

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

1 In the Matter of:  
2 IE TMI INVESTIGATION INTERVIEW  
3 of  
4 Dick Wilson  
5 Director of Technical Function  
6  
7  
8

9 Trailer #203  
10 NRC Investigation Site  
11 TMI Nuclear Power Plant  
12 Middletown, Pennsylvania

13 June 1, 1979  
14 (Date of Interview)

15 July 6, 1979  
16 (Date Transcript Typed)

17 292  
18 (Tape Number(s))  
19  
20

21 NRC PERSONNEL:

22 Robert Marsh, Investigator  
23 Anthony N. Fasano, Inspection Specialist  
24  
25

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1        MARSH: The date is June 1, 1979, the time is 8:26 a.m.. My name is Bob  
2 Marsh, that's M-A-R-S-H, and I'm an Investigator with the U. S. Nuclear  
3 Regulatory Commission, assigned to Region III in Chicago, Illinois.  
4 This morning here at the facilities of GPU, their Corporate Headquarters  
5 at 260 Cherry Hill Road, in Mountain Lakes, New Jersey. We are here to  
6 conduct a series of interviews and the first individual being Mr. Dick  
7 Wilson, W-I-L-S-O-N, who is Director of Technical Function. At this  
8 point I'd like to go around the table and have each individual identify  
9 himself to spell his last name and state his position. Tony if you  
10 would start.

11  
12        FASANO: Anthony N. Fasano, F-A-S-A-N-O, Inspection Specialist, NRC,  
13 out of Region I.

14  
15        WILSON: R. F. Wilson, Director of Technical Functions, GPU Service  
16 Company. Last name is spelled WILSON.

17  
18        HOVER: G. J. Hover, Manager of Generation Division Support. Last name  
19 spelled HOVER.

20  
21        MARSH: Thank you, Mr. Hover. Mr. Wilson before we began I presented  
22 you a two page memo. I just want to make a brief reference to that at  
23 this time. This memo basically gives the purpose scope and authority  
24 for NRC's investigation and on the second page as you noted were several  
25

1 questions which I would like to make a matter of record on the tape as  
2 well as the written record. First question reads, do you understand  
3 the above making reference to the two page memo?  
4

5 WILSON: That's correct.  
6

7 MARSH: Do we have your permission to tape this interview?  
8

9 WILSON: Yes.  
10

11 MARSH: And finally would you like a copy of the tape and/or the transcript?  
12

13 WILSON: Yes, I would.  
14

15 MARSH: We will provide those...the tape I can do as soon as we get  
16 back to TMI; the transcript may be delayed a little bit in getting  
17 done. We will get those to you. Mr. Hover, to begin with we'd appreciate  
18 it if you would give us a brief summary of your background, education,  
19 and your experience in the nuclear field and a description of your  
20 duties with GPU.  
21

22 WILSON: I think you said Mr. Hover, I think you meant Mr. Wilson.  
23  
24  
25

1 MARSH: Let me, there's one think I've skipped here. An additional  
2 question on that memo which is not called out specifically is your  
3 right to have a company representative present during the interview.  
4 And it's my understanding that's why Mr. Hover is present that you  
5 requested that he be in.  
6

7 WILSON: That's correct.  
8

9 MARSH: Fine, thank you. I knew I had you on my mind, Mr. Hover.  
10

11 WILSON: Ok, back to your original question. I have a B.S. Degree in  
12 mechanical engineering, University of California in '51. Masters  
13 Degree in mechanical engineering from the University of Michigan in  
14 '53. I attended the Oakridge School of Reactor Technology at Oakridge.  
15 And from '53 to '54 I worked since '54 in one or more phases of the  
16 nuclear industry. Most of that time was spent from '54 to about '73  
17 with the Atomics International Division of Rockwell International.  
18 While employed Atomics International at various positions in the en-  
19 gineering department was project manager 1 at Snaps Systems and at the  
20 time of leaving the Atomics International group was the chief engineer  
21 for the breeder work for Atomics International. After leaving Atomics  
22 International in '73 I spent approximately three weeks offshore power  
23 systems in Jacksonville, Florida where I was manager, manufacturing  
24 engineering since joining GPU Service Company in approximately April of  
25

1 '75 I joined the service company as manager of quality assurance, held  
2 that job until approximately September or so of '77, time I was promoted  
3 in my present job.  
4

5 MARSH: Thank you.  
6

7 FASANO: Fasano speaking. What we'd like to do today is get your  
8 briefing on your involvement with the March 28th event at Three Mile  
9 Island and I like to do is if you could as a function of time your  
10 involvement from the time you were notified till the time that day that  
11 you ended involvement. AT least for the first sixteen hour and if  
12 possible if you were involved for the next three days to what extent  
13 you were involved in the event. With that I'll let you go ahead.  
14

15 WILSON: Well, my involvement started initially on the morning of the  
16 28th when I reported to work about 8 or 8:15. I was notified at that  
17 time by Mr. Arnold that there was or had been an incident at TMI. We  
18 spent about 15 or 20 minutes in his office reviewing a conversation  
19 that he had with the site. I am not sure at this point in time exactly  
20 who that conversation had been with but I think it had been with the  
21 reactor control room. That conversation provided some sketchy details  
22 of the problem at TMI and we discussed very briefly some activities we  
23 should undertake. Shortly, thereafter, I gathered up some of the  
24 members of the technical staff at the service company. I believe these  
25

1 were Jim Moore, Gary Broden, and one or two others and we reviewed that  
2 information very early in the morning and asked them to start...themselves  
3 review the data discuss it with other people here in the service company  
4 to start to gather up back ground material and information on the Unit  
5 1 reactor.

6  
7 FASANO: Excuse me, Unit 1?

8  
9 WILSON: Unit 2, excuse me...and to be prepared for some further discussions  
10 as soon as we can obtain more information from the site. Throughout  
11 the morning we had one or two further conversations directly with the  
12 Control Room in Mr. Arnold's office. There was also a conversation  
13 which I can't recall directly but I believe it took place with the B&W  
14 Company. Those conversations provided some more general information on  
15 the status of the reactor of about nine or ten o'clock in the morning  
16 we decided it was necessary to send people to the TMI site. We gathered  
17 up a group of five people. They asked them to get prepared to go to  
18 the site as soon as they could. This was Gary Broden, who is our  
19 manager of control and safety analysis, Jim Moore, who is our manager  
20 of mechanical component engineering. George Leman, senior engineer in  
21 the systems group. Julian Abrahamavich an Engineer in the mechanical  
22 component group, and Richard Lentz, who is junior engineer in the  
23 control and safety group. Those five people were asked to get their  
24 things together and get on the way to the TMI site and to check back  
25

1 in with us when they got there to see what additional information that  
2 we would learn about the incident while they were on the road. I think  
3 those people left in the notes here roughly between eleven and twelve  
4 o'clock that morning and arrived on the site somewhere between three  
5 thirty and five o'clock Wednesday afternoon. They did not actually get  
6 on the site, they actually got to the Observation Center at which time  
7 they checked back in with us. In the mean time we had had one or two  
8 more conversations or more with the TMI-2 Control Room. We had picked  
9 up some more general information about the status of the plant, but did  
10 not pick up a great deal of quantitative technical information that would  
11 allow some systematic analysis of the plant to start. I think as I  
12 recall at first became known to me that for example the reactor coolant  
13 pumps had been turned off... I'm guessing now about ten o'clock in the  
14 morning. I think at that time some of us began to suspect that the  
15 damage to the reactor might be greater than the implications of the  
16 conversations with the Control Room, the fact that the pumps were off  
17 that the information became known to me the high radiation alarms after  
18 lunch, those were the principal subjects of discussion throughout the  
19 day. We spent most of the time in reviewing TMI that afternoon through  
20 about as I recall 8 o'clock or maybe 9 o'clock that night. When the  
21 people checked in from the Observation Center after having arrived at  
22 the site those people having not gotten on to the site still did not  
23 have access to the detailed technical information we wanted. We made  
24 arrangements for as I recall Rich Lentz specifically since he had  
25

1 worked for a year or two at the site to get on the island and to start  
2 to gather up as much specific technical data as he could do so. And  
3 the other people started to undertake various other investigative tasks  
4 of their own. I was still at the time that to the completion of that  
5 day while our perception wasn't as significant incident at TMI my  
6 particular impression was that based upon the conversations with the  
7 Control Room that the reactor was in a stable mode, was being shut down  
8 and essentially the incident was over. And that impression obviously  
9 turned out not to be a correct one later on.

10  
11 FASANO: You had information on the reactor coolant pumps at ten o'clock  
12 that they had been closed shutdown and I guess they were shutdown  
13 probably about three or four hours earlier. Is that correct?

14  
15 WILSON: No, we didn't know it at the time.

16  
17 FASANO: I mean did you know that they had...what time they were...  
18

19 WILSON: I did not know when they were first...when we first heard they  
20 were off we did not know to my recollection as to the exact time they  
21 were turned off. It turned out I guess they were turned off 5:15 or  
22 6:00 that morning.  
23  
24  
25



1 FASANO: The information that you did have from what I gather you are  
2 unable to really do an offsite analysis of the situation to any detail,  
3 is that correct?  
4

5 WILSON: That's correct.  
6

7 FASANO: When your people arrived on site and began to collect data was  
8 this fed back to you and how was it handled did you have information  
9 out to do any engineering or analysis?  
10

11 WILSON: Well, it wasn't fed back from the standpoint that the time by  
12 the time they had gotten the data more of us were at the site. The  
13 principal piece of data was the reactimeter information that wasn't  
14 really obtained until reduction of that wasn't really obtained until  
15 Thursday sometime. It was decided before we had left Wednesday evening  
16 that I and some others would go to the site early in the morning. That  
17 was now Thursday morning the 29th I guess it was. And I was really...originally  
18 setup on going to the site to be the chairman of an investigative team  
19 to review the incident, try and ascertain more specifically what had  
20 happened, how it had happened so forth and so on. So I left for the  
21 site had a few more conversations Thursday morning reporting to  
22 and I left for the site with two others, Ed Wallace, who is our licensing  
23 manager, and Don Reppert, who is a health physicist in the safety and  
24 licensing group, left for the site Thursday morning, arrived at the  
25

1 site about...oh it must have been about two o'clock or so Thursday  
2 afternoon. Again we did not get on to the site. We go to the Obser-  
3 vation Center that time there was a news conference or some kind of  
4 conference with Senator Hart, which didn't allow us to talk to the  
5 people that we had come to talk to immediately. At the conclusion of  
6 that that conference we made arrangements to talk to people of the TMI  
7 staff at five o'clock on the island as I recall about five o'clock  
8 maybe it was five thirty or six. We did gather up the people that we  
9 had sent the prior day, we talked to Gary Miller, George Kunder of the  
10 plant staff I believe Lee Rogers was there, who is the B&W representative,  
11 we had a brief review of what we still at that time thought was our  
12 mission on the site namely to investigate the incident. We had some  
13 brief...about a half hour, forty five minute discussions and it was  
14 now at this time that shortly thereafter that meeting which took place  
15 in the administration building of Unit 1. No...that meeting took place  
16 in the security center outside Unit 1. It was about that time or  
17 shortly thereafter that it became apparent based upon some of information  
18 that had been gathered up by the other people that the state of the  
19 reactor and the magnitude of the incident was substantially different  
20 than the impressions from the prior days of old conversations. Shortly  
21 after the meeting two or three people went to the Control Room, they  
22 stayed there most of the night. It was during that period of time I  
23 think the people developed the appreciation for the non-condensable gas  
24 evolution during the incident, the fact that there was probably a great  
25

1 deal of gas within the reactor vessel, and those people worked most of  
2 the night on that problem. Other people were sent to start to look  
3 into other data, radiation data and so forth. I spent several hours in  
4 meetings on and off the site and met with the...Richard Vollmer of the  
5 NRC for some period of time that night. I think it was clear that as  
6 the day became more available that the scope of the incident was became  
7 substantially greater than originally thought that the reactor was not  
8 being and could not be shut down in a routine way and by shutdown I  
9 don't mean from critical to subcritical but from temperature and pressure  
10 to having those being reduced in a normal manner. That evening I can't  
11 remember the exact time I reported back to Bob Arnold that the situation  
12 was much different than the perception on Wednesday. that scope of the  
13 accident or incident was believed to much greater that the damage to  
14 the reactor was substantially more that the their was a serious radiation  
15 problem on the site and that we should send additional resources to  
16 help at the site and he should plan on being at the site as soon as he  
17 could. On Friday I believe that was the day the trailer park was  
18 getting set up around the Observation Center. We spent most of the day  
19 initiating contacts with outside support groups or with groups who  
20 might be able to provide support to the site. We set up a tentative  
21 organization to provide additional technical support directly to the  
22 plant staff and the Control Room. We set up a rotating shift of people  
23 at the site. This was as I recall initially one shift under the leader-  
24 ship of Gary Broden and one shift under the leadership of Bill Lowe.  
25

1 These people's jobs were to continue to gather up the data, continue to  
2 analyze try and ascertain more directly what was a happening on a real  
3 time basis, start to provide some secondary technical guidance to the  
4 operating staff. We did start to place people on the Control Room on a  
5 full time basis. Most of the activities on Friday of the technical  
6 groups were still revolving about the large amount of gas in the system  
7 and try to insure that a significant part of the technical effort in  
8 the operations was directed toward starting to degas the primary system.  
9 Some additional people were assigned to me at the Observation Center  
10 and we also started to assimilate some data, and start to look at it  
11 and start to make little longer range plans as to where we might be  
12 going and what we might be doing. During this period of time as I  
13 recall telephone communications we being set up and a lot of getting  
14 organized kind of thing. Many additional people showed up on Friday...I  
15 can't remember who and what they were but basically those were assigned  
16 to the support groups on site on a rotating shift basis. A few of them  
17 were signed up at the Observation Center. From that point in time then  
18 I was assigned to lead the technical support group on the site and that  
19 group was in being for about the next roughly six or seven weeks and I  
20 spent most of the time at the site for about five to six weeks.  
21  
22  
23  
24  
25

1 FASANO: Going back to the first day, were you, say by eight o'clock or  
2 so, knowledgeable of the hot leg thermal couple readings or incore  
3 thermal couple. . . the, any indication as to these temperatures,  
4 pressures of the primary system?  
5

6 WILSON: Eight o'clock a.m. or p.m.?  
7

8 FASANO: A.m.  
9

10 WILSON: On Wednesday?  
11

12 FASANO: On Wednesday. Approximately.  
13

14 WILSON: As I recall, we did not have specific knowledge of the, of the  
15 temperature readings that occurred during, during the incident at that,  
16 at that point in time in the morning. Most of the information was was  
17 pretty qualitative about the reactor having gone through a scram then  
18 due to a, a trip originating in the feed system, having lifted the  
19 relief valves, this is really the electro-magnetic valves. . . there  
20 was, had been a potential for uncovering the core, so forth and so on,  
21 but not, not specific hard, hard data.  
22

23 FASANO: You say potential for uncovering the core, was that thought of  
24 at, on the first day by your people?  
25

1 WILSON: Yes.

2  
3 FASANO: The . . . you mentioned that the reactimeter data was quite  
4 important to you in your analysis, and that was available, available on  
5 the second day. Do you think, it was enough information to evaluate if  
6 you had gotten the information on the first day to evaluate the situation  
7 better, as you eventually did evaluate it?  
8

9 WILSON: Oh, I think as soon as the reactimeter data was available and  
10 reduced, it started to become very clear. . . not so much exactly why  
11 things had happened but, but what had happened in the way of temperatures  
12 and pressures the transient the system went through, the probable  
13 condition of a lot of things in the plant.  
14

15 FASANO: What. . . just to clear up something in my mind, what is the  
16 role really with GPU in an event like this, are you the, the technical  
17 support to the extent of outside advisement or, how do you really get  
18 involved or. . .  
19

20 WILSON: You're talking about the service company, I. . .  
21

22 FASANO: Yes.  
23  
24  
25

1 WILSON: I presume. Normally most of the activities of the technical  
2 group in the service company can be divided into, I guess, about three  
3 general generic categories. One, we provide the engineering and con-  
4 struction management for new generation construction for the entire  
5 system, and a large fraction of our engineering staff basically is,  
6 working on projects in the construction phase, for example at this  
7 point in time, or at that point in time, Forked River, \_\_\_\_\_ so  
8 forth. Secondly, we provide some continuing, ongoing technical services  
9 for the operating companies, a very specific example of that is, we we  
10 procure and see that nuclear fuel is delivered to the site for all of  
11 the nuclear units in the system. Essentially do the, the fuel management  
12 and, and reload analysis and so forth for for nuclear fuel, so that's  
13 kind of a ongoing assigned task in the, in the service company. The  
14 third generic area that we work in, is we provide technical support on  
15 a request basis to various, various operating plants, and that's done  
16 on a case by case kind of a basis, as the operating company or ourselves,  
17 or as management might perceive it that there's some specialized skill  
18 or expertise or something we can do for the operator plants. We do not  
19 normally work in a full time capacity as a full time, in as the sole  
20 technical support for operating plants. Each of the operating companies  
21 have their own engineering department.

22  
23 FASANO: Say in this case it would be Met Ed?  
24  
25

1 WILSON: Normally the Met Ed engineering department would provide the  
2 full time dedicated normal routine kind of support to the operating  
3 plants, in this case Met Ed to TMI.  
4

5 FASANO: Alright, you mentioned that the second night you got involved  
6 very heavily in the gas that might have been in the reactor vessel and  
7 I guess this is hydrogen that we're talking about.  
8

9 WILSON: Yes sir.  
10

11 FASANO: At that time was the data looked at as showing the 28 psig  
12 spike on the reactor building trace or. . .  
13

14 WILSON: We did not, as I recall, we did not pick up that data until  
15 very early Friday morning. . .as a matter of fact I think, as I recall  
16 that very early at breakfast Friday morning, this was maybe now 7:00 in  
17 the morning 6:30 in the morning or sometime like that, we were notified  
18 of the existence of the pressure spike within containment.  
19

20 FASANO: The, Fasano speaking, with the information you had available  
21 on on Wednesday, or in retrospect with the, the information that was  
22 available, the pressures, the temperatures, the offscale temperatures,  
23 the. . . the general condition of flow degradation on the reactor  
24  
25



1 coolant pumps, and from this information do you feel that this information  
2 if you had it, you could have evaluated at a sooner time, that you were  
3 headed for a major problem?  
4

5 WILSON: Yeah, I think if we had basically the information that's on  
6 the reactimeter I. . . and by this I mean not just point in time data  
7 but, but traces as a function of time of certain things like pressures,  
8 like temperatures like flows, like. . . various specifics of the times  
9 that the pumps were turned off. . . that, that yeah, that that the data  
10 could be analyzed much faster here and the condition here would be  
11 known much much, I mean about a day sooner than it really was.  
12

13 FASANO: Some of this data, I said probably was available on charts in  
14 the control room, not only on the reactimeter . . .  
15

16 WILSON: That's correct.  
17

18 FASANO: And. . . so if you had this information sooner it would have  
19 been possible for you people to have made suggestions earlier?  
20

21 WILSON: I think, I think without without a doubt, yes.  
22

23 FASANO: Got any questions?  
24  
25

1 MARSH: Mr. Wilson you discussed that on Wednesday you had meetings  
2 with Gary Miller, George Kunder, and Limroth. . .

3  
4 WILSON: No that was on Thursday.

5  
6 MARSH: On Thursday, I'm sorry. During these meetings were these  
7 taped, or were there notes taken to support your investigation?  
8

9 WILSON: No there was no taping, there were direct notes taken of that  
10 meeting, that meeting was principally to appraise them on why we thought  
11 we were there at the time. . .we had come prepared to start the interviews,  
12 at least as part of the investigation, to start the interviews of of  
13 some of the operating staff, we wanted to do that early so that things  
14 were fresh in their mind wouldn't be forgotten in case we got around to  
15 it days and days after that. And we had three tape recorders with us,  
16 we actually did start some of the people after the meeting, we did make  
17 arrangements to start to interview people and throughout that night we  
18 did, I think this was Don Reppert and Bob Lowe, actually did start the  
19 interview process with some of the operating staff and I think they  
20 must have interviewed six or eight or nine people at night starting, oh  
21 I'm guessing now, it may be nine or ten in the evening and maybe some  
22 of them went through till very early Friday morning. . . so that was  
23 the beginnings of, of the, trying to pick up from the operating staff  
24 their, their recollections of, of a what had happened during the day.  
25

1 While that was going on of course or while that was playing Thursday  
2 afternoon, while the perception of the magnitude of the accident was  
3 becoming much more apparent to us our, our mission as of five or six  
4 o'clock that night was still one of an investigative one and there was  
5 still not the appreciation of the current, or not at least a detailed  
6 appreciation of the current state of the, of the reactor. And as  
7 subsequent events turned out, starting late that night or certainly  
8 first thing Friday morning the whole character of us, of our presence  
9 on the site changed from one of being a group to look at and accident  
10 that had happened to one of the group providing real time support to  
11 what was going on on the site and so actually the interview process  
12 really stopped I think after the initial interviews late that night and  
13 people just got caught up in the, in the ongoing activities.

14  
15 FASANO: When were you made knowledgeable of the emergency feed water  
16 valve 12A and 12B of the block outs and their situation with respect to  
17 the steam generator?

18  
19 WILSON: Oh that was not till some time I think later on after people  
20 had looked at the data, I can't remember exactly when but I think  
21 certainly it was past Friday, it was . . . I just can't recall the  
22 exact time.

23  
24  
25

1 FASANO: So it was not the first day definitely. And . . .

2  
3 WILSON: Not to, not to my knowledge no.

4  
5 FASANO: Were you knowledgeable on the first day of the boron indications  
6 of 700 parts per million, 400 parts per million and also the intermediate  
7 range and source range indications, these were things that were going  
8 on earlier than the 10 o'clock call that you had. This was not discussed  
9 with your people.

10  
11 WILSON: No, no. Not not to my recollections at least.

12  
13 FASANO: Apparently you were just getting general conditions, you  
14 weren't getting specific. . .

15  
16 WILSON: That's correct.

17  
18 FASANO: Information. . .

19  
20 WILSON: That's correct. Our conversations were all with people with  
21 operating staff people directly in the control room, those people  
22 obviously had a lot of other things to do and we did not feel that we  
23 could tie up the operating staff almost full on on a phone conversation  
24 trying to read out, read out data to us.

25

1 FASANO: How about the pressurizer level, was this discussed with you  
2 at all, I mean by phone. . . apparently this was one of the key features  
3 that was being watched by the operators?  
4

5 WILSON: Not, not to my knowledge no. Not to my recollection.  
6

7 FASANO: In retrospect, do you think that the role that GPU played was  
8 the role that was required by the understanding of the service group?  
9

10 WILSON: Well that's hard to answer, the situation was certainly a  
11 unique one and the first of a kind so I'm not sure that that role, you  
12 know, had clearly been totally thought out and preordained in the, in  
13 the company and secondly, the the biggest problem is really getting  
14 factual, essentially real time quantitative technical data out of the  
15 plant in order to start to do, do work. And it's hard to do that, at  
16 least we're not set up to do that directly 150 miles away.  
17

18 FASANO: The . . . Oh, as your group functions do you review previous  
19 licensee event reports or major occurrences at the units? Do you  
20 review these with a, a technical review, to design, or to consequences?  
21

22 WILSON: We review those predominate like I&E Bulletins and that sort  
23 of thing we review those and insure that action is taken on new con-  
24 struction as they might affect for example, in this case the Forked  
25

1 River plant. We do not routinely review those from the standpoint of  
2 incorporation into, into. . . into operating plants as that normally is  
3 done by the operating company.  
4

5 FASANO: Again then your mainly involved with the construction and  
6 pre-op phase?  
7

8 WILSON: That's right, in, in general, in the GPU system the service  
9 company has direct responsibility for a new plant up through the time,  
10 up through start up and tests and until it's declared commercial. At  
11 that point in time then the direct responsibility in the plant shifts to  
12 the operating company who becomes the operator of the plant.  
13

14 FASANO: Ok, then if you're up to the point where it becomes commercial,  
15 I guess TMI-2 became commercial sometime late 1978?  
16

17 WILSON: Sometime late in 78, that's correct.  
18

19 FASANO: So then would you people be reviewing the various trips where  
20 ECCS was actuated, I think it happened at least three or four times  
21 maybe five times in 78, and as they relate to the design of the plant  
22 or any, or would you relate stuff that happened like at Davis Besse  
23 with regard to your plant?  
24  
25

1 WILSON: Well we specifically did not have the awareness of the Davis  
2 Besse trip which was similiar to TMI late 78, we do, review and look at  
3 and become involved if necessary with, with startup and test problems  
4 at the at the Unit 2 site itself.

5  
6 FASANO: I think they have two instances where they actually lost level  
7 in the pressurizer that's why I asked about the pressurizer level if  
8 this was brought out to you. Do you recall these.

9  
10 WILSON: No.

11  
12 FASANO: You don't? I think that's all I have right now.

13  
14 MARSH: One other brief question, Marsh speaking, the relationship of  
15 GPU to other subcontractors during those first few days, such as B&W,  
16 to what degree was their contact back and forth, GPU and B&W?

17  
18 WILSON: Generally about GPUSC in contract to Metropolitan Edison?

19  
20 MARSH: Correct, right.

21  
22 WILSON: First day, Wednesday there was one or two phone calls in  
23 contact with B&W the Lynchburg, from the service company, starting  
24 though about the second day, Thursday and certainly in full swing  
25

1 Friday, we essentially had dedicated communication links with B&W in  
2 Lynchburg, and both the site groups the groups had been headed up by  
3 Gary Brodyne and Bill Lowe and myself spent hours on the, in in direct  
4 communication with the B&W people predominantly in Lynchburg.  
5

6 MARSH: So that's float both ways, both back to corporate headquarters  
7 here with yourself as well as directly to the control room?  
8

9 WILSON: I'm not sure what you mean by that, there was yeah we . . .  
10

11 MARSH: In other words it's not, the information is not coming from  
12 Lynchburg to corporate headquarters and then being relayed back to the  
13 Control Room.  
14

15 WILSON: No, no, no, no. Most of the direct contact work was really  
16 done through the site group or myself at TMI by Friday we had, we had  
17 pretty much dedicated communications with B&W, we had a staff back here  
18 which had not been sent to the site, was starting to operate on a round  
19 the clock basis and the site back here was, we were funneling work from  
20 the site back here, the group here then was interacting to a large  
21 extent with, well either doing work themselves or interacting with  
22 Burns & Roe. So they were in in a sense gathering up and providing  
23 data to the site, sometime I believe on Friday, I think it was Friday,  
24 it could be early Saturday, we had pretty much direct communications  
25



1 set up with people like Combustion Engineering and Westinghouse, again  
2 from the site and most all of that interactive, communications with  
3 those, with those people were handled the first several days pretty  
4 much by myself or one or two people helping me, and then I had direct,  
5 ..., well I was still not on the site, I was at the observation center,  
6 I, I had direct communications to the site, so basically the site  
7 myself, and Lynchburg and the home office were was pretty well, including,  
8 of course the plant was pretty well tied together, fairly good communi-  
9 cations link and I had direct communications to other people and used  
10 those mainly to funnel our questions or pick up data or give support on  
11 special on special problems as we saw fit.

12  
13 MARSH: Do you have anything else?

14  
15 FASANO: Yes . . .

16  
17 MARSH: Alright, excuse me for a second, let me just turn the tape  
18 here. I'm going to break at this time, reading 701 on the meter the  
19 time being 9:12, and just break the tape momentarily.

20  
21 MARSH: The time still being 9:12, reading 704 on the meter we are back  
22 Tony, you had a question.

23  
24  
25

1 FASANO: As a service company during the pre-op and escension the power  
2 to commercial, would your function, meaning the service company, be  
3 also to review design considerations or design difficulties that the  
4 plant is more or less reporting or at least noting for action?  
5

6 WILSON: Yeah we got involved in in what seemed to be design problems,  
7 we would get involved through the startup and test group where, where  
8 as a plant went through testing, whether it appeared that the problems  
9 were not simply one of tuning up systems or something like that which  
10 was done basically at the site where it appeared there was substantial  
11 engineering or design deficiencies, we got involved in a typically the  
12 one being the problems that we had with the, with the code safety  
13 valves on the main steam system which we had a major problem with  
14 during the year, did away did away with commercial operation for some  
15 period of time, problems like that we got involved in and worked with  
16 Burns & Roe or others.  
17

18 FASANO: The atmospheric dump valves where the I guess belows went  
19 also, do you get involved in that?  
20

21 WILSON: Yes.  
22  
23  
24  
25

1 FASANC: The, apparently there were problems with the condensate polishers  
2 and the non-automatic bypass, do you get involved in the secondary  
3 side, the balance of plant as well?  
4

5 WILSON: We would normally get involved, once and if there's identified  
6 as a major design deficiencies, I think we were aware of startup problems  
7 of those systems but it had not gotten to the point as I recall of  
8 being identified as a major design deficiencies, we knew that there  
9 were modifications that would have to be made in the plant and we in  
10 fact did have a team of people this year working on revealing both  
11 TMI-2, that system on TMI-2 as well as reviewing essentially the same  
12 system on Forked River from the standpoint of making, making modifications.  
13 We picked up many modifications from TMI-2 prior to that time, and  
14 forwarded them into got them into work at the Forked River system, but  
15 were not actively making the modification on TMI-2.  
16

17 FASANO: Well at this point, now that we've had this experience and . .  
18 . what do you think would improve the possible role of a service company  
19 involved with a nuclear power plant. Would you have any suggestions at  
20 this point?  
21

22 WILSON: Well that's a hard question to answer, I think there are some  
23 things in hindsight that are fairly clear, one the, the prior pretty  
24 much. . . . absolute change over of people from construction, or  
25

1 design and construction to operation that occurs, where where the  
2 people that have been with the plant for a while pretty well drop out,  
3 other people pick it up, that transition probably should not be really  
4 so abrupt or or as complete as as it is. Secondly, it probably should  
5 be, in my opinion, continuing independent operational analysis function  
6 in the service company which essentially independently assesses from a  
7 technical point of view how plants, how they are performing and performed  
8 and how they might be expected to be performed, be performing in the  
9 future, which means a current ongoing analysis of data. The third  
10 thing which I think is pretty obvious is that there needs to be an  
11 ability to read out technical data pretty much at the engineering  
12 offices here directly from the plant so they don't depend upon tying up  
13 operating staff or other people or having to go through a lot of special  
14 requests to get data that can be automatically transmitted through some  
15 data link or some computer link or in some manner obtained in a very  
16 rapid real time basis. I think, I think those two or three things are  
17 pretty obvious. Probably in a broader perspective the emergency planning  
18 probably ought to be much more specific as to, as to what various  
19 groups and functions and pieces and parts of the of the system do under  
20 under conditions that existed at TMI. So that's kinda thought you  
21 into, that might have been to much to much greater degree than I'm  
22 aware of within Met Ed, but I think that did not fall necessarily the  
23 rest of the company to the extent that it obviously turned out to...

1 FASANO: As far as this, going back to what you were saying, as far as  
2 the information on an ongoing basis to analyze the operating plant  
3 would you like more information on similar plants B&W particular to to  
4 a least evaluate on a timely basis with regard to your own plant? It  
5 seems like you got data quite late on the Davis Besse, at least that's  
6 what I gathered from what you said.  
7

8 WILSON: Yeah, I, I think a similar operations analysis function probably  
9 in all, all companys operating nuclear plants ought to be performed in  
10 some manner and while most of the operating problems at other plants  
11 eventually surface through problem reports or surfaces in a round about  
12 way back to the NSS vendor when it involves the NSS, although an awful  
13 lot of problems which are equally important might be in secondary  
14 systems or someplace else where an NSS vendor never really gets involved,  
15 it's a, it's a fairly tortious tortious link it's a fairly long time  
16 constant in many cases in that link and it it would be good if more  
17 directly there was some interplay.  
18

19 FASANO: As being involved in the construction phase, what do you feel  
20 about the categorizing of safety related systems on the balance of the  
21 plant? It seems like a lot of problems were initiated at these based  
22 on the nonsafety related systems, do you have any feel for this being  
23 that you have quite a bit of experience in the construction phase?  
24  
25

1 WILSON: Well I'm not sure that it's obvious at this point in time that  
2 the categorization of systems is necessarily bad or erroneous, the  
3 plant theoretically is designed to take a loss of feed, it's a, I won't  
4 say it's a normal occurrence but it certainly is an expected occurrence,  
5 it is suppose to be provided for in the plant, in fact it was provided  
6 for in the plant, therefore, I wouldn't necessarily conclude that  
7 whatever caused the loss of feed you know, we should have made that  
8 system a safety grade, safety grade system, I I don't think that was  
9 necessarily where we got our trouble on. . .

10  
11 FASANO: The engineering aspect of it, I would think, I was wondering  
12 in other words, the idea of not having major transients in the design  
13 of that particular system say, condensate polishers, did you people  
14 evaluate its potential for initiating sequence of events? How far  
15 really do you think we should go? Again your saying it's designed to  
16 take a feedwater?

17  
18 WILSON: I don't, I don't think you can design a plant not to take any  
19 transients or any failures of components or subsystems within the  
20 plant, that's not, that's not a realistic expectation, components are  
21 gonna fail, things are gonna happen in the plant, . . . and the best  
22 way to circumvent that is one, obviously do the best to to minimize  
23 those kinds of failures, but having done that the plant still has to be  
24 designed to take those kinds of failures and faults and . . .

25

1 FASANO: In this particular plant it seems that on similar events of  
2 turbine trip you do have in some cases the high pressure safety injection  
3 actually, it seems like its almost part of the operation, I would think  
4 that the requirement for high pressure injection is to medigate the  
5 consequences of a major concern or major problem yet it seems to always,  
6 it seems, not always, but many times to be actuated. . . would you  
7 consider this as part of a normal design for the operating of a nuclear  
8 power plant?

9  
10 WILSON: I'm not sure I understand the question, it is part of the  
11 normal design to actuate the system on on depressurization. Maybe,  
12 maybe I don't quite understand what your getting at I . . .

13  
14 FASANO: Well, it's usually my, I would think that the actuation of one  
15 of the ECCS systems is sort of reserved for loss of coolant accidents,  
16 or an accident type, not a transient that is sort of expected maybe  
17 once, twice a year, two times a year, in fact I think it happened  
18 probably at least that many times in the first year. That, that was my  
19 question really.

20  
21 WILSON: Well, well there were some prior prior transients, which did  
22 actuate high pressure injection at TMI and in the context for normal or  
23 frequently expected transients, I agree you should not be in a position  
24 of having what you might call, emergency or backup safety system to  
25

1 actuate the plant ought to ride though it. As a matter of fact we  
2 should ride through a trip without injection of without high pressure  
3 injection.  
4

5 FASANO: I have no more questions.  
6

7 MARSH: I have no more either, so the time being 9:24 and reading 951  
8 on the tape, we'll draw interview to a close with just a word of thanks  
9 Mr. Wilson for you time we appreciate very much your coming in. 9:25  
10 then we'll end the tape.  
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