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UNITED STATES DISTRICT COURT  
SOUTHERN DISTRICT OF NEW YORK

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GENERAL PUBLIC UTILITIES CORPORATION, :  
JERSEY CENTRAL POWER & LIGHT COMPANY, :  
METROPOLITAN EDISON COMPANY and :  
PENNSYLVANIA ELECTRIC COMPANY, :  
Plaintiffs, :

-against-

80 Civ. 1683  
(R.O.)

THE BABCOCK & WILCOX COMPANY and :  
J. RAY McDERMOTT & CO., INC., :  
Defendants. :

- - - - -x

Deposition of RONALD DAVIS, taken by  
Plaintiffs, pursuant to Notice, at the offices  
of Kaye, Scholer, Fierman, Hays & Handler,  
Esqs., 425 Park Avenue, New York, New York,  
on Tuesday, April 27, 1982, at 9:45 o'clock  
in the forenoon, before Catherine Cook, a  
Shorthand Reporter and Notary Public within  
and for the State of New York.

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PDR ADOCK 05000289  
T PDR



WALTER SHAPIRO, C.S.R.  
CHARLES SHAPIRO, C.S.R.

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TELEPHONE 212 - 867-8220

## 2      A p p e a r a n c e s :

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KAYE, SCHOLER, FIERMAN, HAYS & HANDLER, ESQS.  
Attorneys for Plaintiffs  
425 Park Avenue  
New York, New York

5

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By:    RICHARD C. SELTZER, ESQ.,

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of Counsel

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DAVIS POLK & WARDWELL, ESQS.      &  
Attorneys for Defendants  
One Chase Manhattan Plaza  
New York, New York

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By:    RODMAN W. BENEDICT, ESQ.,

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of Counsel

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IT IS HEREBY STIPULATED AND AGREED by and  
between the attorneys for the respective  
parties hereto that the sealing, filing and  
certification of the within deposition be,  
and the same hereby are, waived; that the  
transcript may be signed before any Notary  
Public with the same force and effect as if  
signed before the Court.

2 IT IS FURTHER STIPULATED AND AGREED that  
3 all objections, except as to the form of the  
4 question, are reserved to the time of trial.

5 \* \* \*

6  
7  
8 R O N A L D D A V I S, having been first  
9 duly sworn by the Notary Public, was examined  
10 and testified as follows:

11 (Resume of Ronald Davis marked GPU  
12 Exhibit No. 506 for identification as of  
13 this date.)

14 EXAMINATION BY MR. SELTZER:

15 Q We have just marked for identification as  
16 GPU Exhibit 506 a resume of Ronald B. Davis.

17 Can you identify this, please?

18 A Yes, this is my resume.

19 Q Who prepared it?

20 A I did.

21 Q When?

22 A Mostly last night, some before last night.

23 Q Is it scrupulously accurate?

24 A Yes.

25 Q What led you to pursue a Master's Degree

1  
2 at the University of Cincinnati?

3 A I worked with the General Electric Company  
4 in Cincinnati and they required that we either  
5 take a Master's program they offered in-house or go  
6 to the University of Cincinnati to take a Master's  
7 Degree in Engineering, so I chose the latter.

8 Q What if any particular area of study  
9 were you pursuing in the Master's program?

10 A That Master's Degree was in the aerospace  
11 department, but it was principally mechanically  
12 oriented courses, structures, vibrations.

13 Q When is the first point in your college  
14 or graduate education where you studied thermodynamics?

15 A I studied thermo in my BS Degree at the  
16 University of Virginia.

17 Q Did you also study thermohydraulics?

18 A Yes.

19 Q Where?

20 A That was at the University of Virginia.

21 Q Is thermohydraulics a part of thermo?

22 A I don't understand the question.

23 Q Is one subsumed in the other, is one a  
24 subcategory of the other?

25 MR. BENEDICT: Is thermohydraulics a



subcategory of thermodynamics? Is that the question?

MR. SELTZER: Yes.

A Yes, I would think so.

Q What aspect of thermohydraulics did you study?

A It was a general course. It was in the aerospace department. It didn't address any particular aspects that I recall other than it was a general BS level course.

Q What brought an aerospace engineer from GE to B&W?

A My wife's desire to return to the state of Virginia.

Q There were no airplane manufacturers in Virginia?

A Yes, there were.

Q Did you consider working for any of them?

A No, I did not.

Q What induced you to apply at B&W?

A The nuclear industry in 1973 was a booming industry. There was a lot to offer. And the job I interviewed for was for a challenging job, so I accepted it.

2 Q When you left B&W in 1980, did you think  
3 the bloom had left the rose?

4 MR. BENEDICT: If you understand what  
5 Mr. Seltzer means, you may answer. You don't  
6 have to use his terms.

7 A I am not sure I understand the  
8 question.

9 Q You said that when you went to B&W you  
10 thought the nuclear field had a lot of promise.

11 When you left, did you think it had less  
12 promise in the future?

13 A For my own personal circumstances, yes.

14 Q Why is that?

15 A I had acquired an MBA with an interest  
16 in marketing architectural engineering and planning  
17 services and consequently went to work for Wiley &  
18 Wilson to do the same.

19 Q Do the same what?

20 A To market architectural engineering and  
21 planning services.

22 Q In what field does Wiley & Wilson act  
23 as an AE?

24 A They are a general architectural  
25 engineering and planning firm, multidisciplinary in

2 that they do mechanical, electrical, civil,  
3 architectural engineering projects.

4 Q Have they ever done power plants?

5 A They have done coal-fired boiler plants.

6 Q Are they doing any currently?

7 A They are doing architectural engineering  
8 work on coal plants currently.

9 Q Are you doing any work on electric  
10 power plants for Wiley & Wilson?

11 A I am a business development manager and  
12 I prepare proposals and try to solicit work from  
13 electric utilities.

14 Q I don't want to dwell on this so let  
15 me try to shortcut it.

16 Do you watch for utilities that have  
17 announced plans to conduct new capacity and then try  
18 to go and visit them and interest them in your  
19 employer's services?

20 A Yes.

21 Q Is that principally how you identify  
22 prospective utility clients?

23 MR. BENEDICT: I am going to object.

24 I hope this is a short line of questioning.

25 This is beyond the relevance in this case, but

2 we can go on if you are going to end up with  
3 it quickly.

4 You may answer the question, Mr. Davis.

5 A Would you repeat the question?

6 Q Is what I described the principal way  
7 that you as a manager for business development  
8 identify prospective utility customers for Wiley &  
9 Wilson?

10 A And you preface that by saying did we  
11 wait for them to advertise?

12 Q No.

13 Do you wait for the utility to announce  
14 that they are planning an addition to capacity before  
15 you go out and solicit their business?

16 A Principally that's the case, but sometimes  
17 we also go out and make unsolicited proposals to do  
18 work for the utilities.

19 Q From 1973 through March 1979, were you  
20 in the control and performance analysis unit at B&W?

21 A That is correct.

22 Q You rose to be the head of that unit,  
23 right?

24 A The manager of that unit, correct.

25 Q How many people reported to you as manager

1  
2 of that unit?

3 A The number varied, but approximately the  
4 number was 15 engineers.

5 Q What were the principal responsibilities  
6 of the control and performance analysis unit during  
7 the period that you were manager?

8 A The principal responsibilities included  
9 design and evaluation of the integrated control  
10 system. It included a vessel model float testing  
11 and other hydraulics research work; and it included  
12 evaluation of operational transients.

13 Q What else were the responsibilities of  
14 the control and performance analysis unit while  
15 you were its manager?

16 A Those are the only three basic  
17 responsibilities that I can recall.

18 Q What is an operational transient?

19 A Those are transients that are not  
20 accident-type transients or emergency core cooling-  
21 type transients.

22 Q Would an unscheduled trip of the turbine  
23 be an operational transient?

24 Let me withdraw that.

25 In the terminology that you have used for

operational transient, was an unanticipated turbine trip an operational transient?

A I don't really recall.

Q Were there any secondary side upsets that were operational transients?

A Again, I can't really recall in detail what was and was not an operational type transient.

I can give you a very simple example of what I am referring to.

Case in point, when you ramp the reactor from 75 percent power to 85 percent power. I would analyze those types of transients, where temperatures, pressures and flows would go in a reactor coolant system.

Q In all the years that you were in control and performance analysis, did your unit have anything to do whatsoever with secondary side conditions?

A Yes.

Q Did you ever study secondary side upsets or transients?

A I don't recall a specific instance.

Q I didn't ask you if you can recall a specific instance.

All I am asking you now is do you recall that your unit, which you served in from '73 through



1  
2 early '79, ever dealt with secondary side transients?

3 A I just don't recall.

4 Q You honestly don't remember whether your  
5 unit ever dealt with secondary side transients?

6 MR. BENEDICT: That's what he said.

7 Asked and answered.

8 You may answer it again.

9 A I don't recall.

10 Q What secondary side conditions did you  
11 deal with?

12 A We dealt with the steam generator, secondary  
13 side.

14 Q What else?

15 MR. BENEDICT: If anything.

16 A Steam generator level on the secondary  
17 side was important. Steam generator pressure and  
18 steam generator temperature on the secondary side  
19 was important to our operational transient analysis.

20 Q What if anything else on the secondary  
21 side did you study as part of any of the work of  
22 control and performance, not necessarily the evaluation  
23 of operational transients.

24 A As I recall, we had models and had somewhat  
25 of secondary side modeled in order that we could do

1  
2 the analysis on the primary system which was of concern  
3 to us.

4 But I really don't remember all the  
5 details of systems and components that were modeled.  
6 It's been quite a few years.

7 Q You keep repeating that as though  
8 that's a phrase that you are trying to get into the  
9 record. I'm not asking --

10 MR. BENEDICT: What phrase are we talking  
11 about that he keeps repeating?

12 MR. SELTZER: Please don't interrupt.  
13 I am not finished.

14 Q You keep saying that you cannot recall  
15 all the details. I am not asking for all the details.

16 I am asking you for whatever you can  
17 recollect. If you can recall general features, I  
18 want you to testify to that.

19 If I ask you for specific details, then  
20 you should appropriately tell me if you cannot  
21 recall specific details.

22 MR. BENEDICT: Mr. Seltzer, I will object  
23 to that statement as unnecessary. Mr. Davis  
24 can testify as he understands what the question  
25 calls for.

1  
2 If you want to follow up on a question,  
3 that's fine. All Mr. Davis can do is testify  
4 to his recollection.

5 MR. SELTZER: I thought that's what I  
6 just said.

7 MR. BENEDICT: You are making a point  
8 where he said "details" when you didn't ask  
9 for details.

10 He can only answer the way he understands  
11 the questions. If he misunderstood it, just  
12 as a follow-up question. You don't have to  
13 make a lot of speeches.

14 MR. SELTZER: I think you are the  
15 speechmaker.

16 MR. BENEDICT: I think we could have  
17 a competition on that.

18 MR. SELTZER: I decline to do so. I am  
19 much more interested in Mr. Davis' testimony.

20 MR. BENEDICT: Then ask a question.

21 BY MR. SELTZER:

22 Q You say your group had responsibility  
23 for design and evaluation of the integrated control  
24 system, right?

25 A Yes.

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Q Did the ICS receive inputs from any secondary side equipment?

A I can't recall.

Q What did the ICS receive inputs from?

A Mr. Seltzer, I don't recall.

Let me make this statement so that you understand that I am trying to be cooperative.

MR. BENEDICT: If you want to answer the question further, but I don't think Mr. Seltzer is suggesting you are not being cooperative. You can only testify to what you can recall.

Q Don't mind him.

A I don't recall.

I am not a controls expert. I had responsibility and reviewed to be sure that the integrated control system met performance requirements and design requirements, but I was not a control expert and I would not really be able to recall the design philosophy and the details of the integrated control system.

Q I am not asking you what the design philosophy of the integrated control system was.

I am not asking you about the details of the integrated control system.

2 I am asking you, can you state at all from  
3 all your years as manager of the unit and as an  
4 Indian in the unit anything from which the ICS received  
5 inputs?

6 A No, sir, I cannot recall.

7 Q Do you know anything to which the ICS  
8 gave output signals?

9 A The integrated control system did give  
10 signals for positioning of the control rods in the  
11 core in order to maintain desired power levels.

12 Q What else?

13 A I can't recall. It would be speculation.  
14 I don't care to speculate.

15 Q You don't have any recollection of  
16 anything else being controled by the ICS other  
17 than the control rod position?

18 MR. BENEDICT: Asked and answered.

19 You may answer.

20 Q That is correct. That's all I can  
21 recall.

22 Q While you were in the control and performance  
23 analysis unit, did the unit do any work that you were  
24 aware of that related to secondary side water  
25 purification systems?

1

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A No, sir, I don't recall that.

3

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Q Did it do any work with respect to the condensate polisher system?

5

A No, sir.

6

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Q During the years before you became unit manager, what were your areas of responsibility?

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Q Go on.

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A My primary responsibility the first few years in the unit was to do vessel model flow test work which is one-sixth scale models of the reactor vessel and internals at room temperature and pressure to experimentally determine flow profiles and velocity profiles and system pressure drops, basically research and development in the hydraulics area.

MR. BENEDICT: After that -- Mr. Seltzer is focusing prior to the entire time of you becoming a unit manager.

A That effort I just described is the responsibility that I had as an engineer. I was also a supervisory engineer and had approximately seven or eight of the engineers reporting to me in a supervisory fashion.

In that position, again, I was responsible for research and development in reactor vessel



1  
2 hydraulics and analysis of operational transients.

3 Q Did you have any other areas of  
4 responsibility or specific tasks that were assigned  
5 to you in the years before you became unit manager?

6 A I can't recall any.

7 Q During those years, did you serve on  
8 any task force or committee or special study group?

9 A I can't recall any.

10 Q Did you have any special projects?

11 A Could you explain what you mean by  
12 "special projects"? I am not sure I understand the  
13 term "special projects."

14 Q Other than your day-to-day supervision  
15 of the work of others on ongoing unit work or your  
16 work on vessel model flow testing, did you embark  
17 on any specific project?

18 A No.

19 Q You said you worked with a one-sixth  
20 scale model, correct?

21 A Correct, right.

22 Q Did that model have reactor coolant pumps?

23 A No.

24 Q Did it have hot and cold leg loops?

25 A No.

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Q It was just a pressure vessel?

3

A Yes.

4

5

Q Your responsibility was to analyze flow patterns within the reactor vessel?

6

A That is correct.

7

8

Q So you would look at how baffles affected flow, for example?

9

A Exactly.

10

11

Q Are there any jet pumps in a B&W vessel internal?

12

A No.

13

Q Did you ever analyze two-phase flow?

14

MR. BENEDICT: Are we talking with respect to just these models?

15

16

MR. SELTZER: I will ask that first.

17

MR. BENEDICT: I am trying to understand you are talking about now --

18

19

MR. SELTZER: That's all we have been talking about.

20

21

MR. BENEDICT: Do you understand the question?

22

23

A As far as vessel model flow tests, there

24

was no two-phase flow, as I stated earlier. It

25

was a model at room temperature and room pressure and

1  
2 we took information at those conditions and  
3 extrapolated them for normal conditions for the  
4 reactor.

5 Q Did you ever do any testing in other  
6 than a solid water system?

7 A No, sir. It was all solid water room  
8 temperature, room pressure vessel model testing.

9 Q Your unit was part of the plant design  
10 section, right?

11 A Yes.

12 Q Allen Womack was your boss from August  
13 '73 until March '79, right?

14 A Allen Womack was my unit manager. I am  
15 not sure of the dates.

16 Q I thought you were the unit manager.

17 A Excuse me, he was the section manager that  
18 I reported to, but I don't know about those exact  
19 dates.

20 Q Was Don Roy your section manager before  
21 Allen Womack?

22 A That is right.

23 Q Am I correct that under both Roy and  
24 Womack there were meetings convened approximately  
25 monthly of unit managers in the plant design section?

1

2

A I can't recall that there were routinely  
3 monthly meetings.

4

5

Q Is it correct that approximately once  
6 a month meetings were convened among the managers  
of the plant design section under both Womack and Roy?

7

8

A Mr. Seltzer, I really don't remember  
9 any routine monthly meetings specifically for unit  
managers.

10

11

Q Under Don Roy, were there meetings  
convened for managers in the plant design section?

12

A Yes.

13

Q You attended them?

14

A Yes.

15

16

Q Under Allen Womack, there were also  
17 meetings convened for managers of plant design  
section?

18

A Yes.

19

Q You attended them?

20

A Yes.

21

22

Q Did both Roy and Womack use those meetings  
23 as an opportunity to discuss work that was going on in the  
design section?

24

A Yes.

25

Q Was there opportunity at those meetings

2 for unit managers to speak?

3 A Yes.

4 Q Did they speak?

5 A Yes.

6 Q If a unit manager had something of  
7 significance which he wanted to bring to the attention  
8 of other unit managers, could he do so at the plant  
9 design section meetings?

10 MR. BENEDICT: You are asking him what  
11 his recollection was of the practice at that  
12 time?

13 MR. SELTZER: Yes.

14 Q Did that happen?

15 A As I recall, yes.

16 Q During the time you were unit manager,  
17 Bert Dunn was also a unit manager in the plant  
18 design section, is that correct?

19 A That is correct.

20 Q Did your unit have any dealings with  
21 Dunn's ECCS analysis unit?

22 A Yes.

23 Q In what respect?

24 A My unit was basically responsible for  
25 providing initial condition-type data for use in

1  
2 Bert Dunn's computer models.

3 Q What do you mean by "initial condition"?

4 A Things like pressures and temperatures  
5 and flows in the reactor coolant system at particular  
6 conditions but normal and partial power and other  
7 operating conditions which are the initial point  
8 for his computer model analysis.

9 Q Was there any other dealing between  
10 your unit and Dunn's unit?

11 A None that I can recall.

12 Q During the time you were a unit manager,  
13 did you speak from time to time with Bert Dunn?

14 A Yes.

15 Q How close were your offices to one another?

16 A We were on the same floor; we sat against the  
17 same wall. And there were two offices and a hallway  
18 between his office and mine.

19 Q Approximately how many yards separated  
20 your door from his?

21 A No more than 20 yards.

22 Q Based on your dealings with Dunn, he is  
23 someone who is expertise in ECCS analysis you  
24 respected?

25 A I respected Bert Dunn's capabilities, yes.



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Q Would it be fair to say that it was your understanding when you were unit manager that Bert Dunn was one of B&W's leading experts in the area of ECCS analysis?

6

A I don't know exactly what an expert is.

7

Q Most knowledgeable is what I meant.

8

9

A He was very knowledgeable about emergency core cooling.

10

11

I don't know that he was the most knowledgeable about emergency core cooling.

12

13

14

Q Is there anyone who you could possibly identify who was more knowledgeable than Bert Dunn for the '77-79 period in the area of ECCS analysis?

15

A No, I couldn't identify anyone like that.

16

17

18

Q Did anyone in ECCS analysis ever ask your unit for assistance on any particular study or analysis that they were doing?

19

20

21

22

A Only as I described before in that they would ask for initial conditions at various normal and power operating condition as input for initial conditions to their ECCS models.

23

Q Are you represented by counsel today?

24

A Yes.

25

Q Who is your counsel?

1

2

A Ron Benedict is my counsel.

3

4

Q Who is paying for your travel to New York and your stay in New York?

5

MR. BENEDICT: You may answer that.

6

7

A Rod's firm is paying for my travel and living expenses while I am in New York.

8

9

Q Are you receiving any other compensation in connection with your testifying here today?

10

A No, sir.

11

12

Q Other than Mr. Benedict, did you meet with any other counsel to prepare for your deposition?

13

14

MR. BENEDICT: I object. I am going to instruct the witness not to answer.

15

16

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I don't remember you permitting questions like this when I had Mr. Mehler. Mr. Glassman wouldn't let me discuss with him his arrangements with counsel beyond the fact that he was represented by both Mr. Glassman and by criminal counsel.

21

22

Do you mean a different firm or do you mean other people within Davis Polk?

23

24

25

Q I am asking for the names of any lawyers who met with you in preparation for your deposition today.

1  
2 MR. BENEDICT: I am going to object and  
3 instruct you not to answer and say that  
4 that's, at least as it has been defined in this  
5 case, protected information.

6 MR. SELTZER: I think you are incorrect  
7 in your understanding. There have been many  
8 witnesses who have testified without objection  
9 to the people that they met with and the number  
10 of days that they were prepared.

11 MR. BENEDICT: Mr. Davis --

12 MR. SELTZER: It goes to the credibility  
13 of this witness. He is a non-party witness  
14 and I can appreciate why you want to hide it.

15 The court will have to conclude what it  
16 will from your concealment.

17 MR. BENEDICT: If you would stop making  
18 your silly personal ad hominem arguments,  
19 you would have heard me say that I will let  
20 Mr. Davis answer this question.

21 I consider it inappropriate. I will  
22 specify clearly that it doesn't constitute  
23 anything of a waiver of an objection of any  
24 future questions that you have of Mr. Davis'  
25 contacts with counsel.

1  
2 If you want to ask Mr. Davis what other  
3 lawyers he met with with respect to his testimony,  
4 you are welcome to ask it.

5 Q For how long did you meet with counsel  
6 to prepare for this deposition?

7 MR. BENEDICT: I am going to object, but  
8 I am not going to instruct him not to answer.

9 You may answer it.

10 A I met a few hours Sunday evening and  
11 several hours yesterday with counsel.

12 Q Did they show you documents?

13 A Yes.

14 Q With whom if anyone from B&W did you  
15 discuss the fact that you were going to be testifying?

16 A I discussed with no one at B&W the fact  
17 that I was testifying.

18 Q Who advised you that your testimony was  
19 being sought?

20 A Rod Benedict called me the first time that  
21 I knew that my testimony was being sought.

22 Q In what part of the B&W company were you  
23 serving when you were a product manager?

24 A I was still with the nuclear power  
25 generation division at Old Forest Road.

1  
2 Q That's a pretty big division.

3 Within what part of NPGD were you  
4 working?

5 A I don't recall the exact title, but  
6 something like product management.

7 Q Who was the head of product management?

8 A Dick Kosiba was the top level manager and  
9 Bob Washer was an intermediate manager, and Bob Hamm  
10 was my immediate manager.

11 Q Did you have any professionals reporting  
12 to you?

13 A No, sir.

14 Q You went from 15 people reporting to  
15 you to no people reporting to you?

16 A Correct.

17 Q What were your responsibilities as  
18 product manager from April of '79 through the date  
19 when you left B&W less than a year later?

20 A My responsibilities were basically  
21 to market, administer work for B&W's clients.  
22 Details like preparing proposals, presentations and  
23 negotiating contract terms in order to sell  
24 engineering services to B&W clients.

25 Q Were you selling engineering services

1  
2 rather than hardware?

3 A That is right.

4 Q Did someone succeed you as manager  
5 of control and performance analysis?

6 A Not immediately.

7 A I don't recall who became unit manager  
8 later, but I do recall that at some later date  
9 Jim Carlton became the unit manager of that unit.

10 I can't recall the exact dates.

11 Q After the Three Mile Island accident,  
12 did anyone other than lawyers ask you any questions  
13 about your having received Bert Dunn's  
14 February '78 memoranda?

15 MR. BENEDICT: Could I hear that again?

16 Q After the Three Mile Island accident,  
17 did anyone other than lawyers ever ask you any  
18 questions about Bert Dunn's February 1978 memoranda?

19 A I don't believe anyone asked me did I  
20 receive Bert Dunn's memoranda. No one in the company  
21 that I recall asked me did I receive that memoranda.

22 Q Did anyone talk to you about the subject  
23 matter of those memoranda after the Three Mile Island  
24 accident?

25 A I don't recall being asked to discuss the



1  
2 subject of that memoranda after the date you called  
3 out, the March date.

4 Q Is the occasion of this deposition the  
5 first time that you can recall since the accident  
6 having anybody ask you questions about Dunn's February  
7 1978 memoranda?

8 A That is correct.

9 Q Prior to February 1978 were you aware of  
10 any instances in which a pilot operated relief valve  
11 had failed to close on a B&W-supplied nuclear plant?

12 MR. BENEDICT: The Davis-Besse February  
13 '78, Mr. Seltzer?

14 MR. SELTZER: Yes.

15 A I don't recall if I knew that prior to  
16 February 1978.

17 Q Prior to February of 1978 were you aware  
18 of any event in which there had been boiling in the  
19 reactor coolant system of a B&W-supplied reactor?

20 A I don't recall knowing that.

21 Q Before February 1978, did you have an  
22 understanding that for most situations, the level of  
23 water in the pressurizer went up when reactor coolant  
24 system pressure went up?

25 A I don't know if I knew that, Mr. Seltzer.

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2

3

I really can't recall what I knew  
prior to that date.

4

5

6

Q Prior to that date, isn't one of the  
things you were studying the status of the reactor  
coolant system under various operational transients?

7

A Yes.

8

9

10

11

Q Isn't it a fact that under the operational  
transients that you can recall studying when reactor  
coolant system pressure went up, pressurizer level  
went up?

12

13

14

15

A That may have been the case, but there are  
an awful lot of variables that you have to know before  
you can make such a statement. I am not sure I recall  
such before February of '78, anyway.

16

17

18

Q Let me take the full period that you were  
in control and performance analysis up to the Three  
Mile Island accident.

19

20

21

22

Is it correct that based on the work that  
you had done during that period, you knew that for  
most situations when pressurizer level went up,  
reactor coolant system pressure went up?

23

24

25

A I am not sure that's the case. Again, I  
would have to have a lot more information before I can  
make that statement.

1  
2 Again, I am not sure if before that date  
3 I knew that.

4 Q During the time that you were in the  
5 control and performance analysis unit, were you aware  
6 of any instance in which pressurizer water level would  
7 rise while reactor coolant system pressure was falling?

8 A I don't recall knowing that one way or the  
9 other.

10 Q You mean as you sit here today, you cannot  
11 recall knowing any situation that would have caused  
12 pressurizer level to rise while reactor coolant system  
13 pressure fell?

14 MR. BENEDICT: Asked and answered, but  
15 go ahead.

16 Q Is that right?

17 A Please repeat the question.

18 A Yes, that's my answer.

19 Q Before the Three Mile Island accident,  
20 do you have any recollection of any instance in which  
21 pressurizer water level rose at a B&W plant while  
22 reactor coolant system pressure fell?

23 MR. BENEDICT: Could I hear that again,  
24 Cathy, please?

25 Q Before Three Mile Island accident, is

1  
2 there any instance that you can recall where  
3 pressurizer level rose at a B&W plant while reactor  
4 coolant system pressure fell?

5 MR. BENEDICT: Are you asking for his  
6 knowledge prior to the accident or whether  
7 today he knows prior to the accident such a  
8 thing occurred?

9 I am unclear; I'm sorry.

10 MR. SELTZER: I am asking whether he  
11 recalls of such an instance before the Three  
12 Mile Island accident.

13 A I don't recall knowing of such a thing.

14 Q Was it your understanding before the  
15 Three Mile Island accident that if pressurizer  
16 level went down, reactor coolant system pressure was  
17 also going down?

18 A I don't recall if that was my understanding  
19 or not?

20 Q One of the things which your unit did  
21 was study the response of the reactor coolant system  
22 to varying pressures, is that right?

23 A Yes.

24 Q In studying the response of the reactor  
25 coolant system to changes in pressure, did your unit

1  
2 look at what happened to pressurizer water level?

3 A Yes.

4 Q Who in your unit during the '77 through  
5 '79 period do you recall being most knowledgeable  
6 about that work?

7 A There was no one in my unit most knowledgeable  
8 about this work. There were many people in the unit  
9 knowledgeable about this type of work.

10 Q Were there any particular projects or  
11 studies that were done that related to the effects of  
12 change on pressure in pressurizer level?

13 A I don't recall any special projects.

14 Q Was the effect of pressure changes on  
15 pressurizer level an element that often came up in  
16 broader studies that were being done on pressure  
17 changes affecting the reactor coolant system?

18 A Yes.

19 Q Did you study operational transients  
20 that involved the opening of the pilot operated relief  
21 valve?

22 A Yes.

23 Q In any of those studies, did you postulate  
24 the failure to close the pilot operated relief valve?

25 A Not that I recall, no.

1  
2 Q Did any of the studies of operational  
3 transients include the opening of the code safety  
4 valves on the top of the pressurizer?

5 A I can't recall any specific transients  
6 that we analyzed that lifted the code safeties.

7 Q "Lifted" means open?

8 A Yes.

9 Q "Challenged" would mean open also?

10 MR. BENEDICT: Did you understand that  
11 the word "challenged" meant that the code safety  
12 was open?

13 THE WITNESS: No, I was not familiar  
14 with that term.

15 Q Did you know before February 1978 what  
16 a loss of coolant accident was?

17 A Yes.

18 Q Did you know that a loss of coolant accident  
19 could result in core uncover?

20 A Yes.

21 Q Did you know that a loss of coolant  
22 accident could result in fuel damage?

23 A Yes.

24 Q What kind of fuel damage did you  
25 understand could result from a loss of coolant



1  
2 accident?

3 A Clad failure.

4 Q Did you understand that once the  
5 cladding has failed, that can lead to a release of  
6 radioactive fission products from the fuel rods into  
7 the reactor coolant system?

8 A Yes.

9 Q Prior to February 1978 were there any  
10 events other than a loss of coolant accident or a  
11 flow blockage accident which you knew could cause  
12 core uncover and fuel damage?

13 A None that I can recall.

14 Q Before February 1978 you knew that a  
15 loss of coolant accident was one of the most serious  
16 accidents that could occur at a B&W nuclear plant,  
17 is that right?

18 A I knew it was a serious accident.

19 Q Did you know of any more serious  
20 accidents that could occur at a B&W nuclear plant?

21 A No. I don't know of one that was more  
22 serious.

23 Q What is it about a loss of coolant  
24 accident that to your mind made it the most serious  
25 accident that you could anticipate happening to a

2 B&W nuclear plant?

3 A The loss of coolant could rupture the  
4 first boundary of the three boundary system; it could  
5 rupture the fuel clad, and if you do that, initially  
6 it could become worse later down the road. So that's  
7 why it was so important to not let that happen  
8 initially.

9 Q You said it was the first of three  
10 boundaries.

11 What are the other two boundaries?

12 A The vessel and the containment building.

13 Q You say it could lead to more dangerous  
14 conditions down the road.

15 What were the more dangerous conditions  
16 you were referring to?

17 A It would be serious to rupture the  
18 fuel rods and have radioactivity in a reactor vessel.

19 It would be more serious if it goes out  
20 to the reactor coolant system, secondary side, and  
21 it would be even more serious if it got out of the  
22 containment.

23 I am saying it's the first step in going  
24 down the road to more serious consequences.

25 Q You are saying it would be more serious

2 if it got out of the containment.

3 Is the containment you are referring to  
4 the reactor building?

5 A Yes.

6 Q If the radioactive fission products get  
7 out of the reactor building, then they are in the  
8 outside atmosphere environment outside the  
9 nuclear plant, right?

10 A If they get outside the containment  
11 building, yes, they are out in the atmosphere.

12 Q Why did you say that would be a serious  
13 consequence?

14 A Obviously you don't want the -- exposing  
15 the environment to radioactivity above acceptable  
16 limits.

17 Q What was your understanding while you  
18 were the head of the control and performance unit  
19 about why obviously you wouldn't want such a release  
20 of radioactivity?

21 A It's not good for the public health and  
22 safety to have doses above legally acceptable limits.

23 Q What did you understand were the dangers  
24 to public health and safety from exposure to  
25 radioactivity above lawful limits?

1

2

MR. BENEDICT: Whatever you understood

3

during this time period.

4

A I understood that the ultimate

5

consequence could be death if you have a lethal dose

6

of radioactivity.

7

Q In other words, people could die?

8

A That is correct, they could die.

9

Q You understood by February 1978 that if a

10

loss of coolant accident led to ruptured fuel cladding

11

that meant that two of the three barriers to fission

12

product release had been breached, isn't that right?

13

A Repeat that again?

14

Q A loss of coolant accident means that

15

the primary system has ruptured, isn't that right?

16

A No.

17

Q A loss of coolant accident -- where

18

do you think the coolant is coming from in a loss of

19

coolant accident?

20

A Loss of coolant accident on the primary

21

side, O.K., yes. You are talking about a loss of

22

coolant accident in which the primary side is ruptured?

23

Q Right.

24

You understood that a loss of coolant

25

accident is a rupture in the boundary of the primary

1

2 coolant system, isn't that right?

3

A Yes, that is correct.

4

Q And my question is, if a loss of  
5 coolant accident causes fuel cladding to fail, you  
6 understood by February 1978 that that meant two of  
7 the three barriers to fission product release  
8 had been breached, isn't that right?

9

A Yes, I knew that before February 1978.

10

Q That meant that there would only be one  
11 remaining barrier to the release of fission products  
12 to the environment outside the nuclear plant, right?

13

A I believe that's correct, yes.

14

Q There would only be one barrier to  
15 prevent the serious consequences including possible  
16 death, right?

17

MR. BENEDICT: I object to the form of  
18 the question.

19

You may answer if you understand it.

20

A Yes.

21

Q Before February 1978, you understood,  
22 didn't you, that a loss of coolant accident coupled  
23 with probable core uncovering and fuel damage was a  
24 very serious matter, isn't that right?

25

MR. BENEDICT: Could I hear that back?

1

2

A Yes, I understand that was a very serious matter.

3

4

Q When did you first learn of the transient at the Davis-Besse nuclear plant in which a pilot operated relief valve failed to close?

5

6

7

A I don't recall when I learned that.

8

9

Q Are you aware today that there was such an event?

10

A Yes.

11

12

Q Were you aware before the Three Mile Island accident that there had been such an event?

13

A Yes.

14

15

16

17

Q Did you attend a meeting at which some of the highlights of the Davis-Besse transient were explained to a group of 25 or more B&W managers and executives?

18

A I don't recall attending such a meeting.

19

20

21

Q What was it in your mind that gave you the recollection that before the Three Mile Island accident you were aware of the Davis-Besse transient?

22

MR. BENEDICT: Could I hear that again?

23

(Record read back.)

24

25

MR. BENEDICT: What does he recall about the transient?



1

2

Q Do you understand?

3

A I think so. Why did I know that that particular incident had happened?

4

Q Yes.

5

A I recall insulation being blown off of the steam generator during that particular transient, and it just stuck in my mind that that was a rather peculiar thing to happen, and that piece of trivia is one of the reasons -- at this point, the only reason I can give you for why I probably remembered the Davis-Besse incident.

6

Q Were you a regular recipient of site problem reports when you were unit manager?

7

A I don't recall being a regular recipient.

8

Q Were you an occasional recipient?

9

A I was an occasional recipient of site problem reports.

10

Q Did you receive the site problem reports for the Davis-Besse failed open PORV transient?

11

A I don't recall.

12

Q Let me show you GPU Exhibit 79 for identification. This is Bert Dunn's memo to Jim Taylor, subject: "Operator Interruption of High Pressure Injection, February 16, 1978."

13

1  
2 Do you see that you are marked for a  
3 copy of this?

4 A Yes.

5 Q Is this a copy of a memorandum that  
6 you received in or about mid-February 1978?

7 A I don't recall receiving this memorandum.

8 Q Was it your practice in 1978 to read  
9 internal correspondence which was sent to you by  
10 other B&W managers?

11 A Yes.

12 Q Is there anything in GPU Exhibit 79 which  
13 you would not have been able to understand in earlier  
14 1978?

15 MR. BENEDICT: I object. We have had  
16 this same discussion with Mr. Agar. I find this  
17 gets into the whole area of interpreting a  
18 document that the witness doesn't recall and --

19 MR. SELTZER: Why don't you stop making a  
20 speech and just make an objection?

21 MR. BENEDICT: All right. I object to the  
22 question.

23 Q Would you answer?

24 MR. BENEDICT: No. I instruct the  
25 witness not to answer.

1

2

Q Are you going to follow his instruction  
not to answer the question?

3

4

A Yes, sir.

5

6

Q I would like to show you GPU Exhibit 78  
which is Dunn's memo to Taylor dated February 9, 1978  
and ask you whether you recall seeing a copy of that  
memorandum before the Three Mile Island accident.

7

8

9

10

A No, sir, I don't recall receiving a copy  
of this document before the Three Mile Island accident.

11

12

13

MR. BENEDICT: Mr. Seltzer just asked  
if you had seen it prior to the Three Mile  
Island accident.

14

Do you recall seeing it?

15

A I don't recall seeing it.

16

17

18

Q Do you recall seeing GPU 79, the  
memorandum that has your name on it, before the  
Three Mile Island accident?

19

A No, sir, I don't recall that.

20

21

22

Q After the Three Mile Island accident  
and before you got the telephone call from Rod Benedict,  
did you see either of Dunn's two memos?

23

A Yes, sir.

24

Q Under what circumstances?

25

MR. BENEDICT: Answer the question.

1

2

A In counsel's office.

3

Q Which counsel?

4

MR. BENEDICT: I think the record is  
confused.

6

Why don't we go back to the question  
when after the accident he first heard it.

8

Q When after the accident and before Rod  
called you on the telephone did you see either of  
Dunn's two memos?

11

A I am sorry.

12

No, I did not see either of these two  
memos.

14

Q You can't recall seeing them?

15

A I can't recall seeing them.

16

Q When if ever is the first time you recall  
knowing that B&W had proposed a subcooling rule for  
the operation of high pressure injection?

19

A I don't recall when I knew that.

20

Q But there did come a point in time when  
you learned that B&W was proposing a subcooling rule  
for high pressure injection?

23

A I vaguely remember a subject like that.

24

Q Do you have any recollection in or about  
February of 1978 asking anybody for a copy of Bert

25

1

2 Dunn's February 9, 1978 memo?

3 A No, sir.

4 Q You knew in February of 1978 the  
5 high pressure injection system was intended in a B&W  
6 plant to keep the core cooled during a small break  
7 loss of coolant accident, isn't that right?

8 A Yes.

9 Q You understood in February of 1978 that  
10 if during a small break loss of coolant accident there  
11 were a premature termination of high pressure  
12 injection, that would create a safety problem,  
13 didn't you?

14 A I don't recall when I knew that. I know  
15 that now. I am not sure when I knew that.

16 Q You said you knew in February of 1978 that  
17 high pressure injection was intended to keep the core  
18 cooled during a small break LOCA, right?

19 A Yes.

20 Q If you don't have high pressure injection  
21 during a small break LOCA, didn't you know that  
22 that would create a safety problem?

23 A Yes.

24 Q You knew that in February of '78, right?

25 A I believe I did.

1  
2 Q Before February 1978 do you recall ever  
3 getting a memorandum that forecast the possibility  
4 of core uncover fuel damage?

5 A I don't recall getting such a memo.

6 Q Do you have any recollection in or about  
7 early 1978 of talking with Bert Dunn about the  
8 subject of operator interruption of high pressure  
9 injection?

10 A No, I don't.

11 Q Do you have any recollection of talking  
12 with Bruce Karrasch about operator interruption of  
13 high pressure injection?

14 A No.

15 Q Don Roy?

16 A No, sir.

17 Q Joe Kelly?

18 A No, sir.

19 Q Do you have any recollection of  
20 discussing with anyone in or around early 1978  
21 operator interruption of high pressure injection?

22 A No, sir.

23 Q At any of the meetings of the plant  
24 design section, do you recall anybody raising the  
25 subject of operator interruption of high pressure



1  
2 injection?

3 A No, I don't recall that.

4 Q In early 1978 did you understand that Dunn  
5 was recommending that B&W should send new procedures  
6 to its customers in order to prevent premature  
7 termination of high pressure injection?

8 MR. BENEDICT: May I hear that again?

9 A I don't know when I knew that.

10 Q Did you learn that some time before the  
11 Three Mile Island accident?

12 A I don't recall.

13 Q Do you have any reason to believe that  
14 B&W sent any warnings to any customers regarding  
15 premature termination of high pressure injection  
16 prior to the Three Mile Island accident?

17 A I really don't know.

18 Q You are not aware of any such warning  
19 being sent, are you?

20 A I am not aware of any such warning.  
21 I don't know.

22 Q After mid-February 1978, did you do  
23 anything to determine whether anyone in B&W was  
24 taking any action with respect to advising customers  
25 about the danger of premature termination of high

pressure injection?

A Was the question did I do anything?

Q Yes.

A Not that I can recall.

Q After mid-February 1978, did you do anything to determine whether B&W was advising customers of new guidelines for the operation of high pressure injection?

MR. BENEDICT: Cathy, could I hear that back?

(Record read back.)

A I don't recall doing anything like that.

Q When is the first time that you can recall being aware that your name appears as a copyee of GPU 79?

A When counsel informed me.

Q That's --

MR. BENEDICT: I think he means me.

A When my counsel informed me that my name was on this document.

Q When was that?

A That was --

MR. BENEDICT: To the best of your recollection.

1

2

3

4

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25

A -- about March of this year I was aware my name was on that document.

Q Did you understand in February 1978 that it was important to ensure that the reactor coolant system was subcooled before high pressure injection was terminated?

A I don't know if I knew that or not at that time.

Q Did you know that before the Three Mile Island accident?

A I don't know if I knew that.

Q Before the Three Mile Island accident, did you understand that it was necessary to keep the reactor coolant system subcooled under transient conditions?

A Yes.

Q But you don't recall knowing whether it was important that the reactor coolant system be subcooled before the high pressure injection system was terminated?

MR. BENEDICT: Asked and answered.

You may answer.

A Right. I am not that -- I don't know.

Q Where were you on the day of the Three

1  
2 Mile Island accident?

3 A I was at work.

4 Q Did you do anything different that day  
5 from your normal work procedures?

6 A Not that I recall.

7 Q When in April '79 did you switch from  
8 being manager of control and performance to being  
9 product manager?

10 A It was approximately seven weeks after  
11 the Three Mile Island accident that I made the  
12 transition to product manager.

13 Q So since the Three Mile Island accident  
14 took place on March 28, 1979, you made the transition  
15 some time in May, right?

16 A To the best of my recollection, it was  
17 probably some time in May.

18 Q So GPU 506 is in that respect not  
19 scrupulously accurate, is that right?

20 A It may have been -- probably May, now  
21 that I think about the fact that it was approximately  
22 seven weeks after the incident -- probably May,  
23 maybe a more correct date.

24 MR. SELTZER: Do you want to write in  
25 May on the exhibit?

1  
2 Q After the accident, did your group have  
3 any responsibility for the evaluation of the  
4 effect of surge line configuration on the draining  
5 of the pressurizer?

6 MR. BENEDICT: Could I hear that back?

7 (Record read back.)

8 A Yes, sir.

9 Q What was your group's responsibility?

10 A We analyzed the B&W configuration and  
11 several of the competitors' configurations to  
12 determine the differences and what effect it might  
13 have.

14 MR. SELTZER: I would like to mark as  
15 GPU 507 a memorandum from D. W. Fairbrother  
16 to distribution, April 12, 1979, subject:  
17 "Summary of Pressurizer Level Investigation/  
18 Instruction," with a copy marked for Ron  
19 Davis.

20 (Memorandum from D. W. Fairbrother  
21 to distribution, April 12, 1979, subject:  
22 "Summary of Pressurizer Level Investigation/  
23 Instruction," with a copy to Ron Davis, marked  
24 GPU Exhibit No. 507 for identification as of  
25 this date.)

1  
2 Q In connection with this document,  
3 I would like you to look at the introduction on  
4 the first page and then the paragraph on page 3  
5 entitled "Surge Line Configuration."

6 First, is GPU 507 a copy of a memorandum  
7 that you received shortly after the Three Mile  
8 Island accident?

9 A I don't recall receiving this.

10 Q Do you see the paragraph entitled  
11 "Surge Line Configuration" on page 3?

12 A Yes, sir.

13 Q Does that describe the area of  
14 investigation that you said that your unit had done  
15 after the accident?

16 MR. BENEDICT: I will object to form,  
17 but you may answer.

18 A I recall our unit did some investigation  
19 in this area, particularly calculating surge line  
20 Delta Ps to put into a dynamic type model to assess  
21 the surge line configuration.

22 Q I am going to tell you now the questions  
23 I want to ask on this. If Rod Benedict wants to  
24 confer with you before you give answers, that's fine.  
25 I want to avoid recalling you as a witness on another



1  
2 day, and we agreed that if the questions strayed  
3 beyond Dunn's memos or your curriculum vitae, there  
4 would be an opportunity to confer with counsel before  
5 you answer.

6 I want to verify that the statements and  
7 conclusions that are in this paragraph are consistent  
8 with your recollection of the findings of your group  
9 when it was studying surge line configuration.

10 MR. BENEDICT: I haven't read the  
11 paragraph, and let's go off the record to give  
12 me time to do that.

13 (Discussion off the record.)

14 BY MR. SELTZER:

15 Q You indicated before we took a short  
16 recess that the information that's contained in the  
17 middle paragraph on page 3 refers to an area of work  
18 that your unit was doing after the Three Mile Island  
19 accident.

20 I believe you also said that one of the  
21 things which your unit did was compare the surge line  
22 configuration of the B&W design with the surge line  
23 configuration of the competitors' design.

24 A That is correct.

25 Q The competitors you were comparing with

1  
2 were pressurizer vendors?

3 A Some were.

4 Q Did you compare B&W's with the design  
5 of Westinghouse and Combustion Engineering?

6 A Yes.

7 Q Were there other plants which included  
8 pressurizers?

9 A I don't recall.

10 Q All the ones that you can recall comparing  
11 were PWR suppliers, right?

12 A Yes.

13 Q And the only ones that you can recall  
14 comparing, as you sit here today, was Westinghouse  
15 and Combustion Engineering, is that right?

16 A That is right.

17 Q Do you recall from your B&W employment  
18 that there is a loop seal in the surge line connected  
19 to the pressurizer of a B&W 177 plant?

20 A Yes, I recall that.

21 Q Do you also recall that the surge line  
22 connected to the pressurizers in the Westinghouse  
23 and Combustion Engineering plant does not have a  
24 loop seal?

25 A I recall that.

2 Q The surge line is the line that connects  
3 the pressurizer to the rest of the reactor coolant  
4 system, is that correct?

5 A That is correct.

6 Q In other words, it's the line through which  
7 water can pass from the pressurizer to the rest  
8 of the reactor coolant system?

9 A That is right.

10 Q Do you recall that because there is a  
11 loop seal in the B&W design water could not drain out  
12 of the pressurizer at any point during the Three Mile  
13 Island transient?

14 A I don't know that for a fact.

15 Q From the studying or modeling that was  
16 done after the Three Mile Island accident, did your  
17 unit deduce that the loop seal would tend to keep the  
18 water in the pressurizer rather than letting it  
19 evacuate into the rest of the reactor coolant system?

20 A My unit did not deduce that, that I recall.

21 Q Are you aware of any unit working on that?

22 A The circumstances were that in my unit  
23 we calculated the Delta P of the various surge lines.  
24 We gave them to another unit -- I don't recall which  
25 unit, because there were a couple of units doing

1  
2 these types of analysis -- for them to take that  
3 information and assess what was -- what would be  
4 the result, depending on the configuration of surge  
5 line.

6 We calculated that initial condition,  
7 I keep referring to, the K factor, the Delta P  
8 involved. We didn't assess in my unit whether that  
9 was the performance of the surge line.

10 Q I understand now.

11 Did you come to know after the Three  
12 Mile Island accident that a surge line configuration  
13 that has a continuous downward slope from the  
14 pressurizer to the hot leg would have allowed the  
15 pressurizer to drain after the water level in the  
16 hot leg dropped below the surge line connection point?

17 A I don't recall the results of this  
18 particular study.

19 Q I am not asking the results of this  
20 particular study.

21 Did you come to know from this study  
22 or any other study or any other word of mouth or  
23 anything, did you come to know that if the surge line  
24 had not had a loop seal but just had a continuous  
25 downward slope, that it would have permitted the

1  
2 pressurizer water to drain into the rest of the  
3 reactor coolant system?

4 A I am not sure I knew that.

5 Basic engineering principles would lead  
6 you in that direction, but not knowing all the  
7 variables and circumstances, I couldn't say absolutely  
8 that would be the case.

9 Q Are you aware of any reason why the B&W  
10 design included a loop seal in the pressurizer  
11 surge line where competitors did not have a loop seal?

12 A No, sir, I do not know.

13 Q Is there anything you would like to tell  
14 me that I haven't asked you about?

15 A No.

16 MR. BENEDICT: I object. That's an  
17 improper question.

18 But you got an answer anyway.

19 Q Have you ever given testimony before in  
20 connection with the Three Mile Island accident?

21 A No.

22 Q Did anybody discuss with you at any time  
23 prior to the Three Mile Island accident whether  
24 operating the B&W plant so it became entirely  
25 water solid in the primary system would create any

1  
2 operational difficulties?

3 A I don't recall talking to anyone about  
4 that.

5 Q Did you ever hear anybody raise an issue  
6 whether going solid could create any damage to vessel  
7 internals or pipes or valves?

8 A I don't recall talking to anybody about  
9 that subject.

10 Q Did you ever hear that subject raised  
11 before the Three Mile Island accident?

12 A I don't recall a specific instance when  
13 that subject was raised, although it's fairly  
14 common knowledge that that could be a serious problem.

15 Q What do you mean it's fairly common  
16 knowledge that that could be a serious problem?

17 How do you know that? Were there  
18 seminars on that at B&W?

19 A No.

20 Q Were there general discussions in the  
21 plant design section meetings about that being a  
22 general problem?

23 A I don't recall.

24 Q In fact, you don't recall ever hearing  
25 it discussed by anyone, do you?



2 A That is right.

3 Q You don't recall ever seeing a written  
4 execution of any problems associated with going  
5 solid, do you?

6 A That is right.

7 Q You don't have any basis that you can  
8 testify to for saying that there was a general  
9 concern over damage to vessel and going solid, do you?

10 MR. BENEDICT: I object to the question.

11 A I don't understand the question.

12 Q Did your unit ever do any work to analyze  
13 the effects of going solid on any part of the  
14 reactor coolant system?

15 A I don't recall any.

16 MR. SELTZER: I don't have any further  
17 questions.

18 MR. BENEDICT: I don't either.

19 (Time noted: 11:50 p.m.)

20

RONALD DAVIS

21

22 Subscribed and sworn to  
23 before me this day

24 of , 1982.

25

CERTIFICATE

STATE OF NEW YORK       )  
                              ) SS.  
COUNTY OF NEW YORK     )

I, CATHERINE COOK, a Notary  
Public within and for the State of New York, do hereby  
certify that the foregoing deposition of

RONALD DAVIS was taken before me  
on April 27, 1982;

That the said witness was duly sworn before  
the commencement of his testimony and that the  
within transcript is a true record of said testimony;

That I am not connected by blood or marriage  
with any of the parties herein nor interested directly  
or indirectly in the matter in controversy, nor am I  
in the employ of any of the counsel.

IN WITNESS WHEREOF, I have hereunto set  
my hand this 7th day of May, 1982.

Catherine Cook

CATHERINE COOK

## I N D E X

NESS

ld Davis

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## E X H I B I T S

FOR IDENT.

Resume of Ronald Davis

Memorandum from D. W. Fairbrother  
to distribution, April 12, 1979,  
subject: "Summary of Pressurizer  
Level Investigation/Instruction,"  
with a copy to Ron Davis

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