

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

1 In the Matter of:

2 IE TMI INVESTIGATION INTERVIEW

3 of Jack Herbein, Vice President, Generation,  
4 Metropolitan Edison

5  
6  
7  
8  
9 Trailer #203  
NRC Investigation Site  
10 TMI Nuclear Power Plant  
Middletown, Pennsylvania

11  
12 May 10, 1979  
(Date of Interview)

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20  
21 NRC PERSONNEL:  
22 Bob Marsh  
23 Robert D. Martin  
24 Albert F. Gibson

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7908 280745

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1 MARSH: The time is 9:48 a.m. and we're located in trailer 203 at the  
2 TMI site. This is Bob Marsh and I am an investigator with the U.S.  
3 Nuclear Regulatory Commission, assigned to Region III, at Chicago,  
4 Illinois. Today, we are together to interview Mr. Jack Herbein, Vice  
5 President, GPU...

6  
7 HERBEIN: Generation, for Metropolitan Edison.

8  
9 MARSH: Generation Section of the Metropolitan Edison, correction. To  
10 begin with, I would like each individual in the room to identify themselves  
11 and spell their last name, if you would start.

12  
13 MARTIN: This is Robert D. Martin, Chief Nuclear Support Section No. 1,  
14 USNRC Regional Office II in Atlanta, Georgia.

15  
16 GIBSON: This is Albert F. Gibson, Chief, Radiation Support Section,  
17 Region II Atlanta, NRC.

18  
19 BEHRLE: This is William H. Behrle, and I'm a Projects Engineer with  
20 Metropolitan Edison.

21  
22 MARSH: Mr. Herbein.  
23  
24  
25

1 HERBEIN: Jack Herbein, Vice President, Generation, Metropolitan Edison.  
2

3 MARSH: Mr. Herbein before we turn the tape on, we discussed briefly the  
4 two page memo which you have in front of you and just for the record I'd  
5 like to review a little bit of what's on those two pages. As I indicated,  
6 it does cover the purpose and scope of this investigation as well as the  
7 authority granted to the U.S. Nuclear Regulatory Commission. On the  
8 second page, there appear three questions which I'd like to get your  
9 verbal response to, to make it a matter of record on the tape. First  
10 question reads, "Do you understand the above making reference to the two  
11 page memo?"  
12

13 HERBEIN: Yes, I do.  
14

15 MARSH: The second question reads, "Do we have your permission to tape  
16 this interview?"  
17

18 HERBEIN: Yes, you do.  
19

20 MARSH: Third question reads, "Do you want a copy of the tape?"  
21

22 HERBEIN: Yes.  
23

24 MARSH: Sir, at the end of this interview, I will provide you with a  
25 copy of the tape at that time. Further, as it is transcribed I will get

1 you a copy of the transcription also. There is a fourth question that I  
2 have not specifically called out, but it is covered in the body of the  
3 memo regarding your rights to have someone from the company present, and  
4 this has been presented to each of your employees as we have gone through  
5 the interviews. In instances as we discussed earlier, you did request  
6 that Mr. Behrle sit in, is that correct?  
7

8 HERBEIN: That's correct.  
9

10 MARSH: Fine, okay, then at that point, Mr. Gibson do you have some  
11 questions?  
12

13 GIBSON: Mr. Herbein, would you briefly describe your position with  
14 Metropolitan Edison, and include in that description your prior background  
15 in the Nuclear Industry?  
16

17 HERBEIN: As Vice President, Generation, for Metropolitan Edison, I'm  
18 responsible for all the generation that's owned and operated by Met Ed.  
19 That consists of nuclear generation, a hydro station, two coal stations  
20 and fourteen combustion turbines. Additionally, Metropolitan Edison  
21 owns the sixth...the Conagnaw (?) Generation Station in Western part of  
22 Pennsylvania, which is actually operated by Pennsylvania Electric. My  
23 previous background in the nuclear business consists of: Navy Nuclear  
24 training, which I received in 1964 under the Naval Nuclear Propulsion  
25 Program. It consisted of 6 months of prototype training, and 6 months

1 of theoretical training at Naval Reactor School in Bambridge, Maryland.  
2 Following my tour of duty in the Navy, I was employed by Yankee Atomic  
3 Electric Company from May of 1967 through September of 67, at which time  
4 I left their employ and came to work for Metropolitan Edison at Saxton  
5 Nuclear Reactor in that..Western Pennsylvania. I was at Saxton in the  
6 capacity of Supervisor of Operations from 1967 through 1970. While at  
7 Saxton, I held a Senior Reactor Operator's license. I came to Three  
8 Mile Island in 1970 as Station Engineer, and was promoted in 1973 to the  
9 position of Assistant Superintendent. I was licensed as Senior Reactor  
10 Operator on Unit 1 in 19...1974. In 197...1974, I was promoted to  
11 position of Station Superintendent, responsible for both Unit 1 and Unit  
12 2. Then in 1976 I was promoted to position of Manager of Nuclear Operations,  
13 still responsible for the operation of both Unit 1 and Unit 2, but  
14 headquartered in...in Reading. 1977, I was promoted to the position of  
15 Manager of Generation Operations...at that time responsible for both  
16 nuclear, coal, oil and hydro generation for Metropolitan Edison. In  
17 1977....Can you shut that off for a minute?

18  
19 INVESTIGATOR: \_\_\_\_\_ together?

20  
21 HERBEIN: Yeah.

22  
23 INVESTIGATOR: Sure.  
24  
25

1 MARSH: Alright, we're going to take a break here for a moment the time  
2 being 9:55.

3  
4 MARSH: Okay, resuming now at 9:55. Mr. Herbein.

5  
6 HERBEIN: As I stated previously, following approximately 6 to 7 months  
7 as Manager of Generation Operations, I was promoted in 1977, I believe  
8 it was May of 77, to the position of...position of Vice President,  
9 Generation, for Metropolitan Edison, and at that time responsible for  
10 all generation activities for the stations, which Metropolitan Edison  
11 owns and operates.

12  
13 MARSH: Sir, can you give me your corporate office headquarters? Where  
14 are you located now?

15  
16 HERBEIN: I'm located in Reading Corporate Office.

17  
18 MARSH: What would the address there be sir?

19  
20 HERBEIN: 2800 Pottsville Pike.

21  
22 MARSH: Fine, thank you.

23  
24 GIBSON: Mr. Herbein, as...as I understand your position now as Vice  
25 President, Generation, the Station Superintendent for Three Mile Island  
would report to you in a line organization. Is that correct?

1 HERBEIN: That's correct. Approximately the first of March, Gary Miller  
2 was promoted to Manager, Generation Station, Nuclear, and at that time  
3 his reporting responsibilities were changed so that he reported directly  
4 to me.

5  
6 GIBSON: Mr. Herbein, if you would now I would like for you to begin  
7 discussing the events chronologically to the best of your memory, from  
8 the time that you were notified of the incident that occurred on March  
9 28, and just briefly describe who notified you, what information was  
10 provided in that notification, and what your actions were following this  
11 notification. And we'll just let you have the floor, and just discuss  
12 as best you can recall what you did on the 28th and 29th and 30th.  
13 As...as you perhaps understand, our investigation covers the period of  
14 time from the 28th at 4:00 a.m. until midnight on the 30th. Part of the  
15 investigation...the part that covers operational aspects...is more  
16 limited to the first 16 hours following the event that occurred at 4:00.  
17 The radiological aspects and emergency response aspects will...we will  
18 investigate up to midnight on the 30th, which would be Friday evening at  
19 midnight. So with that if you would pick up and just discuss what you  
20 did following initial notification.

21  
22 HERBEIN: I received initial notification of the reactor trip at approx-  
23 imately 0630...well, it was actually between 6:30 and quarter to 7 that  
24 Wednesday, the 28th of March. My understanding based on that telephone  
25 call was that we'd experienced a low pressure suction trip of the feed-

1 pumps such that both feedpumps were lost. That in turn resulted in  
2 a...a high pressure reactor trip. They felt that code release had  
3 opened and as a result of that, the rupture discs on the reactor coolant  
4 drain tank were blown. Following this depressurization, the operators  
5 had secured reactor coolant pumps in the B loop, and then sometime later  
6 they secured them in the A loop. They believed that they had taken the  
7 plant solid with high pressure injection. At the time of our call, I  
8 believe I was informed that pressurizer level was about 370 inches, and  
9 that the pressure was around 700 pounds at a...at a 500° temperature. I  
10 was told we were using emergency feed to remove heat and promote natural  
11 circulation and that they had found it necessary to shut off feedwater  
12 to the B steam generator because they thought they had a leak. I've  
13 refreshed my...my memory of that initial phone call with some notes that  
14 I jotted down following...following the conversation that I had with...with  
15 Gary Miller and members of the plant staff. Following that initial  
16 notification, I attempted to contact Bob Arnold to let him know that the  
17 plant had tripped. I called his home and his wife answered. I believe  
18 that was...I believe that was about 7 30. Just prior to that, about  
19 7:15 I'd contacted Blain Fabian, who's Manager of Communications Services  
20 with Met Ed, and let him know that there'd been an event at...about 4:00  
21 at Three Mile Island. I told him that the unit was off-line because a  
22 feedwater pump failed in the secondary loop, which in turn caused a  
23 turbine to trip, and that in turn caused a reactor trip.



1 MARTIN: I'm going to interrupt you....

2  
3 HERBEIN: Yes.

4  
5 MARTIN: Is it...would it be normal on any major plant trip in your  
6 system to contact this gentleman? I believe, did you say, Manager of  
7 Communications Services?

8  
9 HERBEIN: Yes.

10  
11 MARTIN: I...I don't understand his function and therefore I'm guessing  
12 at what his function was.

13  
14 HERBEIN: Okay, he's primarily Public Relations, and we do receive a  
15 number of calls when the unit comes off-line, and in order to alert him  
16 directly that this had occurred why, you know, I'd...I'd called him...there's  
17 no...there's no written requirement. It's really a courtesy...

18  
19 MARTIN: I was trying to understand what the purpose....

20  
21 HERBEIN: Yes. Yes. Yeah. So, just to let him know that the reactor  
22 had tripped in case he got inquiries from the press, and so also that he  
23 would inform our president, who he communicates with regularly. So,  
24 following the 'phone calls to Fabian and the attempt to contact Arnold,  
25 I...my next communication was about 0840 from Bob Arnold, Vice President,

1 Generation, GPUSC, we briefly discussed the plant trip. At that time I  
2 don't believe there was any additional information over and above what  
3 I'd previously given you. He indicated that he thought that Walt Creitz,  
4 President of Met Ed would be calling me shortly. I did get a call from  
5 Walt Creitz around 9:30 to quarter of 10. We discussed, we again discussed  
6 the trip briefly. I don't recall exactly what was said at that time,  
7 but Walt felt that...that I should probably leave Philadelphia and  
8 report to Three Mile Island. I received another phone call about 10:00  
9 from H. L. Roebada, Vice President of Operations with Met Ed who informed  
10 me that...that a helicopter would be available to transport me from  
11 Philadelphia to Three Mile Island. Approximately 11:00, I left Philly  
12 for Three Mile Island. I arrive at the Observation Center about 11:40  
13 and went immediately into the office normally occupied by Bill Gross,  
14 and we used the 'phone there to talk to Gary Miller in Station Staff and  
15 learn where the plant was with regard to status and the particular trip  
16 that had occurred that morning. Following discussion with Miller, and I  
17 believe now it was about 1:15, I met with members of the press at the  
18 Observation Center, and they indicated there was a problem with the  
19 secondary side of the plant, that we'd lost feedwater pumps, that the  
20 reactor tripped on high pressure. I indicated that no one was injured  
21 and that I certainly felt that it was the company's position not to  
22 intend to expose anyone in any subsequent plant cleanup efforts. I  
23 indicated that radiation levels at the boundary were being monitored,  
24 and though we picked up small amounts of radiation at the plant boundaries,  
25 site boundary, I indicated I felt they were about a 10th of the general

1 emergency level. I also indicated that we didn't see any indications of  
2 high levels of radiation in the reactor building until approximately 10  
3 minutes to 7, and at that time we declared a site emergency. Following  
4 the exchange of information with the press, and I guess this time it was  
5 about 5 minutes of 2, myself, Gary Miller and George Kunder left the  
6 Three Mile Island Observation Center to meet with Lt. Governor Scranton,  
7 who had requested the meeting from Walter Creitz. He wanted to be  
8 briefed on the situation here at Three Mile Island, and I felt it was  
9 necessary to take someone from the plant staff with me. I'd asked  
10 initially that it be George Kunder. Miller and I had some discussion  
11 about that. We subsequently agreed that he would...he and Kunder would  
12 both go. About 1400...

13  
14 GIBSON: Excuse me, Mr. Herbein ...

15  
16 HERBEIN: Yes.

17  
18 GIBSON: Before we get too much deeper into...perhaps we should go back  
19 and ask a few questions on what you've covered so far...

20  
21 HERBEIN: All right.

22  
23 GIBSON: And then you can pick up here and carry on again later. Could  
24 you clarify at what point during the morning you became aware that this  
25 was something more than...than just a normal trip? You were notified at

1 6:30. Was there information in that notification to indicate that there  
2 had been some...more extensive plant damage?  
3

4 HERBEIN: There was no indication in my initial phone call that there  
5 was plant damage. Of course, as I indicated, the reactor coolant pumps  
6 were shut off and the plant staff thought that we'd...or least I recall  
7 they thought they had initiated natural circulation, but at that time  
8 there was no...no indication that there was fuel damage. Now I...during  
9 the morning, I guess sometime between...between 8:30 and...and...11:00,  
10 when I left to come back to Three Mile Island, I became aware that there  
11 was...that a site emergency had been declared, because of radiation  
12 alarms that had been received in the Auxiliary Building. Now I'm not  
13 exactly...I'm not exactly sure of exactly when that communication took  
14 place, but I believe...it must've occurred between 8:30 and 11:00, which  
15 was the time I left from Philadelphia. I may have talked to the plant  
16 staff in Philadelphia that morning before I left to come back to Three  
17 Mile.  
18

19 GIBSON: You were telephoned by Mr. Creitz I believe you said around  
20 9:30. This would not...would this be a normal telephone call if the trip  
21 had been a normal trip or would this indicate something more serious?  
22

23 HERBEIN: This 'phone call would've indicated something more serious,  
24 and Walt's concern with the status of the plant, so it was...it may have  
25 been through that 'phone call that I became aware of the significance of  
the problem, the initial significance of the problem.

1 GIBSON: Could you...you mentioned that you met with the press around  
2 1:30 p.m. on Wednesday. Do you know if Metropolitan Edison had made a  
3 press release as of this time? Who notified the press of this event to  
4 your knowledge?

5  
6 HERBEIN: I...I...I don't really know I...I would assume that it may  
7 have been Communications Services from Blain Fabian.

8  
9 GIBSON: You mentioned that, in discussions with the press at 1:30, you  
10 did discuss an assessment of the environmental conditions and I believe  
11 you said that you believed environmental radiation levels were 1/10 of  
12 general emergency levels.

13  
14 HERBEIN: And that...and that goes back to the general emergency criterion  
15 of 125 mR at the site boundary. And at that time I didn't believe that  
16 we'd seen anything that was...that was greater than a 10th of that  
17 value.

18  
19 GIBSON: What...what basis did you have for that statement? Had you  
20 been provided results of environmental measurements at that time?

21  
22 HERBEIN: In discussions with the plant staff, I'd asked them what...what  
23 levels the site monitoring teams had been reporting to the emergency  
24 control station. As I recall they...the...don't recall the exact values,  
25 but..but I did make that statement based on what I'd been told.

1 GIBSON: When you arrived at the Observation Center, what role did you  
2 play at that point? Did you assume control of operational events in the  
3 control room, or...or did you assume responsibility for interface with  
4 the media, or was...I guess what I'm asking is did you have some specific  
5 functions that you were performing or had that been clarified?  
6

7 HERBEIN: Vice President, Generation, really isn't included in the  
8 formal emergency, formal emergency plans. As such, there're no specific  
9 assigned responsibilities and duties which I was required to execute, so  
10 my concern primarily was with the situation at hand. There were a  
11 number of...of reporters here. They all felt the immediate need to  
12 know, in order to keep the public informed and kept relatively abreast  
13 of the events which were transpiring. I felt the plant was certainly in  
14 capable hands and that the emergency plans were being executed according  
15 to their design. After I had discussions with the plant staff and heard  
16 their version of events and their...their implementation of emergency  
17 plans, I was satisfied that the control was being exercised as it should  
18 be, so my initial response was to talk to them, sort of following what  
19 they were...sort of follow what they were doing, and then make an effort  
20 to communicate that to the media.  
21

22 GIBSON: Did you bring with you staff from your office or did you come  
23 to the site alone?  
24  
25

1 HERBEIN: I came to the site alone from...from Philadelphia, and only  
2 later established a staff watch with structure and specific responsi-  
3 bilities, and of course they evolved as the...as the series of events  
4 unfolded over here at Three Mile Island, but there was no specific plan  
5 for...for doing that.

6  
7 MARTIN: May I ask how the decision was reached to go to the Observation  
8 Center as opposed to going directly to the site itself?

9  
10 HERBEIN: Well, again, because the emergency plan procedures specifically  
11 assign responsibilities to the Station Superintendent, Station Manager,  
12 and I felt he is perfectly capable of with his staff and his group of  
13 carrying out those responsibilities, I didn't feel it was appropriate to  
14 insert myself into...into the procedures and organization, which was  
15 well defined and well established, and to the best of my knowledge, at  
16 the time we're coping adequately and effectively with...with the conditions.

17  
18 MARTIN: Is...is there direct communications available between the  
19 office that you went to in the Observation Center and the control room  
20 or is this...just use of commercial telephone?

21  
22 HERBEIN: Use of commercial telephone lines. We subsequently established  
23 more direct means of communication using portable radios, additional  
24 phone lines and walkie-talkies.

1 MARTIN: Is this in a first day time frame or the second or third day  
2 time frame?  
3

4 HERBEIN: That was the first or second day, and I'm not...I did order on  
5 3/28/79 additional 'phones be installed in the observation center, and I  
6 also asked for radio communication and that occurred sometime in the  
7 afternoon of the 28th. I would think somewhere between 2 and 4 o'clock.  
8

9 GIBSON: Were they installed shortly after you ordered them?  
10

11 HERBEIN: Yes, they were. Don Barry could possibly give more definitive  
12 information as to the exact time they were installed.  
13

14 GIBSON: Why don't you continue with your chronology.  
15

16 HERBEIN: Well, we were to the point where Miller and myself and Kunder  
17 went to talk to Lt. Governor Scranton, and informed him of plant status  
18 and an attempt to answer his concerns with regard to the general public.  
19

20 GIBSON: What provisions were made at that point to enable either you  
21 or, in this case I would expect primarily Mr. Miller, to stay in contact  
22 with the plant staff or those in charge involving conditions at the  
23 plant?  
24  
25



1 HERBEIN: Well, the plant was I think, due to the depressurization  
2 effort which was the strategy initiated shortly before we left to talk  
3 to Lt. Governor, in a relatively stable state compared to what we believed  
4 we had during the morning. Miller had established Seelinger in charge  
5 of the emergency control station ECS and he'd left Joe Logan in charge  
6 of Unit 2, Joe Logan's the Unit 2 Superintendent. Mike Ross, the Unit 1  
7 Operations Supervisor, was also available for assistance and I know that  
8 there were other engineers and I believe Lee Rogers from B&W was present,  
9 so based on that I felt it was appropriate to take any member of the  
10 plant staff with me for response to any detailed questions regarding  
11 plant status that might arise in our session with the Lt. Governor.  
12

13 GIBSON: Was the trip to the Lt. Governor's office initiated by you as a  
14 result of a request from the Lt. Governor, or was it by your management  
15 by the President of the company?  
16

17 HERBEIN: No, as I understood it was...as I understood it from my boss  
18 Walt Creitz, there was a direct request that someone with knowledge of  
19 the incident report to the Lt. Governor and brief him first hand on what  
20 was going on, and as I understand it they really weren't interested in  
21 talking to Mr. Decamp who just happened to be in Harrisburg at the time.  
22 They wanted to talk to somebody from the plant with the first-hand  
23 knowledge of events, so I got the word from Walt Creitz, by boss, that I  
24 absolutely had to...had to make every effort to be there in a timely  
25 fashion and brief the Lt. Governor. So, following that briefing, then,

1 we returned to the Observation Center about 4:30 p.m. and I...at that  
2 time again communicated with the...with the plant staff, and learned of  
3 the system status and what particular strategy they may have been using  
4 at the time. And I guess it was about 4:30 or 5:00 I communicated the  
5 plant status with...with Bob Arnold and he and I mutually agreed that  
6 the strategy of attempting to...to remain at low pressure and use core  
7 flood tanks and possibly decay heat was really not being as successful  
8 as we initially hoped that it..that it might be, and by we I mean the  
9 plant staff, and so Arnold and I agreed that we ought to pressurize and  
10 if necessary take the...take the plant solid, and attempt to start...attempt  
11 to start the reactor coolant pump. We began that effort to the best of  
12 my knowledge around 5 or 5:30 p.m. that evening, and after getting power  
13 supplies rigged to some of the reactor coolant pump auxiliaries we were  
14 able to successfully start the reactor coolant pump in the A loop around  
15 8:00 p.m. I then stayed and talked some more with the plant staff, made  
16 an effort to work with the observation center watch that we established,  
17 improving their communications, assign tasks, status and so on. I left  
18 the Observation Center about, I don't know if it was 1:30 or 2:00 in  
19 the...in the morning. The next day then, the 29th, I appeared on Thursday  
20 morning at WHP studio, Harrisburg at 7:30, then at 10:00, I and Walt  
21 Creitz held a press conference in the Aztec Room of the Hershey Motor  
22 Lodge at...it was around...it was around noon that Walt and I also  
23 talked to the Public Utility Commissioners, gave them a briefing on the  
24 plant conditions. At about 2:30 p.m., perhaps it was closer to 3:00, I  
25 briefed Senator Gary Hart, Senator Schweiker, Congressman Rotel and

1 others who came up from Washington. Herman Decamp was present at that  
2 briefing, to also following that briefing there was another briefing of  
3 additional Congressmen and Senators that came up from Washington. That  
4 first briefing that I gave to Senator Hart was taped. Lt. Governor's  
5 office taped that briefing. Then again on Friday, March the 30th, I  
6 held an 11:00 press conference at the Middletown American Legion Hall  
7 along with Walt Creitz.

8  
9 GIBSON: For the record Mr. Herbein, I know that you are referring to  
10 some notes that you brought with you this morning. Are these notes you  
11 prepared yourself based on your recollection of the events?  
12

13 HERBEIN: Yes, and I also had some assistance with the...with the prepar-  
14 ation of these notes by people that report to me trying to key in on...on  
15 times, but they were prepared under my direction, and as such I would...would  
16 represent them as mine.  
17

18 GIBSON: At the conclusion of the interview, I'd like to request a copy  
19 of these notes for the record.  
20

21 HERBEIN: We'll certainly provide this.  
22

23 GIBSON: I noted that you held several press conferences, and I presume  
24 that in each there was some discussion of environmental conditions  
25 around the plant. Could you generally describe how you were kept informed

1 of what environmental radiation and contamination levels were as the  
2 event unfolded?

3  
4 HERBEIN: Well, as I indicated we had established an Observation Center  
5 watch at the Observation Center, with communication links to the various  
6 monitoring teams and to the Emergency Control Station, and we were able  
7 to...to keep a plot of results that were...that were being recorded by  
8 the various monitoring teams. So, I was through...through this system  
9 able to keep reasonably informed as to the type of radiation levels, and  
10 amounts that were being recorded offsite by the monitoring teams.

11  
12 GIBSON: You said that you were able to keep a plot. Was this done in  
13 such a way that there is a record now of the data that you were recording  
14 in the Observation Center?

15  
16 HERBEIN: There are...there are records, but I can't speak to the exact  
17 form of them. Logs, as I understand it, were maintained and the logs  
18 did included radiation readings from monitoring teams, and that information  
19 should be...should be available.

20  
21 GIBSON: Okay. Mr. Herbein, would you describe generally the type of  
22 technical support that was provided by your Reading office during the  
23 first three days? I'm particularly interested in any support that you  
24 may have either provided directly or arranged for through consultants in  
25 areas such as radiation protection specialist, public relations and

1 information services, medical consultants, administrative areas. I'm  
2 sure that you did provide extensive support in several of these areas so  
3 if you could just generally describe...  
4

5 HERBEIN: Well, the Public Relations I can't...I can't really speak  
6 directly to. I'm not aware of what consulting firms we may have used for  
7 assistance there. With regard...with regard to medical we did use  
8 Radiation Management Corporation personnel, we relied fairly extensively  
9 on...on Porter-Gertz for environmental monitoring. For general adminis-  
10 tration, of course, we brought some of the engineering and administrative  
11 types out from Reading to lend support. The operating arm of...of the  
12 company, which takes care of transmission and distribution headed up by  
13 Vice President H. L. Robada came out to the site and actually helped  
14 establish the trailer city and all the support network that was required  
15 there. And he pretty well headed up along with Walt Creitz all the  
16 administrative support that was necessary. We utilized the Observation  
17 Center post to coordinate all the initial help coming in from a number  
18 of agencies including the NRC in the initial days of the...of the incident.  
19 A number of utility folks came in from around the country and we used  
20 the Observation Center as a...as a staging area, as manpower resources  
21 coordinating center, got them TLD, badged and assigned into the plant in  
22 the most expeditious and effective means as we could.  
23

24 GIBSON: Did...Mr. Herbein did...do you know who made arrangements for  
25 the Utility people to come in? Was this a Met Ed initiated event or did  
Utilities voluntarily send people?

1 HERBEIN: The utilities in some instances voluntarily sent people, and  
2 in other instances I used Joe Colitz as a manpower coordinator and he in  
3 turn...he in turn asked for some specific people to come in and help us;  
4 and I don't recall the exact...exact date that we got Joe involved the  
5 manpower business. I don't recall whether that was the 29th, 30th or  
6 31th, but somewhere in the initial phases, why, we used Joe.

7  
8 GIBSON: Is it fair to state that most of the arrangements for offsite  
9 consultants, administrative support, public information services, help  
10 from other utilities was arranged by the Met Ed general office staff,  
11 either from the site or from the Reading office or...did

12  
13 HERBEIN: I'm not...I'm not

14  
15 GIBSON: The basis for my comment is, for my perspective, it appears  
16 that the plant staff was primarily involved with coping with events in  
17 the plant.

18  
19 HERBEIN: That's true. The plant staff handled events in the plant, and  
20 offsite events were...were handled by the...by the corporate group, by  
21 myself, by the other officers of Met Ed and to some extent there was  
22 assistance from...from GPUSC.

23  
24 MARSH: Excuse me, before the break point, this is Marsh speaking, I'm  
25 going to break briefly at 10:33 and we're leaving 700 on the meter to  
break and turn this tape over.

1 MARSH: The time is now 10:35 and we are set to resume. Mr. Gibson, I  
2 think you have the floor.

3  
4 GIBSON: Mr. Herbein. Did you have on your staff at Reading a specialist  
5 in the area of radiation protection and environmental monitoring?  
6

7 HERBEIN: We've got a radiation safety and environmental engineering  
8 section, yes. And we do have a person with a radiological protection  
9 background in that...in that group, that's...that's Beverly Good. I'm  
10 not sure exactly when she came out to the plant site, whether it was on  
11 the 28th or 29th, but she was here to the best of my knowledge in the  
12 early...in the early stages of the event and lent support to the...to  
13 the plant activities.  
14

15 GIBSON: To what extent, you...you mentioned earlier, Mr. Herbein,  
16 that...that the corporate office was not included, or is not included,  
17 in the emergency plan, the emergency response plan, which is true. But  
18 to what extent had you been involved prior to March 28 in you capacity  
19 as Vice President, Generation, in emergency planning activities here at  
20 the site. I noticed, for example, that your name was on letters arranging  
21 support from offsite agencies.  
22

23 HERBEIN: That's...that's true, we are required...we are required to  
24 show prior to being granted a facility license that arrangements and  
25 agreements have been made with offsite agencies for a response capability.

1 Those agreements were made and were submitted to the...the NRC as a part  
2 of the licensing requirement, and it was probably those letters in which  
3 you saw my...my signature.  
4

5 GIBSON: Have you participated in drills conducted previously at Three  
6 Mile Island?  
7

8 HERBEIN: As the annual emergency plan drill is conducted, yes, I was  
9 notified of...of an exercise in...in progress as a part of the offsite  
10 notification of Met Ed management.  
11

12 GIBSON: Following that notification, did you take some active part in  
13 the exercise?  
14

15 HERBEIN: No, that was not...that was not called for in the plan. I was  
16 notified and...and acknowledged that...that I'd been informed of the  
17 plant status, but no, I did not take an active role in the exercises.  
18

19 GIBSON: I noted earlier you mentioned upon to returning to the visitors  
20 center from the Governor's office, after being briefed on the condition  
21 of the plant, you made a recommendation to the plant staff that they  
22 increase pressure and take the pressurizer solid. I found that....  
23

24 HERBEIN: I don't know that I said take the pressurizer solid. I recom-  
25 mended that they increase pressure.



1 GIBSON: Okay. To what extent were you involved in making operational  
2 decisions in the plant during this period?  
3

4 HERBEIN: I wouldn't say that I was...that I was involved directly. I  
5 believe that was the, certainly, it was the station staff's responsibility  
6 and they were...they were in fact making the decisions. I was...I was  
7 kept informed and I did ask questions regarding the...regarding the  
8 process by which the decisions were...were being made, and I was satisfied  
9 that they...that they were doing the best they could, and had the best  
10 technical input.  
11

12 MARTIN: There's a few questions I would like to direct to you and have  
13 you focus your attention, just to the 16 hours between the time of the  
14 trip and the time in which the coolant pump returned to...you were able  
15 to establish cool...coolant pump. During that period...that beeper was  
16 just the... Mr. Behrle's beeper going off in the background...With  
17 regard to your arrival at the Observation Center and the activities you  
18 undertook there, you have already discussed the communications that were  
19 established and what additional communications you called for and were  
20 installed later in the day. Did you collect together during that first  
21 day any technical staff from Reading to come join you at that Observation  
22 Center to provide you with assistance or establish any communication to  
23 technical support consultant, B&W, or other personnel that could give  
24 you additional advice or technical input during that first 16 hours?  
25

1 HERBEIN: Well, I was aware that a link had been set up directly with  
2 B&W. I satisfied myself that that had occurred. I was also satisfied  
3 that...that the NRC had come directly to the site and had people in the  
4 control room with...with open 'phone lines. As I indicated earlier I  
5 did...I did ask for assistance from...from Porter-Gertz. I was satisfied  
6 that the NRC had...had been asked by us to bring additional monitoring  
7 teams in, and I think Phil Stohr came down from Millstone about 8:00 at  
8 night. I had also...I think that's...I think that fairly well summerizes  
9 the assistance that...that I recal' we requested.

10  
11 MARTIN: I think I asked previously and did not recognize that probably  
12 asked a complex question previously, and you answered a portion of it,  
13 and I just noted that I don't think we covered all the points. In the  
14 trip to the Governor's office that had occurred after the briefing to  
15 the press with yourself, Mr. Miller, and Mr. Kunder, I believe I had  
16 asked or at least I had intended ask did you know of any communications  
17 equipment that had been established? Did Mr. Miller or Mr. Kunder carry  
18 either a...a beeper or voice communication, or a walkie-talkie or something  
19 that...by which they could maintain some sort of contact with the site?

20  
21 HERBEIN: Yes they...they did to the best of my knowledge, and I believe  
22 one of them had a beeper.

1 MARTIN: Did you carry any such equipment or?  
2

3 HERBEIN: No. I did not.  
4

5 MARTIN: Let me go to a few more detailed questions. In discussions we  
6 have had with others...This is Martin speaking again...In discussions we  
7 have had with others there has been some alluding to, or discussion  
8 about, the degree of throttling with low pressure, high pressure injection,  
9 sir, high pressure injection, during the early phases, especially when  
10 you...the operators were approaching high pressurizer level indications.  
11 Were you aware of the extent or had you any knowledge of that kind of  
12 detail about actions that had been taken during the course of the...the  
13 early phases of the event?  
14

15 HERBEIN: No, I was not. As indicated in my...my briefing to the Senators  
16 and Congressmen on the ...on the 29th. We indicated at that briefing  
17 that there were probably events on which we had not had the time to  
18 become briefed on, and that only after the investigations were sorted  
19 out would we know...would we know the true facts surrounding some of  
20 the...some of the allegations, and particularly high pressure .. on  
21 and emergency feedwater valves.  
22

23 MARTIN: The...bringing up the...your briefing to the Congressional  
24 group on Thursday the 29th, do you recall if during that period you were  
25 aware of the pressure spike that had occurred in the containment prior

1 to, in fact it was just shortly prior to, Mr. Miller leaving the site to  
2 come to meet you at the Observation Center to go to the Lt. Governor's  
3 office?

4  
5 HERBEIN: I was not...not aware of the pressure spike.

6  
7 MARTIN: You don't recall mentioning anything about that during the  
8 briefing or the Congressional...?

9  
10 HERBEIN: No, I don't.

11  
12 MARTIN: At the time the decision was reached, or you conveyed your  
13 recommendations, I'm not sure how to characterize it, but let's say that  
14 you conveyed your recommendation to the operating staff to repressurize  
15 the primary system using high pressure injection to try to get a reactor  
16 coolant pump in operation, was the operating staff in agreement at that  
17 time, or did they...did they see a need for it, or did they feel that  
18 plant conditions was sufficiently stable that repressurization was not  
19 the alternative that they would recommend?

20  
21 HERBEIN: No, we talked about it and ultimately we...we agreed that was  
22 the approach that they would take. Now, I don't recall the...the specific  
23 dialogue but, you know, we...we recognized that we had some...we had  
24  
25

1 some fuel damage at that point and that, you know, we were into a rela-  
2 tively severe transient, so there, you know, there was some discussion  
3 over whether or not we should increase system pressure and following  
4 that discussion by joint agreement, why, the pressure was increased.  
5

6 MARTIN: In your comments about that, you did mention it was necessary  
7 to rig power at certain auxiliaries to the reactor coolant pumps. Could  
8 you expand on your knowledge of that that activity?  
9

10 HERBEIN: Well as I recall that...there was the need to get power to a  
11 DC lift pump. This is an oil pump and that...that effort did go forward  
12 and was...was satisfactorily accomplished and that enabled us to start  
13 reactor coolant pump.  
14

15 MARTIN: To your knowledge, at least, that was the only auxiliary that  
16 you needed to service?  
17

18 HERBEIN: To the best of my knowledge, yeah.  
19

20 MARTIN: There was a conference call established early in the morning of  
21 the transient. I think it was at the time of the first call that you  
22 received. There was, let's see, Mr. Miller I think was at home, Mr.  
23 Rogers, of B&W, and then yourself. And I think it was, I believe the  
24 contact was by Mr. Kunder from the control room. You have discussed the  
25 nature of that phone call. Could you characterize to me your impression

1 of Mr. Kunder's motivation? I don't mean his personal motivation, but  
2 what you think lead him to generate a...a conference call at that partic-  
3 ular time? Did that occur after the...both sets of reactor coolant  
4 pumps had tripped?

5  
6 HERBEIN: To the best of my knowledge, yes, that's when....

7  
8 MARTIN: And, this is about 6:30 when.....

9  
10 HERBEIN: Yes, yes.

11  
12 MARTIN: ...when both pumps had tripped?

13  
14 HERBEIN: Yes. I think he was...I think he was concerned because they  
15 had experienced a...a decrease in pressure such that he felt it was  
16 necessary to protect the pumps from operation below net positive suction  
17 head, and as a result of the pump trip he was...he thought into the  
18 natural circulation...into the natural circulation mode of cooling. And  
19 as such I believe he felt it would be responsible and prudent on his  
20 part to notify...to notify plant management, so he...he did that.

21  
22 MARTIN: Do you recall during that particular period of time if anyone  
23 noted that the reactor system temperature pressures were essentially  
24 corresponding to saturation conditions at that time? Do you recall a  
25 discussion of whether or not the RCS was basically under saturated  
conditions under....?

1 HERBEIN: No, I don't re...I don't recall that.  
2

3 MARTIN: Do you recall if there was, in subsequent conversations or in  
4 conversations with others, either the plant site or personnel offsite  
5 during the course of the day, a discussion of the possibility of saturated  
6 conditions in the...in the reactor coolant system, not necessarily in so  
7 many words, but in the sense of whether or not one could be  
8 establishing...let me...let me rephrase...what I'm trying to get at is,  
9 that at what point did you become aware of the fact or the recognition  
10 that natural circulation had been compromised, and you were not achieving  
11 natural circulation in the primary?  
12

13 HERBEIN: I think that's a difficult...that's a difficult question to  
14 answer because I don't specifically...I don't specifically call just  
15 when I...when I became aware. I think in my discussions with...with  
16 Arnold after I came back from the...the Governor's office, I think at  
17 that time I was aware that that... that we...that we had a problem, and  
18 that we weren't getting the natural circulation that we...that we'd  
19 hoped for.  
20

21 MARTIN: There was a decision after the...  
22

23 HERBEIN: There was...there was during the...during the...during the day  
24 with my...my discussions with the plant staff, I guess some concern  
25 about...about saturation conditions in the...in the hot legs and as a

1 result of that, the inability to achieve natural circulation that...the  
2 central...the central approach by the plant staff to the...the transient  
3 following the shut off of the pumps had been to attempt to achieve  
4 natural circulation and then they attempted in the morning I'd say  
5 between...between 8:00 and 9:00, and I don't recall the times exactly,  
6 to repressurize and..and start reactor coolant pumps. I believe they  
7 continued pretty much that effort through the morning, and then the key  
8 effort during the afternoon was primarily to...to depressurize the  
9 plant, attempt to inject core flood tank water on the core and depressurize  
10 possibly to the point of operating the decay heat pumps. That was...that  
11 was primarily the thrust during the afternoon. They also...they also  
12 felt with the injection of the core flood tanks and with the depressuri-  
13 zation that afternoon that they had achieved some measures of natural  
14 circulation and core cooling. Again, we came back from the Governor's  
15 office and reassessed the condition. We felt it was necessary to try  
16 again the increased pressure and get forced circulation.

17  
18 MARTIN: The decision on the mode of operating, the pump 1A, when it was  
19 put into operation, it was decided to jog it at first. Was that a  
20 precautionary type start to protect the pump or was it for the purpose  
21 taking some sort of data to see whether or not it was effective?

22  
23 HERBEIN: It may...it may...it may have been some of both, I...  
24  
25



1  
2 MARTIN: Okay. Did you...there was no...nothing stands out in you mind  
3 specifically about the...the method of the start of the pump or about...any-  
4 thing about the starting of that pump?

5 HERBEIN: Well, I know that the plant staff had talked to...talked to  
6 Lynchburg about the pump start, but the thrust...at least my concern...was  
7 to get the pump started and initiate forced circulation, 'cause I thought  
8 that was...that was...the... the...the important aspect that we wanted  
9 to accomplish.

10  
11 MARTIN: Let me ask something much more in general and less specific to  
12 the 16 hour time frame. There had been as you are well aware other  
13 transients on...on both Units 1 and 2 of either turbine trips or other  
14 plant trips. And during the course of analyses of that... those trips,  
15 post-trip analyses, does your staff or the Reading staff or any portion  
16 of it become directly involved in the review of those analyses, either  
17 from an investigation or an engineering review and analysis?

18  
19 HERBEIN: Well, to the extent that...that our licensing group reports...pre-  
20 pares reports for me to the Nuclear Regulatory Commission both the  
21 licensing group and the engineering group would have some involvement,  
22 again, if the incident was reportable to the Nuclear Regulatory Commission.  
23 Additionally, there's a requirement for the generation review committee  
24 to review certain kinds of...of events and this is a requirement of  
25 the...of the Unit 2 Technical Specifications. To that extent the people

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1 get involved with the review of transients and analyses and primarily  
2 due to a...or through the licensing... the licensing requirements. Now  
3 we...we have on occasion utilized service company personnel to help us  
4 with transient analyses. Bob Arnold's group has been...has been helpful  
5 in...in transient analyses in the past, and Metropolitan Edison the  
6 operating company does rely on the service company expertise in  
7 this particular area, and it has again as I've indicated in the...in the  
8 past.

9  
10 GIBSON: Based on any experience or information that is gained as a  
11 result of these reviews of transients, it would be through your organiza  
12 tion or directly from the site organization where any training benefits  
13 from prior transients are factored into the operator...operator training,  
14 requalification training, retraining of staff, generally informing the  
15 staff of these transients?

16  
17 HERBEIN: That transient information would...would be handled here  
18 directly at the site and would be incorporated into the...into the  
19 training.

20  
21 GIBSON: I'll just take a moment to browse over my notes, and see if I  
22 have any other...  
23  
24  
25

1 MARTIN: At this point, I have no further questions of Mr. Herbein.

2  
3 GIBSON: Yes, and I have no further questions.

4  
5 MARSH: Okay, I have just one question sir. The Emergency Director in  
6 this program...in this plant here, as it stands now, would've been Gary  
7 Miller, the Station Superintendent, am I right?

8  
9 HERBEIN: That's true.

10  
11 MARSH: During the course of the event on, let's say the first two days,  
12 did you have cause to override any of his decisions or did you ride  
13 pretty much with what he had come up with?

14  
15 HERBEIN: No, I rode with...with the decisions that he had made, and  
16 felt that his...his notification of...of the offsite agencies was in  
17 fact timely, and I...I agreed with the decisions and the approach  
18 that...that the plant was taking, as I understood it.

19  
20 MARSH: Did he seat your counsel in any of those decisions? As an  
21 example, the shutting off of the ventilation systems, was that discussed  
22 in any great detail before a decision was made?

23  
24 HERBEIN: I believe the ventilation system may have been secured late on  
25 the evening of the 28th. I believe we did...I believe we did discuss

1 that, and I believed reached agreement that we would ..that we would  
2 shut off the ventilation system to see if, in fact, it would decrease  
3 some of the releases that were taking place through the plant vent.  
4

5 MARSH: Okay, I don't have another question for you. OK we're all done.  
6 Before we complete, it's been one of our policies to turn the microphone  
7 over to you for any comments that you would like to make before we  
8 conclude our interview. Now we could do that at this time if you have  
9 anything you feel you'd like to discuss or put on the record.  
10

11 HERBEIN: No. I guess in closing I'd say that I...I feel that plant  
12 staff did the best they could under a very difficult situation. I  
13 believe that they behaved responsibly, and I believe the Emergency  
14 Director carried out the emergency plans and procedures to the best of  
15 his ability and in accordance with...with the guidelines that they  
16 contained.  
17

18 MARSH: Fine. Recognizing that you're a very busy man still, we appreciate  
19 your time in coming in and the time being 11:00 a.m. and reading 125  
20 that's 1125 on the meter, we'll terminate at this time.  
21  
22  
23  
24  
25