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IN THE MATTER OF:

THREE MILE ISLAND SPECIAL
INQUIRY DEPOSITION

DEPOSITION OF PETER VELEZ

POOR ORIGINAL

Place - Middletown, Pennsylvania

Date - Wednesday, September 19, 1979

Pages 1- 93

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THE NUCLEAR REGULATORY COMMISSION'S:
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SPECIAL INQUIRY GROUP
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Oral Deposition of PETER VELEZ

APPEARANCES:

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ALSO PRESENT:

Oliver D. T. Lynch
Harry S. North
Paul A. Murray
Frank J. Miraglia
Shlomo Yaniv

TAKEN AT:

Trailer 203
Three Mile Island, Pennsylvania

1:30 p.m., Wednesday
September 19, 1979

I N D E X

<u>WITNESS:</u>	<u>EXAMINED BY:</u>	<u>PAGE</u>
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E X H I B I T S

<u>NUMBER</u>		<u>MARKED</u>
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P R O C E E D I N G S

PETER PAUL VELEZ,

was called as a witness and, having been first duly sworn by Oliver D. T. Lynch, was examined and testified as follows:

(Whereupon, the reporter marked an interview of Peter P. Velez taken April 23, 1979, as Exhibit 3030; and an interview of Peter P. Velez taken in draft form was marked as Exhibit 3031.)

BY MR. DIENELT:

Q Would you state your name and business address?

A My name is Peter Paul Velez. My business address is Metropolitan Edison Company, Three Mile Island.

Q I will show you a document that has been marked in a previous deposition as Exhibit 3021. Prior to today have you had an opportunity to read a copy of that document?

A Yes I have.

Q Do you understand its contents?

A Yes I do.

Q The testimony you give today has the same force and effect as if you were testifying in court. You will have a chance to review the transcript of the testimony and make any changes which you feel are necessary.

If you make a change of a substantive or substantial nature the fact that you make that change later could be viewed as affecting your credibility. So, it is important for you to

1 give full and complete answers today. For that reason it is
2 important for you to understand the question. If you don't
3 understand the question, please stop me and tell me that. I
4 will try to rephrase or clarify.

5 Also, if you could wait until the question has
6 finished before giving the answer even though you know what the
7 question is and are prepared to give the answer. That will
8 assist the court reporter in taking down what the questions
9 and answers are.

10 Do you recall giving an interview to I&E investiga-
11 tors of NRC?

12 A Yes.

13 Q I have marked as Exhibits 2030 and 3031, two
14 transcripts of your interview with I&E. I will note that
15 Exhibit 3030 is a final version. 3031 is a draft. We do not
16 yet have a final version. I will want to substitute for the
17 record or add to the record the final version when it is
18 available.

19 Have you had an opportunity to review the tape or
20 the transcript of the interview which you had with I&E?

21 A Well, the tapes I have -- they were given to me. I
22 haven't reviewed them. The transcript I have the original
23 draft of 3031 and the initial draft of 3030. I do not have the
24 final of 3030.

25 Q Have you had a chance to review the drafts?

1 A Well, that letter that you mentioned earlier I
2 received approximately two days ago. And I did not have a
3 chance to really review it properly.

4 Q Can you recall now any parts of the interview which
5 at the time were not complete or accurate?

6 A Well, as I stated in the initial interview, you
7 know, when I first gave the fact that names, times and dates
8 were going to be approximations. And I could have made a
9 mistake on a couple of the names. And also during the inter-
10 view they talked about the sampling that was done on March 29.
11 And after sitting down and going over it again with a new NRC
12 Investigative Committee and with the Porter Gertz Investigative
13 Committee. They are a consulting firm for Metropolitan Edison.
14 With the other two personnel that did take the sample with me
15 there are some corrections that should be made to it.

16 Q Can you recall specifically what addition or
17 clarification of what you had said you would make?

18 A Well, initially I was under the impression when they
19 went in to take the sample that I had taken it. But after
20 sitting down with the other two foremen that were there we
21 went through the whole thing all over again. And it was
22 clarified that I did not take the initial sample. I just
23 handled it after it was taken. And the -- that point on, you
24 know, like I say, I could not recall verbatim. We went
25 through it about twice and there is another report. Where it

1 is, I don't know. I haven't seen it yet, from the Porter Gertz
2 Association group. They have the complete thing from time zero
3 till the time we left the lab.

4 Q Apart from that clarification or correction to the
5 interview is there anything else that you recall which --

6 A Well, like I said I didn't really have the chance to
7 really review the report that closely. And there may be little
8 time differences. Maybe a name I thought -- person I thought
9 I saw at an area that actually wasn't there. You can, you
10 know, I haven't reviewed it. So, I really don't know.

11 Q At the time you gave the interview were the answers
12 full and complete to the best of your recollection?

13 A To the best of my recollection they were.

14 Q Have you been deposed or interviewed by any
15 department representative of the President's Commission on
16 Three Mile Island?

17 A No I haven't.

18 Q Apart from the interview with I&E, the interview with
19 the Porter Gertz Committee, those two interviews, do you
20 recall any other interviews which have been taken of you
21 regarding the incident at Three Mile Island?

22 A That's about the only ones that I recall.

23 Q Do you recall any other testimony you have given
24 regarding Three Mile Island?

25 A Actual testimony, no.

1 Q What is your current position?

2 A I am a radiation protection foreman.

3 Q Is that the same position you had on March 28?

4 A Yes it is.

5 Q What are your responsibilities in that position?

6 A Well, there is direct the control radiological
7 process in the plant as best we can. You know, you got about
8 99 different functions.

9 Q Can you tell me what the two or three major functions
10 are?

11 A Well, it is health physics. And health physics is a
12 quandary of things. There is many different things we have to
13 worry about. One is surveying of areas, make sure the areas
14 get surveyed. Make sure that whatever work has to be done in
15 an area, that, you know, technicians are filling out the RWPs
16 for them. When we do our environmental sampling be sure that
17 somebody is going out and getting the environmental sampling,
18 portable instrument calibration, you know, trying to keep up
19 with that. And they have a side duty of training.

20 Q Training who?

21 A Training everybody on the staff through one way or
22 another.

23 Q In what sense is it a side duty?

24 A Well, it is not a primary function. Basically every
25 member of the staff is scheduled to go for what they call

1 general employee training, GET. And then one of the foremen,
2 myself or anyone of the other ones would have to provide a two,
3 two and a half hours of training to get that, to complete that
4 training program. Also, whenever we have people going through
5 Intermediate HP we are allowed to have people call it the RWP
6 training, one of the health physics foremen has to give the
7 training.

8 Q Were your responsibilities on March 28 the same as
9 they are at present?

10 A No, a lot of the responsibilities has been changed.

11 Q Can you tell me major ways in which your responsi-
12 bilities have been changed?

13 A Well, as of right now we are no longer involved with
14 the training. And as of right now initially during on March 28
15 I was primarily assigned to Unit One with slight control over
16 Unit Two because there were two foremen over there. But now
17 basically I am assigned nothing but Unit One.

18 Q Who is doing the training now?

19 A Training department. And they also have a group in
20 from NUS. What exactly that stands for, I don't know. They
21 are preparing and training programs. And they are giving the
22 training program.

23 Q Do you have a resume?

24 A Yes, a partial one here what I got from the company's
25 files.

1 (Whereupon, the reporter marked a partial resume of
2 Peter Paul Velez as Exhibit 3032.)

3 BY MR. DIENELT:

4 Q We have marked as Exhibit 3032 a group of ten pages.
5 The first page of which is entitled at the top Experience and
6 Qualification Form. For the record, will you identify Exhibit
7 3032?

8 A Yes, that is my records out of the training program.

9 Q This is the file that has been --

10 A From the training department.

11 Q Do you know when the last time this was updated?

12 A You'd have to look at the last sheet. Initially it
13 was manual entry. Then it went to computer entry.

14 Q Can you show me on this exhibit where, if at all,
15 there is a summary of work experience?

16 A Military service record, school I attended while I
17 was in military school and job related training programs I
18 received here at Three Mile Island.

19 Q What I am interested in is what different jobs you
20 have held since your discharge from the Navy in 1971?

21 A Well, if you look closely I started with Met-Ed in
22 1971 right out of the Navy.

23 Q You have been with Met-Ed since that time?

24 A Yes.

25 Q Did you start as a worker in the health physics area

1 in 1971?

2 A No I did not.

3 Q What was your first job with --

4 A I was hired as an auxiliary operator.

5 Q How long did you retain that job?

6 A Approximately I think it was three years.

7 Q What did you do after that?

8 A I went to a Rad Chem Tech position.

9 Q How long did you have that position?

10 A Approximately another three years.

11 Q You were promoted to --

12 A A foreman.

13 Q You have had that position since that time?

14 A Yes.

15 Q During the period beginning on March 28, 1979 did you
16 maintain a log or diary or any notes of your activities?

17 A Yes I did.

18 Q What form did it take?

19 A A little book.

20 Q Do you happen to have that book with you?

21 A As I have stated in about three other interviews on
22 the day we went into natural circulation I had brought the book
23 in upon request from the NRC Investigative Committee to Xerox
24 it and give them a copy. That logbook was placed on the desk
25 because I had been pulled out to do other duties that day

1 because it was quite quite hectic. Upon returning to the
2 little office we had off the Unit II Control Room the book is
3 gone. We have looked for it. I've asked other people if they
4 know where it is. It hasn't turned up since.

5 Q What kinds of things did you record in the book?

6 A Basically what was in the book was, you know, while
7 I was up in the control room in Unit II since we weren't
8 properly prepared up there with survey forms and everything,
9 it was when people were coming back from the Auxiliary Building
10 they were giving me dose rates that they had seen. I had
11 written them in the book. A lot of the things in the book were
12 about where my personnel were because sometimes -- majority of
13 the time I was stationed out at the Observation Center, the
14 handling of the getting people relieved. I wanted to know who
15 was here, where they were. So when they did come to relieve
16 I'd know I had to get this man some food some place or get him
17 a leave so he could eat, get him leave so he could go home.
18 And mostly the information that I felt was unneeded at the time
19 for what exposures of certain areas that I may have seen or
20 heard of since we didn't have survey forms. And also personnel,
21 where, when they came to work and if they would be coming to
22 work on certain days that they could have off.

23 Q Would it be fair to characterize the book that you
24 maintain as a personal diary as opposed to a diary or log which
25 you were required to keep in the course of business?

1 A Yes, it is a personal thing.

2 Q You mentioned survey forms. Can you tell me what
3 they are?

4 A A survey form is a sheet of paper that has an area
5 mapped out in it so when a person goes in to do a survey he
6 normally takes this form with him. And he will put down the
7 dose rate he sees in specific areas. Well, during the first
8 two days most of those forms are kept in the Health Physics
9 Lab where we normally work out of. But due to the airborne
10 level and the radiation level in the lab everybody was working
11 out of the control room the first two days. Or whenever they
12 had to go in to do any work on a valve, turn a valve, check
13 this pump out, you know, we gave them the dose rate instruments
14 that were available. And we had them go in. And whatever
15 exposures they may have seen in these areas they might say,
16 well, I was by this pump and I saw a dose rate of so much.
17 Since I didn't have a form really to write it on I will just
18 copy it over and write it down in the book.

19 Q Was there any other document that was kept in the
20 normal course of business apart from the survey forms which
21 information such as you have just described would have been
22 recorded?

23 A Well, we have the survey form. We have a smear form.
24 Not many smears were taken because the area had water all over
25 the floor. You have airborne contamination survey records

1 which normally during normal operation are kept.

2 Q There was not an official log or something of that
3 nature?

4 A I did not keep an official log. That book was just
5 my personal book.

6 Q Did you prepare any memoranda or other written
7 documents apart from the book summarizing your activities?

8 A I don't know what you mean by summarizing my
9 activities.

10 Q For example, after the events of March 28 through
11 April 1st did you sit down and write out a summary of what you
12 had done?

13 A No I don't think I did.

14 Q Were you the foreman on the 11 to 7 shift beginning
15 at 11 p.m. on March 27?

16 A There is no foreman on shift.

17 Q Were you the foreman on call?

18 A I don't recall if I was or not that week.

19 Q When did you first learn of the incident?

20 A When I arrived at the gate at approximately 6:40 in
21 the morning.

22 Q Was that your normal time of arriving to work?

23 A Plus or minus ten minutes either way.

24 Q What did you do when you arrived?

25 A When I first got to the gate and I saw the gate

1 locked I knew something was wrong. Initially I felt it might
2 have been a security problem because we have had a couple of
3 them in the near past. But after talking with the security
4 guard he instructed me that, no, it was a radiation emergency.

5 I called the control room in Unit One and requested
6 permission to come on the Island. And I talked to the shift
7 supervisor. He authorized permission to come on the Island.
8 And I came on the Island.

9 Q Where did you go?

10 A I went over to the Unit One HP Lab.

11 Q Who was in charge?

12 A When I got there the other foreman, Joe Deman, was
13 already there.

14 Q What role did you play?

15 A Initially when I got there, as I stated before, I
16 tried to help him out. And I started trying to get people
17 together for the on-site and off-site emergency teams.

18 Q Did he ask you to perform this function?

19 A No, it was just a function that I saw hadn't been
20 done yet because of lack of people. So, I decided -- because
21 with me also more technicians came in. So, now there were
22 more available. So, I knew it probably would have to be used.
23 So, I started setting them up.

24 Q Are you familiar with the emergency plan which exists
25 for dealing with incidents such as occurred?

1 A I am familiar with it, yes.

2 Q Was there a specific role which you in your position
3 were assigned to perform pursuant to that plan?

4 A It all depends on the type and who is there when the
5 emergency occurs where I fall into the chain.

6 Q In this situation did you perform the role that you
7 were assigned by the emergency plan to perform?

8 A Normally since the shifts -- since the HP Supervisor
9 wasn't on site a foreman would take over down at the emergency
10 control station Unit I HP Lab. His function is to coordinate
11 all this. Any other foreman there will assist him.

12 When I got there since I already found one foreman
13 there I just took it on myself to assist him to make his job
14 easier.

15 Q Did you establish a team at the Observation Center?

16 A I was sent to the Observation Center.

17 Q By whom?

18 A I think it was Dick Dubiel or Tom Mulleavy. Like I
19 said, it was one or the other. It was sometime later.

20 Q Can you give some approximation of the time?

21 A 9:30, 10 o'clock.

22 Q At this point it was either Mr. Dubiel or Mr.
23 Mulleavy who was in charge of the ECS?

24 A Mr. Dubiel was in the control room Unit II. Upon
25 speaking to him and knowing that in the past we had had

1 problems with our communication because of the location of the
2 cooling towers and the location of our transmitters we'd get
3 dead spots off the Island. So, I picked up an emergency kit
4 and a walkie-talkie. He said he wanted to use me one. I said
5 I'd go out to the Observation Center to let the people that are
6 mustering out there know what is going on, the senior people,
7 and also to act as a relay station if necessary for other
8 communications.

9 Q You did that?

10 A And that's what I did.

11 Q To your knowledge was that a part of the emergency
12 plan as it is written?

13 A I don't know if it is exactly as written. But I
14 know in the past we have had this problem before. And it was
15 a recommendation that was made that we do send because of the
16 communication problems with the towers to send somebody out
17 to relay information.

18 Q When you arrived at the Observation Center did you
19 establish contact with Mr. Dubiel?

20 A I established contact with the control room.

21 Q Did you spend the rest of the day at the Observation
22 Center?

23 A For some period of time I was there. I think I may
24 have been sent back on the Island to relieve the other foremen
25 that were on the Island because a lot of them were in respirators

1 for a long period of time. And at this time the other foremen
2 showed up and we just started relieving each other so we
3 didn't have to spend too much time in the respirator.

4 Q What were you doing?

5 A When we were in the control room like myself went to
6 the Unit II control for a period of time. And we were either
7 getting things done for Dubiel as he wanted them. Like he
8 needed a survey team for this or a survey team for that or he
9 wanted to check out some information. Other functions that I
10 performed was I sat by the door so that when people were leaving
11 the control room I was trying to find out where they were going
12 and what functions they were sent to be done.

13 Q Did you make a log or listing of the people who
14 exited the control room?

15 A No, I did not.

16 Q When someone left in you found out from him where he
17 was going and why he was going there did you report that infor-
18 mation to anyone? ..

19 A No, but I was looking at the fact of what the man was
20 going to do from some dose rates that I did have whether I'd
21 let them go back in there or not.

22 Q Did you stop anybody?

23 A Yes I did.

24 Q What were the circumstances?

25 A An engineer, again I can't remember which one it was,

1 wanted a team of maintenance men to go in and change the makeup
2 filters. Which makeup filters were -- I don't know exactly
3 which ones they were because there are three or four different
4 sets in the Unit II plant. My technician instructed me that
5 this area right outside the filter cubicle was reading greater
6 than 1,000R per hour. At that time I told the maintenance men
7 they are not going to change them filters. I had a slight
8 discussion or quarrel, if you want to put it that way, with the
9 engineer. He said they had to be done. I told him if he wants
10 it done he can try doing them himself. But the maintenance
11 people are not going down there because the exposure is too
12 high. It normally takes on the average about half an hour to
13 change a set of those filters out.

14 Q Were you performing the function of doorkeeper at the
15 request of anybody or did you take it on yourself to perform
16 that function?

17 A I may have been asked to do it. I was there and just
18 doing it because at that time since we did not have anybody in
19 the HP Lab I felt with the exposures that I was receiving from
20 guys that were in the Auxiliary Building prior to me getting
21 there that someone should be sitting there finding out what
22 things were being done. Because based on the conditions, you
23 know, things go wrong in the plant they want -- you have to
24 look at both sides. The operational portion of it is they want
25 to get this and this done. But from the health physics portion

1 of it, you know, was it worth it to be done based on the
2 exposures that were in that area.

3 Q Was someone acting as doorkeeper before you began
4 doing that?

5 A I don't recall if anybody was. I think when I got
6 there the door was wide open.

7 Q How long did you perform that job?

8 A Again, it was an on and off type thing. You know,
9 and it like I wasn't there all the time. Sometimes I was sent
10 other places. I couldn't tell you exact amount of time I was
11 there.

12 Q When you were off who, if anybody, was on?

13 A Well, if I wasn't, you know, in the control room Joe
14 Deman might have been there was another HP foreman. Fred Huwe
15 another HP foreman. Bob McCann another HP foreman. Now,
16 whether they did those duties or not, I can't say.

17 Q I take it that you did not before you left make sure
18 that there was somebody to stand your watch?

19 A Well, I wouldn't consider it a watch because I was
20 not assigned to that function. It was just something I felt
21 should be done.

22 Q You did not make certain that somebody else was going
23 to fill that job while you were away?

24 A Well, I can't say I did not. You know, I can't say
25 if I had told the other foremen. I know for one that Bob

1 McCann, he also other jobs. Because when he I think he
2 relieved me, I'm not sure. I told him that I had stopped this
3 job because of the dose rates. Keep an eye on these engineers.
4 Something to that effect, in those words.

5 Q Apart from the role in controlling exit from the
6 control room and your activity at the Observation Center what
7 other activities did you engage in on the 28th?

8 A That's about all.

9 Q When did you leave the plant on the 28th?

10 A All I know is I put in approximately 18 hours, two,
11 three, four o'clock in the morning.

12 Q Did you return on the 29th?

13 A Yes I did.

14 Q At about what time?

15 A Eight o'clock.

16 Q Where did you report when you returned on the 29th?

17 A I initially reported to the Observation Center.

18 Q How long did you stay there?

19 A Approximately an hour.

20 Q What did you do?

21 A I was told that my supervisor, Dick Dubiel, wanted to
22 see me over in Unit II.

23 Q You then went to Unit 11?

24 A I went to see Dick Dubiel over in the plant.

25 Q What did he tell you?

1 A Well, he stated that they needed an RC letdown
2 sample. And would I see if one can be got. And from that
3 point on I went back to the lab.

4 Q This is in Unit II?

5 A I went to Unit I. The primary sample lab is one lab
6 located in the Unit I Health Physics area for both units. So,
7 all -- mostly all radioactive liquid samples other than local
8 grab samples are taken in Unit I.

9 I went back to the Unit I HP area and I met Mr.
10 Houser who is a chemistry foreman and Mr. Gary Read is another
11 chemistry foreman. And I explained it to them that Dubiel,
12 which is my radiation supervisor -- well, actually he is the
13 superintendent of radiation -- supervisor of radiation protec-
14 tion and chemistry -- wanted a letdown sample. Upon talking
15 amongst each other we decided we'd take it ourselves.

16 Q Did Mr. Dubiel give you any instructions other than
17 simply telling you he wanted a letdown sample?

18 A Well, he told me they wanted a letdown sample because
19 they were worrying about the boron concentration because they
20 were worried about the shutdown margin in the plant because of
21 all the water they had been adding and all the water that had
22 been going out subsequently found out through the relief valve
23 that they worried about the boron levels going too low and
24 possibly a re-startup of the plant, you know, getting less than
25 a one percent shutdown margin.

1 Q Did he tell you anything about the exposure to
2 radioactive material which you might expect in taking the
3 sample?

4 A No, I think he felt that, you know, being a foreman
5 I would probably use my judgment on whether or not based on the
6 level that I saw what I would get the sample or not.

7 Q He didn't tell you whether there had been any surveys
8 conducted in the area of the radiation level?

9 A No, he didn't tell me that.

10 Q What did you and the other people who were involved
11 in taking the sample do?

12 A Well, first we sat down and we decided, well, how are
13 we going to do it. We had three men. We knew what had to be
14 done. So, we decided to divide the work up amongst the three
15 of us, one for exposure control.

16 I then stated that Houser and I would draw the sample.
17 Houser would buffer the sample quickly for PH to see, you know,
18 what level of PH we were seeing in it and that the other
19 chemistry foreman, Gary Read, would run the boron analysis.

20 Q What protection did you take?

21 A Well, we -- well, first we got dressed up in the
22 protective clothing some, you know, at the time there is
23 available some of us had double coveralls, wet suits, respi-
24 rators, two or three pair of gloves, you know, whatever -- what
25 was available there at the time. We used the best we could.

1 Q Was everything that you needed or felt that you
2 needed available?

3 A No, there was some things that we would have liked to
4 had that weren't there.

5 Q What was not there?

6 A What I thought about, I don't know. But I would have
7 liked to have had a long handle to pull now that I think about
8 it.

9 Q That would have assisted in reducing the exposure?

10 A Yes.

11 Q What else?

12 A Well, subsequently we found out the only -- the
13 highest dose rate instrument we had on-site at the time was a
14 teletector which only goes up to 1,000R per hour. And subse-
15 quently we found out that contact readings on the bottle --
16 sample bottle were greater than 1,000R.

17 Q You would have wanted an instrument that would have
18 recorded a higher level?

19 A Higher.

20 Q What kind of instrument would that have been?

21 A I don't know if there is any available right now.

22 Q When you say you don't know if there is any available,
23 do you mean you don't know whether there are any available at
24 the plant or you don't know whether such an instrument is in
25 existence?

1 A I don't know if any exist.

2 Q Did you and Mr. Read and Mr. Houser discuss making
3 any kind of preliminary survey or assessment of the radiation
4 level before you went in to take the sample?

5 A Well, we divided the work amongst us. And one of the
6 first things we did was -- the report was already in, exactly
7 how it went. One of us went in. It was Houser. He landed up
8 because he is the chemistry foreman. He knew those lines
9 better than I did to take the sample. We then called the
10 Unit II Control Room to open the valve. Once the valves are
11 open we had -- you could hear when you have flow in the system
12 because of the drag valve that is in the system that gives you
13 a high differential pressure across it. And you can hear when
14 you have flow.

15 We then went in and we surveyed from behind the wall.
16 It is the design of the chem lab where before you walk in you
17 have like a shield wall in front of you. And with the tele-
18 tector, you know, we surveyed as best we could in the room.
19 You couldn't get back around the corner with it. We surveyed
20 the location where he was going to adjust the flow and the
21 sample cooler which sat on the other side of the room. We saw
22 that the radiation levels were extremely high, you know. And
23 we felt at the time -- well, if we do it this way we will be
24 able to take care of it. Because prior to even putting it on
25 recirc we had built some lead pigs to put the sample in and put

1 some shielding around where the man was going to do the
2 chemistry with to try to protect him from the sample bottle
3 because we were only going to use a small volume.

4 Q When you did the survey with the teletector what was
5 the reading on the teletector? Do you recall?

6 A I may have -- I don't recall now. I think it was
7 something like 90 Rs per hour or a hundred R per hour. I'm
8 not exactly sure of the numbers I have stated prior.

9 Q Did it go off scale?

10 A No, it did not go off scale while I was surveying the
11 room. It only went off scale when I surveyed a contact with
12 the 100 ml of liquid.

13 Q What would the use have been or the benefit have
14 been from knowing the level particularly if the level were in
15 excess of 1,000R?

16 A Well, I guess at that time I would have known better,
17 you know, if it is greater than a thousand I knew what the dose
18 rate was reading at one foot. It was approximately 400R. So,
19 just going back that way I sort of estimated that maybe probably
20 2,000R per hour is a rough calculation. And if I would have
21 known that it was much, much higher I might have said, no, I
22 am sorry, I can't draw the sample without more protection yet
23 and back out.

24 Q What kind of personal dosemetry did you and Mr.
25 Houser and Mr. Read use?

1 A Well, we had a whole body TLD and pocket dosimeters.

2 Q Did you have any extremity doseimetry?

3 A No. The only thing I had was a high range pocket
4 dosimeter taped to my wrist.

5 Q If I remember prior statements, that was knocked off
6 at some point?

7 A Yes, it was.

8 Q Did you read the pocket dosimeter during the time you
9 were exposed?

10 A Well, one of the first things that happened was it
11 fell off when we first went in to draw the sample.

12 Q This was the one that was taped to your wrist?

13 A Yes.

14 Q Did you have another one?

15 A Yes, I had a body one.

16 Q Was it available to you or was it underneath your
17 clothing?

18 A It was underneath my clothing.

19 Q Did either Mr. Read or Mr. Houser have any extremity

20 --

21 A I don't recall if they did or didn't.

22 Q Did you determine how large a dose you had received?

23 A Well, after the completion of the work that we --
24 after getting the sample and putting it away and removing the
25 outer layer of clothing I looked at my pocket dosimeter. And

1 I saw that I had 890 millirems by pocket dosimeter. I then
2 left the area after a couple of decontamination tries, went
3 back to the Observation Center and had my TLD read. And it
4 came out approximately 860 millirem.

5 Q Did this constitute contamination?

6 A No. This was whole body exposure that I received.
7 I did have contamination along my forearm.

8 Q What did you do to decontaminate?

9 A Went to the locker room in the service building
10 because the one in the HP lab was inaccessible due to high
11 airborne and contamination problems and showered and showered
12 and showered.

13 Q Were you successful --

14 A No I was not.

15 Q -- in the decontamination?

16 What kind of --

17 A I had fixed contamination.

18 Q What kind of soap did you use, if any?

19 A It was that bar of -- I forget. Dial soap I guess
20 it was. I have it in my locker.

21 Q What kind of contamination was it?

22 A I ended up with -- I still had fixed contamination
23 after I was done. I just washed and just no more would come
24 off.

25 Q Was a report prepared regarding the contamination?

1 A That day, no.

2 Q Later?

3 A Later I think one finally was turned in after we went
4 through the whole investigative report on the sample.

5 Q You prepared it?

6 A No I did not.

7 Q Who prepared it?

8 A I think it was prepared by the Porter Gertz
9 Associates.

10 Q Was it a practice or a requirement that you prepare
11 a report on contamination fairly soon after you experienced it?

12 A During normal, routine work a person gets contam-
13 inated and reports to the HP lab. We fill out a Contamination/
14 Exposure Report. During normal operation. But under these
15 conditions, things were not normal. And I couldn't get back
16 to the lab without having to go into another area that was
17 highly contaminated. So, I felt why go back into a contaminated
18 area to fill out a report that I am contaminated that will get
19 me contaminated again.

20 Q You did not obtain an RWP for the same sample of the --

21 A No, I did not.

22 Q Would that also have been a normal procedure?

23 A Under normal operations, normal before you do some-
24 thing you have an RWP. But, we also have a requirement in
25 there since it would go around in circles if I require an RWP

1 to go into an area to perform a job and all that my job is to
2 survey the area which I must have to fill out the RWP, well,
3 that I never get anything done. So, we do have a requirement
4 that states you can go in to perform a health physics function,
5 one survey, and afterwards fill out the RWP. But it was not
6 filled out afterwards.

7 Q Why not?

8 A Again, I didn't think of it.

9 Q Too much else going on?

10 A I would say that's the truth.

11 Q After you had scrubbed down and been unable to
12 eliminate the contamination what did you do?

13 A Well, initially that day I went out to the -- we have
14 a monitoring station set up at the 500 KV Sub. I went out
15 there and my hand -- my forearm area was monitored. An exact
16 number I don't remember. I have it written down on my
17 calendar which is at home or in my office. Something like 115,
18 125 millirad beta was still on there. So, at that time I got
19 some plastic bag, covered up, taped it over both sides, con-
20 tinued doing whatever work was necessary, and then went home,
21 came back the next day sometime, 16, 18 hours later took off
22 the tape, washed it again, saw it was still contaminated. And
23 for that three or four days I went through this till finally I
24 got it all out.

25 Q When you say you got it all out --

1 A Well --

2 Q -- you just gradually washed it --

3 A Sweat and washed. Because what you do is you get
4 some -- you know, good practice, you wrap some rags around.
5 Then you put a plastic bag over it and it tends to sweat. Then
6 by sweating it comes out of the pores.

7 Q What else did you do on the 29th if you recall?

8 A I think once I went to the -- after I finished with
9 the sample and we put it away I went over to the Observation
10 Center and just carried out whatever functions it needed to be
11 carried out that day. One was communications. One was sending
12 teams to different locations, getting release for people.

13 Q Were [REDACTED] and [REDACTED] also contaminated?

14 A Yes they were.

15 Q Were they able to decontaminate by showering and
16 scrubbing?

17 A I think [REDACTED] was able to do it on the initial
18 showering. [REDACTED] had the same problem I did. Highly
19 fixed contamination.

20 Q Was it on his arm?

21 A I think mostly he had a little bit on his head and
22 his hair. And then on his fingertips.

23 Q What happened to that?

24 A Well, they I think went through the same thing I did.

25 Q Do you know what radiac wash is?

1 A It's a soap that we use to decon.

2 Q Did you use that?

3 A No, because normally that was kept back in the HP
4 lab. And we took our showers up in the service building.

5 Q So there was none available under the circumstances?

6 A Under the circumstances in the location we were at,
7 no.

8 Q There was no similar solution available?

9 A The last couple of days we were able to come out and
10 get RMC. And they gave us some betadine solution. I think
11 that's the name of it. Some brown, ugly looking stuff. But
12 it did the job.

13 Q Do you know the dose that you have received since
14 January 1 this year?

15 A Ballpark. Whole-body exposure?

16 Q Yes. What was it?

17 A Approximately [redacted] rem.

18 Q From March 28 to the present do you know the dose
19 that you have received?

20 A About [redacted] Maybe a little bit more.

21 Q What is the basis for those estimates?

22 A Well, this is whole-body exposure. I picked up
23 approximately [redacted] when I took the letdown sample. And then
24 April 3rd or 4th, I can't remember the exact date, 2nd, 3rd or
25 4th I picked up another [redacted] rem when I had to go into the Unit

1 II Auxiliary Building to close -- to attempt to put seal
2 injection flow back onto a reactor coolant pump.

3 Q What date was this?

4 A I'm not exactly sure of the date. It was either
5 April 2nd, 3rd or 4th.

6 Q Was there any other basis for the estimate of
7 exposure?

8 A That's just straight, whole-body exposure. I do
9 have the report that still is not in my record as of today
10 because it is in a legal bind some place between the NRC and
11 Met-Ed of the extremity and skin dose I received to my hand
12 and forearm.

13 Q Was that the only dose on a particular area that you
14 received that was recorded?

15 A Well, every month or every day initially my TLD was
16 read. And now every month it is read. But since exposure
17 since after about the first month it is just the normal 25, 30
18 MR per month.

19 Q Were you contaminated other than the one time when
20 you got the primary coolant sample?

21 A I had my feet contaminated when I went in to do that
22 valve job.

23 Q This is the Unit II Auxiliary Building?

24 A Yes.

25 Q Any other occasions?

1 A Not that I recall.

2 Q When you went in the Unit II Auxiliary Building at
3 whose instruction was that?

4 A Well, I was the foreman on with Bob McCann. There
5 were two foremen there. They lost the reactor coolant pump.
6 They went to start a second pump. Upon starting it they found
7 that they did not have seal injection flow. And at this time
8 maintaining the reactor coolant flow in the system was of vital
9 importance. But without seal injection flow to the pump you
10 may lose the pump.

11 So, they needed someone to go in with an operator,
12 they will be sending two people in at a time, somebody from
13 Health & Physics to go into the Auxiliary Building to line up
14 the valve.

15 Well, Bob McCann and I were there. And I told him
16 that I'd go in with the operator and provide his HP escort.

17 Q Who asked you or Mr. McCann to provide the escort?

18 A It was the shift foreman or supervisor, Unit II.

19 Q You essentially volunteered to do it?

20 A Yes I did.

21 Q What precautions did you take on this occasion?

22 A Well, at this time we were a little bit more
23 organized in the fact that the Unit II HP Lab was now in
24 function. We had complete protective clothing. We had
25 respiratory, you know, Scott airpacks, proper instruments. And

1 we went through the whole thing with an RWP and everything, we
2 went into the area.

3 Q What kind of dosimetry did you use?

4 A We had on a whole-body TLD, a pocket dosimeter on
5 the inside. And each one of us had a pocket dosimeter taped
6 to our forearms so we could have a rough idea how much we were
7 picking up as we were doing the work.

8 Q Did you have anything taped to your ankles, feet,
9 legs?

10 A No, I did not.

11 Q How did your feet get contaminated?

12 A That was something I'm still trying to figure out in
13 the fact that I had all the clothing and everything in it.
14 But when I came out they were contaminated.

15 Q Were you able to decontaminate?

16 A Yes, one quick shower and it was gone. It was not
17 gross contamination, very little.

18 Q Was there a written report prepared to that?

19 A I don't know if there was or not.

20 Q By this time were the forms available?

21 A The forms are in the lab.

22 Q You did not fill one out?

23 A I did not personally fill one out.

24 Q You don't know whether anyone else did?

25 A No I did not.

1 Q It would have been the standard practice to fill one
2 out?

3 A Yes it would have.

4 Q Did Mr. Dubiel know that you were contaminated when
5 you took the primary coolant sample?

6 A I personally didn't tell him that. That I think
7 through the fact that they wanted to get me to a whole-body
8 counter and I couldn't get through it I think he may have
9 found out. I personally didn't tell him.

10 Q Was Mr. Mulleavy told by you or did he otherwise
11 become aware?

12 A After some period of time he became aware that my
13 arm had been contaminated.

14 Q When he learned did he tell you to prepare a report?

15 A He may have. I don't know.

16 Q Was either Mr. Dubiel or Mr. Mu'leavy aware of the
17 contamination when he went in the Auxiliary Building?

18 A No I don't think so. It was nothing significant.

19 Q Was the person whom you escorted into the Auxiliary
20 Building contaminated?

21 A I don't remember if he was or not.

22 Q What was the normal procedure for handling skin
23 contamination when washing up doesn't help?

24 A It all depends how high it is. We normally -- if,
25 you know, if a person is -- it happens at the beginning of the

1 day we will, like I say, we use the glove trick a lot it helps
2 and a plastic bag. But if it gets to the point where it just
3 can't be removed if we -- I report it to my supervisor, either
4 Mulleavy or Dubiel. And if necessary, depending on the levels
5 that are there, they can be sent to Hershey Medical Center
6 where the doctors know more than I do. And still if it is even
7 worse than that we also have a contract with Radiation Manage-
8 ment Corporation in Philadelphia. And if necessary, we will
9 send them there.

10 Q It was not regarded as serious enough for you to
11 consult with medical personnel after you took the primary
12 coolant sample; is that correct?

13 A I didn't feel it was.

14 Q That would have been your decision to make?

15 A No, but I think other things were a little bit more
16 important than that at that time.

17 Q We have talked about the whole-body exposure that you
18 received. We have talked about some contamination on your arm
19 and some contamination on your feet. Are you aware of the
20 total exposure that any of the particular extremities or organ
21 received from January 1 to the present?

22 A Well, like I say they are in contention right now
23 over the amount I received to my forearm and hand from taking
24 the sample. Met-Ed came out with one set of numbers. The NRC
25 came out with another set of numbers. And before they put it

1 into my record they are sitting there and they are having a
2 legal hassle over it.

3 Q Any other part of your body than your arm that has
4 been the subject of examination as to what your exposure was?

5 A That's about it.

6 Q Did you take any samples or enter into any radio-
7 active areas other than in connection with obtaining the
8 primary coolant sample on the 29th and the entry you made into
9 the Unit II Auxiliary Building several days later?

10 A I may have gone down into and assisted my technicians
11 in taking air samples in the Auxiliary Building, I mean the
12 turbine building which we were sampling continuously because
13 of the new system they installed. But actual taking samples,
14 I don't think so.

15 Q On the 29th what time did you go home?

16 A About two o'clock in the morning on the 30th.

17 Q Did you come back on the 30th?

18 A Back that morning approximately seven, eight o'clock.

19 Q How long did you work on the 30th?

20 A Another 14 to 16 hours.

21 Q Where were you stationed on the 30th?

22 A Again, back and forth from the Unit II Control Room
23 and the Observation Center. Mostly at the Observation Center.

24 Q What did you do at the Observation Center?

25 A Like I stated before just trying to, you know,

1 supporting the requests that were coming from the control room.

2 Q When you were in the control room were you or was
3 someone controlling exit from the control room?

4 A By -- I don't know if the 30th or the 1st, after a
5 couple days we were able to get into and get our Health Physics
6 Lab in Unit II and Unit I in operation to a limited extent. We
7 then set up an office, if you want to say, up in the Unit II
8 Control Room for RWP processing. By that time we had gotten
9 people to assist us on a review before work was being done.
10 And we started setting up a program from the Unit II Control
11 Room for entry into the Unit II Auxiliary Building. We did
12 have people in the Unit II HP Lab, also. They were from Rad
13 Services Corporation.

14 Q So that by this time any entries into an area that
15 had high radioactivity would have been handled through the
16 Health Physics Office in Unit II?

17 A Well, like I say, the exact date I'm not exactly
18 sure, 2nd, 3rd or 4th. It was about three to four days into
19 it we were able to finally get in and set up the system
20 properly.

21 Q On the 31st, 1st, 2nd, 3rd and 4th would it be fair
22 to summarize your activities as being essentially the same as
23 those you performed on the 30th with the exception of the
24 entry you made into the Unit II auxiliary room?

25 A Basically the same, yes.

1 Q Were you ever assigned to any on or off-site
2 monitoring teams?

3 A No.

4 Q Did there come a time when an on-site TLD reader was
5 moved to the Observation Center?

6 A Yes.

7 Q What was the reason for that?

8 A Well, due to the airborne problems we were having on
9 the Island because of the shifting of the wind all over the
10 place we couldn't process TLDs because we didn't want to put
11 somebody in that area. And also the shifting, whenever they
12 released anything the exposure that was coming out to the area
13 you really couldn't set up a proper area background to read
14 TLDs. So, we decided to go get the TLD reader out of the
15 trailer and move it to the Observation Center.

16 Q Who is we?

17 A Myself, I think I talked to Dick Dubiel about it and
18 I may have talked to Tom Mulleavy about it.

19 Q Did either of them give you instructions to move the
20 TLD reader or was it more a matter of your suggesting?

21 A I think I suggested that we move it. And they may
22 have said -- they didn't tell me it was a bad suggestion. And
23 they didn't, you know, I don't -- those days, the ways things
24 were going on I felt, you know, decisions like that I felt I
25 could make. And I made it.

1 Q Was procedure established to assure that TLD data
2 were read once the reader was moved to the Observation Center?

3 A We moved it to the Observation Center. And we had
4 some people there from Harshaw.

5 Q What is it?

6 A They are the people who make our reader. And one of
7 our technicians was also there. And he said he will assist
8 them to try to get it back, check it out and get it functioning.

9 Q Was that done?

10 A Over a period of maybe two days it was put into work
11 so it could read TLDs.

12 Q On what day, if you recall, was the TLD reader moved?

13 A I don't remember the exact date. It might have been
14 the 30th or the 31st.

15 Q That was a period of two or three days when it was
16 not functioning?

17 A Oh, it was functioning. But you had run onto the
18 Island to count the TLD. And as things were progressing the
19 dose rates in the area were getting higher and the airborne
20 and they were releasing more gas. They were trying to minimize
21 the number of people you have to keep on the Island. So, we
22 felt since the Observation Center was getting to be the point
23 of control, was to get it out of the -- get it off the Island
24 so we could use it.

25 Q Once it was off the Island were you able immediately

1 to use it for reading TLDs?

2 A Immediately, no. Like I say, it took about one
3 technician who volunteered to just start and go straight
4 through it because when you have more than one person going
5 into the thing you might lose the train of thought of what is
6 actually going on. And I think he worked something like 48
7 hours straight trying to set it up.

8 Q So you had a period of a day or two in which TLD
9 readings were not being made because the reader was on the
10 Island and then another period of 48 hours after it had been
11 moved during which repairs or maintenance were being performed;
12 is that correct?

13 A No, that is not correct. During the first 48 hours
14 we were able to read them. But the thing is we would have to
15 send somebody to the Island to read them because it's normally
16 was situated just on the northeast corner of the security fence
17 in the trailer. We were able to read if necessary. But then
18 we felt, you know, going back and forth onto the Island in
19 order to read them, you know, when the majority of the people
20 were out here and the dose rates were shifting, you know, we
21 really weren't sure if, you know, we weren't sure if there
22 would be a time they would be able to go on there and sit some-
23 body there and read a bunch of them. So, we decided to move it
24 out.

25 Upon removing it we pulled it out of the lab, put it

1 in the truck, took it to the Observation Center, installed it
2 in the Observation Center. Now, during this period of time,
3 I don't know how long it took to get the thing so it would be
4 able to read again. They just had to test it out. But I know
5 the gentleman worked on it to try to get all the paper work
6 that was there for approximately 48 hours.

7 Q During the period of time that the TLD reader was on
8 the Island and you testified that you were reluctant to send
9 people over to have the TLDs read --

10 A It wasn't reluctant. I just said that it was
11 inconvenience.

12 Q Were people sent over to read the TLDs?

13 A Yes, because mine was read on the 29th.

14 Q Were TLDs read as frequently as they would have been
15 if the TLD reader had already been moved to the Observation
16 Center?

17 A If the TLD reader would have been available at the
18 Observation Center, 'already checked out and ready to go I think
19 TLDs probably would have been read more often.

20 Q What harm, if any, do you think resulted from the
21 problems with the TLD reader, whether it was the inconvenience
22 during the first 48 hours or the unavailability of it during
23 the next 48 hours?

24 A Overall harm I really couldn't say because I don't
25 know that many people other than certain people I know that

1 their pocket dosimeters went off scale. And their pocket
2 dosimeters were read immediately. So, I don't really think it
3 caused us any problem. But it would have been my opinion a
4 little bit easier if one had been available off-site for
5 recordkeeping especially.

6 Q Would it be fair to say that as a result of the
7 problems with the TLD reader there were certain risks that were
8 taken that otherwise could have been avoided?

9 A I wouldn't say that because if you have a pocket
10 dosimeter which you try -- like I say, normally they are also
11 calibrated -- again, they only read whole body gamma exposure.
12 And if a person's pocket dosimeter shows that he did receive
13 certain exposure, you know, if we couldn't for some reason not
14 read his TLD, well, we'd use that pocket dosimeter record. Say,
15 hey, based on his pocket dosimeter we don't want you to do this
16 or do that until we can read your TLD. Which not during this
17 case, but anytime even normal operations for any reason a TLD
18 reader is down we will go by pocket dosimetry.

19 Q During the period from March 28 to April 4 who did
20 you report to?

21 A Various different people at various different times.
22 Sometimes it was Tom Mulleavy. Sometimes it was Dick Dubiel.
23 Sometimes it was Dave Linroth. And after a period of time they
24 set up a trailer out here with an HP group and Mr. Graber and
25 sometimes to nobody.

1 Q Did you know at all times who you were supposed to be
2 reporting to?

3 A Not until you got here and got on the Island to find
4 out who was here because of the hours people were working.

5 Q Am I correct that your understanding is that Mr.
6 Dubiel, Mr. Mulleavy, Mr. Linroth and later Mr. Graber were
7 alternating in some way?

8 A Well, Mr. Dubiel and Mr. Mulleavy were on the Island
9 I would say a good 80 percent of the time. And they were
10 working hours that were unbelievable, 18, 20 hours a day some-
11 times if necessary. The HP foremen were mostly in charge of
12 the personnel. If I got there and he happened to be there,
13 well, then I reported to him. Whoever happened to be in the
14 control room at the time. If no one were there then I'd work
15 or the shift foreman or supervisor. That is in the control
16 room. But my immediate supervisor, who would be the radiation
17 protection supervisor Tom Mulleavy or my department head
18 Dubiel or my superintendent which is Linroth, they were working
19 all different hours. You didn't know who you were going to
20 report to until you got there.

21 Q But once you got there you were --

22 A Once you found out who was there you know who to
23 report to.

24 Q What was Mr. Graber's role?

25 A Mr. Graber, I think he came from EB. And at this

1 time when he showed up we were also getting a lot of other
2 technicians from other plants. And he set up a trailer, the
3 observation center basically for coordination of manpower and
4 people because we were getting people from Houston Power &
5 Light. We were getting HP people from PP&L, the Berwick plant.
6 The foremen also came down. We were getting technicians from
7 throughout the country. So, I personally did not know all
8 these people. I probably didn't know 98 percent of them. So,
9 he wanted to have some central location and some person who
10 they could report to. And then based on our needs we would go
11 to Graber. And we would say, well, we have these people here
12 or these people there.

13 Q EB is Electric --

14 A Electric Boat Division, Groton, Connecticut.

15 Q What is PPL?

16 A PP&L is Pennsylvania, Power & Light.

17 Q In your view were the additional persons from other
18 organizations of use?

19 A I would say 98 percent of them were. But the other
20 two percent probably just came to see, you know, what was
21 going on. And they didn't want to really get involved that
22 much, just drift around.

23 Q How did they help?

24 A Well, right now during that time my manning was
25 approximately 22 technicians because two of my technicians quit

1 or failed to show up and subsequently did quit. So, with only
2 22 people, two of which were newly hired I was down to 20
3 qualified technicians. Some juniors, some seniors. And with
4 the operations being the workload that they had to perform who
5 would normally supply assistance to us, the auxiliary operators
6 a, they were tied up. So, these additional technicians were
7 able to relieve duties like on-site teams, off-site teams, the
8 guy in the helicopter to take dose rate readings. Mostly we
9 kept them on the teams around so our people would be able to go
10 into the plant, perform their functions in there.

11 Q Did you have people who reported to you during the
12 incident?

13 A Well, other than my own technicians? Well, they may
14 have assigned like I said, we also had a group of nuclear
15 support services personnel who again indirectly reported to us.
16 But, you know, we sent them over to see Graber. And he would
17 assign them their duties to make sure everybody would get
18 relieved.

19 Q What role as you understand it did the NRC play in
20 the health physics response to the incident?

21 A Well, then you have to talk individual persons. I
22 would say 90 percent of the people that came here were -- they
23 recognized the condition we were in. It wasn't a normal
24 condition. And they assisted us a lot in the fact that, you
25 know, as I stated before instruments were low. They brought

1 instruments with them. They did work, you know. They would
2 let us know things that they have seen because most of the times
3 I was locked into a control room, let's say, in Unit II. I
4 did not have the opportunity to go all over the plant where
5 they were able to. When they saw things they thought might have
6 been bad they'd let us know about it. And they even suggested
7 some things we may make things easier or safer.

8 Then you had other ones that were nothing basically
9 than a pain in the ass. And for all I cared, they could of
10 stayed home.

11 Q On balance would you say that the NRC had been
12 helpful?

13 A In my function they assisted me greatly.

14 Q As you understand it during an emergency where's the
15 ECS supposed to be situated?

16 A Emergency Control Station is in the Unit I HP Lab.

17 Q Did it remain there the entire time?

18 A No, it did not. When dose rates started getting
19 higher it got transferred to the Unit II Control Room, the
20 affected control room.

21 Q Who was in charge of the ECS as you understood it?

22 A During this accident?

23 Q Yes, sir.

24 A Well, initially Joe Deman was there. And then at
25 some time later Tom Mulleavy showed up.

1 Q Did Mr. Mulleavy go to the Unit II Control Room when
2 the ECS was transferred there?

3 A I think he did. They pick -- the dose rates were
4 getting high and they just picked everything up and went to the
5 Unit II Control Room.

6 Q He did not go to the Unit I Control Room?

7 A I'm not sure. I personally didn't see which control
8 room he went to. It may have been Unit I then sent to Unit II.
9 Because Dubiel was already in Unit II that I recall. You know,
10 one went one way, one went the other.

11 Q Was it your impression that the organization and
12 supervision in connection with the health physics activities
13 in response to the accident was adequate?

14 A Well, I don't really understand what you are saying
15 then there.

16 Q Did you think there was a lack of coordination?

17 A No, I don't think there was a lack of coordination.
18 It's just that the many things that we had to do and we didn't
19 have the people to do them. So, therefore, you found yourself
20 trying to do four things and three at once they wanted the
21 answers an hour ago.

22 Q Do you think that Mr. Dubiel and Mr. Mulleavy and
23 Mr. Linroth did a good job of supervising the operation?

24 A Mr. Dubiel and Mr. Mulleavy I can talk for. Mr.
25 Linroth I didn't really run into that much.

1 Q Let's leave Mr. Linroth out and focus on Mr. Dubiel
2 and Mr. Mulleavy.

3 A I would say in overall looking at what was happening
4 and what was going on they carried themselves at very well.

5 Q Before you became a Rad Chem Tech what health physics
6 training did you have?

7 A In Met-Ed or lifetime?

8 Q Let's break it down. Start with lifetime.

9 A Well, lifetime health physics training I went through
10 the Engineering Lab Technicians School in the United States
11 Navy which is the qualification school that they have for their
12 what they call engineering lab techs with the health physics
13 and chemistry people in the Navy Nuclear Power Program. Also
14 in the Navy I went to radiological control ship supervisor
15 training on a tender, submarine tender in Holy Loch Scotland.
16 And I also went through some disaster control schools while I
17 was stationed there. And general review and requalification
18 that we have in the Navy.

19 Q Is your Navy training in part classroom training?

20 A Classroom and in-house training.

21 Q What kind of training did you have at Met-Ed before
22 you started as a Rad Chem Tech?

23 A Well, we had the basic HP training which was just
24 basically nothing more than watching a tape. And then we had
25 the advanced HP training which was a two-week program which was

1 approximately one week of in the classroom and one week actually
2 out performing certain functions, surveying, air sampling and
3 that stuff.

4 Q In terms of its thoroughness how would you compare
5 the training you received at Met-Ed in the classroom with the
6 training you received in the Navy?

7 A Well, I would say in the Navy was probably more
8 thorough because that was what my primary function other than
9 a mechanical operator of a plant was going to be, was as an
10 engineering lab tech. Whereas an auxiliary operator, that is
11 your secondary function.

12 Q I want to focus on the training you received, if any,
13 which was specifically designed to assist you in performing
14 your duties as a Rad Chem Tech.

15 A Well, when I first came into the department I went
16 through the B&W chemistry course that they had, the chemistry
17 section of it. Chemistry and radiochemistry. And then we also
18 had different lectures and training programs in health physics.

19 Q Did you have a period of classroom training before
20 you assumed the responsibilities as a Rad Chem Tech?

21 A No, I think after my interview with the then super-
22 visor of radiation protection and the chemistry supervisor they
23 felt that my previous experience of six years in the Navy,
24 being an engineering lab tech and my duties on the tender
25 covered most of that. And then my three years as an auxiliary

1 operator gave me a vast input on the plant operation status of
2 it.

3 Q You are saying that the classroom training was
4 waived?

5 A Well, I didn't have a 32-week course or anything,
6 you know. They did go over certain differences that, you know,
7 based on this plant as compared to the Navy. But it wasn't a
8 long, drawn-out training program.

9 Q Was there a longer training program which was
10 available to persons who did not have the background which you
11 did?

12 A The ones previous to me, and I don't know if any
13 after me did, they did go through a training program. Those
14 that -- there is a big -- right when I became a Rad Chem Tech
15 is when they finally combined the departments. The departments
16 initially used to be separate into chemistry and health physics.
17 You are an analyst junior or an analyst. Then you became an
18 analyst senior. Then you became a radiation protection techni-
19 cian. And they had training for them depending on which group
20 they started in. But at this time they had combined the
21 departments. So, you became a radiation/chemistry technician.
22 And that's when I moved into the department.

23 Q Did you regard the training that you received either
24 prior to or during the first year of the time you were a Rad
25 Chem Tech to be adequate to qualify you to perform the respon-

1 sibilities that you had?

2 A Me, personally I did based on my past experience.

3 Q Do you have a view whether that training, if it had
4 been provided to a person that did not have your past experience,
5 would have been adequate to qualify him to discharge the
6 responsibilities of a Rad Chem Tech?

7 A Well, you have to differentiate because a man first
8 comes into the department he comes in as a Rad Chem Tech junior
9 and has a first year and a second year. When they get up to
10 Rad Chem Tech which is the one who leads the shift basically I
11 would say the program that they presented to me or they may
12 have given to other people, I didn't really get it in total,
13 would have -- again, I can't say, depending on the person's
14 knowledge and his high school background because a lot of it
15 was math which you use a lot of as a Rad Chem Tech and as a
16 chemist, you know, it all depends on the guy's level of
17 knowledge whether or not it would suffice him to get him up to
18 that point. Hopefully, you know, that the -- it did get him
19 there.

20 Q You did not start as a junior?

21 A No, I moved right in as a Rad Chem Tech.

22 Q What kind of on-going training have you received as
23 a Rad Chem Tech and then as a Rad Protection Foreman?

24 A Well, we have the yearly general employee training.

25 Q Of what does that consist?

1 A That consists of a used to be eight hours. Now it's
2 knocked down to four hours at Security Safety, QC & Health-
3 Physics.

4 Q QC is Quality Control?

5 A Quality Control and Health-Physics.

6 Q And that is the same training given to all employees
7 at the plant?

8 A General employee training, yes.

9 Q How long is the Health Physics portion?

10 A About two hours.

11 Q What other on-going training?

12 A Well, I did receive a chemistry training program.
13 While I was a technician I also -- we had the emergency plan
14 training where with a classroom phase and then we also
15 participated in all the practice drills and then the drill that
16 was witnessed by the NRC.

17 Q What is Training Week?

18 A Training Week is a defined week for the sixth week of
19 the six weeks rotation. The Rad Chem Techs work a six-week
20 rotation. And one of those weeks is deemed, and I quote
21 "Training week."

22 Q Is it used effectively for training?

23 A I personally do not think so.

24 Q Is there any training done during the Training Week?

25 A Some. Whenever you have the people available to

1 spare to do training.

2 Q But would it be fair to say that during Training Week
3 people continue to work?

4 A Normally they carry out their normal functions.

5 Q Is there any periodic classroom training of a
6 refresher course nature given in connection with Health-Physics
7 itself apart from the general employee training?

8 A Other than the general employee training and the
9 emergency plan training I would say no.

10 Q Of what does the emergency plan training consist?

11 A Well, the functions of -- that the technician would
12 normally carry out as of monitoring team on the on-site team
13 or the off-site team or in the washdown area team, on the
14 repair party monitor. Once a year they go over in the class-
15 room, you know, what your duties would be, you know, how you
16 should carry them out, what equipment you should be picking up
17 and go over the equipment that is available.

18 Q Is this in the context of preparing for an emergency
19 drill?

20 A This is normally when it is carried out. Approximate-
21 ly a month or two before the emergency drills.

22 Q How long is this portion of the training?

23 A It varies. Four hours, six hours depending on the
24 group.

25 Q This training is done during working hours?

1 A Yes.

2 Q How often are emergency drills conducted?

3 A Well, depends to what extent. The major emergency
4 drills that we have I think are yearly basis.

5 Q Have you participated in those on a yearly basis?

6 A I have, yes.

7 Q Is it your impression that most of the people in the
8 Health-Physics Department have participated on a yearly basis?

9 A I would say approximately 60 to 65 percent.

10 Q What accounts for the 30 to 35 --

11 A Well, normally when they hold the emergency drills
12 we have practice drills initially where you have maybe three or
13 four drills that they go over different scenarios. And the
14 majority of the time those are held in the daylight hours.
15 Only once that I can recall was a practice drill held on a back
16 shift. And if a person happens to be working three to eleven
17 or eleven to seven he would not get involved in the drill
18 unless it is held on his shift.

19 Q Apart from participation in the drills and the
20 emergency training of the periodic nature which you have just
21 described what kind of training for dealing with emergencies
22 have you received during the time you were employed with Met-Ed?

23 A That's just about it.

24 Q Have you been given a copy of the emergency plan it-
25 self to review?

1 A I personally have not been given a plan. But there
2 is a plan available in my boss's office and also one back in
3 the HP Lab.

4 Q Have you reviewed it?

5 A Those sections pertinent to me I have read over.
6 And we have had -- I think once they went over -- I think once
7 or twice they went over on the dose calculations and stuff
8 like that depending on where you fall in the chain of command,
9 what levels you have to accomplish.

10 Q After the drills have taken place I understand there
11 are critiques or discussions of the drills?

12 A Yes.

13 Q Do you attend those regularly?

14 A I would say 80 percent of them I have attended.

15 Q Does everyone in the Health-Physics Department attend
16 them?

17 A Well, they are given the opportunity to. Some guys
18 because the drill ends at five or six o'clock just doesn't
19 want to stay anymore. He goes home.

20 Q You don't get paid overtime?

21 A Yes, they do if they stay.

22 Q But they are not directed to attend?

23 A No, because like I say, once you are working on a
24 man's free time we request that they do. But some will, some
25 won't.

1 Q Has this situation been the same for the past several
2 years?

3 A I would say so, yes.

4 Q As I understand it, this Sam II is a relatively new
5 instrument?

6 A Yes it is.

7 Q What training have you had in the use of the Sam II?

8 A I had approximately two hour lecture, hands-on type
9 thing on the Sam II.

10 Q Who gave you the training?

11 A I think it was Len Landry.

12 Q Were you then expected to or asked to provide train-
13 ing on the Sam II for others?

14 A No, Len Landry was giving the training on the Sam II.

15 Q Are you aware of any complaints about the nature of
16 the training on the Sam II?

17 A Well, there were complaints that initially there was
18 a mixup on the training program that was sent back to the
19 Training Department. I got it from Mulleavy because they went
20 to him. Some people who were put down as having attended the
21 training program really hadn't.

22 Q Did you regard the training you got as adequate?

23 A I personally would say probably so for me.

24 Q Were you aware of specific complaints by other
25 individuals that they did not have an opportunity to have a

1 hands-on training of the Sam II?

2 A I think there were a couple of technicians that had
3 mentioned that to Mulleavy after the training program.

4 Q You would not be the person who in the normal course
5 would receive and be expected to do something about those kinds
6 of complaints?

7 A I would try to set up another training program for
8 them.

9 Q Would the normal procedure be for such a person to
10 go to you rather than to Mr. Mulleavy to bring this complaint?

11 A Well, I feel any complaint should go through the
12 foreman first because he should be able to take care of it.
13 If he can't, then he should go to the supervisor.

14 Q Did Mr. Janouski ever complain to you about the
15 Sam II training?

16 A He may have.

17 Q You don't recall specifically?

18 A He may have. There were a couple that did complain
19 that the training was not adequate.

20 Q Who were the others?

21 A I know another one was Pat Donicky. I think it was
22 that whole shift of his. I don't know who was on at the time
23 because the personnel had shifted, about four or five of them.

24 MR. DIENELT: Can we take a five minute break.

25 (Whereupon, a recess was held.)

1 BY MR. DIENELT:

2 Q Are you aware of certain maintenance problems with
3 respect to Sam IIs?

4 A Yes I am.

5 Q What are they briefly?

6 A Well, since the day we got them we were lucky if we
7 did not have at least one of them down for repairs at all times.

8 Q Why was that?

9 A Well, the Sam II I found out afterward is a very
10 delicate instrument, is not designed to be carried from an area
11 like the Observation Center out into a truck and driven halfway
12 across the countryside and then set it up and try to run it.
13 It is, you know, an instrument that should be set in a certain
14 area and used in that certain area, not transported back and
15 forth.

16 Q Are you saying that in order to make effective use
17 of Sam IIs it is necessary or desirable to have more of them
18 than you have?

19 A Well, we were -- we had more than the initial four
20 that were required for the emergency kits at the time. But
21 even with that extra one for a backup spare, you know, we were
22 still many times, you know, we had to put in deficiency reports
23 on our quarterly report on the checking out of equipment that
24 we only had three available.

25 Q For what period of time prior to the accident had it

1 been known that the Sam IIs were a maintenance problem?

2 A Well, we only first got them in 1978. Exact date
3 when. And from that time on -- from the first time we checked
4 them after the initial calibration and service check we put
5 them in the kits and we pulled them out after one quarter. We
6 found couldn't calibrate it. And then another one had a
7 problem with the timer. You know, we felt maybe just a once
8 and done thing. But then the following three months after that
9 we pulled them out again. And the same problem occurred.

10 Q After the first time that you had that problem did
11 you report it to anyone?

12 A Yes, we reported it to my superior that we were
13 having problems with the Sam II.

14 Q To Mr. Dubiel and Mr. Mulleavy?

15 A Yes.

16 Q What did they do, if anything?

17 A Well, initially we tried -- we got a hold of the
18 vendor. And they came here. And they showed us, you know,
19 maybe what things we were doing -- we wanted to know maybe we
20 were doing something wrong in the calibration of them and the
21 checking of them. So, we had the I&C men with the vendor.
22 And they set them all up. And they worked beautifully. So,
23 we figured maybe we were doing something wrong.

24 Then we put them back in. Then the problem cropped
25 up again.

1 Q What did you do that time?

2 A Reported it again the second time. And then we just
3 had the I&C men come down. They found that there was some
4 circuit boards needed replaced. And they made the repairs on
5 them.

6 Then just about the third time was the beginning of
7 March. We did the monthly check on them. At that time we
8 found again out of the four that we were supposed to have only
9 three were functional.

10 Q Again you reported to Mr. Dubiel and Mr. Mulleavy?

11 A And at that time we said, well, we better find some-
12 thing else. But at the time that was what was available and
13 we were in the process of trying to find something else when
14 everything hit the fan.

15 Q What is I&C?

16 A Instrument & Control Department.

17 Q Is there also a problem with the shielding and
18 design of the primary sampling station?

19 A The room itself isn't the best in the world. And the
20 sample lines coming from Unit II have no shielding at all.

21 Q When was the first time that you became aware of that
22 problem?

23 A The first time I saw those lines running and I said
24 what are they. And they told me the Unit II sample lines going
25 to Unit I.

1 Q When was that?

2 A Two, two and a half years ago. I don't know exactly
3 when, during construction phase.

4 Q Did you report that problem to anyone or discuss it
5 with anyone?

6 A Yes, we discussed it with supervisors and at meetings
7 that they have, department meetings. And I think, I'm not
8 sure, that a change mod was submitted for Engineering Design
9 to come over, engineering in Reading to come over and look at
10 the problem, make design requirement changes because you are
11 changing the actual construction of the plant. But where it
12 went from there, I couldn't tell you.

13 Q Do you know who submitted the change mod?

14 A No, I do not personally, no.

15 Q Was either Mr. Mulleavy or Mr. Dubiel involved in
16 that?

17 A The actual submitting it I don't know if they were.
18 But I think they probably had some input into the problem.

19 Q Apart from the problem with respect to the Sam II
20 are there any other equipment problems that had existed for a
21 period of time prior to March 28?

22 A Just regular portable instruments. For some reason,
23 especially during an outage, we were always running short.
24 Where if a guy had to do a survey he actually had to go try to
25 steal one from another guy so he could do his work.

1 Q Had you brought this problem to the attention of Mr.
2 Dubiel or Mr. Mulleavy?

3 A Yes we have.

4 Q What kind of a response did you get from them?

5 A Well, I know Mr. Dubiel many a times and Mr. Mulleavy
6 has gone to the foremen from the I&C department who do our
7 maintenance work on our instruments concerning the fact that
8 you look in a shelf over there and there would be eight, ten,
9 twelve, fourteen of our instruments sitting there with nobody
10 working on them. And sometimes we get action, sometimes you
11 wouldn't.

12 Q Who is the foreman at the I&C department?

13 A Well, there are various ones. There is -- in Unit I
14 there is Harold Wilson, Gordon Lawrence, There's about five or
15 six different foremen.

16 Q Have you had any discussions with Mr. Mulleavy or Mr.
17 Dubiel about the reasons, if any, that have been given to them
18 why the equipment is not repaired more quickly?

19 A Well, during an outage the answer you always get is
20 -- well, there is one of two answers that come up. They have
21 nobody available to do them because of the other workload that
22 they have which I&C department does have a lot of work to do
23 during an outage. Or the fact that there is no parts in the
24 warehouse for them. So, many a times we have instructed them
25 to take one instrument, scavenge it if necessary to get me two

1 or three other ones working which sometimes they did. But
2 sometimes just both of them need the same part. And you only
3 had one to scavenge.

4 Q How long has this problem existed?

5 A I would say for approximately a year and a half, two
6 years.

7 Q During that time have more instruments been
8 purchased?

9 A Yes, because they purchased -- initially they weren't
10 going to -- let me put it -- they weren't going to purchase
11 that many instruments for Unit II because we already had a
12 quantity in Unit I. But when they saw the problem that we had
13 just maintaining the instruments in repair status, additional
14 instruments were ordered for Unit II so we could have basically
15 150 percent of what they thought was required.

16 Q Had those instruments arrived prior to March 28?

17 A Yes they had.

18 Q Did you regard the number of instruments that you had
19 as being adequate?

20 A No, because after the instruments came for Unit II
21 we found out now that we didn't have one problem with one
22 instrument shop, we had problems with both instruments shops.
23 His Unit II instruments were in Unit II instrument shops trying
24 to be repaired. And mine were in Unit I instrument shop trying
25 to be repaired.

1 Q Is it your view that more instruments should have
2 been purchased?

3 A I don't think it is more instruments are required.
4 But it is the people who have to repair them have so many other
5 different functions, you know, that I think my instruments
6 sort of get in a schedule of one to ten where one being the
7 most priority we are probably down by a nine if not eleven.

8 Q Why is that?

9 A The plant, in my opinion, is operations orientated.
10 And the functions are to keep the plant running. And most of
11 the I&C men, if they have a level instrument that is wrong
12 and the operations needs it, why, then it has to get fixed.
13 Because if they don't have the instruments they can't carry out
14 the operations. And Health-Physics is when we can get to it.
15 That is my feeling as an HP foreman.

16 Q In your view is the operation orientation of the
17 plant inappropriate?

18 A In my view it is.

19 Q Is your view that more emphasis or greater emphasis
20 should be given to the Health-Physics aspect?

21 A Yes.

22 Q Why?

23 A Well, I look at the Health-Physics Department as a
24 safety department. My job is there to -- like I joke a lot of
25 times HP stands for the hindrance people. We are there to

1 hinder people, to slow them down, make them think of what they
2 are doing. And if necessary, to stop them from doing certain
3 functions. But many a times it comes we got to keep the plant
4 on the line. And, so, we are going to do it anyway.

5 Q Have you discussed this view with Mr. Mulleavy or Mr.
6 Dubiel?

7 A I have discussed it all the way up to the superinten-
8 dent of the station. I actually quit over it.

9 Q Who is that?

10 A Gary Miller.

11 Q You quit over it?

12 A Yes.

13 Q When was that?

14 A Oh, approximately in the end of February, beginning
15 of March. In a moment of haste I just blew up and walked out.

16 Q What were the circumstances? You were in a meeting
17 with --

18 A No, I was Duty Health-Physics Foreman, if you want to
19 call it -- I was taking care of the lab work. We had a problem
20 in the auxiliary building. It was right during the end of the
21 Unit I outage where they lost ventilation in the reactor
22 building because they were working on some fans and dampers.
23 And they sucked the airborne activity that was in the reactor
24 building out into the auxiliary building which caused the
25 auxiliary building to be evacuated because the initial sample

1 showed an airborne concentration of greater than three times
2 ten to the minus tenth microcuries per cc. So, at that time I
3 had to evacuate the auxiliary building. Well, being that there
4 were approximately one hundred one hundred fifty people that
5 were supposed to be working in there the pressure was on to get
6 them back into the building.

7 Well, my technician took another sample after they
8 corrected the ventilation problem. And subsequently in a long
9 circle what happened was Mulleavy received a phone call from
10 the shift supervisor stating that he had been notified that the
11 air in the building -- auxiliary building and the fuel handling
12 building was now less than three times ten to the minus tenth.
13 Would I allow entrance into the building.

14 Mulleavy passed this word on to me. I then called
15 the control room. I said, okay, you can pass the word to open
16 the auxiliary fuel handling building for normal entry.

17 About two minutes after the system -- the word was
18 passed over the page I received a phone call from one of my
19 technicians, Mike Gavin. He wanted to know what the hell I was
20 doing.

21 So, I told him what I had -- what had been reported
22 to me. And he said, "I didn't tell him that." I told him the
23 airborne activity was numbers like approximately seven times
24 ten to the minus tenth. It would take approximately two to
25 three hours either by looking at the decay we have seen or I

1 could get that sample and actually count it on jelly and see
2 what isotopes were there. Then I can go to ten CFR20 and see
3 whether or not I had to evacuate the building.

4 At that point I picked up the phone, called the
5 control room again. I told them to evacuate the building.
6 And I had to sit there and argue with the control room
7 operator for about five minutes. He is saying I didn't have
8 the authority. I'm saying I don't care. What do you mean I
9 don't have the authority? I am the HP foreman.

10 So, finally I just pressed the button and I
11 evacuated the building myself.

12 Went in to Dubiel, told him I quit. And I walked out.

13 Q I take it you were persuaded to come back?

14 A On my way out I felt it was -- well, Gary Miller
15 hired me in that position. And I felt I at least owed him the
16 courtesy. So, on the way out I stopped at his office and told
17 him what had happened. So, he told me to sit there for awhile.
18 He called the other supervisors, went over the whole thing. He
19 told me to go home, come back tomorrow and talk to him about it.
20 Which I did. And so, I am still here.

21 Q Was it your impression that the information that had
22 been conveyed by your Health-Physics person regarding the
23 exposure level was misunderstood in good faith by the person
24 who subsequently said that the level had been reduced to a
25 point at which people could come back in?

1 A Well, after having talked to my technician he told me
2 the exact, verbatim words. I would have fined it kind of hard
3 to misunderstand it.

4 Q Do you believe that the operations orientation of the
5 plant resulted in a person's being subjected to or asked to
6 subject themselves to unnecessary risk during the emergency
7 which began on March 28?

8 A Well, again on that type of point, you know, when the
9 type of accident we have does occur I think you have to sort of
10 give and take a little bit more. I don't feel they subjected
11 themselves to unnecessary risk. I think, you know, the things
12 that they wanted them to do, you know, the supervisor was
13 making his decision on what had to be done based on the best
14 information he had available. And I feel, you know, the things
15 he needed done, had required to be done, like I stated earlier
16 that filter change, you know, I don't feel had to be done.
17 Because you can just bypass the filters, you know. But overall,
18 I would say, you know, that they did not subject themselves to
19 unnecessary hazards other than, of course, know the hazard of
20 exposure you have there. But I think you all use logic.

21 Q In your view during the accident the Health-Physics
22 organization hindered people enough?

23 A At that time I would say we, you know, looking at
24 what was being done I would feel we did a lot even though we
25 had to fight a lot.

1 Q Fight with whom?

2 A Operations personnel.

3 Q In turning to the question of the design of the sample
4 room, are you also aware of a problem with the sampling hood
5 and the alarm?

6 A Alarm? I don't -- I'm not sure what you are talking
7 about on the alarm.

8 BY MR. LYNCH:

9 Q In the sample room you have a hood. You also have an
10 air monitor in the room?

11 A Yes.

12 Q Did you have problems with the air monitor alarm all
13 the time when samples were being worked upon?

14 A The air monitor?

15 Q Yes.

16 A Okay, I couldn't get them both together with the hood.
17 That is R MAY 12 I think it is. That is a portable air sampling
18 unit -- portable if you are a mule -- that sits in that room.
19 And we have had a lot of problems with it.

20 Q With the air sampler?

21 A With the air sampler itself.

22 Q What kind of problems?

23 A As the thing was initially set up with the low back-
24 ground because the room had a low background, as the Unit I
25 plant became more and more radioactive, the liquid, more crud

1 was building up, you know. You just go in there, you put RC
2 letdown on recirc, the first thing you would get is an alarm.

3 Q From what?

4 A From the radiation levels that were in the sample
5 lines.

6 Q In the sample lines that were not adequately shielded?

7 A True.

8 Q You were getting an alarm from those and not from
9 concentrations in the air?

10 A Well, most of the time we did have, you know, leakage
11 problems in the sample room once in awhile in which the alarms
12 really showed activity in the room. But even, you know, you
13 got to a point where you didn't believe it. You know, this
14 most of the time happened when I was a technician. And I know
15 it continued after awhile.

16 Q What kind of leakage problems did you have in that
17 room?

18 A Well, you have any valve you are going to have
19 leakage. And you are talking high-pressure samples, primary
20 system pressure. And you have a slight packing leak in the
21 valve even with the ventilation hood, you know, the design of
22 the hood was -- in fact, if you had to draw the sample the
23 hood had to be open. And when you increased the area in front
24 where the ventilation fan is sucking from you are not going to
25 get as much of a draw through it as you would if you kept the

1 hood down closed as far as you could.

2 Q That is true.

3 A So, you would have a leak in there. And the gas
4 would come out. And it would be -- because the monitor is a
5 particulate and iodine and a gas monitor.

6 Q Was there any action taken to evaluate and correct
7 the situation in the hood?

8 A Well, once they went up and we changed all the -- we
9 had problem in the sample room ventilation system. It was
10 reported on NRC reports that the ventilation was going the
11 wrong way. The company did I know bring in an outside company.
12 Actually who they were I don't know. They went through the
13 whole auxiliary fuel handling, you know, which I considered and
14 the control tower which my sample room is part of and balance
15 out the whole sample system, the air system, excuse me. And
16 it worked good for awhile. But then after a period of time
17 with ~~just~~ wear on the dampers, dirt accumulating in certain
18 filters you get ventilation in balance. And it causes the same
19 problem again.

20 Q Did anybody ever check the hood face velocity?

21 A I don't know what that is. But I know they checked
22 the --

23 Q That is the velocity of the air over the face of the
24 hood. There are certain minimum requirements for that velocity
25 in order for the hood to be valid. If they are not met, then

1 the hood --

2 A I personally could not say if that was checked. All
3 I know is they came in with a bunch of instruments that are all
4 black boxes to me. And they took ventilation volume readings,
5 velocity readings. I don't know if they specifically did it in
6 the hood or not. I couldn't say. But that report somebody on
7 the Island should have.

8 Q When was this that they did this testing?

9 A I know it was done approximately a year ago.

10 Q A year ago?

11 A It may be now a year and a half.

12 Q When did they do these ventilation system adjustments?

13 A Well, they were doing that all -- they made the test
14 results. Then they went back and they did adjustments to the
15 ventilation system. And then they came back and checked, you
16 know, where they found wrong they verified that those were
17 right.

18 Q That was sometime ago?

19 A Sometime ago. About a year, year and a half I would
20 say. The last one that I recall. They may have done another
21 one in different areas. But not in my lab area.

22 Q But the problem with the hood continued?

23 A After a period of time the problem returned.

24 Q The solution to that was to do what to the air
25 monitor?

1 A Well, the air monitor was pulled out of the room
2 once to be used in the reactor building. We were doing in core
3 removal. And we wanted a sampler that would sample locally and
4 give a local alarm because of our in core detectors we are one
5 of the plants, I don't know if the only ones, that chops them
6 dry. We don't have a wet tank to chop them up in. So, being
7 the fact that, you know, we had everything set up so that most
8 of this stuff would be drawn through a vacuum cleaner through
9 an absolute filter. But in case something went wrong we wanted
10 something to sample there.

11 Since that time when it was pulled out and put back
12 into the room it has never been put back in service.

13 Q Were any maintenance requests made to return the unit
14 to service?

15 A Yes.

16 Q The results of those?

17 A For all I know there are still sitting in the pending
18 file.

19 Q The unit was not placed back in service?

20 A No it was not.

21 Q It was shut down?

22 A It had no power to it for awhile.

23 Q Was it shut down during the accident?

24 A I think it was. I think it still is.

25 BY MR. DIENELT:

1 Q During your training with respect to Health-Physics
2 matters at TMI or in connection with your TMI responsibilities
3 have you ever taken a written exam?

4 A Yes.

5 Q What were the circumstances of that?

6 A Well, I took one after my two weeks training program.

7 Q This is general employee training?

8 A No, two weeks advanced HP program. I took one -- a
9 test after the emergency drill training that I received on
10 dose calculations and different teams. And -- and then the
11 general employee training you take a test every year.

12 Q What are your responsibilities with respect to
13 training others in the Health-Physics area?

14 A I am mostly like a coordinator. But it turns out
15 that we have a training department that their function is
16 coordinating. There is a training department on the Island
17 that it trains operators. Whenever I want to get any training
18 for my technicians it seems that I have to set it up, get a
19 classroom from them. And we have to provide the training also.
20 And based with all the other functions you have that goes down
21 the drain.

22 Q I don't quite understand what you mean by going down
23 the drain?

24 A Like I stated earlier, the training in our department
25 has almost been nil other than new people have come in and we

1 have sent off-site to schools or brought in somebody to teach
2 them.

3 Q Why is this?

4 A Well, because of the fact that they want the HP
5 foremen to do all the teaching. And that is just -- for
6 instance, if I have a program to teach, a one-week program,
7 like, I must teach GET training myself or one of the other
8 foremen. We must teach auxiliary operator training. We also
9 -- if we want to teach our own people we can, you know, train-
10 ing department doesn't teach it. We have to do the teaching.
11 And based with all the other functions that we have and, you
12 know, training is just about dropped down.

13 Q In other words, you not only have to do the general
14 health-physics training for people who are not assigned to the
15 Health-Physics Department, but also whatever health-physics
16 training is given to the people who are assigned to the Health-
17 Physics Department?

18 A That's right.

19 Q You are in charge of coordinating the health-physics
20 training?

21 A Attempting to coordinate is a better way to put that.

22 Q Who is in charge of evaluating the health-physics
23 training, if anyone is?

24 A I wouldn't know.

25 Q Have you received complaints from the technicians in

1 the Health-Physics Department about the adequacy or inadequacy
2 of the training?

3 A I have received it from them. And I have put it out
4 myself.

5 Q To whom have you brought their complaints?

6 A To my immediate supervisor. It would be Tom
7 Mulleavy, sometimes Dubiel.

8 Q You have complained yourself to those two individuals?

9 A Yes.

10 Q What has their response been?

11 A Well, one response was that we brought in a Mr. Ralph
12 Jacobs from the Rad Services Department to give a, I forget
13 how long, a three-, four-week program for whenever -- we just
14 had a bunch of new Rad Chem Techs about a year and a half ago.
15 For me to sit down and try to give them a six-week program
16 plus all the other functions is impossible. So, we were able
17 to bring somebody else in to give the training. And now
18 finally we are able -- we have NUS here who is making up a
19 training program, you know, based on what our training re-
20 quirements are. So that most of it will be tape and, you know,
21 instruction will not have to be there 24 hours a day when they
22 are looking at the tapes.

23 Q Is it fair to say that you regard the health-physics
24 training which is given to new employees in the health-physics
25 area as inadequate?

1 A The latest two we have, yes. They haven't had any
2 yet except on the job. Maybe a couple of hours here, a couple
3 of hours there. But they, you know, they got here. A class
4 was supposed to have started in April and still has not
5 started. Well, because of the accident it has been pushed back.

6 Q Is it your understanding that Mr. Mulleavy and Mr.
7 Dubiel agree with that assessment?

8 A I would hope they did because we have complained
9 enough about it.

10 Q Have they told you they agree with it?

11 A Many a times like for instance just lately I had an
12 auxiliary operator training program I had to perform. But
13 based with my other functions it just happened that I was the
14 only foreman here, because the other one was on vacation, after
15 giving the program to auxiliary operators I gave them a test.
16 But I went back and I told Mr. Dubiel my boss I says, I gave
17 them the test. But I don't feel the training program was
18 adequate because I could not properly prepare for it. And he
19 subsequently cancelled their qualification. And they are going
20 to have to go through the whole second week all over again.

21 Q Have you expressed your concern or the concerns of
22 people who have complained to you to persons higher than Mr.
23 Dubiel and Mr. Mulleavy?

24 A I think in that meeting with Mr. Miller that I had
25 the day I quit it was brought up the fact because we just aired

1 all the problems that day.

2 Q Did he respond to that concern?

3 A Well, I think the response was something to the
4 effect, you know, to Dubiel to get a training program started.
5 And we have one starting -- well, they haven't started the
6 training function of it. But we are making the preparations
7 to start it.

8 Q Prior to March 28 did you regard the emergency
9 training as adequate?

10 A For me, yes. For my technicians I would say 60 or
11 70 percent of what they should have known were probably given
12 to them.

13 Q How is it that your training was adequate but theirs
14 was only 60 to 70 percent?

15 A Well, I had some previous experience on the equipment.
16 See, I am looking at the fact that my new technicians who just
17 came in, you know, they haven't had anything. Now, I went
18 through the emergency drill training for two, three years. And
19 then it was just more like a requal for me.

20 Q Have you expressed your concern about the adequacy
21 of the emergency training to Mr. Mulleavy or Mr. Dubiel?

22 A I don't know if I have. I may have.

23 Q Do you know what their view of the emergency training
24 was?

25 A No, I don't. They never expressed it to me.

1 Q Let me show you a document which was marked in an
2 earlier deposition as Exhibit 3018. It is entitled General
3 Review of the Health-Physics Program at the Three Mile Island
4 Nuclear Station.

5 Have you ever seen that document before?

6 A I think I may have seen it. I don't know if this is
7 the exact same one. But I have seen maybe two of these or
8 three.

9 Q Of the same or similar document?

10 A Not exactly. Similar-type functions that were carried
11 out.

12 Q Do you recall whether you saw that document or the
13 documents similar to it prior to March 28?

14 A No, prior to March 28 I hadn't seen it. But I
15 remember they asked me that in the last interview.

16 Q Were you aware of its existence or of the effort by
17 NUS to do a review of the Health-Physics program prior to
18 March 28?

19 A Yes I was.

20 Q Had you talked to anyone from NUS?

21 A One of these two gentlemen. I can't remember which
22 is which, Murri or LaVie.

23 Q How long did you talk to the one with whom you talked?

24 A Well, we had a general, sit-down session just a
25 couple of foremen, maybe two hours or three hours. It was just

1 me and him or me and them. They are both in there. But then
2 -- but over the period of this whole thing it was more like a
3 question-and answer-type thing, you know. They find something,
4 they come over and ask me about it. You know, one of the
5 technicians told them something they come over and ask me.
6 Hey, is this true? But, you know, total time I couldn't tell
7 you.

8 Q You couldn't estimate the total amount of time you
9 spent with them?

10 A Well, the three hours I think, two to three hours was
11 initially, you know, after a period of time. We sat down.
12 But, you know, they come up to me any day after they talked to
13 a couple technicians and asked me a couple of questions about
14 it and I'd answer them. And that would be it. And they would
15 go on their way. Maybe three, four, five hours. I don't know.

16 Q When you gave them answers to questions or provided
17 them information did you attempt to give them as full and
18 complete and accurate information as you could?

19 A My words were in there. They will state basically
20 what I said here. Training at that time, you know, I looked at
21 that as just another job that was being done because we had
22 others done previously. And I never saw anything accomplished
23 from them.

24 Q But in your discussion with them would it be fair to
25 say you didn't pull any punches?

1 A I don't think I did.

2 Q You didn't exaggerate any concerns that you had?

3 A No, because my concerns were true.

4 Q Did the authors of the report discuss the conclusions
5 that they had reached or that they had tentatively drawn with
6 you?

7 A I think they had a critique upon their departure.
8 But I don't think I was there when they had it.

9 Q Do you know who was there?

10 A I would have to assume that it would be the
11 department heads, Mr. Limroth, Mr. Dubiel and Mr. Mulleavy.
12 I wouldn't say exactly they were there.

13 Q Subsequent to March 28 have you had a chance to read
14 this report or a similar copy of it?

15 A A copy of it was put, you know, put out so I could
16 look over it.

17 Q Did you look over it?

18 A I scanned over it.

19 Q Did you agree with the statements and conclusions
20 made in the report?

21 A I'd have to sit and read it again. Probably a lot of
22 them I'd probably did agree on.

23 Q When you scanned it did anything strike your eye as
24 being inaccurate or incorrect?

25 A I couldn't say because it was during the time of the

1 emergency when they said, here, that is for you to read over.

2 And there it went.

3 Q I'm going to ask you if you agree with certain state-
4 ments in this report which I will read to you. With respect
5 to organization the report states: "The present organization
6 at Three Mile Island precludes the adequate performance of some
7 critical health-physics functions. The basic problem appears
8 to be that the health-physics organization has not been
9 properly upgraded to meet current demands."

10 Would you agree?

11 A Including technician level, yes, I agree.

12 Q That is page 2-1 under the subheading Organization.
13 On page 3-1 under the topic Training I am going to
14 read this statement to you and ask you if you agree.

15 "The inadequacies of the training of the Health-
16 Physics/Chemistry Technicians are readily apparent. Although
17 the technicians perform most tasks correctly their actions are
18 by rote. Therefore, when confronted by only slightly off-
19 normal situations they often lack sufficient understanding of
20 their job to confidently take the appropriate action. The
21 technicians also appear to have insufficient knowledge of
22 plant systems including radiological considerations that would
23 apply if the system were opened."

24 Do you agree with that?

25 A Well, he says often. And it all depends what he

1 means by often. I will say there probably are some of my
2 technicians because they are new that have not gotten the
3 systems training and have not gotten the complete training.

4 Q You would think that sometimes would be a better word
5 than often?

6 A I would say sometimes.

7 Q On page 3-2 under Reversing Decisions: "The over-
8 riding of decisions made by Health-Physics personnel has
9 become a routine occurrence at TMI."

10 Do you agree with that?

11 A I think that thing -- if it means what I -- over-
12 riding of Health-Physics decisions by people outside the
13 Health-Physics Department, then I agree.

14 Q This would be an example of the operations
15 orientation?

16 A Yes.

17 Q Finally on 5-2 under Review of Personnel Exposure
18 Records: "A major reason for the weakness of the TMI personnel
19 dosimetry program is that no individual is assigned to conduct
20 proper reviews of the records."

21 A At that time it is true.

22 Q Has that been changed?

23 A Yes it has been.

24 Q In what respect has it been changed?

25 A Mr. Ira Seiboltz has been hired. His primary

1 responsibility and for all I know his only responsibility is
2 personnel exposure, whether it be TLD, whether it be whole body
3 counting, bio essay report. There is one person, he has a
4 staff of people working for him.

5 Q Do you know what other changes have been made in
6 response to the report that has been marked as Exhibit 3018?

7 A Well, I hear, I haven't seen anybodies yet, but I am
8 supposed to get more technicians. Right now I am running --
9 like I said, I am running with 22. I will probably be down to
10 21 pretty soon.

11 Q Any other changes?

12 A That's about it.

13 Q You testified that you had seen several reports.
14 Are you aware of reports other than the NUS report that has
15 been introduced as Exhibit 3018?

16 A There was a previous report done by -- I'm trying to
17 think of the gentleman's name, Mr. Reppert, Don Reppert. I
18 don't know what his title is. He works with GPU Systems some
19 place, who did do an audit into our department, and basically
20 something to this effect. And he put out -- well, he told me
21 he was putting out a report. This happened about a year and a
22 half ago. And basically I would say 90 percent of what is
23 covered in that was also covered in that previous one.

24 Q Did you ever see the report that he said he was
25 going to prepare?

1 A I may have. I'm not really sure if I actually saw
2 the final.

3 Q Are you aware of any other reports?

4 A If I remember correctly I think NUS had done one
5 previous to that, also.

6 Q Had you reviewed that report?

7 A I think that one I was at the final meeting with.
8 And basically, like I said, what you see there you can go back
9 and probably see 90 percent of them in the previous reports,
10 also.

11 Q Do you know when the other NUS report was?

12 A Exactly I couldn't tell you. 1977-78.

13 Q The Reppert report, if we may call it that, was a
14 year or a year and a half ago?

15 A Yes, sometime in 1978.

16 Q Are you aware of any other reports or audits?

17 A Prior to the 28th or --

18 Q Yes, sir.'

19 A Not offhand. I don't remember of any.

20 MR. DIENELT: In an earlier deposition we had made a
21 request for the other NUS report which we were informed counsel
22 for Met-Ed would look for and furnish if it is in existence.
23 I would like now to make a request for the Reppert report or
24 whatever the formal name of the report is if, indeed, there is
25 such a report.

1 BY MR. DIENELT:

2 Q The Rad Chem Techs, as I understand, are rotated six
3 week on Unit I and six weeks on Unit II?

4 A They used to be rotated that way.

5 Q Are they no longer rotated that way?

6 A Well, now they rotate from department to department.
7 Six weeks in HP Department. Six weeks in the Chemistry Depart-
8 ment. And they are used wherever necessary.

9 Q Let's take the old rotation system. Did you regard
10 that as a better system than if the Rad Chem Techs were assigned
11 permanently to one unit or the other?

12 A Well, you get more continuity of work and results if
13 a person was assigned to one place and one place only. The
14 major problem was if you wanted to look at it -- I've always
15 seen is the guy has four different areas in which he has to
16 get himself up. Unit I Chemistry, Unit II Chemistry, Unit I
17 HP, Unit II HP. Even though basic HP practices are the same,
18 the plants are different. Same thing with chemistry. Basic
19 chemistry practice and procedures are the same. But the plants
20 are different.

21 Therefore, there are four different things you have
22 to try to keep going in your mind. And when you bounce from
23 one to the other it will be hard for anybody.

24 Q You would have preferred to have permanent assign-
25 ments?

1 A I would like to get -- go back to the old way of
2 splitting the department right back in half. Assign a
3 chemistry group and an HP group. And then over a longer
4 period of time, because you don't want to keep the same person
5 in the same place at all times, maybe a month or a quarter,
6 once a quarter like the HP group send half here and half there
7 so you always have at least half of the group that has been
8 there for some period of time.

9 Q Am I correct that you regard the current system of
10 rotation between Health-Physics and Chemistry as a bad idea?

11 A Well, right now -- again, you are rotating from
12 Chemistry to HP. For some people it does not affect. But for
13 other people it does.

14 Q You would prefer to have people assigned to one or
15 the other?

16 A One or the other for now until doomsday.

17 MR. DIENELT: Off the record for a moment.

18 (Discussion off the record.)

19 BY MR. DIENELT:

20 Q You have discussed the contamination that you
21 received and Mr. ██████ received. Were you aware of any
22 instances of contamination of personnel during the incident
23 that began on March 28?

24 A Well, you heard by word of mouth, you know. I heard
25 this guy had or this guy had. We found some on the first day

1 when they evacuated the Island, you know, showed up contaminated.

2 Q Did you have any role in dealing with the problem of
3 decontamination of individuals other than yourself who had been
4 contaminated?

5 A Other than the first day when that first about four
6 or five people that came off -- the nonessential personnel, you
7 know, they reported up and I got a call from the 500 KB Sub-
8 station telling me what they had -- that they found some con-
9 tamination on this guy's clothing. I said just collect all
10 their clothing, give them paper coveralls and the best you can
11 because of the facilities at 500 KB Substation weren't the best
12 in the world, and try to wipe it out, sponge it off.

13 Q The ordinary facilities for decontamination were in
14 the HP --

15 A Unit I and Unit II HP labs were inaccessible.

16 Q Was any other facility used apart from the 500 KB
17 Substation?

18 A Well, I personally used the supervisors' locker room.

19 Q Was any formal facility set up for temporary use
20 other than the 500 KB Substation?

21 A In the first two days, no.

22 Q After that?

23 A We were able to get back into the Unit I HP Lab and
24 go back to using that.

25 Q In your I & E interview I believe you indicated that

1 you had very little information regarding plant status early in
2 the accident?

3 A That's true.

4 Q Do you believe that the lack of information you had
5 hindered your ability to perform your duties?

6 A Well, the information that I lacked was mostly on
7 what had happened to the plant. From an HP point just by
8 sticking a probe inside the door you could tell what the HP
9 problem was. But what was causing that problem is what I
10 lacked. And you made your decision -- you made your decisions
11 based on what you saw from an HP standpoint, not what was going on
12 from an operations standpoint. Because you didn't know what
13 was going on.

14 Q Would greater information about the status of the
15 plant have assisted you in deploying the team for purposes of
16 on-site or off-site monitoring?

17 A That's not the information I will say now is lacking.
18 It was basically what was going on in the Unit II plant,
19 auxiliary fuel handling building inside the building. The on-
20 site and the off-site stuff was coming out. Basically all we
21 needed there was approximately what type of release rate they
22 estimated, what kind of exposure they expect to see and which
23 way the wind was blowing and how fast it was blowing. And, you
24 know, they told us where we were to send people. But the
25 biggest thing we didn't know what was going on in the plant

1 itself. And, you know, when you are a Health-Physics Foreman
2 it is a good idea to know what is going in the plant so you
3 can sort of look ahead at the problems you may see may be
4 coming up. And that is what you didn't have. You didn't get
5 the problem, you know, know of the problem till it hit you in
6 the face.

7 Q As you understand it why did you not have that
8 information?

9 A I still don't know why we never got it.

10 Q Do you know if anyone knew what was going on?

11 A Well, I'm hoping that the people in the control room
12 did because they are the ones that had to carry out all the
13 functions. But, most like I saw, when I was in the Observation
14 Center I wasn't receiving that information.

15 Q Do you regard Mr. Dubiel and Mr. Mulleavy as
16 competent in the area of radiation protection?

17 A Yes I do.

18 Q Apart from the new recruits whom you have mentioned
19 as lacking some training do you regard the other foremen and
20 the Rad Chem Techs as competent in radiation protection manage-
21 ment?

22 A As in any group of people you get I would say you
23 have a majority of them are, 80, 90 percent. But you still
24 have the one or two that you would want to keep your eye on.
25 Not only in Health-Physics, but in any function.

1 Q You have been interviewed or deposed now on several
2 occasions. And I am about to finish this deposition. I want
3 to ask you, however, if there is any information which hasn't
4 been asked either by us or by I & E in their interviews with
5 you which you have and which you believe would be of assistance
6 to us in the conduct of our investigation and the preparation
7 of our report?

8 A Since I don't know what the final outcome is or what
9 you actually, you know, long-run are looking for, you know,
10 you see, I am candid. I don't care who, what, when where and
11 why, like it is. And overall just like I said, the whole --
12 the accident problem I feel just, you know, is one thing that
13 happened. And we had to do with what we had. We might have
14 had the number of instruments we liked to have. But I think
15 the long run, you know, we did what we could based on what we
16 had. Prior to, like I have stated before, you know, it is
17 still my contention and it always will be my contention that
18 operations and HP have to be two, complete separate entities
19 under different controls. Because when the Health-Physics
20 Department is ultimately controlled by an operations supervisor
21 you always run into the same problem where, in my opinion,
22 Health-Physics has to take a back seat -- or not has to, but
23 does take it for operations purposes. And being that I am a
24 Health-Physics foreman I think it should be a side by side en-
25 tity where we have the authority to say no, and that is it, no.

1 MR. DIENELT: With that I will adjourn this
2 deposition. I don't think it is going to be necessary to ask
3 you to come back to answer any further questions. IF that
4 unlikely event occurs, I will try to work that out with your
5 counsel.

6 Thank you very much.

7 (Whereupon at 4:15 p.m. the deposition was concluded.)
8

9 CERTIFICATE

10 I, Roxanne Weaver, the officer before whom the
11 deposition of PETER PAUL VELEZ was taken, do hereby certify
12 that PETER PAUL VELEZ, the witness whose testimony appears in
13 the foregoing deposition, was duly sworn by me on September 19,
14 1979, and that the transcribed deposition of said witness is a
15 true record of the testimony given by him; that the proceedings
16 are here recorded fully and accurately; that I am neither
17 attorney nor counsel for, nor related to any of the parties to
18 the action in which this deposition was taken, and further that
19 I am not a relative of any attorney or counsel employed by the
20 parties hereto, or financially interested in this action.

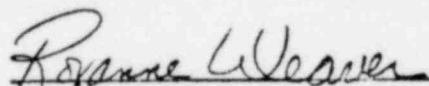
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Roxanne Weaver, Reporter
Notary Public in and for the
Commonwealth of Pennsylvania

MONICK STENOGRAPHIC SERVICE

My Commission expires
July 18, 1983.

1 I have read the above and it is true and correct to
2 the best of my knowledge and belief.

3

4

Peter Paul Velez

5

WITNESSES:

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