

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

In the Matter of:

THE TMI INVESTIGATION INTERVIEW

of Mr. Richard W. Dubiel  
Supervisor of Radiation Protection and Chemistry, TMI

Trailer #203  
NRC Investigation Site  
TMI Nuclear Power Plant  
Middletown, Pennsylvania

April 24, 1979  
(Date of Interview)

June 27, 1979  
(Date transcript typed)

68  
(Tape Number(s))

NRC PERSONNEL:  
Mr. Dale E. Donaldson  
Mr. Larry L. Jackson  
Mr. Thomas H. Essig

*Handwritten signature*

892 035

1 MARSH: This is April 24, I have 4:12 p.m. This Bob Marsh speaking and I am  
2 an investigator with the U.S. NRC assigned out of Chicago, Illinois, and we  
3 are currently at the Three Mile Island site and about to commence an  
4 interview of Richard W. Dubiel. I would like at this time for each  
5 person present in the room to introduced himself on the tape and further on  
6 the questioning if you want to propose a question or make a comment please  
7 by indicating your name. This will assist the people how to transcribe the  
8 tape. Dale if you would start.

9  
10 Dale E. Donaldson, Radiation Specialist, Region 1, U.S. NRC

11 Larry L. Jackson, Radiation Specialist, Region 2, U.S. NRC

12 Thomas H. Essig, Chief of the Environmental & Special Project Section,  
13 Region 3, U.S. NRC

14 Richard W. Dubiel, Supervisor of Radiation Protection and Chemistry,  
15 from Metropolitan Edison, Three Mile Island Nuclear Station

16  
17 MARSH: Dick, before we start I gave you a two page memo which I asked you  
18 to read and you subsequently read it and signed it, and in there there were  
19 several questions proposed which I would like to repeat on tape here. This  
20 letter indicates some of the ground rules, the purpose of the investigation  
21 and some of the rights we want to discuss with you. At the close of the  
22 letter there are also three questions. The first of which reads: Do you  
23 understand the above.

24 892 036  
25

1 DUBIEL: Yes I do.

2  
3 MARSH: Do we have your permission to tape the interview?

4  
5 DUBIEL: Yes you do.

6  
7 MARSH: Do you you want a copy of the tape?

8  
9 DUBIEL: Yes I do.

10  
11 MARSH: And thirdly to you wat a copy of the tape?

12  
13 DUBIEL: Yes I do.

14  
15 MARSH: OK I will provide both a copy of the tape at the end of the inter-  
16 view here, as well as a transcript at a later date once it is converted  
17 into transcription.

18  
19 DUBIEL: Thank You. There is a fourth question which did not appear at the  
20 end of the letter here, but is covered in the body of the letter and that  
21 we addresses your right if you so desire to have a representative either  
22 from the company or from the union president.

23  
24 DUBIEL: That won't be necessary.

892 037

25

1 MARSH: Fine, Thank You. Then at this point we are set to proceed, and Dale  
2 I would like to turn over to you.

3  
4 DO'ALDSON: Mr. Dubiel I wonder if you will start by giving us a background  
5 on your experience, your education and training in the nuclear field.

6  
7 DUBIEL: First of all I have got a bachelor's degree in Physics from Fairfield  
8 University, graduated in 1970 and a master's degree in nuclear engineering  
9 which actually covers the Health Physics field at Georgia Institute of  
10 Technology, graduated in December of 1971. From 1972, January of 72  
11 through September of 1974 I was employed in the United States Navy. The  
12 first two and one half years of approximately September of 1973, I guess  
13 that's only one and a half years. I was stationed on board the USS Orian.  
14 I was a radiation as they call Radiation Health Officer dealing in Health  
15 Physics work primarily with the repair work on nuclear submarines. We had  
16 a Squadron 4 which was comprised of 6 fast attacks submarines when I arrived  
17 and 10 fast attacks submarines when I left. I also had responsibilities in  
18 the area of emergency planning, emergency response for situations that  
19 might arise with the nuclear submarines along side the tender as well as  
20 along side the pier. These would be strictly reactor accidents, none of  
21 our submarines carried Polaris missiles or any type of war heads, nuclear  
22 war heads, but we were not involved in the warhead type of casualty.  
23 September 1973 I was transferred to the Naval Region Medical Center where I  
24 was brought in essentially to license, get license to nuclear medicine  
25 facility, which was subsequently licensed a few months later. Set up the

1 radiation protection program and as a side line I also worked with the  
2 hospital in helping to further develop plans that they had already made to  
3 degree implemented in supporting the Charleston Naval Shipyard in handling  
4 radiation casualties at the hospital. Charleston Naval Shipyard was in the  
5 business at the time of overhauling and refueling nuclear submarines. In  
6 1974, September 1974 I came to Metropolitan Edison, Three Mile Island. My  
7 entire time with Met Ed has been at Three Mile Island I started it off as a  
8 Radiation Protection Engineer assigned to special projects both in plant  
9 and environmental areas, dealt very heavily with the radiation monitoring  
10 system, dosimetry system, and also went into emergency planning at that  
11 time. The plans for Three Mile Island at the time involved only Three Mile  
12 Island Unit 1, Unit 2 was still under construction. I arrived seven days  
13 after the commercial date of Unit 1, so we had an approved plan at the  
14 time. My position stayed the same until approximately (the years are  
15 starting to fly by) 1976 in September or October 1976, I was promoted to  
16 radiation protection supervisor where I got involved more on a day to day  
17 operations of the health physics department and continued on with the  
18 responsibilities in the area of emergency planning. Up until September  
19 1977, at which time I was again promoted to supervisor radiation protection  
20 and chemistry. I think my efforts in emergency planning were becoming more  
21 and more diluted. We hired an additional health physicist, some time in  
22 1977, to fill a position in radiation protection, engineers picked up a lot  
23 of emergency planning at that time is when we started going into a two unit  
24 station.  
25

892 039

1 DONALDSON: Will you give us his name.

2  
3 DUBIEL: Len Landry. Len joined us, I believe in September 1977. I might  
4 not be correct about the September, but it was late in the year of 77. We,  
5 at the time, we were trying to convert to a station rather than a single  
6 unit, a dual unit station. In the area health physics, well both health  
7 physics and chemistry we were going through some major changes the chemistry  
8 was in place very early in start-up. But working under tremendously adverse  
9 conditions in a difficult day-to-day job. Health physics was more pre-  
10 paration work throughout the year 77. Emergency planning became a fairly  
11 major issue both with the license hearing putting such emphasis on it, the  
12 new regulatory guides coming out, and the fact that we did have to change  
13 our plans significantly to go for . . . Significantly the Uh. Let me  
14 rephrase that. The general content of our plan as objectives in the overall  
15 design of the plan was not to change significantly, but rather the details  
16 will have to be considerably altered to accommodate the dual unit and both  
17 from a geometric layout, physical layout of the plans which was not very  
18 conducive to designing health physics on a day-to-day basis or emergency  
19 planning. Some major changes had to be made there as well as structurely  
20 administrative organization wise, so quite a bit of effort was put in, in  
21 that time just prior to licensing to develop a dual unit plan. At February  
22 1978 we were granted a license, 78 was primarily a start-up year. We did  
23 run some emergency drills in September and October of 78 primarily run out  
24 of Unit 2 although we did have a few drills in Unit 1. Taking us up to  
25 commercial sometime between Christmas and New Years of 78, Christmas of 78,

1 New Years of 79 and we have been an operational station since. My position  
2 has not changed, I am still in charge of chemistry and health physics both.  
3 He have additional responsibilities that have come along through the last  
4 couple of years. One is the radwaste area. I have taken over respon-  
5 sibility. This is primarily the solid waste, the processing of solid  
6 waste, and disposal of solid waste as well as industrial waste, which has  
7 become a major evolution on the Island since the advent of the NPDES require-  
8 ments imposed by the EPA through the State.

9  
10 DONALDSON: Could you very briefly describe where you fall in the line  
11 organization of the Three Mile Island stations? Specifically what I am  
12 interested in is where the health physics evolves.

13  
14 BIEL: OK. Originally this is not a very simple question to answer.  
15 Originally health physics reported directly to the unit superintendent in  
16 unit 1. This was back when we only had the single unit operating. We have  
17 grown into two unit station and the organization had not originally changed  
18 until we started realizing that it wasn't working. I was effectively  
19 reporting to two unit superintendents, day-to-day operations that made  
20 things very difficult. I think management recognized the problem, and as  
21 of approximately December 1, 1978 the organization was changed such that a  
22 superintendent of technical support was brought on the island. Limroth  
23 was appointed to that position. He has been with us since approximately  
24 September, officially in place. I think December 1 is the date but I could  
25 be off by a couple of weeks, one way or the other. I report directly to

1 Dave Limroth who is a superintendent I still am required to support the  
2 individual units superintendent, with the appointment of technical superin-  
3 tendent, it allowed me to go through him to assist in priority between the  
4 two units. Also, gave us a better direction in trying to support both of  
5 them on a day-to-day operation. The superintendent technical support then  
6 reports directly to the station manager as does the unit superintendent  
7 from each unit.

8  
9 DONALDSON: Then the, your group essentially is somewhat autonomous in that  
10 the line or chain of command goes directly from yourself through one additional  
11 supervisor directly to the station superintendent.

12  
13 DUBIEL: That's correct. Station superintendent, the exact title means  
14 Station Manager which is Gary Miller.

15  
16 DONALDSON: Under you, would you briefly outline the first line supervisors  
17 under your command?

18  
19 DUBIEL: To the foremen level?

20  
21 DONALDSON: That would be two levels, right?

22  
23 DUBIEL: That's correct.

24  
25 . 892 042



ALDSON: OK let's take it down to the foremen level.

IEL: OK. In the area of health physics I have Tom Mulleavy, reports directly to me as radiation protection supervisor and below Tom, reporting to Tom there are four radiation protection foremen. Did you want names, e?

ALDSON: Why don't you go ahead and fill those in.

IEL: The four radiation protection foremen are: Joe Deman, Pete Velez, McCann, and Fred Huwe. They report directly to Tom, and are radiation protection foremen. Also reporting to Tom are two radwaste foremen, Jim [unclear], and Leo Hydrick. Reporting directly to me is a health physics engineer, Landry who reports to me and works closely with Tom in handling most of project oriented problems, something that isn't a day-to-day type of a problem. Also there is a radwaste engineer, Ed Fuhrer, who reports directly to me, again working hand in hand with Tom in trying to solve some of the problems associated with radwaste that are a little bit beyond the ability of the scope of the foremen. In the chemistry area I have four, let me pick up, three chemistry foremen there is no chemistry supervisor in an attempt I have and intended to follow through on as to structure similar to the HP site. There is no chemistry supervisor so the three chemistry foremen are all on an equal level. There is a unit 1, and I will refer to it as a Plant Chemist, Gary Reed. Gary is very knowledgeable chemist in the area of systems chemistry, demineralization, evaporation, the effects of

system chemistry on the plant. There is an equivalent chemist in Unit 2 again title Chemistry Foreman called the Plant Chemist Carry Harner. There is a third Chemistry Foreman who is a Lab Chemist, he is direct supervisor over all of the laboratory work on both units. His name is Ed Houser. We have just recently and I mean in the middle of February, I believe, hired a fourth chemist Gary Chevelier, who at this point in time is pretty much still trying to get oriented and the intent was although no real steps have been taken but that Gary would eventually be one of the chemistry foreman slots when one of the foreman was promoted to supervisor. I have one additional individual reporting to me who is a tech analyst who is responsible for the operation of the industrial waste plan, his name is Ron Campbel. Ron is the foreman, control room foreman from a fossil fuel plant, and has been working for me, working with the operations group and running the industrial waste plant, has a lot of chemistry knowledge, water chemistry knowledge and has been instrumental in again getting that system operational. That's it.

DONALDSON: In general, how would you categorize, and briefly? The experience and training of the supervisors under your control.

DUBIEL: Taking area by area Tom Mulleavy has got, I believe, in the order of 18 years in health physics. Many of those years at Connecticut Yankee, I think the number is six or seven years. He's also had four years. His years at Connecticut Yankee were as a radiation protection supervisor. I think his level of, I categorize him as being a very knowledgeable Plant

Physicist. I think in his academic background he may be somewhat  
but I think he has made up for it through the years of experience he  
in the field. The chemistry, I mean the health physics foremen, I  
could pretty much group them altogether I don't believe that there  
strong academic background and I feel that there is and has been a  
or additional health physics theory training for the HP foremen.  
and everyone of them is a very savvy individual for practical health  
, all of them have years of experience. I think that Joe Deman will  
probably be the one with the least amount of experience, and he has got  
years in the Navy as an ELT and five years at Met Ed as a senior  
health physics technician. The other ones all have at least that much  
experience. It's all practical experience as well as what training they  
received as technicians or as ELTs in the navy

QUESTION: If I can have you answer one more question in relation to the  
Health Physics Foremen. Would you say that their philosophy of radiation  
protection, concept of radiation protection, is in accordance or in agree-  
ment with your own philosophy and the philosophy of Three Mile Island  
?

ANSWER: I would agree with that statement. I am hesitating because I just  
went through. There is Uh. Let me make one area of disagreement. It  
is a hard case I don't think we have established, if you will, my  
philosophy of radiation protection and nor have we established that my  
philosophy is in fact the philosophy of Met Ed management, but I think

My philosophy has always been a two-fold approach to health physics. The first priority, number one priority of health physics is to protect the individuals to the levels or to the limits defined by existing regulations, and if you need any clarification please ask. The second thing is to help the individuals. I have always felt that there is an awful lot that health physics can do for operation maintenance to actually make their job more efficient and safer for them. I have always tried to be a little bit aggressive in health physics in trying to work with the maintenance people to define the best possible methods of doing a job to insure good health physics practice, but also to get the job done. I think if there is a difference of opinion between myself and the foremen I have on, I have the feeling that there has been an attempt to take the easy way out, if you will, by the foremen that it's very easy to control health physics quite often, in resulting, in shutting the job down completely. I don't want to categorize all four of them as just the easy way out. I don't want to categorize all four of them as just the easy way out. If I could say one of the individuals is being exactly the same it would be Pete Velez. Pete is tremendous at trying to get the job done. Keeping that, in focus at all times as well as the radiological side, but there have been times that I have been a little frustrated at the inability to take the easy way out and stop the job and not offer to find a solution to get the job done within the bounds of regulation.

Q: Let's move to the radwaste side and the effluent control side, if you would give me the same general evaluation of the individuals and our control in that area.

OK, first of all, they are reporting to Tom Mulleavy. The radwaste are reporting to Tom Mulleavy. The radwaste foremer are both operations type; they have had years of experience in plant operations. Jim Smith is a former licensed control room operator as a shift at one time. They are more operations oriented than they are physics oriented. They do require and have always required that the regulations be defined for them. I feel that once those regulations have been defined for them, they have done a reasonable job in insuring the regulations are met. They themselves had very little knowledge until recently on shipping regulations, shipping requirements. Of the inplant health physics regulations I think they were better, accustomed to just because their jobs as operators, but I think they as time has progressed, learned more and more about the radwaste on just due to the fact that they have been working with them. themselves are not on top of changes in the industry and things of nature. It's pretty much being brought to them by people such as Ed who is totally involved in up-to-date in existing regulations and in regulations, changes in the radwaste industry as a whole. We had of relied on Ed to provide that technical guidance. Jim Smith Hydrick as being more of the implementors. Tom Mulleavy being not a direct supervisor but also being the strong health physics tie in the area of radwaste.

DN: OK, again if you would discuss if possible first your own philosophy of radwaste control and whether or not it's consistent with those of the foremen.

1 DUBIEL: Well in radwaste control it is kind of a hard thing to define.  
2 Unfortunately, we got the wrong end of the radwaste control. We were just  
3 given the waste and we had to get rid of it. That makes out a little bit  
4 black and white it really wasn't completely that way. We did get a lot of  
5 support from the operations crews in trying to minimize radwaste, but I  
6 don't think that my philosophy in radwaste is much different than it is in  
7 health physics. We have got rules, we have got regulations, we have got  
8 methods of getting wastes solidified and shipped that are within the  
9 limitations imposed by both NRC and DOT, and I don't think that any of us  
10 have any philosophy other than to do things in accordance with rules and  
11 regulations. The one thing though that is very important in my philosophy  
12 in radwaste is that we can very quickly or could very quickly get the plant  
13 into serious operational troubles by not staying ahead of the waste problems  
14 in plant. In other words insuring that we had adequate capacity for waste  
15 that we didn't get backed up and get to the point where we could not continue  
16 to operate the plant because of a radwaste system being full to capacity,  
17 and getting ourselves in a situation where were we would have to rely on  
18 outside help in getting radwaste processed. I will be very honest with you  
19 the, we have not been overly successful at that, and I think the reason is  
20 that we a lot of modifications that we have made or plan to make to it to  
21 the plants, the station, have not been completed. We don't have the flexi-  
22 bility I think we need, and I don't think the latest systems were designed  
23 for the two units that we had adequate capacity to service the entire  
24 station without significant number of modifications and essentially cross-  
25 ties. We have run into at least two problems in the last couple of years

1 where we have gotten ourselves completely backed up with waste water and  
2 had an inability to continue operating in normal conditions. At that point  
3 it is more of an economic impact than it is anything else. Our philosophy  
4 of complying with the regulations, and insuring that all shipments are made  
5 in accordance with the existing plant procedures which reflect the regula-  
6 tions. Our philosophy has never changed.

7  
8 DONALDSON: OK. Final question relating to the organization. How many rad-  
9 chem technicians are in your organization?

10  
11 DUBIEL: We had March 28, 24 rad-chem techs working in our department. They  
12 were cross trained in both chemistry and health physics. I will note  
13 though that the two of the rad-chem techs had only been with us, one since  
14 January and one since, I believe, in February, so they were really in the  
15 training phase and really were not fully qualified. Of the other 22, at  
16 the time he had 12 senior technicians and 10 junior technicians. The  
17 difference between the two being very slight, operation of the multichannel  
18 analyzer and Ge(Li) systems limited to senior technicians, RWP issuance  
19 limited to senior technicians and a few other minor details, but as far as  
20 the inplant health physics support they were pretty much equivalent, both  
21 seniors and juniors.

22  
23 DONALDSON: Is the breakdown of foremen and rad-chem technicians under them  
24 unit specific or are they utilized on a site basis? How is this?  
25

1 DUBIEL: OK. They are used on a site basis, but we try to rotate them in  
2 such a manner that we had some consistency. For instance, on a typical  
3 shift rotation if you were a technician you would work six weeks in, a  
4 chemistry. Of those six weeks, three would be in one unit, three would be  
5 in an other unit, then you would go to six weeks in health physics. Again  
6 three in one unit and three in another, always leaving the opportunity that  
7 for instance if you were in unit 1 chemistry tech that week and there was a  
8 serious need on your shift to do additional unit 2 work priority work in  
9 chemistry we had the flexibility to move the people from one area to another,  
10 but our main objective was to try to keep consistency among technicians.  
11 Our back shifts were not supervised and we were relying on our senior  
12 technicians, and for them to have any feel for what was happening in the  
13 plant that they were working in, it required that they have some continuity  
14 in their job.

15 MARSH: It is now 4:44 and we are going to break this tape and change sides  
16 on it. I at 4:44 I am reading 483 on the meter and we are proceeding with  
17 side two of the first cassette. Dale you were asking a question. I will  
18 let to proceed.

19  
20 DONALDSON: I would like to move now from your normal organization and your  
21 involvement in the Metropolitan Edison functions at Three Mile Island and  
22 begin to discuss the events involving the incident at Three Mile Island  
23 Unit 2, and our specific period of interest, Dick, is the period from 0400  
24 on 3/28 through midnight on 3/30. What I would like to do is just turn it  
25

892 050



1 over to you and let you begin with as much detail as you can recall realizing  
2 that it has been almost a month now and you were very busy. To recall the  
3 sequence of events and what happened and if you can give us the general  
4 time frames and will just try to listen. If we have clarifying questions,  
5 we will try to ask those as we go along, but we will try to maintain the  
6 forward thrust. When we have completed the sequencing period, we will come  
7 back and hit some details of various actions, so with that I will just turn  
8 it over to you and let you go with it.

9  
10 DUBIEL: OK. Thank you. The first involvement I had with the incident was  
11 at some time shortly after 5:00 a.m. I don't remember the exact time, but  
12 that is what my wife recalls the phone call as coming in. I received a  
13 call and answered the phone and I was told that Unit 2 had turbine trip and  
14 a subsequent reactor trip and I was required to be in the control room as  
15 soon as possible. It was not indicated to me at the time that there was  
16 any emergency conditions. I did not even ask who called, it didn't dawn on  
17 me to. I got up I got dressed and drove in, and I arrived some time I am  
18 just estimating around 5:45. Something in that neighborhood. Upon arriving  
19 I picked up my hard hat and my TLD in my office and went directly to the  
20 Unit 2 control room. My major thoughts at the time were that we had possibly  
21 had an ES and another sodium hydroxide injection to the primary.

22  
23 DONALDSON: Would you define the term ES.  
24  
25

892 051

1 DUBIEL: Another high pressure injection off of a 1600 pounds coolant low,  
2 1600 pound RCS pressure signal. Engineered Safeguard is what ES actually  
3 stands for. Arriving at the control room, I did not, first of all I noticed  
4 that George KUnder was in the control room essentially it looked like he  
5 was in charge of the control room. I noticed that Bill was also in  
6 the control room. Immediately when George saw me arrive he came over. He  
7 did not indicate what the problem was at the time to me, but he did indicate  
8 that we had, what indicated to be a leak in containment, and he was in need  
9 of a containment atmosphere sample. He wanted me to draw a sample off of a  
10 radiation monitor HPR-227, which monitors containment atmosphere, so I  
11 immediately went down to the HP lab in Unit 2 and I ran into Mike Janowski,  
12 who is the senior technician that was on the back shift at the time, and I  
13 immediately mentioned to him that we had a request to take a sample off of  
14 HPR-227. He asked what type of sample, and I indicated to him we should  
15 look at taking a gas sample and also change the charcoal filter which is in  
16 place on the monitor. We immediately went over to the monitor, which is  
17 only just inside the aux. building door from the HP lab, and Mike. Now the  
18 monitor by the way, was not at the time in alarm. I don't recall what kind  
19 of levels were on the monitor because it has control read out but no local  
20 read out, but the alarms were silent when we got to it. We pulled the  
21 charcoal cartridge out. Mike actually removed it and as he loosened the  
22 wing nuts that hold the cap on the charcoal filter holder, he started  
23 pulling it out, and a tremendous amount of water came out of the monitor,  
24 and it got on his hands and on the floor and inside the bottom of the  
25 monitor. I immediately told him to put the thing back in. It didn't look

892 052

1 like we were going to have any luck getting a charcoal sample. He reassembled  
2 the filter holder and put it in and tightened down on the wing nuts and I  
3 told him to go over and check his hands to make sure that that was not  
4 contaminated water, and there was no question in my mind at that time that  
5 we had some type of steam atmosphere in the building, and if we were getting  
6 nothing but water through the lines we were not going to be able to draw  
7 any kind of a sample, so I immediately went back to the Unit 2 control room  
8 to relay that information to George Kunder. Mike, I am under the impression  
9 that his hands were clean because I can remember that question being asked.  
10 At this point I can't, I have lost confidence, I don't believe his hands  
11 were contaminated. He, I think, would remember that, and I believe based  
12 on that, I at the time, was thinking steam line break in the reactor building.  
13 Not, still not knowing what was happening I get to the control room and  
14 that is when George Kunder indicated to me that we had received, one of my  
15 technicians had been requested to take a boron sample of the primary,  
16 analyze the primary system letdown for boron and they had just gotten the  
17 number back to the control room, and the number was approximately 700 PPM,  
18 which is quite a bit lower than the 1,050 PPM approximately that we were  
19 running prior to shutdown. This gave everyone in the control room a lot  
20 of concern and George asked me to immediately see if I can verify the  
21 number, the primary letdown boron concentration and that they need it for  
22 shutdown margin, so I went back down through the unit 2 HP lab through the  
23 auxiliary buildings into the unit 1 lab where our unit 2 sample sink is,  
24 the primary sample sink is. I met Dave Zeiter who was the technician that  
25 had ran the analysis. I asked him what he felt how much confidence he had

892 053

1 in the number. He admitted that this was getting close to the end of his  
2 back shift: the 11:00 to 7:00 shift, and he was tired he didn't think he  
3 had made any mistakes but he wasn't ready to swear on it. It could have  
4 very well have been a bad number, and that both he and Tom Davis and another  
5 technician were preparing to run a second sample and they had decided that  
6 they would draw the sample. It was already on recirc. so they would just  
7 draw, each draw a sample, and both go over and run it and see what kind of  
8 number they came up with.

9  
10 DONALDSON: About what time was this?

11  
12 DUBIEL: This was approximately 6:20 to 6:30, something in that ball park.  
13 I also received a call from the control room requesting that I make prepara-  
14 tions for a entry into the reactor building. The RWP, the protective  
15 clothing and that type of thing. I talked to Mike Janowski, and I told  
16 him, my first requested was that Mike, who I have an awful lot of faith in,  
17 would be a good man to accompany that type of entry because of his ability  
18 to make good health physics judgement in the field. He suggested though  
19 that with the fatigue that his entire crew had that we might be better off  
20 getting a fresh tech who was coming in on the 7:00 to 3:00 shift since it  
21 would probably be a better part of a half an hour or so before we actually  
22 made the entry. I agreed with him and told him, and both he and Pat Donnachie,  
23 who was also on that shift, technician on the shift, to make preparations  
24 getting scott air packs, protective clothing, the entire set up ready, in  
25 case we should make the entry in the near future. Dose rate instruments

1 the teleceter and that type of thing plus additional scott air packs for  
2 safety personnel, telling him to take them off the some of the safety  
3 emergency use, designated scott air packs that we had out in the plant.  
4 The two of them went towards unit 2 at that time, and very shortly there-  
5 after Dave Zieter came out of the lab and indicated to me that both he and  
6 Tom Davis got boron numbers very similar. I believe the numbers were 402  
7 and 405 PPM boron continuing to indicate a decrease in boron concentration.  
8 I became very concerned at that time that we were in fact deborating in the  
9 cooling system, and immediately told him to call the control room and get  
10 the information up to him, and I was getting ready to go back to unit 2 to  
11 the control room to see if I could assist George Kunder in problems with  
12 the plant. About that time we heard an alarm, a radiation alarm.

13  
14 DONALDSON: What time was this now?

15  
16 DUBIEL: This was approximately 6:40, 6:35 I think. I am fairly confident  
17 of the time because of very shortly thereafter the first technician from  
18 the 7:00 to 3:00 crew, the daylight crew, they started entering the lab.  
19 They come in typically, first ones are shceduled to arrive at 20 minutes  
20 before the hour. We heard an alarm which was coming back from the auxiliary  
21 building unit 1. It is a very distinct alarm from one of the fixed radia-  
22 tion monitors and I immediately started down the passage way towards the  
23 auxiliary building to see where the alarm was coming from. Before I could  
24 even get down the hall both Pat Donnachie and Mike Janowski were apparently  
25 at that time were coming back from Unit 2 were already at the area just

1 outside by the hot machine shop by the fuel receipt area, and I noticed the  
2 first thing that they have done was to get the security guard who was  
3 posted back in that area out of the area. He passed me coming down the  
4 hall heading towards the HP lab. When I got there, they already had the  
5 dose rate instruments and were checking the levels of that area. We identi-  
6 fied immediately that the radiation monitor that was alarming was in the  
7 hot machine shop. The hot machine shop was locked and we did not have  
8 access, and Mike Janowski ran back into the HP area and appeared very  
9 quickly very rapidly with a pair of bolt cutters and cut the lock on it. I  
10 really don't remember if we ever got the lock cut off, but the radiation  
11 levels in the area very quickly were going up. One thing that I would like  
12 to point out is that the radiation monitor set point in the hot machine  
13 shop was at 100 mR I believe and that is what I was thinking that morning.  
14 I didn't quite understand why it was going off, but I figured we were  
15 somewhere in the 100 mR range. By the time Mike came out with the bolt  
16 cutters, and we were getting ready to cut the bolt, the radiation levels  
17 were up to 600 mR where we were standing. One of the two technicians, and  
18 I believe it was Mike it couldn't have been Pat tried to follow where the  
19 source of the radiation was coming from. He immediately turned towards the  
20 Unit 2 primary sample lines that run right above that area, and saw that  
21 the closer he got to the lines the higher the levels were. At the point  
22 that the meter got a little over 1 R/hr, he was still several feet from the  
23 lines. He yelled that to me and we all ran out of the area back to the HP  
24 lab. I immediately got on the page and started paging George Kunder about  
25 as frantically as I could. I think at that time it was already in my mind

1 that we had some severe fuel degradation. I have never seen sample lines--  
2 that is an opinion on my part.  
3

4 DONALDSON: And this was approximately 6:35, 6:40.  
5

6 DUBIEL: About 6:40. When I reentered the lab to make the page to George  
7 Kunder, the first technicians were coming through the door. I distinctly  
8 remember Carl Myers and a few other people coming through. I paged George  
9 he didn't answer at first I paged him a second time. I found out later the  
10 reason that he did not answer was that he was already initiating emergency  
11 boration, which I think is understandable why he did not answer the page,  
12 but when I got him on the line, I immediately told him what I have found  
13 and he indicated to me that they were already doing everything they could  
14 to get cooling water and boron to the cooling system. That time I turned  
15 to Mike Janowski. I thought I had heard Joe Deman already come in the lab  
16 but I didn't see him, so I turned to Mike and told him that he was in  
17 charge of the emergency control station until relieved by a foremen. I  
18 told him to start assembling his technicians into on and off-site teams,  
19 and I turned and ran from the area. I went out through the portal monitor  
20 out into the service, to the turbine building in Unit 1. Just as I got to  
21 the approximately the Illinois water treatment area which is just outside  
22 the control point is when I heard the radiation alarm, radiation emergency  
23 alarm sound. I ran a full head of steam down to Unit 2. I got into the  
24 control room very shortly after, a matter of minutes. When I arrived,  
25 George Kunder, Mike Ross were in the control room Bill Zewe. I didn't pay



1 attention to what was going on at the console. I went right back to the  
2 radiation monitoring system to try to get a picture of what was going on.  
3 First thing I did notice, the vacuum pump discharge monitor, the condenser  
4 off gas monitor VAR-748 was already up into high alarm. Immediately deter-  
5 mined that we had a primary to secondary leak. I noticed generally that  
6 levels were starting to come up, but there was nothing that really was  
7 bothersome to me at the time. The dome monitor was into alert, was not in  
8 high alarm, but we noticed it in alert and rising. About that time I  
9 checked to determine if anyone was making the calls to the offsite agencies,  
10 and was told that Dick Bensei and Ron Warren and round 1 two engineers from  
11 Unit 2 were both doing just that at the time. We had some nuclear engineer  
12 specifically I remember Howie Crawford, who has worked with us in dose  
13 projection and assigned to that group during all of our drills was in the  
14 control room when he was breaking out the offsite and onsite maps and the  
15 isopleths, and was getting set up to start projecting doses. I recall  
16 looking at the meteorological chart and noting a very very low windspeed  
17 with the direction of somewhere in the neighborhood of 260 to 270 degrees,  
18 which would be a east to west wind blowing across the river. I will be  
19 truthful very very few of the events that took place and a lot of things  
20 going on that I really recall it, the things that I do remember. I am sure  
21 that there are a lot of holes that are just blank.

22 DONALDSON: When you heard the radiation emergency alarm sound, what type of  
23 emergency would this declare?  
24  
25

892 058



1 DUBIEL: It was a site emergency.

2  
3 DONALDSON: And what time was this?

4  
5 DUBIEL: This was 6:40 or 6:42 right in that area within minutes after I  
6 left, within I would say after about a minute after I left control point in  
7 the HP lab. Shortly after 7:00, Gary Miller had entered the control room,  
8 had announced that he was in charge, started getting statuses from each of  
9 the individuals who had been involved in actions in the control room. He  
10 made perfectly clear that there were four or five of us in the room that  
11 would speak to him and that we would run our own areas, and that he was not  
12 to have everyone in the control room asking him questions or delivering  
13 information to him. Those of us I don't recall the names, but I do remember,  
14 George Kunder, Mike Ross, Bill Zewe, and myself, as being specifically  
15 designated as those that would report directly to Gary as emergency director.  
16 One of the first things he indicated to me was that we were not at that  
17 time, and this was probably on the order of 7:15 to 7:20. We had not  
18 received a return call from the State Bureau of Radiological Health. I  
19 immediately went to the telephone and called on a 911 line the Dolphin  
20 County Civil Defense, the switchboard or the dispatchers from the civil  
21 defense answered. I asked for Kevin Maloy, Kevin was standing right there  
22 with the dispatchers. I gave the information to Kevin that we had a situa-  
23 tion on site that look like it could very definitely lead to offsite doses.  
24 I don't quite recall may exact words, but I did try to convey the message  
25 that we were into something real that it wasn't anything, a drill nor was

1 it a typical situation with a small unplanned release, and that we did not  
2 receive any word back from the State and that requested his assistance in  
3 getting the State back on the line to us as quickly as he could. He assured  
4 me that he would get right on the line to them and get them back. I gave  
5 him a telephone number just to make sure that they were calling into the  
6 control room not through the switchboard. I gave him the direct outside  
7 line number, which I believe is 944-6017. About that time and I may be  
8 jumping around a little. I don't recall. Sometime prior to my calling  
9 Kevin, I had made contact with the HP lab and talked to Janowski about  
10 getting the on and offsite teams moving, and the first thing was to get an  
11 onsite team dispatched to the fence in the vicinity of the Unit 1 and  
12 Unit 2 screening houses, and that he was to get them moving and establish  
13 a radio contact with them and we would relay more specific locations  
14 before they could get out to the fence. At some point, and I don't recall  
15 when, but at some point Joe Deman took over for Mike. Instead of talking  
16 to Mike I started talking to Joe Deman, and I don't recall exactly at what  
17 point that transition was made. One other thing that was in my mind at the  
18 time, we were slow in establishing our emergency communications network  
19 between the the ECS and the control room, and as we had done on many a  
20 drill I immediately went to the page phone and raised the ECS director, at  
21 first Janowski, then Deman, on the page phone. We found that communications  
22 was extremely good directly from myself to that man both Mike and Joe  
23 Deman. Via the page phone, there was no interference. There was no one  
24 else using them at the time, which is striking me as being odd you could  
25 never get page lines that were free, but there was absolutely no other

1 traffic on the page system but our own. The communications for the better  
2 part of, I would say, 20 minutes to a half an hour was primarily over the  
3 page. Gaytronics installed the system rather than through the normal or  
4 emergency plan phone system, which calls for using phone talkers on various  
5 combinations of the M&I jacks and the page system. The onsite team was  
6 dispatched shortly after talking to Kevin Maloy. We passed the word speci-  
7 fically where the individuals were to go to take the readings. I believe  
8 that the onsite points were GE-9 and then GE-8, which if one were to look  
9 at our emergency onsite maps would be positions first, GE-9 I believe is  
10 directly between the two intake structures and GE-8 is slightly south of  
11 the unit 2 intake structure. The initial readings, we started getting dose  
12 rates back that were less than 1 mR/hr. The PIC-6's that they were using  
13 have a minimal of sensitivity of 1 mR/hr, and they were getting no indica-  
14 tions. They were requested to take a air sample and prior to them taking  
15 the air sample I suggested to Joe Deman that he pass the information on to  
16 the onsite team that they use the plume from the cooling towers to help  
17 line themselves up, that they were sure they were in a down wind direction  
18 from the unit 2 reactor building.

19 DONALDSON: About what time did the first onsite survey result come back to  
20 you?  
21

22 DUBIEL: Dale I believe the, to the best of my recollection it was somewhere  
23 shortly after talking to Kevin Maloy. I would estimate it around 7:20 to  
24 7:25, in that vicinity. At some point around 7:30, Gary Miller asked me  
25

1 for the status of the offsite teams, and I gave him the information that we  
2 had two teams ready to go offsite both available for transportation over to  
3 the west shore. Gary directed me to make contact with the State police and  
4 get a State police helicopter to get one crew over there in a more timely  
5 fashion. He was concerned about the traffic--the early morning rush hour  
6 traffic trying to go up over the bridge in Harrisburg and then back down  
7 and that it might take an hour or more to get over there. He requested  
8 that we send one team in a helicopter and a second team in a car of driving  
9 over at a normal pace to back them up. I do not recall exactly who told me  
10 that they would get the State police helicopter. I believe it was George  
11 Kunder I do not remember exactly, but within minutes I had it confirmed to  
12 me that the State police had been notified, and a helicopter would be on  
13 its way since there stationed up at Harrisburg, Harrisburg International  
14 Airport. It would be here in a matter of minutes, and that security was  
15 notified that this helicopter was coming and would be landing somewhere in  
16 the vicinity of the north parking lot, and that they were to allow it to  
17 land and make preparations to support its landing in getting our technician  
18 on board. The technician that went over I believe was Ed Egenrider I have  
19 never had that confirmed to me but my recollection that morning was that he  
20 was in the helicopter. I believe the helicopter, the timing may be poor  
21 but I am estimating 7:40 we had a man in the helicopter and sometime by two  
22 to three maybe five minutes later the man was in Goldsboro. Let me just  
23 back up a little bit I skipped one item that of importance. Sometime  
24 around 7:20 and just after talking to Kevin Maloy I believe this timing,  
25 the dome monitor HPR-214 which is an ionization chamber sitting on top of

1 the elevator inside the reactor building shielded by a couple inches of  
2 lead went past its high alarm set point, which is 8 R/hr indicated which  
3 would be, that does not include the attenuation factor of the lead. Gary  
4 Miller immediately asked me whether we were in to a general emergency, and  
5 I indicated we were, the basis being the high alarm on the monitor. He  
6 immediately directed one of the shift supervisors, we had Bill Zewe from  
7 the off going crew still with the control room, and I dont recall who the  
8 day shift supervisor, was Ken Bryan sticks in my mind, but that may not be  
9 the right guy. Someone was directed to declare the general emergency. I  
10 do not remember that the second page went out indicating that we were into  
11 a general emergency, but that the, I do recall the phone talkers, the  
12 communicators indicating that they were going through the call out list  
13 again, the call list of the offsite agencies declaring that we were into a  
14 general emergency. I also remember one thought in my mind at the time that  
15 we had the 8 R reading was to look a reactor building pressure, because my  
16 major concern at that time was a release path from the reactor building  
17 through reactor building leakage and I looked and noted that we were at a  
18 very low pressure one two pounds type pressure in the building, which gave  
19 me some degree of hope that we wouldn't be releasing a significant amount  
20 through any normal leak paths.

21 OK. We are at a break point, time being 5:15 I would like to remove this  
22 tape and start a new cassette here, so we are breaking at 5:15 I am reading  
23 970 on the meter.  
24  
25

892 063