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PRESIDENT'S COMMISSION ON THE
ACCIDENT AT THREE MILE ISLAND

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DEPOSITION of U. S. NUCLEAR REGULATORY
COMMISSION, REGION No. I, by RICHARD R. KEIMIG,
held at the offices of U. S. Nuclear Regulatory
Commission, Region I, 631 Park Avenue, King of
Prussia, Pennsylvania, on the 16th day of August,
1979, commencing at 5:20 p.m., before Robert Zerkin,
Notary Public of the State of New York.

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A P P E A R A N C E S :

NUCLEAR REGULATORY COMMISSION:

MARIAN E. MOE, ESQ.
Attorney, Office of General Counsel
United States Nuclear Regulatory Commission
1717 H Street, N. W.
Washington, D. C. 20055

PRESIDENT'S COMMISSION ON THREE MILE ISLAND:

ERIC PEARSON, ESQ.,
Deputy Chief Counsel

ALSO PRESENT:

DAN SHERMAN

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R I C H A R D R. K E I M I G, having
been first duly sworn by Eric Pearson, Esq.,
took the stand and testified as follows:

DIRECT EXAMINATION

BY MR. PEARSON:

Q Would you state your name, please.

A Richard R. Keimig.

Q Mr. Keimig, have you ever had a deposition
taken before?

A Of this nature, no.

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2 Q I then simply will highlight that the
3 testimony you give here will have the same force and
4 effect as if it were given in a court of law, and
5 consequently, please make every effort to answer as
6 precisely as possible.

7 If a question that I ask is unclear for
8 any reason, just stop me and ask for clarification,
9 and I will be more than happy to give it.

10 Let us begin now with just a brief recita-
11 tion on your part of your educational background.

12 A I have a Bachelor of Marine Science-Engineering
13 degree from the Maine Maritime Academy which I
14 received in 1962. I also attended Nuclear Power
15 Technology training at the United States Merchant
16 Marine Academy in 1963, and also completed courses in
17 reactor technology, health physics and experimental
18 reactor operations, Texas A&M, in 1964, and a course
19 in water chemistry for nuclear power plants-treatment
20 and analysis at the Calgon Laboratory in 1964.

21 Q Could you give us a brief recount of your
22 professional experience.

23 A Yes. From June of 1962 through September of
24 1966, I was a United States Coast Guard licensed
25 second and third assistant engineer for American

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2 Export-Isbrandtson Lines. I served as a watch super-
3 visor aboard the N. S. SAVANNAH and had responsibility
4 for the operation, maintenance, testing and other
5 related activities concerned with the reactor and
6 conventional power plant.

7 In October of 1966 through January 1971, I was
8 a senior operations analyst for the First Atomic Ship
9 Transport, Inc., who were the operators of the
10 N. S. SAVANNAH: In this position I was responsible
11 for the preparation and auditing of reactor and
12 conventional plant procedures and for the analysis of
13 reactor plant operations. I also served as shift
14 superintendent during the SAVANNAH's first refueling,
15 and acted as liaison with regulatory agencies and
16 contractors.

17 From February of 1971 through June of 1972 I was
18 a senior operations engineer for Burns and Roe, Inc.
19 In this position I was responsible for the supervision
20 of a project group engaged in the preparation of
21 system design descriptions, pre-operational test and
22 operating procedures for nuclear and conventional
23 plant systems for a utility nuclear power facility.
24 I was also responsible for planning and directing the
25 acceptance, performance, pre-operational and startup

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testing prior to commercial operation.

In June of 1972 through present, I have had various positions with the AEC-NRC, and I can go through those if you wish.

Q Please.

A From June of 1972 through April of 1973, and again from December 1973 through June of 1976 I was a reactor inspector in the Reactor Construction Project Section and Construction and Engineering Support Branch. In this position, I was responsible for the inspection of nuclear reactor facilities under construction.

Q Is this in Region I?

A Yes. From April of 1973 through December of 1973, I was assigned as a reactor inspector in the Reactor Test and Startup Branch. In this position, I was responsible for the inspection of nuclear reactor facilities during pre-operational and startup testing activities.

From October 1976 through February of 1977, I was acting chief of the Reactor Construction Projects Section. In this position, I was temporarily assigned to supervise the activities of a section that provides project management for nuclear power facilities under

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construction.

For the period, June 1976 through October 1976, and again for the period from January of 1978 through April of 1978, I served in the position of chief, Nuclear Support Section No. 2, and in that position I was responsible for the supervision of a section that provides specialized support in the areas of quality assurance, plant procedures and operator requalification training.

In May of 1977 through January of 1978, I was assigned the acting position of chief, Nuclear Material Control Support Section. In this position, I was temporarily detailed to supervise the activities of a section that provides specialized support in the area of nuclear material control and accountability.

In April of 1978 through the present, I hold the position of chief, Reactor Projects Section. In this position, I am responsible for the project management of the Office of Inspection and Enforcement inspection program for reactors in pre-operational testing, startup testing, and operational phases at resident and non-resident inspector sites.

Q How many persons do you have working for you?

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A Let me count them up now. It just changed.
Approximately six.

Q May I see the resume you are referring to.

A Yes. (Handing.)

MR. PEARSON: For purposes of the record,
Mr. Keimig has been referring to a document as
he testifies which bears as a title, his name.

Q Mr. Keimig, is this document, which
appears to be a resume of your experience and of your
educational background, accurate up to the present?

A Yes, it is.

MR. PEARSON: With that, I would like to
have this entered as Deposition Exhibit No. 1.

(Above-described document herein marked
Keimig Deposition Exhibit 1 for identification,
this date.)

Q Could you give me a bit more detailed
description as to the exact type of work that you and
your staff do on a day-to-day basis.

A On a day-to-day basis we carry out the inspec-
tion program which has been established by the Office
of Inspection and Enforcement for reactor facilities
in the pre-operational, startup testing, and opera-
tional phases.

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Q Does that mean for all the reactors that are located within Region I, you and your staff are responsible for making sure that there are no violations of NRC requirements during the entire life of the reactor from the point of construction through the operating stage?

A No. As I said, we start in the pre-operational testing phase.

Q What is the pre-operational testing phase?
I am not clear on that.

A That phase is the phase in which for most part the systems have been completed to the utility's satisfaction, and the utility or a contractor for the utility conducts the testing program of those systems to insure that they function, as designed.

Q Is Mr. Havercamp in your division, or one of your staff?

A Mr. Havercamp is one of my staff; I am the supervisor.

Q Is he the engineer assigned the responsibility to inspect Three Mile Island?

A He is the project inspector for Three Mile Island, Units 1 and 2, that is correct.

Q Can you tell me when you first became

2 aware that there might be a problem at Three Mile
3 Island in March of this year?

4 A Are you referring to the March 28 date?

5 Q Yes.

6 A Approximately 10 or five minutes of 8:00, when
7 I came to work that morning.

8 Q Who told you?

9 A I was met by a secretary as I ascended the
10 stairwell to the upper level, who told me that there
11 was an emergency at Three Mile Island, and the tele-
12 phone conversation was going on in Mr. George Smith's
13 office.

14 Q What did you do upon receipt of that
15 information?

16 A I grabbed a pad, and proceeded to Mr. Smith's
17 office.

18 Q What was going on there?

19 A A telephone conversation with, I believe it was,
20 a control room supervisor which was ongoing.

21 Q Who was the control room supervisor at
22 that time, do you know?

23 A I don't remember the name.

24 Q Can you recount any of the conversation
25 that was ongoing?

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2 A Not specifically. If you have specific ques-
3 tions as to what was discussed, I will gladly tax my
4 memory.

5 Q How long did that conversation last?

6 A To the best of my recollection, approximately
7 15 minutes, at which point we attempted to transfer
8 the call to our Incident Response Center.

9 Q Do you mean the Incident Response Center
10 here in Region I?

11 A Yes, here in Region I in the upper level, and
12 Mr. Smith's office is down below. The transfer was
13 unsuccessful.

14 Q How did you know that there was an
15 Incident Response Center here that had been activated?

16 A Well, the Incident Response Center was activated
17 when we attempted to transfer the telephone call up
18 there.

19 Q Prior to that, there was an action ongoing
20 at this Incident Response Center?

21 A Not that I am aware of because I was in
22 Mr. Smith's office.

23 Q Subsequent to Mr. Smith's telephone conver-
24 sation, did you and he have a conversation?

25 A Myself and Mr. Smith?

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2 Q Yes, right.

3 A Off the record?

4 Q Yes.

5 (Discussion held off the record.)

6 A We were trying to transfer the call, and the
7 transfer failed. We then reinitiated the call from
8 the Incident Response Center phone.

9 Q Do you have any concept of what transpired
10 in that conversation; what type of information was
11 being relayed to Mr. Smith?

12 A At that point, we were attempting to get plant
13 status information as well as radiological information
14 from the plant personnel.

15 Q Do you remember any of the details of
16 the information received?

17 A No, sir, I do not.

18 Q After the conversations on the telephone
19 terminated, what did you do?

20 A The conversation never really terminated. The
21 phone line was kept open from that point on once we
22 established the telephone contact from our Incident
23 Response Center, to the best of my knowledge, except
24 for some short periods during the day when additional
25 transfers were attempted; the telephone contact was

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never broken.

Q But that conversation finished at some point?

A If you are asking me when that particular conversation ended, I don't know.

Q After that conversation ended, what did you do?

A Well, the conversation never really ended because we continued to talk to these people from that point on.

Q Did you stay in Mr. Smith's office for the balance of Wednesday?

A No, we went up to the Incident Response Center by this time.

Q So you did leave Mr. Smith's office and went up to the Incident Response Center?

A Yes. After we lost telephone contact at Mr. Smith's office, we reinitiated that communication channel from the Incident Response Center, not Mr. Smith's office.

Q Did you at any time go into Mr. Grier's office that morning?

A I don't recall. I may have.

Q After you were at the Incident Response

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Center here in Region I on Wednesday morning, I understand that you did keep in contact with Unit 1. Did you maintain contact with any other person?

A We were in contact with Unit 2 initially.

Q Did you maintain contact with Unit 1?

A Yes.

Q When was that established?

A I don't know. I wasn't the person who made the contact, but at some point, I believe within the first couple of hours.

Q Did you make contact with the NRC offices in Bethesda?

A Yes.

Q When was that contact established?

A I don't recollect the exact time.

Q What was your role in the Incident Response Center early that morning?

A My role in the Incident Response Center was basically to determine who of our inspectors who were in the office that morning were best qualified -- this is the reactor operations inspectors -- who were best qualified for us to dispatch to the site.

Q Why did you determine that somebody should be dispatched to the site?

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A Because of the apparent magnitude of the problem which they were having.

Q Would this be routine procedure?

A To dispatch and inspector to the site, yes, it is a routine procedure.

Q I gather you did decide to dispatch someone to the site?

A Yes.

Q Who did go to the site?

A From the Reactor Operations Branch, we sent James Higgins, Walter Baunack and William Raymond.

Q When did they leave?

A I believe, Mr. Higgins and Mr. Baunack left at about 8:30-a quarter of 9:00, and Mr. Raymond somewhere around 10:00 a.m.

Q How did they travel to the site?

A Mr. Higgins and Mr. Baunack, I believe, went in the emergency vehicle with several health physics personnel; Mr. Raymond, I believe, had to hire a rental car.

Q Why did you stay here in King of Prussia rather than go to the site yourself at the time?

A It was not clear at that time from the information that we had been able to obtain exactly how

2 serious the accident was. We had available to us here
3 many reference materials from which we could attempt
4 to determine what in fact was going on.

5 Q How serious did you think the accident
6 was at this early time?

7 A I had not made an assessment at that time.

8 Q Was information coming into the Incident
9 Response Center at that time?

10 A Yes, it was.

11 Q How would you characterize the information?

12 A I characterize the information as being relatively
13 good information except that it would take some time,
14 from the information, and the various information that
15 we had, to determine exactly what was going on --
16 what exactly was occurring.

17 Q After you dispatched this group of
18 persons to the site, what did you do next?

19 A I believe I initiated a preliminary notification
20 to alert our headquarters in writing as to what was
21 occurring, and provide the details that we had at th
22 time to the headquarters staff.

23 Q Is a preliminary notification, a form on
24 which you fill out some information?

25 A Yes, it is.

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Q Why is it called a preliminary notification?

A Because it is information of a preliminary nature; that is, it is not wholly supportable. It may not be completely factual at the time.

Q Are preliminary notifications a form of information transmission that you would use especially during times of emergency or stress situations?

A Preliminary notifications are used whenever we learn of something which we feel the NRC should be made aware of in a prompt fashion.

(Continued on following page.)

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2 Q To whom and when did you send that pre-
3 liminary notification?

4 A The preliminary notification goes to I&E
5 headquarters, particularly the executive officer for
6 Operations Support. It is then dispatched by those
7 people from headquarters to the various other offices
8 in NRC, as well as the Commissioners.

9 Q By what means do you transmit a preliminary
10 notification?

11 A A preliminary notification is transmitted by a
12 mag card.

13 Q I am not clear on what that is.

14 A It is a magnetic card which, from as much as I
15 know about it, transmits the electronic impulses over
16 the telephone wires to a receiver down at the other end.

17 Q So it is an instantaneous transmission?

18 A Essentially.

19 Q Did you get any response from NRC head-
20 quarters?

21 A By this time, NRC headquarters was aware of what
22 was going on.

23 Q How do you know that?

24 A My recollection is that Mr. Grier informed them
25 sometime shortly after 6:20 or so.

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Q So you heard this information from Region I persons rather than directly from Bethesda?

A Which information?

Q The information that they already knew that something was already going on at the site?

A (No response.)

Q Shall I rephrase the question?

A Yes, please.

Q Where did you hear that NRC headquarters in Bethesda already had information concerning a problem at Three Mile Island at the point you sent this preliminary notification?

A Here in Region I.

Q After sending the preliminary notification, what did you do then?

A Well, I wasn't totally responsible for sending it. I had somebody start to prepare it, and I believe it was Don Haverkamp, and the reason he prepared it was because he was the project inspector and most familiar with the plant of anybody that was here.

I was doing other things while the preliminary notification was being prepared, such as obtaining reference materials and bringing them into the Incident Response Center and answering telephones from various

2.3 2 people who were calling the Incident Response Center,
3 and again, another way I knew that the headquarters had
4 been advised of what was going on was because the phones
5 were ringing.

6 Q Why didn't Mr. Havercamp go to the site
7 with the persons who first left?

8 A I considered it best to have Mr. Havercamp where
9 he could better assess from the information that we
10 were getting what was going on, and to inform us of
11 what he thought the problem might be.

12 Q Can you characterize for us any events that
13 occurred on Wednesday morning here at the Incident
14 Response Center that would be worthy of your mention?

15 A Can you rephrase that.

16 Q I am just interested in knowing if there are
17 any events that come to your mind which would be useful
18 for you to explain to us now regarding the events on
19 Wednesday morning here at the Incident Response Center.
20 Did anything occur that comes to your mind?

21 A Of what kind or nature?

22 Q Apparently nothing is coming to your mind.

23 A We were responding to an emergency.

24 Q Can you further define what your role
25 was on Wednesday morning other than bringing reference

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material into the Incident Response Center?

A Trying to assess what the problem was and the actions being taken by the licensee, whether or not they were appropriate actions.

Q What kind of information were you getting from the licensee?

A We were getting very good information from the licensee.

Q For example?

A We were getting information on radiation monitoring, or rather, the readouts from radiation monitoring instruments, getting plant status information, temperature.

Q What was the information you were getting with respect to radiation?

A Precise numbers?

Q As precise as you can answer.

A I wouldn't even venture to recollect.

Q Did they indicate to you that there was a major problem with respect to radiation?

A Yes.

Q How bad a problem was there, to your thinking, with respect to radiation releases at the site?

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A When you say "radiation releases" -- I am talking about in-plant radiation monitoring, not release information.

Q Let me defer to that, in-plant monitoring of radiation levels.

A The magnitudes were sufficient to indicate that a severe problem did exist. I would characterize it in that fashion for you.

Q What other kinds of information were you getting?

A Plant status information.

Q What was that information?

A That the primary system temperature, primary system pressure -- later on in the day, I believe we got some thermocouple -- in-core thermocouple readings and equipment status.

Q What conclusions were you reaching with respect to the status of the plant from the information you were getting?

A From the information that we were getting, I would say that I assessed the plant as not being in a stable condition.

Q Would you give us some more information on that point.

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2 A Yes. It was obvious that the plant could not
3 be cooled down sufficiently to initiate low-pressure
4 safety injection, nor could the plant be pressurized
5 sufficiently to -- let me rephrase that.

6 MS. MOE: Would you like the court reporter
7 to read back the part you just started with?

8 THE WITNESS: Yes.
9 Would you do that.

10 (Record read.)

11 A (Continuing.) Let me start over.

12 It was obvious that the plant should not be
13 cooled down sufficiently to initiate low pressure
14 injection, nor could the core flood accumulators be
15 utilized to function as they are meant to, and this
16 led to the condition of having the plant be unstable.

17 Q Was it your view that the status of the
18 plant created any risk that there might be radiation
19 releases from the plant, or any other problems that the
20 plant might cause persons nearby?

21 A I take it from that, you mean to the environment
22 and to the general public?

23 Q Yes.

24 A At that point, no.

25 Q Is it fair to say you did not consider it

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2 to be an imminent threat to health and property?

3 A That is correct.

4 Q Did your understanding of the situation
5 in the plant change at any time?

6 A Yes. Sometime during the day, the radiation
7 levels in the auxiliary building were noted to be in-
8 creasing. There was water spilled in the auxiliary
9 building, which apparently caused these increases in
10 radioactivity levels. The auxiliary building does
11 vent to the environment through a filtering system,
12 and at that point it became obvious that some releases
13 of radiation might occur.

14 Q How did you find this information out?

15 A This type of information was being communicated
16 to us by this time from our people in-plant, in both
17 Units 1 and 2.

18 Q What time on Wednesday was this information
19 arriving?

20 A It started arriving with the telephone call in
21 Mr. Smith's office at ten minutes of eight in the
22 morning.

23 Q That was the initial information?

24 A Yes.

25 Q Then you said the quality of information

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changed.

A Excuse me?

Q You said the information you had with respect to the site began to change later when you learned of these problems that you mentioned. I am interested in knowing when that new information came in.

A My recollection as to the exact times is very poor. You must realize that this is some time ago, and I don't review notes every day.

Q If you do not remember something, you can simply indicate that; that is certainly acceptable.

A It was sometime either in late morning or early afternoon.

Q What did you do in response to that information?

A Well, we were carefully monitoring changes in radiation levels in-plant, and also any reports of the radiation levels outside the plant that we were receiving.

Q Is it fair to say that you received this information and continued your standby status?

A Well, I wouldn't characterize our status as standby. We were continually assessing the information as it came in.

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Q What happened next?

A Well, this type of activity was continued throughout the afternoon, and at approximately 4:00 p.m., I was directed by Mr. Grier, regional director, to proceed to the site.

Q Why did he give you that direction, to the best of your knowledge?

A To coordinate the activities of the Inspection and Enforcement personnel who had been previously dispatched to the site.

Q Was it Mr. Grier's view that the coordination ongoing at the site was inadequate?

A No, it was not. I believe he wanted a section chief on the site to ensure that somebody with authority was present.

Q Did you then leave for the site?

A I left for the site at approximately 6:00 p.m.

Q What did you do between 4:00 and 6:00?

A I gathered some notes that I had and made preparations to proceed to the site.

Q Did you leave with anyone else?

A No.

Q Did you go by car?

A Yes, I did.

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2 Q When did you arrive?

3 A I arrived at approximately 9:00 p.m., aft
4 stopping home for a suitcase and things like that.

5 Q Did you go directly to the site?

6 A No, I stopped at home.

7 Q I mean after you left here, and after
8 stopping at home.

9 A Yes. My home is on the way to the site, so I
10 dropped off there.

11 Q When you went to the site, where did you
12 go at the site?

13 A I went to the Observation Center, which was
14 Metropolitan Edison's command post for activities that
15 were ongoing at the site.

16 Q What was going on at the Observation Center
17 when you arrived?

18 A Primarily, they were assessing plant status,
19 getting reports from environmental survey teams which
20 they had dispatched, and assessing the information
21 that was coming in.

22 Q Did you learn anything new about the status
23 of the plant after arriving?

24 A I got an update of the plant status from
25 Mr. Herbein, the Met Ed vice-president, and also

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talked to our Phil Stohr, who had arrived sometime earlier with the environmental monitoring -- the NRC environmental monitoring van -- and asked him what type of environmental monitoring we had initiated.

Q Were Messrs. Higgins and Baunack and Raymond there?

A No. All three, I believe, at that point were still in the control room.

Q Which unit?

A Well, Baunack and Raymond were in the Unit 2 control room, and Higgins, I believe, had gone to a briefing at the Governor's Office.

Q What information about the status of the plant did Mr. Herbein give you?

A Merely an update of the plant status, as far as from when I left the Region I office until I got up there. Essentially nothing much had changed, as I recall.

Q In the Observation Center, was there any sense of urgency or serious concern with respect to the situation of the plant?

A Oh, yes.

Q Can you give us more information about why that was.

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2 A Well, there was a great amount of activity with
3 people plotting wind direction and radiation levels in
4 various areas, on maps and charts, and other people
5 trying to determine what should be done next in order
6 to get the plant into a safe condition, or what is a
7 manageable condition.

8 Q Were people very concerned at that point
9 that the plant may deteriorate?

10 A Yes.

11 Q What did you do while at the center?

12 A Essentially just what I have described. I then
13 proceeded to the site.

14 Q When did you leave the center to proceed
15 to the site?

16 A That was approximately 10:00 p.m. -- maybe
17 10:15 p.m.

18 Q Did you speak with anyone over the telephone
19 while at the center?

20 A Yes, I talked to the regional office here.

21 Q With whom did you speak?

22 A Mr. Grier and Mr. Brunner, I believe.

23 Q Did you place the call?

24 A Yes, I did.

25 Q What information did you relay?

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A I don't recall.

Q When you went to the site itself, where did you go?

A I went to the south entrance -- I am sorry, the north entrance gate -- and had considerable difficulty in gaining access to the site. This was because I do not have a photo identification badge for that unit or that site, and I needed an escort in order to get into the plant. While the guard was attempting to make arrangements for me to get an escort, one of our health physics technicians was entering the plant. He had a photo identification badge, and I entered the plant with him.

Q He identified you, and that made it okay for you to enter?

A There was no question about my identification, but I needed an escort in order to get on the site itself.

Q Once you were on the site, to what location did you proceed?

A I proceeded to the Unit 1 control room.

Q Why did you go there?

A The Unit 1 control room was providing us with the readings from the radiation monitoring equipment.

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Q Did you go there to speak to a particular person?

A I went there to speak to many people; also to view the radiation monitoring equipment and the levels of radiation in and around the plant.

Q What was going on at that location when you arrived?

A The Unit 1 operators were maintaining the Unit 1 plant in, I believe it was, hot shutdown condition; as the plant was proceeding to start up earlier that day, startup was halted, and the plant was in a stabilized hot shutdown condition. Other people were, as I say, monitoring the radiation instrumentation for the site from that location.

Q What information were you getting concerning radiation levels?

A Exact figures, I can't recall. I wouldn't even attempt --

Q Can you characterize whether they were high or low, or a source of concern or not.

A At that point, other than in the auxiliary building, the radiation levels did not appear to be any great cause for alarm.

Q Did that represent an improvement over the

1
2 earlier information you had with respect to the on-site
3 radiation levels?

4 A It represented the status as being as it was
5 before.

6 Q So it was essentially the same as it was
7 before?

8 A It didn't get any worse.

9 Q And it did not get any better?

10 A It didn't get any better.

11 Q How about with respect to the off-site
12 radiation levels?

13 A Off-site radiation levels were, as I recall,
14 not of any great concern at that point.

15 Q Was there any other information coming
16 into the Unit 1 control room at that time that was
17 considered significant by those there, or which
18 was a change from what they had known before?

19 A At that particular time that I was there?

20 Q Right.

21 A I don't recall whether there was or wasn't.

22 Q What did you do while you were there?

23 A I spoke briefly to the Unit 1 superintendent,
24 whom I saw briefly because he was on his way over to
25 Unit 2 to lend assistance to people over there.

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Q What did he tell you?

A Generally what I was told when I arrived at the Observation Center, the plant status -- re-verified the plant status. I talked to several people in the control room as to their assessment of what was going on. Since they were operators at the sister unit, we could get some information from them. I also spoke with Mr. Kunder, who was the technical superintendent of Unit 2, concerning the sequence of events. Now this was already Thursday morning at this point.

Q How long were you in the Unit 1 control room?

A Until approximately 3:30-4:00 a.m.

Q After arriving about 9:30 or 10:00, something in that time frame?

A About 10:00-10:15; that is when I got to the guardhouse, and it was probably 11:00 or maybe a little after 11:00 before I gained access to the site.

Q While you were there, did you hear any information concerning an explosion within the containment or within the reactor vessel?

A No, I did not.

(Continued on Page 33.)

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2 Q Did any events occur during the time you
3 were in the Unit 1 control room which you would like
4 to mention, or was there any change of information
5 since the time of your arrival that you would like to
6 mention?

7 A I can't think of anything significant.

8 Q What did you do when you left the control
9 room?

10 A I attempted to find my hotel room.

11 Q Successfully, I trust?

12 A Yes.

13 Q When you retired for the evening, were you
14 very anxious or concerned or unconcerned with respect
15 to the status of the plant, and what might develop
16 the following day?

17 A No, I was definitely concerned about the current
18 status of the plant.

19 Q What did you do Thursday?

20 A Thursday morning, I discussed over breakfast
21 with Mr. Higgins and Mr. Gallina and one or two other
22 people from the Region I office, the events of the
23 preceding day, what was occurring, what their assess-
24 ment of the incident was.

25 Q About what time was that?

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A Probably somewhere between 7:30 and 8:00 a.m.

Q Getting back to Wednesday just for a second, did you have any knowledge of or participation in any press conferences held that evening?

A I had knowledge of the press conference that Mr. Higgins and Mr. Gallina attended.

Q Did you have any firsthand participation?

A No, I had not. They had already left for the press conference or briefing, or whatever it was, prior to my arrival.

Q So you had no participation in the briefing for that press conference?

A That is correct.

Q After breakfast on Thursday morning, what did you do?

A Proceeded back to the observation center.

Q What did you do there?

A Basically, I guess, we attempted to establish a more routine environmental survey program and sampling program for NRC at that point.

Q Did you stay at the observation center for all of Thursday?

A Yes, I did.

Q Did you make any telephone calls while

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you were there on Thursday?

A Oh, many.

Q Can you characterize for us, as your memory permits, whom you called and what you said.

A I guess, on numerous occasions I spoke with many people in the Region I office; exactly who they were and when it was that I spoke with them or what the subject of the conversation was, I don't recall.

Q Over the course of Thursday, what was your understanding as to the state of the system?

A My assessment was that the system was still somewhat unstable; that is, the reactor plant was still somewhat unstable.

Q Did you feel it was deteriorating or not?

A No, I felt that it was maintaining the same status as previously.

Q Did you feel that if the plant deteriorated there would have been time to take whatever necessary emergency steps could have been called for?

A Yes.

Q Did you feel that there was any deterioration which could have occurred that would have been more or less instantaneous and would not have provided any warning time for persons in the vicinity?

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A No.

Q On Thursday at any time were you aware of the question concerning the dumping of waste water from the site?

A Off the record?

Q Yes.

(Discussion held off the record.)

Q During Thursday, did you hear from anyone that the utility might determine to dump into the river waste water, radioactive or otherwise, which had been collected at the site?

A I don't recall any such information.

Let me clarify that. I believe sometime on Thursday there was information regarding the transfer of water within the plant.

Q I am not referring to that.

A No.

Q At no time on Thursday were you aware of that?

A No.

Q Did you have any involvement on Thursday with the tour that the Lieutenant Governor took of the site?

A No.

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Q Did you have any involvement in the decision on Thursday to take a sample of the primary coolant?

A No.

Q Did you have any involvement with either the briefing or the actual occurrence of the Governor at his press conference on Thursday evening?

A Yes, I did. When I was told by the Region I office that there would be a briefing of the Governor that evening, I then made arrangements for several of the people who were in the control room and who had participated in the previous night's briefing to participate in that briefing.

Q Was that the sum total of your involvement with that?

A Generally, yes.

Q On Thursday, did you become aware that the damage to the core and the effect on the state of the system might be more extensive than was earlier believed?

A I would have to ask you what the earlier assessment of core damage is that you are referring to.

Q Let me ask you. Early on Wednesday, did you have an assessment in your own mind as to the

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2 extent of core damage?
- 3 A Early on Wednesday?
- 4 Q Yes.
- 5 A Yes, I did, and I did not believe that there was
6 any extensive core damage.
- 7 Q Did your belief change at any time?
- 8 A Later on during the day.
- 9 Q Wednesday?
- 10 A Yes, it did change.
- 11 Q Why?
- 12 A Because some of the in core thermocouple readings
13 that we were getting, and also the fact that the
14 primary coolant temperature and pressure was not such
15 that boiling would have occurred in the reactor
16 vessel in the core region.
- 17 Q What conclusion did this new information
18 generate in your mind?
- 19 A Only that there was some degree of core damage.
- 20 Q Could you be more specific as to "some
21 degree of core damage."
- 22 A No, I can't.
- 23 Q Would you characterize the degree of core
24 damage as being extensive?
- 25 A At which point? On Wednesday?

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Q Yes.

A No, I wouldn't. I hadn't assessed the core damage as being extensive on Wednesday.

Q On Thursday, did you receive any information to encourage you to again reassess your thinking as to the extent of damage to the core?

A On Thursday, after some more deliberation, yes, I did conclude that the core damage was probably more extensive than I had assessed it to be on Wednesday.

Q Did you get any more information that led you to that conclusion, or was it simply a deliberation process?

A I may have gotten other tidbits of information which assisted me in my deliberations.

Q What kind of tidbits?

A More information with regard to the length of time that the boiling may have occurred in the core, the length of time that the safety injection system was not providing water to the core.

Q Did you get any information with respect to the amount of radioactivity within the primary coolant system?

A On Thursday?

Q Yes.

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A I don't believe so.

Q Did you get that information at some subsequent time?

A Yes, I believe that information came on Friday.

Q When on Friday, do you recall?

A I don't recall.

Q How did that new information alter your preexisting judgment concerning the core?

A It didn't change it any.

Q It did not change it any?

A No.

Q How long were you at the observation center on Thursday? You can answer that by telling us when you left.

A That is what I was trying to think of.

Q I thought you were computing the number of hours.

A No. Probably until about midnight or 2:00 a.m. Friday morning.

Q What did you do then?

A At about 11:00 o'clock on Thursday evening, another section chief had arrived on-site to back me up.

Q Who was that?

A It was Mr. E. B. McCabe.

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Q Is he from this office?

A Yes.

Q He is not within your branch, is he?

A Yes, he is. That is the time that he arrived, as I recall, at the environmental monitoring van which we were using as our command post. He had arrived on-site earlier, and had visited the Unit 2 control room.

Q Then he came to the observation center?

A Yes, right.

Q Did he tell you anything?

A Well, we discussed what was the plant status at the moment.

Q You indicated that he arrived at the observation center at 11:00?

A Somewhere around that time.

Q What did you do then?

A We discussed the events up to that point, the status of the plant, our own assessment of what was going on, and I believe I left shortly thereafter.

Q I assume that he was coming to relieve you?

A Yes.

Q When you left, where did you go?

A I went back to my motel.

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Q Did that conclude your participation in this whole affair for the day?

A My active participation, yes.

Q Did you have any other kind of participation?

A The thinking process never stops.

Q But you did not place any telephone calls or things of that sort after arriving at your motel?

A Yes, I did. I believe I did.

Q Did you place any calls to discuss matters relating to Three Mile Island?

A I believe I called our -- the Region I public affairs officer, and also Congressman Robert Walker, who I was directed to call so that I could confirm that he was arriving at the observation center the following morning and brief him on what was going on at that time.

Q Why did you call the public affairs officer, whom I assume was Mr. Abraham?

A Yes.

Q Why did you call him?

A I believe I called him to inform him of the congressman's visit the following morning

Q And you placed the call to the congressman's

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office first, I guess, and then to Mr. Abraham?

A I don't recall the sequence. I never did get the congressman that evening or that night, and called him the next morning, and just woke him up out of bed. He was home.

Q Did these telephone calls conclude your participation, active or otherwise, in this affair for that day?

A As I recall, yes, they did.

Q When did you arrive on-site Friday morning?

A I believe it was somewhere between 8:30 and 8:45.

Q Did you then again report to the observation center?

A Yes.

Q What was the situation at the observation center at the time of your arrival?

A Similar to the night before when I left. I attempted to get the latest information for the congressman who was to arrive, as I recall, somewhere between 9:00 and 10:00.

Q Was there any greater or lesser concern with respect to the state of the reactor when you

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arrived on Friday morning?

A No, I don't believe so, other than the fact that the conditions had not changed and that was of some concern. It wasn't getting any better.

Q This was approximately 8:30, you said, on Friday morning?

A I believe it was 8:30.

Q Did any new information come into the center that morning to change that posture or thinking?

A I don't recall.

Q Do you recall if any information came into the observation center with respect to off-site readings of radiation?

A When I arrived, I don't believe there were any significant changes in off-site radiation levels.

Q Did you hear any rumors at that time that there might be an off-site reading of radiation approximating 1200 millirems per hour?

A No, I didn't.

Q Do you remember hearing any information concerning any off-site readings at all?

A Yes, there were some low level readings at the perimeter of the plant -- I am sorry, the perimeter

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2 of the sites.

3 Q Is it fair to say, these were readings
4 with no basis for unusual concern?

5 A Well, the readings were of a basis for concern
6 inasmuch as the levels were higher than we had ever
7 seen at a site boundary for any extended period of
8 time.

9 Q Did anyone at the observation center feel
10 that these levels of radiation reading presented an
11 immediate hazard to the health, even if it were a
12 hazard to a minor degree, to the health of the people
13 in the area?

14 A I can't speak for the people in the center.

15 Q How about for yourself?

16 A Yes, I had some concern; if the levels had
17 gotten any higher, yes.

18 Q Did you contact NRC headquarters in
19 Bethesda at all that morning?

20 A I really don't recall.

21 Q Did you contact NRC Region I?

22 A I am sure I must have.

23 Q You do not remember any of the conversa-
24 tions?

25 A No.

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Q Did you talk to Mr. Abraham that morning?

A Sometime during Friday, I did; I don't remember if it was in the morning or afternoon.

Q Do you remember the substance of the conversation?

A I believe it related to the interferences we were getting from news media people who were flocking around the observation center.

Q What did you tell him about that?

A I told him it was interfering with our activities.

Q What did he say?

A As I recall, he said he thought it best that he remain where he was.

Q Did you talk to Dr. Gallina that morning?

A I don't recall.

Q How about Jim Higgins?

A I am sure at sometime during that day I talked to all those people because as they came off shifts from the control room they would stop in at the environmental monitoring van and debrief with us on their activities in the control room and the status of the plant.

Q Did you have occasion to talk with any persons from the Commonwealth of Pennsylvania that

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morning?

A I don't recall; I don't think so.

Q Were you aware that morning of any decisions that might be made with respect to recommending evacuation of the immediate area?

A Off the record?

Q Yes.

(Discussion held off the record.)

A I believe it was sometime around noon, and I don't remember the source of the information, and it may well have been a news broadcast that concerned Governor Thornburgh recommending that pregnant women and children under five years old evacuate the area.

Q Did you discuss that evacuation recommendation or any of the options of it with anyone?

A Formally?

Q That morning.

A Formal discussion?

Q Any kind of a discussion.

A No. No, as a matter of fact, I was somewhat amazed that the decision had been made.

Q Why were you amazed?

A It didn't appear to me that the radiation levels that were being counted would have required that.

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Q Why was that?

A Because they didn't appear to be that high.

Q What would you have considered a high enough level to make an evacuation advisory of that sort advisable?

A A number of very difficult to give because it would depend on what was occurring and what the conditions of the occurrence were.

Q Answer the question as best you can.

A I think, as I just said, I can't answer it in a number. It would depend on the circumstances. If it was an instantaneous release from the plant stack, that would be different than the generation radiation level around the plant steadily increasing.

Q Did you have knowledge at that time of any releases from the plant stack or from any avenue from the plant and it did not necessarily have to be from the stack?

A Yes.

Q What knowledge did you have?

A I heard of one reading of approximately 1200 MR per hour.

Q Didn't I just ask you that question earlier, and you indicated you had not heard anything

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2 anything of this sort?

3 A You asked me that question, "When you arrived at
4 the observation center on Friday morning," and the
5 answer to that was "No"; that was sometime later
6 during the day.

7 Q When did you hear the information about
8 the 1200 millirem release?

9 A Either late morning or early afternoon.

10 Q Can you be more specific?

11 A No, I can't.

12 Q Who gave you that information?

13 A I don't remember.

14 Q What exact information was given to you,
15 to the best of your recollection?

16 A Just what I stated, that a measurement was taken;
17 I believe it was an aerial measurement.

18 Q You were told it was a measurement that
19 was taken somewhere about the site or somewhere other
20 than ground level?

21 A That is correct, and the reading was somewhere
22 around 1200 MR.

23 Q Did you hear that information before or
24 after you heard information with respect to evacuation
25 advisories?

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- 2 A I am not sure.
- 3 Q What was your thinking when you heard that
- 4 1200 millirem information?
- 5 A I thought that they probably had a burp from
- 6 one of the waste storage tanks.
- 7 Q Did you postulate in your mind a cause
- 8 for that burp?
- 9 A No, I don't think I did.
- 10 Q Did you do that at any other time?
- 11 A For that particular release?
- 12 Q Yes.
- 13 A I think sometime thereafter I tried to determine
- 14 what may have caused that increase of radiation from
- 15 the stack.
- 16 Q When did you try to determine it?
- 17 A Sometime on Friday afternoon.
- 18 Q Can you be more specific?
- 19 A No.
- 20 Q How did you go about trying to determine
- 21 what caused the release?
- 22 A By contacting the people that we had, the
- 23 inspectors that we had at the plant, and questioning
- 24 them as to what plant evolutions were taking place
- 25 which may have caused that.

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Q Whom did you contact?

A I believe it was one of our inspectors in the control room, Unit 2 control room.

Q Who was that?

A It may have been the Unit 1 control room.

Q Do you know who it was precisely?

A No, I don't.

Q Do you remember the information that was given to you?

A The information that was given to me, as I can best recall it, was that there was a transfer of waste water from one tank to another which probably caused that release.

Q Did you ever have reason to believe or suspect that that release might have been of a continuous nature rather than of a sporadic nature?

A No.

Q Did you relay the information with respect to the 1200 millirem release to anyone else?

A That information had already been relayed to our Region I Incident Response Center and the headquarters Incident Response Center.

Q Did you relay that information to anyone else?

A I can't recall.

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Q Did you hear at any time on Friday morning any information with respect to the capacity of the waste gas decay tanks at the site?

A Can you be more specific?

Q There was a possible question in some person's mind on that morning relating to the continued capacity of the waste gas decay tanks which, as I understand it, were necessary to assure that radio activity for the primary coolant that was being let down, would not be released unfiltered into the atmosphere, so that there was concern that there be continuing capacity within those tanks.

Did you hear anything of that nature on Friday morning?

A I think the only tank capacity which was of any concern on Friday morning was the liquid waste storage tanks. I don't recall hearing anything about any waste gas decay tanks.

Q Why were the liquid waste tanks of concern?

A Because they were filling.

Q What would be the problem if they filled?

A There would be nowhere for the water to go.

Q Why was that of concern?

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Q Why was that of concern?

A Well, there was water in the auxiliary building on the floor which was causing the high radiation levels in the auxiliary building, and it was desired to get that water out of there.

Q So you are saying that if these tanks filled, there would be more water in the auxiliary building, and that would result in a release to the environment?

A Yes.

Q Were you aware at any time on Friday of the decision made to send Mr. Denton to the site?

A Yes.

Q In what way did you become aware of that?

A I believe I was told by Boyce Grier.

Q Did you play any part in that decision making?

A No. The previous day, however, Mr. Richard Vollmer, who works for Mr. Denton, did arrive at the site some time in the early afternoon. I was involved in briefing him as to what we had done, what we were doing, what we planned to do.

Q Were you also briefing people at NRC,

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2 Bethesda?

3 A No.

4 Q Who was doing that?

5 A I have no idea. All I know, it wasn't me.

6 Q Did you have any contact at all with
7 NRC, Bethesda, on Friday morning?

8 A Yes, I believe I did with regard to com-
9 munications equipment.

10 Q Could you be more specific?

11 A We needed mobile telephones, because the
12 telephones that were available to us were sorely
13 inadequate, and we also needed walkie-talkies,
14 CB radios, to communicate between survey vehicles
15 and communicate between various people who were
16 at the Observation Center.

17 Q Did the bubble become of concern to
18 you on Friday?

19 A Which bubble?

20 Q I understand there was a hydrogen
21 bubble within the reactor. What other bubbles are
22 you referring to?

23 A I was just asking for clarification.

24 Q When you ask, "which bubble," do you
25 mean there was more than one bubble?

2 A No.

3 Q I thought maybe there was, and that
4 might require further clarification.

5 So let us refer to the hydrogen bubble.

6 A I wasn't concerned about the hydrogen bubble.

7 Q On Friday or at any time, you mean?

8 A At any time.

9 Q Were others concerned?

10 A It would appear from news media reports that,
11 yes, there were other people concerned about the
12 hydrogen bubble.

13 Q Why were you not concerned, if others
14 were; if that is a question you can answer?

15 A I was not concerned because hydrogen is
16 routinely used as a cover gas in pressurized water
17 reactor plants to scavenge oxygen, and I could
18 not imagine how oxygen could get into the system
19 in quantity enough to cause a combustible mixture;
20 realizing that if a hydrogen bubble in fact did
21 exist, and hydrogen in small amounts did get into
22 the reactor vessel, that the hydrogen would mix
23 with the oxygen to form water, which is the reason
24 hydrogen over pressure is used in pressurized
25 water reactors.

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2 Q By this time were you aware of the
3 possibility that there might have been an explosion
4 within the reactor earlier?

5 A I became aware of the rumor of an explosion
6 within the containment building -- the reactor
7 building some time mid-Friday afternoon.

8 Q What information reached you concerning
9 that?

10 A That it was possible that there was, from
11 indications available in the control room which
12 had been reviewed by the licensee, and also from
13 recollections of some people who were in the con-
14 trol room on Wednesday afternoon that a hydrogen
15 explosion may have occurred.

16 Q To your knowledge, did the control
17 room have any hard information that would lead them
18 to that conclusion?

19 A I understood that there was a pressure spike
20 indicated on the containment building pressure
21 instrumentation recorder.

22 Q What would that tell you?

23 A That it might have been an instrument mal-
24 function, a spurious signal, or that it could well
25 have been a rapid detonation of hydrogen in the

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containment.

Q Did that information, or rumor as you characterize it, in any way influence your thinking as to the hazards that the bubble may or may not cause?

A At that particular time, no, because the free hydrogen that was available to escape to the containment would have dissipated in a detonation on Wednesday afternoon.

Q I did not follow that. Would you repeat it.

A The free hydrogen which escaped from the primary system while the pressurizer relief valve was open during the day on Wednesday would have been dissipated by the explosion, if it had occurred, so that there was no additional hydrogen, or way for additional hydrogen to get in the containment building.

Q So this information did play some role in your thinking about the hazard that the bubble could cause?

A The bubble was in the reactor vessel, not in the containment. The bubble of concern was in the reactor vessel itself which, by this time, was bottled up.

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Q Did you stay in the Observation Center for the balance of Friday?

A Yes.

Q When did you leave?

A I believe it was late in the evening, probably 10:00-11:00 or so.

Q Did any other events occur on Friday that we have not already covered that you deemed to be of some significance?

A Yes. We received some inspectors from other regions to assist us in our monitoring of activities in the plant. Those people I assigned to different watches, arranged for their lodging, automobiles and so on and so forth.

Q Were there any other events of significance?

A We got mobile communication equipment from our Headquarters.

Q Anything else?

A No.

Q After leaving the Observation Center Friday evening, did you have any other involvement at all with the problem at the site?

A I don't believe so.

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Q What was your next involvement?

A Saturday morning.

Q That is when it was. I am asking what was it?

A I returned to the Observation Center and continued my activities.

Q When did you return on Saturday morning?

A Probably somewhere between 7:30 and 8:30.

Q Was there any new updated information with respect to the state of the system when you arrived?

A There was a -- yes, there was some concern about the hydrogen bubble in the reactor vessel, and whether additional core damage may occur due to the bubble.

Q Was there increased concern with respect to the hazards the bubble may be presenting at that point?

A On whose part?

Q On the part of the people in the Observation Center.

A I find that difficult to answer because I can't gauge what their concern was.

Q You just indicated that they did have

1
2 some concern. I take it you did not share that
3 concern?

4 A I guess the increased concern that I was
5 addressing was that which I heard through news
6 reports.

7 Q You received updates from public sources
8 upon arriving at the Observation Center?

9 A Yes, as well as --

10 Q Did you receive any updated information
11 from the people at the Observation Center?

12 A From NRC personnel, yes.

13 Q What did they tell you?

14 A That there was apparently increased concern
15 with respect to the hydrogen bubble.

16 Q Did the persons in the NRC with whom
17 you spoke that morning share that increased con-
18 cern?

19 A Yes, some of them did.

20 Q I take it you did not?

21 A From a technical point of view, no; from a
22 public reaction point of view, yes.

23 Q Would you clarify that for me.

24 A I was not concerned that an explosion could
25 occur in a reactor vessel, yet it appears to me that

2 the news media reports about their concern for an
3 explosion was made quite vivid, and I thought people
4 were apt to react in a panic fashion, thereby
5 causing me concern from the public point of view.

6 Q Did you take any action based upon that
7 concern that you had?

8 A A formal action, no. There were people who
9 were walking up to the Observation Center from the
10 public, asking questions, and I tried to alleviate
11 their concern, as best I could.

12 Q What other information did you receive
13 from the NRC persons at the Observation Center
14 upon arriving on Saturday?

15 A Basically, just status information, plant
16 status information, and radiation levels.

17 Q During this time period, and indeed on
18 the previous day, how were you going about fulfilling
19 your responsibility to coordinate the activities
20 of the persons from this region who had arrived here
21 before you?

22 A Basically, assuring that we had coverage in
23 the control room.

24 Q What do you mean "coverage"?

25 A Around the clock -- inspectors around the

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clock in the control rooms.

Q You prepared scheduling plans to make sure someone would always be there?

A That's right; relaying information requests, special information requests from the regions. Most of them came from the region to people in our Headquarters or from our Headquarters.

Q. What kind of information requests?

A Specific requests such as "What is the radiation level at the north gate," and "What is the radiation level at the south gate," and things of that nature.

Q Did you enter into any analysis of information during these days?

A No, I did not.

Q You simply relayed information?

A That's right.

Q What other coordinating tasks did you undertake in addition to scheduling people and relaying information?

A I tried to take care of logistical support for all the people that we were now getting on-site, such as better facilities, trailers, for instance, so we could work out of a trailer rather than what

1
2 we were working out of before, which was the
3 Environmental Monitoring van, which had little space
4 in which to move around, because it was filled with
5 instruments.

6 Q Does that complete your answer, or is
7 there something else?

8 A There are many other things. I just can't
9 think of them offhand.

10 Q During Saturday or at any other time,
11 were you involved in or aware of contingency planning
12 going on, or planning with respect to evacuating
13 segments of the population, or with respect to
14 other emergency responses?

15 A Was I involved in the planning?

16 Q Were you involved in or aware of, was
17 the question.

18 A I guess I was aware of such plans. I was
19 not involved with them.

20 Q When did you first become aware of any
21 such plans?

22 A I don't recall. It may even have been on
23 Friday.

24 Q Did you at any time have involvement
25 with that area of interest?

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A No, I did not.

Q Did you at any time hear word that a sabotage threat might have been received with respect to Three Mile Island?

A No.

Q Did you remain in the Observation Center during the entire time on Saturday?

A Yes.

Q Did any other events on Saturday occur which you considered to be significant?

A Yes. With Mr. Denton arriving on the scene, I felt that the information was becoming less garbled, better coordinated, and there appeared to be a direction which had been established to place this entire situation in some kind of semblance of order. I think that is quite significant.

Q Did you ever have any contact with Mr. Denton during this time?

A Yes.

Q When did you talk with him, or when did you establish contact with him?

A I believe it was Friday afternoon when he arrived, or some time shortly thereafter.

Q Did you contact him, or did he contact

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you?

A No, it was in a group meeting that we had. He had been briefed by the people who had preceded him the day before, his own people, and he basically relied on us to relay information directly from the two control rooms, which I guess was our primary function after he got there.

Q What was the purpose of meeting with Mr. Denton?

A To discuss the plant status, what manpower resources we had to do various jobs, what kinds of environmental monitoring surveys we were doing, and things of that nature.

Q Was it essentially to brief him as to the latest information?

A Yes.

Q Were there any other events of significance on that day?

A I can't recall.

Q When did you leave the Center on that day?

A Some time late evening.

Q What did you do when you left?

A Went to my motel.

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Q Was that your last involvement of the day with this problem?

A I believe it was.

Q What was your next involvement?

A Sunday morning.

Q When and what was that?

A Basically, the same, coordinating activities as I had done previously. By this time, late Saturday, our trailers had arrived and we were setting up trailers Sunday morning, trying to get facilities, telephones to be installed, and preparing for the visit of Mr. Jimmy Carter, and things of that nature.

Q Did any events occur on Sunday that were of significance?

A Yes, Mr. Jimmy Carter made a visit.

Q Was there anything of significance other than Mr. Carter's visit?

A Yes, that caused quite a disturbance in our operation.

Q What kind of disturbance?

A It seemed that all interest was focused on the arrival of the President, and not very much, or as far as I could tell, not very adequate

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interest was being placed on what was going on at the plant.

Q Inadequate interest do you think?

A Not enough, yes.

Q What problems was that causing?

A Fortunately, I don't believe it caused any problems.

Q Do you think it increased risks?

A Yes.

Q What kind of risks did it increase?

A Distraction of those people who were involved in the decision-making processes.

Q I am sorry, but I do not understand your answer.

A People who were involved in the decision-making process were distracted by making arrangements, or being aware that the president was going to come.

Q And you think that created some greater risk?

A Yes.

Q Do you mean a risk to the public health?

A It may have.

Q A risk to the workers?

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A Well, yes.

Q What was your thinking as to the state of the reactor on Sunday?

A I thought it was in a more stable condition than it had been previously.

Q What led you to that conclusion?

A That uncondensable gases in the system seemed to be or were on their way down in volume, and it just seemed like things were progressing in a more orderly fashion. There was purpose to some of the things that were now going on.

Q From Sunday onward, did you ever have reason to think that the risk that the reactor was posing to the health of the public or the health of the workers was increasing?

A No.

Q So from that point forward, would it be fair to characterize your thinking as being that the situation was getting better rather than worse?

A Yes.

Q From Sunday forward, did your role, as you have already described it, change in any way?

A Basically not.

Q How long did you remain on-site at

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Three Mile Island?

A I believe it was until April 16. I can't recall the exact date, but I think it was April 16th.

Q Why did you remain there that long?

A I was a section chief in charge of the I&E personnel on one shift, in charge of their activities in the plant.

Q May I see the notes to which you are referring?

A I really would rather not.

Q Why is that?

A They are handwritten and, basically, it is a memo -- this is off the record.

Q This is on the record. I think you can explain your reasons on the record.

MS. MOE: I would like to consult with my client about that.

MR. PEARSON: Let us go off the record then.

(Discussion held off the record.)

MR. PEARSON: I would like to designate as Deposition Exhibit 2, a memorandum currently in draft form being prepared by Mr. Keimig for Mr. Grier, the subject of which is

1
2 "Report of Activities at Three Mile
3 Island, March 28 to April 18, 1979."

4 It is the understanding of the parties
5 that Mr. Keimig will put this memorandum in
6 final form in the very near future, and
7 once it is in final form, he will submit it
8 to the Office of the President's Commission
9 on Three Mile Island for their use.

10 Is that agreed by all parties?

11 MS. MOE: Yes, that is fine.

12 THE WITNESS: Fine.

13 (Above described documents hereinafter deemed
14 marked Keimig Deposition Exhibit 2 for
15 identification, this date.)

16 Q Let us return to Friday, the 30th for a
17 moment, if we could.

18 Do you have any recollection on Friday,
19 the 30th, of calling Region I and indicating that
20 someone from Headquarters had recommended to the
21 Commonwealth of Pennsylvania that Middletown
22 be evacuated?

23 A A clear recollection, no.

24 Q Do you have an unclear recollection?

25 A I may have made a telephone call during which

1
2 time that was discussed; I really don't recall,
3 I would like to say though, as I think you are
4 reading from some telephone reports from the
5 Region I Office, that all this information is here,
6 and this is why I didn't think it necessary to
7 recollect in great detail any of the telephone calls
8 that I made, because I knew all of this information
9 was being taken down.

10 Q As long as you are giving us the 100
11 percent substance of your recollections as they
12 exist now, then that is fine.

13 A Yes.

14 Q I assume that is the case?

15 A That is the case.

16 Q Is there anything else with respect
17 to your involvement in this accident that we have
18 not covered that you would think worthy of mention?

19 A No.

20 MR. PEARSON: Unless there is anything
21 else from any of the other parties, I think
22 we have concluded the deposition.

23 A I would like to clarify one thing for the
24 record.

25 MR. PEARSON: We will reopen the

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record then to permit Mr. Keimig to make
one final and clarifying point.

A My recollection about the visit of the
President to Three Mile Island, although it did
create a disturbance for us, in my estimation, I
do think it did a lot to allay some of the fears
of the people in and around the area, so it did
serve a purpose.

MR. PEARSON: With that, we will con-
clude the deposition.

(Whereupon, at 7:10 p.m., the within
deposition was concluded.)

RICHARD R. KEIMIG

Subscribed and sworn to before me
this ____ day of _____ 1979.

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I-N-D-E-X

Witness

Direct

Richard R. Keimig

2

E-X-H-I-B-I-T-S

Keimig Deposition
for Identification

Page

1

Resume of Richard R. Keimig

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2

Rough draft of "Report of
Activities at Three Mile Island
March 28 to April 18, 1979"

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C E R T I F I C A T E

STATE OF NEW YORK)

: ss:

COUNTY OF NEW YORK)

I, ROBERT ZERKIN, a Notary Public of the State of New York, do hereby certify that the foregoing deposition of RICHARD R. KEIMIG, was taken before me on the 16th day of August, 1979.

The said witness was duly sworn before the commencement of his testimony; that the said testimony was taken stenographically by myself and then transcribed.

The within transcript is a true record of the said deposition.

I am not related by blood or marriage to any of the said parties, nor interested directly or indirectly in the matter in controversy, nor am I in the employ of any of the counsel.

IN WITNESS WHEREOF, I have hereunto set my hand this 20th day of August 1979.

Robert Zerk

ROBERT ZERKIN

Organization: ROSNS Branch, Region I - OIE

Title: Chief, ~~Reactor Projects~~ Section No. 4

Grade: GS-15

Birth Date: 3/31/40

Education: Bachelor of Marine Science-Engineering, Maine Maritime Academy, 1962
Nuclear Power Technology, U.S. Merchant Marine Academy, 1963
Reactor Technology, Health Physics and Experimental Reactor Operations, Texas A&M, 1964
Water Chemistry for Nuclear Power Plants-Treatment and Analysis, Calgon Laboratory, Inc., 1964

Licenses: Professional Engineer-Nuclear Engineering, State of California
Second Assistant Engineer, Steam Unlimited, U.S.C.G.
Third Assistant Engineer, Diesel Unlimited, U.S.C.G.
Senior Reactor Operator-U.S. AEC (Expired)

Certificate: Staff Water Chemist, FAST, Inc.

Professional Society: American Nuclear Society

Experience:

- 4/78 - Present Chief, Reactor Projects Section - Responsible for the project management of the OIE inspection program for reactors in preoperational testing, startup testing, and operational phases at resident and non-resident inspector sites.
- 5/77 - 1/78 Chief, Nuclear Material Control Support Section (Acting) - Temporarily detailed to supervise the activities of a section that provides specialized support in the area of nuclear material control and accountability. (NRC:RI)
- 2/77 - 4/77 Chief, Nuclear Support Section No. 2 - Responsible for the supervision of a section that provides specialized support in the areas of quality assurance, plant procedures and operator requalification training. (NRC:RI)
- 6/76 - 10/76 and 1/78 - 4/78
- 10/76 - 2/77 Chief, Reactor Construction Projects Section (Acting): Temporarily assigned to supervise the activities of a section that provides project management for nuclear power facilities under construction. (NRC:RI)
- 12/73 - 6/75 and 6/72 - 4/73 Reactor Inspector, Reactor Construction Project Section - Responsible for the inspection of nuclear reactor facilities under construction. Also, served as Principal Inspector for Lead Region for SNUPPS project. (AEC/NRC:RI)
- 4/73 - 12/73 Reactor Inspector, Reactor Test and Startup Branch - Responsible for the inspection of nuclear reactor facilities during pre-operational and startup testing activities. (AEC:RI)
- 2/71 - 6/72 Senior Operations Engineer, Burns and Roe, Inc. - Responsible for the supervision of a project group engaged in the preparation of system design descriptions, pre-operational test and operating procedures for nuclear and conventional plant systems for a utility nuclear power facility. Also, responsible for planning and directing the acceptance, performance, pre-operational and startup testing prior to commercial operation. In addition, served as A/E representative on utility, NSSS, E/C and A/E joint test group.
- 10/66 - 1/71 Senior Operations Analyst, First Atomic Ship Transport, Inc. - Responsible for the preparation and auditing of reactor and conventional plant procedures used aboard the M.S. Savannah and for the analyses of reactor plant operations. Also served as Shift Superintendent during the vessel's first refueling and acted as liaison with regulatory agencies and contractors.
- 6/62 - 3/56 Second & Third Assistant Engineer, American Export-Isbrandtson Lines - Served as watch supervisor aboard M.S. Savannah. Responsible for the operation, maintenance, testing and other related activities concerned with the reactor and conventional power plant. Also served aboard various company vessels with responsibility for the operation and maintenance of conventional (fossil) power plants.

KEIMIG DEP 1
REC'D / 5/16/79