and effectiveness  
3 in the plant, and we have goals to be below certain levels  
4 at certain times. I know that we are getting driven to get  
5 better at getting work accomplished and get better at  
6 getting work closed for good. It's going to be to the  
7 benefit of others in the form of compensation, but, at the  
8 same time, there are certain things you just can't do when  
9 you're running, and ISEG's looking at people because we  
10 don't want them to enter LCOs and things for the sake of a  
11 goal. We want them to keep out of things. So we're the  
12 conscience of a lot of work activities, to make sure that  
13 they don't do something just because they're getting  
14 external pressures or whatever from the PSC.

15           I think it's normal to have a backlog of work, so  
16 that you can plan on this work and get it done properly and  
17 not get pressured to do things just because somebody's out  
18 there pushing a goal at you. The flavor for most of the  
19 individual's I've spoken to has been a pretty well balanced  
20 flavor, which surprised me; I thought a lot of these folks  
21 would push themselves to try to get below certain goals, and  
22 I haven't seen that, which I'm pleased with, quite frankly.  
23 But I'm kind of on the other side of the fence when you look  
24 at the PSC pushing Niagara Mohawk for things to get below  
25 for the sake of a merit, and at the same time we're pushing



1 them to make sure they don't do something wrong for safety  
2 reasons.

3 That's really a conscious effort by our group,  
4 ISEG.

5 MR. CONTE: Can you reiterate what the goal is on  
6 the equipment out of service?

7 MR. SPADAFORE: Equipment out of service, I can't  
8 tell you, but number of requests has got to be below 500.  
9 There's a whole set of goals.

10 MR. KAUFFMAN: Is that safety-related, non-safety-  
11 related?

12 MR. SPADAFORE: No, there's no relationship  
13 between the safety-related and non-safety-related; it's just  
14 numbers, raw numbers.

15 MR. KAUFFMAN: So they could be things like  
16 painting.

17 MR. SPADAFORE: It could be anything under the  
18 sun.

19 MR. KAUFFMAN: Okay.

20 MR. SPADAFORE: It could be anything under the  
21 sun, but if there's work that has to be done on a safety-  
22 related aspect, that's usually number-one priority.

23 MR. CONTE: Would these work request numbers be  
24 reflected in the performance report that you're talking  
25 about?





1 MR. SPADAFORE: Yes, most definitely.

2 MR. CONTE: Okay.

3 I'm done.

4 MR. KAUFFMAN: I'm done.

5 MR. CONTE: Let's go off the record.

6 [Whereupon, at 10:40 a.m., the taking of the  
7 interview was completed.]

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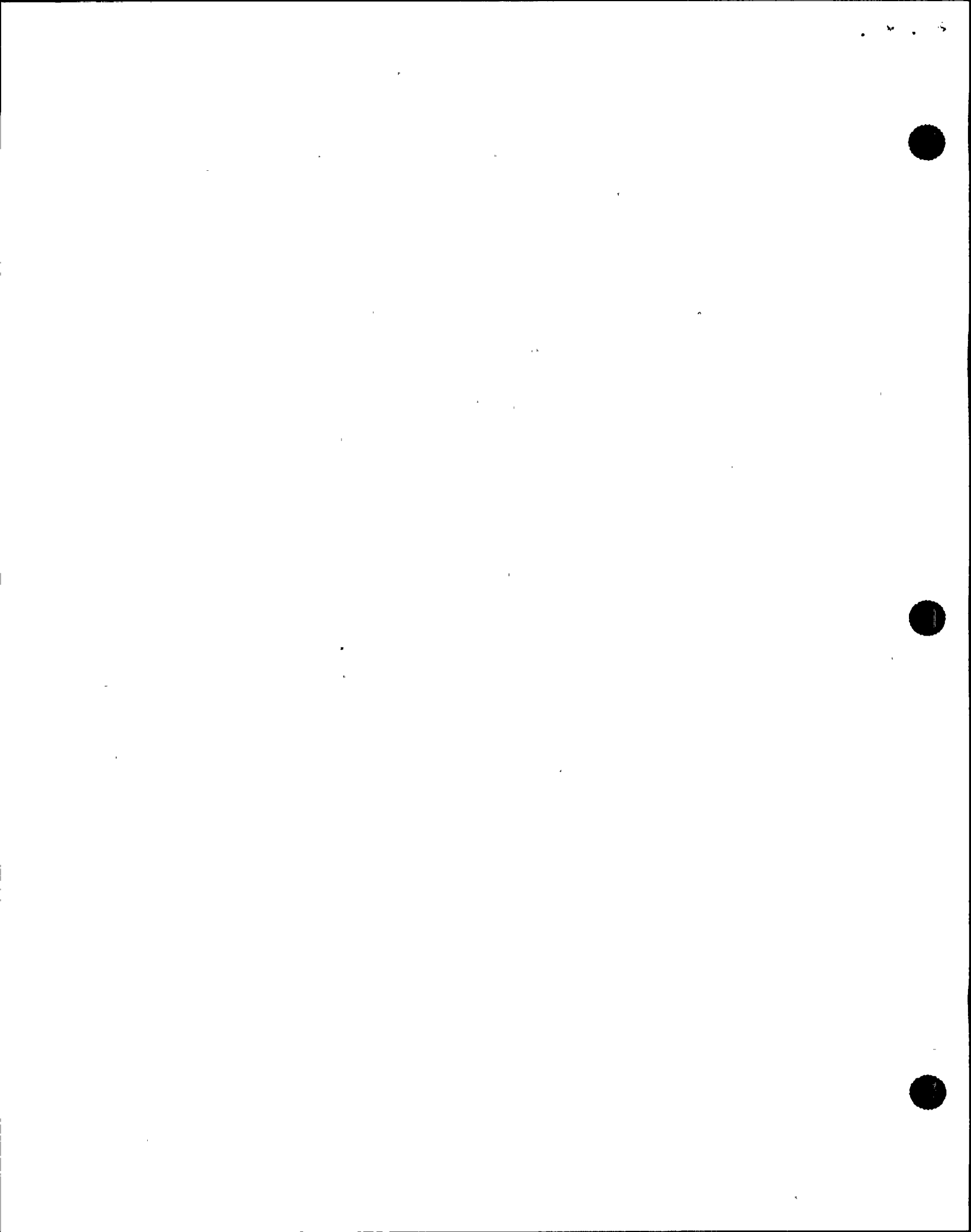
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This is to certify that the attached proceedings before the United States Nuclear Regulatory Commission

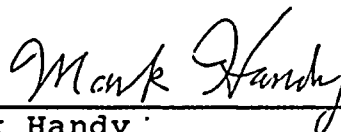
In the Matter of:

NAME OF PROCEEDING: Interview of James Spadafore

DOCKET NUMBER: (Not applicable)

PLACE OF PROCEEDING: Scriba, New York

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.



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Mark Handy  
Official Reporter  
Ann Riley & Associates, Ltd.

