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PRESIDENT'S COMMISSION ON THE :

ACCIDENT AT THREE MILE ISLAND :

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DEPOSITION of METROPOLITAN EDISON COMPANY by BRIAN A. MEHLER, held at the Three Mile Island Nuclear Generating Station, Harrisburg, Pennsylvania, on the 25th day of July 1979, commencing at 4:30 p.m, before Stephen McCrystal, Notary Public of the State of New York.

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

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BY: ALAN R. YUSPEH, ESQ.
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PRESIDENT'S COMMISSION ON THREE MILE ISLAND:

JOAN GOLDFRANK, ESQ.
Associate Counsel

ALSO PRESENT:

CLAUDIA A. VELLETRI

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B R I A N A . M E H L E R , having been first duly sworn by Ms. Goldfrank, testified as follows:

DIRECT EXAMINATION

BY MS. GOLDFRANK:

Q State your name and spell it for the record, please.

A My name is Brian A. Mehler, B-r-i-a-n A. M-e-h-l-e-r.

Q And your current address?

A 821 West Pajabon Drive, Palmyra, Pa.

Q And your present employer?

A Metropolitan Edison.

Q And your present position?

A Station shift supervisor.

Q Have you prepared a resume?

A Yes, if that is what you want.

Q Did you prepare this resume on the date July 28, 1979?

A Yes.

MS. GOLDFRANK: I would like that resume marked as Mehler Exhibit 29.

(Above-described document was marked Mehler Deposition Exhibit 29 for identification, this date.)

Q The sheets that you attached are training that you have received while at Metropolitan Edison; is that correct?

A That is correct. The last sheet is service training.

My jobs, see, I did in reverse.

MR. YUSPEH: You mean your most recent first?

THE WITNESS: Yes.

Q When did you serve in the United States

Air Force?

A When?

Q Yes.

A From 1959 to 1963, September 21, I believe I started.

Q You went from high school into the United States Air Force?

A Yes. That is the service school I attended. (Indicating.)

Q While in the service, you had a course in aircraft and missile ground support equipment repairman?

A Yes.

Q And is that what you were trained to do?

A Yes.

Q And was that your job description while in the Air Force?

A Yes.

Q Is this a list of the courses that you took?

A Those subjects we had during the course, and that would be the hours spent and the grades. (Indicating.)

MS. GOLDFRANK: The witness is indicating

a list of courses attached to his resume being the last page of his resume.

Q And were you given exams in these courses?

A Yes.

Q And that is what the grade was based on?

A Yes, a written and an oral.

Q Was it a theoretical classroom instruction?

A And it was practical, theory and practical.

Q Could you explain what the division is between the practical aspect of the course --

A Well, you had a written test, and the practical was you went out and worked on the equipment itself with the instructor grading you.

Q During the course, do you have classroom instruction and practial study?

A Yes.

I also worked three years and two months in that field then after I got out of that.

Q After you left the Air Force?

A No, after I left the school.

Q How long was the school?

A The school was, I think 25 weeks. I think it is marked there. Youcan figure it out if you subtract it. It is equivalent to 25 weeks, I believe.

Q After your 25 weeks in school, what position then did you hold in the Air Force?

A I was Airman Third Class, and my AFSC was 42133, and from there I went on to Otis Air Force Base in Massachusetts.

Q For a lay person, would you describe what those positions were?

A What?

Q That you just described.

A Airman Third Class is just a rank, and the AFSC I gave you would be a job description of what your title was, you know, they have different levels. The third level -- well, actually, the first level is the lowest, the third; then the fifth, then the seventh, on up. That is equivalent to the high in the programming range.

Q What was the position that you held?

A At this time, the time I graduated from the school, I was Airman Third Class upon graduation, and then I became Airman Second Class, and when I left the service, I was Airman First Class.

Q What were your responsibilities in those respective positions?

MR. YUSPEH: Is it right that those are

ranks?

THE WITNESS: Those are ranks.

MR. YUSPEH: And your job would vary depending on what position you were placed in at the time?

THE WITNESS: Right. None of those particular jobs have anything related to nuclear power.

Q To what?

A Nuclear power.

Q Could you generally describe what the last position you held was?

A In the service?

Q Yes.

A I was Airman First Class, and I worked out of a field maintenance shop, and in that position, the last one we worked out of the shop, I more or less supervised the lower-ranking airmen in the repairs of equipment according -- I can list all the equipment if you want it.

Q No, that is all right.

A It is quite a bit.

Q And you served in the Air Force until 1963; is that correct?

A Yes, four years.

Q And from 1963 to 1966, you worked at Ace Aluminum Sales, correct?

A Yes, in Lebanon.

Q And your resume indicates that you worked on production, repair and installation of aluminum products?

A That is correct. Do you want to know what that was?

Q Yes. Can you be a little more specific?

A Basically, all we produced was awnings, storm doors, windows, et cetera. We produced them, we manufactured them, and we installed them.

Q In 1966, your resume reflects that you worked at the Aluminum Company of America.

A Alcoa.

Q And you had that position for about a year?

A Yes, that is correct.

Q And then in May of 1967, you came to Metropolitan Edison?

A That's right, at Crawford Generating Station.

Q Crawford Generating Station, and that was a fossil fuel generating station?

A Yes, it is -- was.

Q And your position there was a utility worker "A"?

A Yes. That is the position everyone started at.

Q Your responsibilities were in the coal gang, boiler room --

A Basically I was a utility worker. I worked in the different departments, in the coal gang, and then I worked in the boiler room, and then I also worked in the turbine room, and the responsibilities in the different departments were different. In the coal gang, this was basically offloading coal or transferring coal. When I worked in the boiler room, it was an assistant second class in tending of the boilers, checking the rotating equipment, you know, taking on coal, washing ashes, et cetera.

In the turbine room, basically, it was the oiler on the oil side, which were the oil turbines, bringing them on, taking them off-line, taking care of the screens -- really, it was basically labor.

Q And you were promoted to fireman, second relief, in 1968 at Crawford Generating Station?

A Yes.

Q In October 1969, you came to Three Mile Island; is that correct?

A That is correct.

Q And what position did you come to Three Mile Island at?

A We came down to the Island at that particular time to go into a training program that I believe lasted 48 weeks, and at that time, I came down in the position of a control room operator.

Q Did they bring a group of people from Crawford Generating Station to Three Mile Island?

A Yes, they did.

Q And was Crawford Generating Station closing at that time?

A No, it was still on the line. Crawford Generating Station, I think, closed approximately two or three years ago.

Q But Metropolitan Edison approached people at Crawford Generating Station and asked them if they wanted to come work --

A Yes, they approached people, and they gave a series of tests to see if you were trainable, and if you were, they offered you positions to come down here with the stipulation if you didn't pass the training course down here, that you would return to Crawford.

Q And you took that test and passed it and decided you wanted to come to Three Mile Island?

A Yes.

Q In October of 1969, what was the state of Three Mile Island Unit 1?

A Under construction.

Q And you state that you entered as a control room operator?

A Yes.

Q That would have been an unlicensed control room operator; is that correct?

A That is correct.

Q And you went through a 48-week training program as soon as you arrived at Three Mile Island?

A Yes.

Q Was that training program offered at Metropolitan Edison?

A A training program given me by Metropolitan Edison.

Q Did it involve any training at B&W?

A Not that particular set of training. Later on, we went to B&W for two weeks. I forget the year. Probably it was, if I had to guess, it would be '73.

Q But it was not part of that initial 48 weeks?

A No, it wasn't.

Q Do you remember what that initial 48 week training session covered?

A Yes. It covered systems, half a day, which would be all the plant systems in Unit 1, and reactor theory, physics and let's see what else -- and they taught math, and that is about all I can remember off the top of my head.

Q So your day at that point was in a classroom for eight hours?

A Yes.

Q Like how many people were in that training session?

A I can take a guess.

Q Guess.

A 50.

Q 50?

A Yes. Out of that training group, though, it was AOs, CROs, Health Physics -- I don't know if there was any other departments there or not at that time.

(Continued on Page 13.)

A It was a number grade.

Q And at the end of the 48-week course, were you given an exam?

A Yes, but the way it was based, the pass-fail grade on the weekly test, you had to have 70, and if you failed, you had a week to make up plus the week that you were going through. Then you had to take another test on that particular subject. If you failed it the second time, you went back to Crawford.

Q I take it you didn't fail any second time?

A That is where I made the mistake. I didn't have to take any the second time.

Q Were these exams gone over with you in terms of critiquing your answers, or were you just given a grade?

A Well, we got to see the exams again, but we could ask some questions on why this one was marked wrong or something, but we didn't really critique the exam as a whole.

Q And you received a control room operator's license on August 8, 1974, is that correct?

A Yes, that is correct.

Q And that is a control room operator's license from the then Atomic Energy Commission and now the NRC?

SR 2 1c

Q So this was a general basic introduction course to working on a nuclear generating station?

A That is correct.

Q That was given to a broad range of station people?

A Yes, the original group.

Q Were you given homework to do in that course?

A No.

Q Did they provide you with handouts?

A Yes, with system descriptions, later on operating procedures, and we did take tests every week, and I had to pass the test.

Q What kind of test was it -- a short answer?

A No, they were essay-type tests.

Q And you would be given --

A Well, let me say on the theory, that it was an essay-type test. Basically, on the system, it was drawing the system and answering questions, which would be a short, one-paragraph type answer.

Q And you were given a grade on these tests?

A Yes.

Q Was it a pass-fail grade, or a number grade?

A Yes.

Q Did you receive any additional training outside this 48-week period prior to taking the NRC exam?

A Oh, yes.

Q Could you explain what that other training was?

A We had a two-week course down at B&W. We had a one-week course up at Penn State. And in the back there, it will show you that we had, prior to taking the exam, we had General Physics, and give us a walk-around, a written test, a company-administered written test, a walkaround, and we also had a multitude of training during that whole period, between that 48-week course and when we originally took the test.

In that period of time, we were also involved in writing the procedures, alarm responses, a whole multitude of things, physically checking out systems, startup program.

Q When did Unit 1 become critical?

A I knew you would ask me that, '74, but I couldn't tell you the date.

Q Well, it would be before August 8, 1974, when you got your license?

A No, because I took -- we had people take cold license tests that held licenses on the unit prior to us taking our hot license tests. I took the reactor critical for my license test, so that means that prior to that, Unit 1 had to be critical.

Q Can you explain that to me.

A Okay. Essentially you are asking me --

Q I am trying to ascertain when Unit 1 went critical.

A 1974 sometime, but the exact date I don't know. It had to be before August 8th, for the simple reason, during part of our oral test on the NRC, it was doing a startup for them. I did startup on Unit 1 for my license, so that means previous to that, it had to be critical.

Q So before your NRC oral, you actually did a startup on Unit 1?

A Yes.

Q Is that unusual?

A No, that was common practice for anyone licensed in Unit 1 at the CRO level at that time. The only reason they don't do it all the time is you don't take a million dollar plant down and do startups.

Q It makes sense.

Were you given mock-NRC exams prior to taking your exam on August 8, 1974?

A Yes.

Q And were they given to you by Met Edison?

A They were given like by Met Edison and also given by -- I can give you the name in here -- I think there was General Physics, an outside concern.

Q An outside consulting company?

A Yes. They came in and gave us a mock; yes, it was General Physics. They came us and gave us a mock-oral and a written.

Q When you say a mock oral for you, you did not go in and start up the plant?

A No, not at that time.

Q They just went over with you the kind of things that probably would be asked?

A Basically, yes.

Q Did they tell you then that you would be asked to start up Unit 1?

A We knew that.

Q You knew in advance that that would be the case?

A Yes.

Q As I understand it, there are various parts

to your NRC exam, correct?

A Yes.

Q And do you remember if you received above 80 on each part?

A On my original CRO test, I think there was two sections I had less than 80. Don't hold me to the two sections.

Q To the best of your recollection.

A Yes, it was two sections. Training could tell you which two sections it was, if it was two, and what the trade was.

Q And you don't remember which two sections?

A No, I don't.

Q Do you remember if one of those two sections that you received less than 80 on, that you were required to perform additional study?

A Yes.

Q And could you explain what that additional study was?

A It was additional study given by the Training Department, which required -- a required test had to be done, and essentially you had to pass it with a grade greater than 80.

Q Did you pass it with a grade greater than 80?

A Yes, or I wouldn't be here.

Q You then received a renewal of that operator's license in Unit 1 on August 8, 1976?

A Yes.

Q Are operator's licenses in effect only for a period of two years?

A That is correct.

Q And you have to take another exam?

A No, you don't.

Q What is the basis of the renewal?

A Just for the need.

Q You just apply, and they renew it automatically?

A They don't have to.

Q On what grounds do they not renew it?

A Well, I couldn't tell you the answer to that.

Q All you know is that you fill out an application, and in your case, they accepted the renewal?

A Yes.

Q What kind of questions do they ask on that application?

A I don't believe they ask questions themselves. It speaks of a letter. We submit this letter to them saying, "Please renew," plus the application and the

reason why, and that the person has so much training in this period of time in between, and they have the right to refuse it or to come in and test you or do whatever they want.

Q Do you know of any instance where they have refused?

A No.

Q Do you know of any instance where they have come in and re-tested somebody?

A No.

Q And as far as you know, you only submit a letter stating the training that you have had during the period that you have held your operator's license?

A Yes, and you have to take a physical.

Q During your time as a control room operator in Unit 1, from October 20, 1969 to August 23, 1976, you assisted in the initial fueling, the testing and the construction of Unit 1?

A Yes.

Q And part of your responsibilities included writing and reviewing operating, emergency and abnormal procedures and surveillance procedures?

A Yes.

Q Could you tell me what the difference is

between a surveillance procedure and an abnormal procedure?

A Okay. It is the degree of response I believe they want from you. Originally we were doing many emergency procedures. It was difficult for one man to memorize them all, so we took the lesser procedures that we didn't consider -- what word should I use -- as critical and dropped them down to a lower classification.

Q So an abnormal procedure is below an emergency procedure, but it is not in a normal operation, so it wouldn't be an operating procedure?

A That is correct.

Q And you have to memorize emergency procedures, but not abnormal procedures?

A Well, we have got to basically know the abnormal, the immediate symptoms and the manual responses to them. The same with emergency; it has just contradicted everything I said.

Q You indicated earlier that you came up with the term "abnormal procedure" because you felt that there were too many emergency procedures for people to memorize?

A Yes. I am still held responsible for abnormals, but they probably won't look at you greatly if you

don't know them through the nitty-gritty.

Q As much as emergency procedures?

A Yes.

Q Who drafted the operating procedures and emergency procedures and the abnormal procedures and surveillance procedures that you were concerned with reviewing for Unit 1?

A Who wrote them?

Q Who did the initial drafting?

A The preliminaries, I think, were done -- I am not sure -- I think by Gilbert.

(Continued on Page 23.)

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Q Gilbert Associates?

A Yes, I believe so. From the preliminaries we wrote the procedure.

Q Gilbert Associates was the architectural engineer for Unit 1?

A Yes.

Q Did Gilbert Associates work closely with you?

A As an individual, no.

Q So that they would send somebody to TMI?

A It would come to the Islard to be distributed. A group might be writing procedures on a specific system.

Q It could come to who?

A It would come to the Island.

Q And you would then review those procedures, correct?

A Well, out of the initial preliminary we would write our own procedures, which would be much more detailed.

Q So the preliminaries are really an outline?

A Basically, yes.

Q You then would write detailed procedures based on those outlines?

A Yes.

Q Who would review those?

3.2

A That particular time, I couldn't give you a definite answer. I would have to assume PORC did, but I wasn't in a position at that time to know if they did or didn't.

Q All you know is you drafted a more detailed procedure, and then sent it to your supervisor?

A Yes, and he in turn would look over it, and what he did with it, I don't know. I would assume it went to PORC.

Q In August of 1976 you were promoted to shift foreman on Unit 2, is that correct?

A Yes.

Q And you held that position until April of 1978, is that correct?

A That is correct.

Q Was there a question that there was an opening as a shift foreman on Unit 2 or whether at that time just creating a staff for Unit 2?

A There was an opening for a shift foreman in Unit 2 at that time, and they asked me if I wanted to, and I took it. So that meant I left Unit 1 and went to Unit 2. I went through the whole thing again.

Q With respect to the operating, emergency, abnormal and surveillance procedures that were being

3.3

drafted at that point in time for Unit 2, did Burns & Roe perform the same function that Gilbert Associates had in your drafting of the procedures for Unit 1?

A I really don't know that. Most of the procedures that I was personally involved in in Unit 2, we used Unit 1 procedures as a guideline.

Q You would use Unit 1 procedures, operating, emergency, abnormal, and surveillance procedures that had already been drafted and reviewed and implemented for Unit 1 as a guideline?

A As a guideline, only as a guideline.

Q For Unit 2?

A Yes.

Q You didn't consider the differences in Unit 1 and Unit 2?

A There isn't that much difference in the response.

Q With respect to the operating, emergency and surveillance procedures, there isn't enough of a difference between Unit 1 and Unit 2?

A In operating procedure there is. In emergency procedures, basically when you talk about a reactor trip and turbine trip, the responses are pretty similar. You know, it is just a different value of nomenclature.

Q Did you use the operating procedures from

3.4

Unit 1 as a guideline for drafting the operating procedures for Unit 2?

A I personally did myself. I can't answer for other people.

Q You did, yourself?

A I did.

Q Did Burns & Roe send you preliminary outlines, as Gilbert Associates had done in Unit 1?

A I don't know.

Q Did you ever see any?

A I honestly don't remember. I might have seen one, but I don't know. I just don't remember.

Q Do you know if you have any of these guidelines?

A From Burns & Roe?

Q Right.

A Not to my knowledge. I would assume they had to do them. Where they were sent to, I don't know, and who has them, I don't know.

Q You don't have any here?

A Myself?

Q Yes.

A No.

Q You indicated that, with respect to the

operating procedures, emergency procedures and surveillance procedures of Unit 1 that you had helped in drafting them?

A Yes.

Q That you would draft these procedures and forward them to your supervisor who would be your shift foreman?

A Yes.

Q And you weren't sure what happened after that, but you thought it then would work its way to PORC and they would review and approve these procedures?

A Yes. The only reason I make that statement is if you look at the cover sheets on any procedure, it is PORC-reviewed.

Q Do you know if the same procedure was implemented in drafting or reviewing the procedures for Unit 2?

A That same procedure was used, yes.

Q So that you had control room operators under you that you worked with in drafting these procedures?

A The one difference between procedures in Unit 1 and the procedures in Unit 2, as far as the drafting of them and writing them and as far as the CRO's is concerned is that there was a much larger time span in

3.6

Unit 1, and we had a lot more time to do it.

On Unit 2 a lot of the procedures were not written by the CRO's, but they were written by the engineering staff particularly because of the timing element.

Q In Unit 2 there was less time to draft those procedures because of the time it was taking for construction?

A Yes. Originally Unit 1 was supposed to come on line in '72, and it went on line in '74, so it was a two-year span where we had plenty of time to review procedures, and have the CRO's make comments on them. In Unit 2 that time element wasn't there.

Q What was the schedule in Unit 2, if you can remember?

A I honestly don't remember. I got there in '76 when it went critical.

Q You got there in August 23, 1976, and you went critical in March '78?

A Correct.

Q So that is almost a two-year period that you were there, correct?

A Yes.

Q But the control room operators did not have as much input in the Unit 2 drafting as they had in

3.7

Unit 1?

A Yes.

Q But you as shift foreman in Unit 2 had input into those drafts?

A I probably had less input as a shift foreman in Unit 2 procedures than I did as a CRO in Unit 1 procedures.

Q Why was that?

A Strictly the time element. I was doing other things at that particular time, when in Unit 1 there was enough time for us to do it.

Q And because you didn't have as much time and the control room operators didn't have as much time, the task was left to the engineers?

A I would assume most of the procedures were written by the engineering staff.

Q Were those the engineers in Reading?

A Some were. I don't know if they were from Reading. Some were on-site.

Q Would they consult you as to what they were drafting?

A After they would write a procedure, they would ask us to review it.

Q Would you have to sign off on those

3.8

procedures?

A We would make our comment, nothing official like signing off. We would make our comments and submit it back to them, and they would either incorporate our comments, or if they deemed they weren't necessary, the procedures would go to PORC and be approved.

Q So after you in certain instances reviewed these procedures, they would then be forwarded to PORC for review and recommendation of approval?

A Yes.

Q You indicated that the function of time did not provide you with opportunity to review or draft the procedures for Unit 2. What were your main responsibilities during that time?

A As shift foreman?

Q Yes.

A Basically we were in the startup with testing programs and startup programs and also training of CRO's and getting ready for that test. Pretty well we were doing a lot of paperwork.

Q What kind of paperwork?

A Of switching orders, work request, going through test procedures with the startup engineers, so we could stay on top of that, running systems, flushing

3.9 systems, a multitude of things.

Q You indicated "PORC requests." What kind of things would they request?

A Work requests. It is simply a request to do some kind of job, equipment breakdown or to replace something.

Q A work request?

A Yes, that is what I meant.

Q You also indicated that you were involved in training CRO's. Were these CRO's all unlicensed operators at that time?

A I am trying to think. They licensed the same time I did.

Q They licensed?

A '76 I believe.

Q They would have been licensed on Unit 1?

A No, they weren't licensed yet. They were licensed when I licensed in Unit 2.

Q Which would have been in October of '79?

A That is a misprint, I am sorry. That has to be the same as this one, "77."

Q So they would have been licensed as control room operators in October of 1977, and you received your senior operator license?

3.10

A Yes.

Q So you were helping them study for and prepare for their reactor operator's license?

A Basically we had the backlog.

Q So they would ask you questions and would you have formal classroom sessions with them?

A No.

Q It was on-the-job questioning that they had?

A Yes.

Q And what studying did you do for your senior operator license?

A On Unit 2?

Q On Unit 2, yes.

A There was also an awful lot of studying on my own time.

Q Were there any classroom sessions?

A There were some classroom sessions. Most of it was done before I got involved in Unit 2. The initial bunch of CRO's, I believe, went to Lynchburg, Virginia for a 14-week training program. I was not involved in that.

Q You were not involved in that?

A No. I was getting ready for my senior test, and I reviewed tests, systems, and trained for them prior

3.11

to the test.

Q So it was a self-taught program that you went through?

A I would say it involved more of my time training myself than the Training Department did.

Q So this is studying that you did on your own time or while you were a shift foreman?

A On duty, sometimes. After work or sometimes during work, depending on what the workload was at that time.

Q So the Training Department didn't set aside a time during the day to allow you to prepare for this exam?

A No. Prior to the exam I think they gave us a two-week crash course.

Q A review course?

A Yes.

Q Of certain things they knew would be covered on the NRC exam?

A I wouldn't know if they knew it would be covered.

Q But they anticipated would be covered?

A Yes.

#4

Q And what is the difference between the reactor operator license exam given by the NRC and the

4.12

senior operator license exam given?

A On the written, I think the written had five more sections than the CRO, and also on the oral they ask more of that type of question.

Q Do you know what additional sections cover?

A I can get it for you.

Q If you remember.

A I think it is more in depth in the theory, the health physics aspects of it. I believe they have something on -- I know they asked about tech specs. I can't think of the nomenclature for the categories.

Q Your resume indicates that on November 22, 1977 an amendment was made to your senior operator license. Was that to license you on Unit 1 and 2?

A Yes.

Q So you are cross-licensed or you were in November 22, 1977?

A Basically, but I took a test in Unit 1, and I took a test in Unit 2.

Q Are you cross-licensed now?

A Yes. I hold a senior license in both units.

Q You had to take a senior operator license for Unit 1 also?

A No, I didn't.

4.13

Q Could you explain "cross-licensing"?

A Okay. Well, I can't explain cross-licensing because it is different. I can explain my situation.

Q Okay, your situation is not cross-licensing?

A No.

Q No.

A My situation is I held an CRO license for Unit 1. I also came and took a test from the NRC and got a senior license in Unit 2. The senior license portion involved basically the other five sections that are written, which are not so much in depth on that particular unit, but a general like category. So they submitted an application for waiver on my senior license to give me a license on Unit 1, to the NRC, and they amended my license and gave me, if you want to, call it cross-license, a license for both units, a senior operator license.

Q Who submitted this application to the NRC?

A Met Edison.

Q And you did not have to take the reactor operator license for Unit 2?

A I did not have to take the senior section of it, the written, no. Wait. I am sorry. Maybe we got that wrong. You said Unit 2?

4.14

Q Right.

A I did.

Q Let us go back.

A Please.

Q You received a reactor operator license for Unit 1?

A That is correct.

Q And then you took a senior operator license exam from the NRC for Unit 2?

A That is correct.

Q And then Met Edison made an application?

A Right.

Q Which amended your senior operator license?

A Right.

Q And you want to explain to me what that amendment did.

A What that amendment did, they gave me a senior operator's license on Unit 1 also. In other words, essentially my license for Unit 2 became for both units.

Q You never took a reactor operator license exam from the NRC just for Unit 2 -- let me see if I understand it. Is the exam that you take for a senior operator license, does it include what you would have taken for Unit 2, reactor operator license?

4.15

Q If you have a senior operator license on a unit, you have already passed because included in that is the reactor operator license for the unit?

A Yes. In other words, when you take that test, if you went up to senior license, and you did not do as well as they want, they could award you the CRO license on that unit and not give you the senior license.

Q Can you explain to me what cross-licensing is and how that differs from what you have?

A Cross-licensing, as far as the Island was concerned, we had individuals here which had senior operator license on Unit 1. They requested from the NRC, when Unit 2 was started up, that could our people be cross-licensed for Unit 2, but through a company-administered test. The NRC agreed, and thes test was given, and people that passed that were issued a cross-license on Unit 2.

I am just the same as them, except both of mine were given by the NRC.

Q So both of your licenses are from the NRC?

A Yes.

Q Cross-license is an instance where an individual would have a reactor operator license from

4.16

the NRC?

A He had SRO.

Q A senior operator license?

A From the NRC on Unit 1, and he would automatically be given, if he passed a company-administered test, the senior operator license for Unit 2. It would be one license, but it will stipulate both units.

Q Would that license be amended as you have indicated on your resume?

A Yes, their's would be an amended license also.

Q Do you know if the NRC reviews that company-administered test?

A Yes.

Q Is it the same test that is given every time? Is there one test that Met Ed administers?

A No.

Q So the NRC reviews it every time?

A That cross-licensing test? It is a different test every time, and I could not tell you whether the NRC reviews every test that is given.

Q Have you had any input into making up that exam?

A No.

Q That is the Training Department?

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A That is the Training Department's responsibility. It wouldn't be very fair for me to make up my own test.

Q Have you had to take the qualifying exams from the NRC concerning these licenses?

A No.

Q Do you have to take a requalifying exam from Met Edison?

A Yes.

Q How often are those given?

A Yearly.

Q And when was the last time you took one?

A The latter part or January or the beginning of February. It was prior to Unit 1's outage.

Q It would be 1979, January or February of 1979?

A Yes. The Unit 1 outage started on the 16th of February.

Q This yearly requalification exam that is given by Met Edison, is that a written exam?

A It is a written an oral exam.

Q And you are given a grade on that exam or a pass-fail?

A You are given a grade in each category, plus a total grade. In other words, you could flunk one

4.18 category and your total average could be above an 80 and you would still pass.

Q If you received below an 80 on any of those sections of that exam, are you required to do extra work and take a subsequent exam?

A Well, you are required to do extra work and take a test in that section, that category, and pass it above an 80. Also, if you have I think two sections less than 80, you are required -- let me see. You have to be reevaluated by someone, whether they want to pull you off the shift to advanced training or, you know, leave you on shift and just subsequently make them up, the sections, like a retest on each section and pass it.

Q Do you remember if you received above an 80 on every part?

A Yes. I did on the last one. They were all above 80.

Q Did you give any input into the decision to allow cross-licensing on the Island?

A No, I had nothing to do with that.

MR. YUSPEH: Off the record.

(There was discussion off the record.)

Q As I understand it, the company made a decision to allow site management people from shift

4.19

supervisor level to become cross-licensed, is that correct?

A Yes.

Q And did you have any input into that decision?

A No.

Q Do you know who made that decision?

A No.

Q Do you know why that decision was made?

A The decision of having a senior person on-site in control of both units was strictly so you would have no conflict between the units, and one person could make a decision as to which unit would have priority.

Q So that they wanted somebody in site management that would be on-site at all times or could make decisions for both Unit 1 and Unit 2?

A That came out of the public hearings on the Unit 2 licensing program, that that would happen.

Q It appears that in April 1979 you became station supervisor, is that correct?

A Yes, station shift supervisor.

Q Station shift supervisor?

A Yes.

Q And you report to both Unit 1 supervisor of

operations and Unit 2 supervisor of operations?

A That is correct.

Q Prior to March 28, who was Unit 1 supervisor of operations?

A Prior to March 28, Michael Ross.

Q And who was Unit 2 supervisor of operations?

A James Floyd.

Q And your responsibility as station shift supervisor?

A That is just a general statement.

Q Could you explain what your responsibilities are?

A Basically my responsibilities are that I have two shift foremen in each unit working for me, to oversee their duties, also to coordinate all interfaces between units, just to make sure everything is running smooth.

Q So your contact below you is with the shift foremen?

A Shift foremen, plus also back shifts. I basically have contact with all the other departments.

Q And do you work on a shift basis as does a shift foreman?

A Yes.

Q So that you obviously are not present here 24 hours a day, seven days a week?

A No.

#5

Q Is there more than one station shift supervisor?

A There were six of us. Do you want to know how many there is now or how many there was?

Q How many before March 28th.

A Six.

Q Are all six of those cross-licensed or have licenses for both units?

A I don't know when Hutch got his cross-license. I know five of us were at that time, and I believe the sixth was also.

MR. YUSPEH: What is the difference between supervisor of operation and unit superintendent?

THE WITNESS: Supervisor of operations answers to the unit superintendents. The chain of command basically follows station superintendent, unit superintendent, [illegible]en you have supervisor of operations, supervisor of maintenance, supervisor of health physics. They are all department heads.

MR. YUSPEH: If you take the actual plant

operation from the bottom to the top, you have your auxiliary operators, then your CRO's, then your shift foreman and shift supervisor, your supervisor of operations, and your unit superintendents and your station manager and then your vice-president of generation?

THE WITNESS: That is correct.

Q You mentioned in your resume that one of your responsibilities is to coordinate all interfaces of activity which affect both units?

A Yes.

Q Would you give me some specific examples?

A Basically it is setting priorities. In other words, we have one maintenance force. Assuming maintenance has to be done on each unit, I have to set the priority as to which unit gets it done first because basically the shift foreman would deal with his unit and would want it done first. I have to set that priority.

Also, like another interface would be transferring water between units. I would have to interface on that. Also in health physics, you know, where the priority gets set, which unit has priority over the other one.

Q Does each unit have their own maintenance?

A No, one maintenance.

Q It is an Island operation?

A Yes, that is correct.

Q With respect to water, does each unit have their own responsibilities?

A There are cross-ties between the systems. Like in particular now for condensate, we have a tank of demineralized water that is kept filled by the Unit 1 IWT.

Q "IWT" is what?

A Water treatment system. Right now up to this date, Unit 2 did not have a demineralizing system to produce water.

Q So they would utilize Unit 1?

A Yes.

Q So you would coordinate that one?

A Yes. Basically I would tell people who had priority. Also the only have four auxiliary boilers, and if there was ever a decision which unit gets to use the auxiliary boilers for startup or shutdown, that would call upon me.

Q You attended a course at General Electric Turbine?

A No, that was taught by General Electric on the Island. That was the Unit 1 turbine.

Q And the reactor familiarization?

A That was taught up at Penn State, which was just a week.

Q Was that on a simulator?

A That was on the real TRIGA reactor.

Q Would they have you start up the reactor?

A Yes.

Q And do certain scenarios on it?

A No, not incidents up there. We basically went up there to get our initial startups, to get certified for NRC license. That is wrong. You are required to have so many reactor startups prior to requesting an NRC test on startup. Since I had no major background, that was part of my program to get the startups.

Q And you would --

A I started a reactor up five times and shut it down.

Q Your complete experience at Pennsylvania State was just the startup and shutdown?

A No, they gave us some formal type training. We built, you know, a critical mass using graphite and rods. It was just basic training.

Q And then you went to?

A That was two weeks down at B&W. They gave us --

Q Simulator training?

A Yes. That was on their simulator, startup, casualties. Basically at that particular time it was mostly getting us ready for our test. That was prior to '74.

Q So both the reactor training at Penn State and the training at B&W you received prior to your license on Unit 1?

A Yes, that is correct.

Q You had 40 hours of training at Westinghouse?

A No, that was on the Island and it was given by Westinghouse on the Unit 2 turbine.

Q The Unit 1 turbine?

A That is GE, and Unit 2 is Westinghouse.

Q Do you know where the decision was made to use an B&W system on Unit 2?

A B&W system on Unit 2?

Q Yes.

A Because it is identical to the one on Unit 1.

Q And do you know why the decision was made to use a Westinghouse turbine on Unit 2?

A Compared to the GE on Unit 1?

Q Right.

A I really don't have the information. I know basically why, but Unit 2 was supposed to be down at Oyster Creek.

MR. YUSPEH: What would be the significance of that?

THE WITNESS: Well, they couldn't build it down there because I believe the environmental people or something got it shot down. Since it was already on the drawing board and was already being designed, this was the most logical place to set it.

Q They had picked a Westinghouse turbine for Oyster Creek?

A That's right. That is also what you find where you have Burns & Roe versus Gilbert.

MR. YUSPEH: Is Burns & Roe the architect for Oyster Creek?

THE WITNESS: Yes. Also the architect for Forked River. Originally Unit 2 was supposed to be a GE unit identical to Unit 1.

Q A GE turbine?

A Originally that was the concept.

MR. YUSPEH: You mean a twin?

THE WITNESS: Yes, laid next to it.

Q Do you know who made the decision to adopt the design from Oyster Creek?

A No, I don't have the slightest.

(A brief recess was then taken.)

Q You indicated that one of your responsibilities in your position is to interface between health physics for Unit 1 and Unit 2?

A Yes.

Q Have you received any training on the Island concerning health physics?

A Yes.

Q And would that have been classroom instruction from the Training Department?

A Yes.

Q Is that required for your position?

A Yes.

Q What has that training consisted of?

A It consisted of classroom training, testing, and also we do radiation emergency drill once a year. We also do radiation medical drill once a year. That is about it. You do get tested on it also.

Q You get written exams?

A Yes, very short.

Q How often are you required to take health

physics courses?

A I think -- I am not sure, but I think it is yearly. We do get a lecture on it, plus a small course after it.

Q Control room operators must go through a training session every six weeks, I understand?

A Not in health physics, they don't.

Q The control room operators?

A Yes.

Q Do you have a similar type requirement?

A We are on the six-shift rotation and, you know, out of the six weeks one is devoted to training.

Q And you would be included in that one week of training?

A The whole shift is, yes.

Q You would be included in the same training course that the control room operators receive?

A Yes.

Q And that is a training course offered by Met Edison?

A That is correct.

Q On-site?

A Yes.

Q How often do you go to the B&W simulator?

A It is supposed to be yearly. Since January of

this year I have been there four times.

Q How come you've been there four times since January?

A I went with Unit 1 for a week. I came back and went with Unit 2 for a week. They put me down for a four-hour crash program, and I just came back from four days down there.

(Continued on following page.)

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Q A four-hour crash course?

A Yes, four hours' worth on the Unit 2 accident.

Q So that you go down when Unit 1 goes down, and also you go down when Unit 2 goes down?

A That is correct.

Q With respect to training on the B&W simulator, is the control room there significantly different than the control room in Unit 1?

A Significantly? It is smaller.

Q In size?

A Oh, definitely. The controls are much smaller. The area is much more compact. They don't have as much stuff. There isn't really as much indication. It is basically showing the primary side of the plant. They have no secondary, hardly. They have a Westinghouse turbine there, with Unit 1 being GE.

Q Are the controls in the same position on the Panel?

A No. Well, let me say this. The only thing that would be basically identical to Unit 1 and Unit 2 would be the Diamond Power Control Panel, which would be your control.

Q So that the B&W control room is different also from Unit 2?

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A Yes.

Q It also is smaller in size than Unit 2, as it was for Unit 1?

A Oh, yes, because Unit 2 is larger than Unit 1.

Q The Unit 2 control room is larger than the Unit 1 control room?

A Yes.

Q Did that hinder the course on the B&W simulator?

A No, it really doesn't hinder the course for what you want to see, you know. The transient or evolution of a casualty -- it would be identical as far as the primary system response.

Q So the simulator shows you how the primary system would respond, although where you would control certain things, there are differences?

A It would be different, right.

Q Do they have all the same instruments at the B&W simulator as are in Unit 2?

A No.

Q Do they have all the instruments that are in Unit 1?

A No.

Q Did Three Mile Island ever think about

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buying the same simulator?

A I don't k / if they did for a fact, but I heard talk about it a long time ago. I don't know.

Q Do you know who you heard that talk from?

A No.

Q Do you know why the decision was made not to buy one?

A Probably the cost.

Q Do you know who would have made that decision?

A No.

Q Have you ever made the suggestion that you thought it would be a good idea for Three Mile Island to have a simulator?

A No.

Q Do you think it would be?

A I don't know if we would get more out of our own simulator, being closer, but spending more time on it might be helpful. I don't --

Q Do you think that the training you receive on the simulator is worthwhile?

A The training on the simulator itself is very worthwhile. On the simulator, yes.

Q Do you think the training that you receive

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at B&W is worthwhile?

A Formal classrom training?

Q Right.

A It is mediocre.

Q As I understand it, the week that you are there, there are four hours spent in the classroom each day and four on the simulator.

A Basically 20 hours on the simulator and 20 hours in the classroom training, which really is not required.

Q It is not required that you attend the classroom?

A No, it is required that you be there, but it is not required that B&W give it to us. It is over and above.

Q They are not required by what?

A By our agreement with them.

Q By your contract with B&W?

A Yes, right. We contract that each individual get 20 hours on the simulator.

Q So the classroom sessions are thrown in?

A Whatever they want to give you. Like the last one, I had three times now this year.

Q What was that on?

A Heat transfer and rod withdrawal limits, and

6-5 the reason we got them.

MR. YUSPEH: Does any nuclear power plant, to your knowledge, have its own simulator?

THE WITNESS: WPPSS out in Washington State. Also, if I'm not mistaken, I think Tennessee Valley Authority has their own. I'm not certain of that.

MR. YUSPEH: Do you know if all of the other three NSSS provider have at least one simulator that they use?

THE WITNESS: I am aware that GE has a simulator, but I don't know about Westinghouse. I would assume they do, somewhere. The only one I am familiar with is B&W.

(Discussion held off the record.)

BY MS. GOLDFRANK:

Q In the classroom sessions at B&W, do they provide you with handouts?

A Yes.

Q But Met Edison doesn't require you to attend those classroom sessions?

A Yes, they do require us to.

Q They do require you to attend?

A Yes.

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Q Is a written exam given?

A No.

Q Is there an exam given on the simulator?

A The last time, there was. We were evaluated the last time we were down there.

Q Is that the first time?

A That is the first and only time that I know of.

Q And that would have been when you just came back last week; that is what you said?

A I think it was July 15th through the 19th, something like that.

Q That was the first time you were evaluated?

A Yes. In fact, all crews that went down were evaluated there last time by B&W.

Q Prior to that, you didn't receive any kind of grade or written evaluation?

A No. I think the very first time we were down, we had tests. The very first two weeks we went down there, which was in '73, they gave us written tests.

Q But since 1973 until this time in July 1979, you did not receive any kind of evaluation from B&W?

A No.

Q With respect to the kind of things that they would give you to do on the simulator, would they

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give you a specific transient and let you follow through as to what would happen, what you would do?

A Originally, you know, they would put a casualty in, and you would respond to the casualty and return the plant to a stable condition. Sometimes we requested that instead of us responding, we would just watch the casualty and see what would happen with the plant.

Q Without an operator doing anything?

A Without any response.

Q And that was at your request?

A At our request, yes.

Q And they would let you do that sometimes?

A Oh, definitely.

Q And when they would put in a casualty, would they let you know whether or not this had happened at another B&W plant, or whether this was just an invention of theirs?

A They never specifically said it happened anywhere else.

Q You don't remember any time that they told you that this had happened somewhere else?

A The instructors, you know, they do come from other plants, and they may have mentioned that this happened at Oconee once. I do know one specific

6-8

incident that occurred where there was a generator tube bleed, a small one that one instructor said they had this previous year in Oconee, where they did experience tube bleed, and this was put on the simulator. They mentioned how long it took them to find it.

Q Do you remember any other incidents that they specifically mentioned had happened at other B&W plants?

A No.

Q Did they ever show you multiple casualties on the simulator?

A They have been going into it the last year, multiple casualties.

Q The last year meaning since --

A January.

Q Since January '79?

A I'm trying to figure out if we had any the first two times down there or not. I really don't know if we went into them in the beginning every year or after the accident. I do know we have gone into multiple casualties down there.

Q But you can't remember whether or not it was prior to March 28th?

A No, I can't.

Q Do you have any contact with people at other B&W plants?

A Myself?

Q Yes.

A No.

Q Have you ever had training at other B&W plants?

A No.

Q Have you ever had training at another nuclear power plant?

A No.

(Continued on Page 60.)

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Q Have you ever had training at another nuclear power plant?
A No.
Q Do you have contact with people at other nuclear power plants?
A I know people from other nuclear power plants.
Q Aside from a personal relationship?
A No, not on a business line, although I could call them and ask them a typical question if I wanted to.
Q Have there been certain instances where you have called them and asked them?
A No.
Q But you do know people at other plants that you could call?
A I know people at WPPSS and Seabrook and Oconee and I know people in Crystal River.
Q Are these people that you have met through Three Mile Island?
A These people, with the exception of Crystal River that worked at Three Mile Island.
Q That used to work at Three Mile Island and now work at other plants?
A Also in Arizona.

Q With respect to emergency and operating procedures that were drafted for Unit 2, if revisions are needed or somebody suggested a revision is needed?

A We can make an TCN or PCR. TCN is temporary change notes and PCR is permanent. They in turn would go through the proper channels and either be okayed or not, depending on what PORC would think.

Q So that if a control room operator or a shift foreman filled out an TCN or PCR, they would forward it to you?

A The shift foreman wouldn't have to forward it. It would not have to be forwarded to me. It could go, as far as the shift foreman and then be submitted.

Q So a control room operator or shift foreman can submit a TCN or PCR directly to PORC?

A No. Basically it would wind up in PORC.

Q What are the channels that it would work its way up through?

A Depending on who writes it, if it is the shift foreman writing it, he would submit it, and then a copy would go to the PORC secretary, which in turn would present it to PORC when the PORC convenes, and they would either shoot it down or okay it. Then a new revision would come out.

Q If a control room operator drafted or filed a TCN or PCR?

A His supervisor would also have to sign it.

Q So a shift foreman would have to sign it?

A He could sign it, that is correct.

Q And he would then submit it to PORC?

A Yes.

Q And he submits this TCN or PCR to the PORC secretary?

A Normally the PORC secretary will put it on the agenda, and then it will go through proper channels.

Q Have you ever drafted or submitted a TCN or PCR to PORC?

A Oh, yes.

Q Are these drafts or revisions that were suggested to you by other people or that you just initiated as your own?

A Well, a lot of times if you would be going through a procedure, the simplest thing would be, where there is a typographical error or a wrong number assigned, or there is a new core or a new refueling and all curves change in all that, that you would update it this way. The original idea of putting the TCN in was to make everyone aware and the PCR makes it a permanent thing.

Q And do you make a presentation to PORC when you draft a TCN or PCR?

A No.

Q PORC reviews that TCN or PCR merely on the form and what is contained in that form?

A Yes. They have the option to call you and ask you if they want to.

Q But basically they review it based on that form?

A Right.

Q Do you know if B&W reviews any of these TCN's or PCR's?

A No, I don't know that.

(Continued on following page.)

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Q Have you ever drafted a TCN or PCR that B&W has reviewed?

A I doubt it, no.

Q Do you have any contact with B&W personnel on-site?

A Yes.

Q And who is that?

A Lee Rogers.

Q With anybody else?

A John Flint, Gregg Woodell -- it is not Woodell, "Rudel" or something like that.

Q Is that all?

A Lee Rogers is the main man for B&W on-site. There is another guy, but I can't think of his name because I can't understand it, but there are other people.

Q And were these people permanently on-site prior to March 28?

A Yes. Lee Rogers has been on-site since Unit 1.

Q What kind of questions would you ask them?

A Would I ask them?

Q Yes.

A If I had a question pertaining to the primary side of the plant where I was in doubt or needed a

8-2

B&W recommendation, I personally probably wouldn't ask him; I would ask my boss, and he would take it up the chain of command, and the answer would come back down.

Q So you souldn't directly take a question to Lee Rogers; you would give it to your boss, who would send it on through the proper channels?

A Yes. Maybe my boss might know the answer.

Q And if it was Unit 1, you would direct that question to Mike Ross, or at Unit 2, to Jim Floyd?

A Right, or I could go to the technical superintendent, which on Unit 2 would be George Kunder now; on Unit 1, it was Bill Potts -- originally it was George Kunder and Jim Seelinger, vice versa.

Q When you would ask a question of Lee Rogers and B&W personnel on-site, are these people engineers?

A Yes.

Q And did you think that you were getting the most current things in engineering?

A Yes, I did think that. Most of the time, Lee would not give you direct answers; they would check with Lynchburg.

Q Most of the time they would not give you a direct answer; they would go back to Lynchburg

8-3 and check?

A And in turn, filter the answer back to you.

Q And they would give that answer back to either Mike Ross or Jim Floyd?

A A lot of times, we were sitting in the same meeting, and the answer would come out then.

Q Are you on any committees?

A No.

Q Do you attend staff meetings?

A The only meeting -- not staff meetings, no, not the department head meetings at all.

Q What regular and standardized meetings do you attend?

A The POD, which is the Plan of the Day. That is basically the only one I attend.

Q Plan of the Day, the meeting that is held every day?

A Originally the concept was it would be held every day. Now it is held every other day.

Q Prior to March 28th, was it held every day?

A Yes. The reason for that is one day you would be on Unit 1, and the next day you would be on Unit 2, back and forth.

Q Who attended those meetings?

A The supervisor of Ops, unit superintendent, a maintenance representative, an HP representative, warehouse representative, QC representative, and someone from our Engineering Department for technical support.

Q And you or a shift supervisor?

A Yes.

Q And each shift would --

A No, this is only done on the daylight shift.

Q So if you were not on the daylight shift, you would not attend that meeting?

A That is correct.

Q And if you were not on the daylight shift, how would you find out what was covered in that meeting?

A We have computer printouts.

Q That tell you what --

A An agenda.

Q That's all?

A Yes. Then you make your comment on it and pass it on to the next guy.

Q So every morning, or when you are on shift, you would receive this particular printout?

A Normally the meeting is at nine o'clock on Unit 1,

and Unit 2 would be 10:30.

Q So the meeting lasted for about an hour and a half?

A Yes. Sometimes they were shorter. If you are on-line, it might only last 20 minutes. Basically it is to discuss surveillance, what needs to be done, what is coming up in the next days in the future, also what the chemistry is on the primary plant, anything to do with PH, also maintenance items were broken down, what needs fixing, what has priority.

MR. YUSPEH: Who presides at the meeting?

THE WITNESS: Right now, usually it is the supervisor of OPS--usually.

Q Who was it prior to March 28th?

A The supervisor of Ops usually goes over the computer printout.

Q And how is the computer printout gotten to you?

A He brings them up.

Q He brings them up?

A He brings them up that morning, and what he goes over that morning, he will have a girl update for the next meeting.

Q When you cannot attend a meeting because

you are not on the day shift, how do you find out what exactly was covered at that meeting, aside from getting this agenda?

A By my relief, whoever I relieve, he tells me.

Q Is they always the same maintenance representative, the same health physics representative?

A No.

Q Do you have people at each meeting?

A Yes.

Q Are you familiar with the computer in Unit 1's control room?

A Yes.

Q Was that computer purchased and installed when Unit 1 was constructed?

A Yes.

Q And what kind of computer is that?

A Bailey 855.

Q Is that the same kind of computer that is in Unit 2?

A I don't know if it is the same thing, really. They operate the same. I can get the same information on it.

Q To the best of your knowledge?

A It is a Bailey 855; I am not sure. I think we

A Not to my knowledge, other than a little TV screen that used to burn up every once in a while, and you would have to fix it.

Q Were there concerns that the computer didn't provide enough information and that is why the decision was made?

A No, I don't think that was the reason. I don't know.

Q Do you know who made that decision?

A No.

Q Do you know if there are concerns about the 855 or 855-1/2 Bailey computer within Unit 2?

A I don't know if there are any concerns about it. I do know it is very slow, and it is outdated.

Q Do you know who made the decision to purchase that computer for Unit 2?

A No, I don't.

Q Were the modifications to the computer in Unit 1 commenced prior to your purchase of the computer in Unit 2?

A I couldn't tell you that; I don't know.

Q Do you know when the modifications to the computer in Unit 1 were begun?

A You mean the Data 100 installed?

Q Right.

A I can't give you the data on it, but it was a couple of years ago.

Q Was it prior to TMI 2 becoming critical, which would be the spring of '78?

A Yes, it would have to be. I am just using my memory to see if I have ever played with it before I went to Unit 2, and I did, so it must have been.

Q Did the control room operators ever raise to you concerns about the slowness of the computer in Unit 2?

A No.

Prior to the accident or after the accident?

Q Yes.

A Prior to the accident, no.

Q Did they ever raise to you a desire to have the modifications made to the computer in Unit 2 that were made to the Unit 1 computer?

A No.

Q Would those types of concerns be raised with you by control room operators?

A Yes, they would voice their dissatisfaction with some of them.

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Q And it would be to you?
A It would be to the shift foreman, myself, and even sometimes the supervisor of Ops.
Q And would they do this on a written form?
A No, verbally.
Q Do you remember some of the concerns that Unit 2 control room operators voiced to you?
A About the computer or about the plant?
Q Generally.
A They voiced a lot of concerns about aspects of their secondary plant, the heat, noise levels down in the basement around the vacuum pumps, condensate pumps, et cetera. They also voiced concerns about the polisher units not being quite large enough. Never just specific instances, you know. I am quite sure they voiced concerns over other things, but I don't remember.
Q And this would all be done orally and not in writing?
A Orally.
Q Is there standing procedure whereby they can submit to you a formal concern?
A Not to my knowledge there isn't any.
Q Do you know if there was a conscious

have an 855-1/2, to be truthful.

Q An 855-1/2 in Unit 2?

A I think. I don't want to be held to this.

Q Have there been additions to the computer in Unit 1?

A We put the Data 100 back in what used to be the observation gallery. That's a much faster on-line computer. It really spits the information out a lot quicker, but as far as Operations using that, they very seldom use it except for maybe Xenon plots or startups, shutdowns, and that really is the only thing that comes to mind that they really use that for.

Q Do you know who made the decision to make that addition to the computer in Unit 1?

A No, I don't know who made the decision.

Q Do you know why the decision was made?

A To get more information.

Q To get more information?

A Yes.

Q What kind of information?

A More information, better availability; it is quicker.

Q Were there problems with the computer on Unit 1?

9.2

decision to build the TMI 2 control room different than the TMI 1 control room?

A No, I don't know the answer to that.

Q You are not aware?

A I am not aware of any decision -- like I said, Unit 2 was designed to go somewhere else, and because it was already on the drawing board and being designed, they just didn't change it.

(A brief recess was held.)

DIRECT EXAMINATION (Continued)

BY MR. ROCKWELL:

Q Mr. Mehler, I would like to ask you a couple of more questions about the licensing process. I know I haven't been here, but I don't think these are repetitive, but if they are, just say so.

As I understand, you are licensed on both Unit 1 and Unit 2; is that correct?

A That is correct.

Q But you are not cross-licensed in the sense of taking the shortcut that cross-licensing implies; is that correct?

A That is correct.

Q And as I understand the shortcut that cross-licensing implies --

9.3

A I don't like the word "shortcut."

Q Let's go into that cross-licensing. When one is cross-licensed, it means that one does not have to take the NRC exam for the second license, correct?

A That is correct.

Q You take a Met Ed exam?

A That is correct, and it is audited by the NRC.

Q Is the Met Ed exam for a cross-licensing essentially pretty much the same as an NRC exam in terms of the shape of the questions and the ground covered, that sort of thing?

A I did not take it, but from what I understand, it basically follows the same format of the NRC.

Q Are there any other aspects of the formal NRC licensing process which are eliminated when one is cross-licensed as opposed to being licensed through the normal NRC procedures? In other words, is there anything else that you don't have to do other than not take the NRC exam?

A Not that I can think of.

Q Who administers the Met Ed exam?

A The cross-licensing exam?

Q Yes.

A The Training Department did.

9.4

Q Is each of the cross-licensing exams drawn up by the Training Department approved on an exam-by-exam basis by the NRC, do you know?

A I don't know. I know the original one was audited by the NRC. The NRC came in and they went over it after it was given and, in my opinion, it is a much harder test than the NRC gives.

Q Is it?

A In my opinion.

Q Harder in what respects?

A I think they ask more technical questions.

Q Does the cross-licensing involve any certificate of competence apart from the result of your exam?

A As far as an oral type?

Q Of any type.

A No. It was just a written type exam.

Q And it is the written exam which is administered by Met Ed in the cross-licensing area?

A That is correct.

Q Is there an oral exam that is given to become an operator as well --

A From the NRC?

Q Yes.

9.5

A Yes, the NRC has two. They give you a written plus an oral.

Q And in the cross-licensing area?

A These individuals already took a written and an oral for Unit 1 from the NRC.

Q Right.

A And then, in turn, took a written company-administered test from the company, and it was sanctioned by the NRC. They came in and audited and said, "Yes, they agreed with it and it is good," and they blessed them with cross-licensing.

Q Is there an oral exam that is also administered for the cross-license?

A No.

Q So that has been eliminated?

A That has been eliminated. It is strictly up to the NRC whether they want to administer an oral or not, and they have that latitude to do it or not. Like an individual could have a CRO license on Unit 1 and could submit to the NRC that they want to take a CRO license on Unit 2, and to my knowledge, the NRC has only come in and administered the written test. They never made the individual take an oral test.

Q Does the company require another oral exam?

9.6

A No.

Q Is there any certificate of competence that is involved in the waiver of the oral exam?

A Not to my knowledge.

Q On an individual-by-individual basis?

A Not to my knowledge.

Q It is essentially a blanket waiver of the oral exam in the cross-licensing area as far as you know?

A Right. As far as I know, the NRC could have came in and gave oral. There is nothing keeping them from it. They optioned not to.

Q From what you can observe, it is just the standard practice to waive the oral exam?

A Right. Well, this is the first time I have ever come in contact with cross-licensing.

Q Have you ever become aware of, before the 28th of March, of the transient that occurred at Davis-Besse on September 24, 1977?

A No.

Q Are you familiar with that now?

A Yes.

Q Had you become aware of any transient, even though it wasn't specifically identified as being the

Davis-Besse transient which involved a failed open PORV?

A No.

Q And the other characteristics of that Davis-Besse transient?

A No.

Q Do you know what the other characteristics of the Davis-Besse transient were?

A Basically the same thing happened at Unit 2 except they caught it in 28 minutes.

Q And showing you what has previously been marked as Womack Deposition Exhibit 23. Did that -- and you can take a moment to look at it -- or any piece of paper raising the issues addressed in that memorandum ever come to your attention before March 28, 1979?

A I didn't read the whole thing, but as far as what I have read, I have never seen this before.

Q Had you had a chance to scan the whole thing?

A Basically you are talking about Davis-Besse.

Q That is correct. But generalized concerns arising out of Davis-Besse, in other words, I am taking it out of the Davis-Besse context and I am asking you

whether those kinds of concerns ever came to your attention?

A No, they have never. This specific has never been brought to our attention.

Q You have been at Met Ed since 1969, is that correct, or actually TMI since 1969?

A Yes.

Q When did you first become involved in TMI 2?

A I think it was August 1976.

Q And at that point did you start being assigned shifts on the TMI 1 control room?

A Yes. I started in the TMI control room on shift as shift foreman.

Q When did you move up to shift supervisor?

A April 1978.

Q I assume you have had a chance to compare, because of the range of your experience, the control room in TMI 1 and the control room in TMI 2?

A Yes.

Q I know you have already gone through some of the differences. What I am interested in is in your impression of the effect of the design on operation and on the operator working.

A In operator's viewpoint?

Q Absolutely.

A I am a little prejudiced because I grew up with Unit 1, but basically Unit 1 is laid out a lot better.

Q Tell me how.

A Well, primary-wise you put your system pressure, pressurizer level, et cetera are located closer to the diamond where you would have control of a lot of stuff. Your secondary systems on your steam generator side are more uniform together. I don't think Unit 1's control console is quite as cluttered as Unit 2's. I think Unit 2, the one section of the panel is totally useless to be put up front, it could have well been situated farther back on another panel; it is all electrical.

Q Which panel are you referring to?

A I would have been referring to console right.

Q Console right?

A Right.

Q Is that the low panel?

A Low panel.

Now, on that panel does have your ES gear which could have been put there, but it also has all your other electric on it.

SM 10 1c

Q Any other differences that you see are important from an operating sense, from a control room operating sense?

A I think the alarms in Unit 2 are not -- too many. I think there are too many of them, you know; there are too many there, so the important ones are lost.

Q Can you compare for me the number of alarms in Unit 1 and Unit 2, rough estimate?

A I wouldn't be the one to guess. I would estimate that Unit 2 probably has twice as many as Unit 1; you know, that is really rough; you know, it is probably more than that.

Q Do you know whether the operators --

A (Continuing.) One thing about Unit 2 is the alarms are smaller, harder to read.

Q Do you know whether the operators here at Three Mile Island became involved at all in reviewing the control room design of Unit 2?

A The operators were not, as far as I know, and this is only hearsay. The original bunch of shift foremen, which are no longer on Unit 2 -- are no longer on Three Mile Island, with maybe one or two exceptions-- were involved in some of the design as far as the layout

10-2

of the panels.

Q Who were they, to the best of your knowledge?

A Jerry Wallace, Ned Dirks, Alan Fredland, and I can whip a couple more -- Mike Ross.

Q Any others?

A Zewe.

Q What kind of input did they have, do you know?

A The originals who were there, I believe, were -- and I don't know because they just from talking to Al-- he used to be my shift foreman -- that they had input on how the panels were laid out and where the controls were.

Now, where in Unit 1 we have separation in a lot of stuff, Unit 2 has a panel with all the controls right there. There is no separation.

Q Do you know who for Met Ed was making the final decisions on control room design?

A No.

Q Or for GPU?

A No, I don't, and I really don't know how much input these individuals had.

Q I understand you are just giving me your best impressions.

10.3

A Yes.

Q Have you had much contact over the years in your job, with GPU personnel?

A Very little.

Q Have you had any contact?

A A few times we have had contact with maybe some of the GPU people out of the Chemistry Lab, and that would be just on a specific problem. Other than that, up until the accident, as far as GPU, I wouldn't have known half of them -- well, let me retract that statement. We did have a GPU organization on the Island initially for startups, which I had a lot of contact with. It would have been run through Tom Hawkins and those individuals, but I never considered them part of GPU.

Q Have you had any contact with GPU engineering personnel?

A I can't think of any I would have -- no.

Q You said that you had quite a bit of contact with GPU in startup.

A They were in charge of the startup, the testing program of both Unit 1 and Unit 2, initial testing program.

Q Can you tell me a little bit about that?

A What the testing program is?

Q Yes.

A Basically, you know, a system is designed to do a certain thing, and you wrote a procedure to ensure that, and then you start the system up, you know, first you do your flushes on it, you start the system up, and you monitor the parameters and take data and ensure that it does do what it is designed to do.

Q When would Metropolitan Edison people first have become involved in a system?

A We were involved in doing the evolutions under their procedures.

Q In other words, they were directing the startup procedures, and Met Ed personnel --

A Testing procedures.

Q Testing procedures -- and Met Ed personnel were implementing them?

A Right. They would be training through the operators on how the system would be run; it was under their direction.

Q Would that basically be the first contact that Met Ed operators had with the system during startup?

A Yes, as far as physical contacts. They would have had training on the system prior to that as far as classroom-type training, drawings, tracing of piping, but as far as throwing the switch and seeing water go, that would be their first contact.

Q Do you have much or any contact with Met Ed engineering personnel?

A Other than the on-site engineers up until the accident, they were the only people I had contact with.

Q Who were the only people you had contact with?

A On-site engineers.

Q And what role do the Met Ed on-site engineers play in the large picture?

A There were always technical aspects and information you need from them, and they can go in depth into the system: A lot more technical aspects of the pump design and flow curves and that, and give you technical details on it you need it.

Q Do you understand what their responsibilities are, the Met Ed on-site engineers, as opposed to GPU engineers or some other outfit's engineers?

A No, I don't know.

Q Do you have any understanding as to what relationship Met Ed engineers have to the GPU engineering staff?

A No.

Q Are there decisions, or have there been decisions that you are aware of that are regularly sent to GPU for clearance, as opposed to being made within Met Ed, flat categories of decision?

A I do know during the startup phase, field questionnaires went to GPU.

Q What are field questionnaires?

A In other words, if you had a question about the system, something you didn't like or you needed verification on it, you could submit a field questionnaire, and they could have gone to Burns & Roe or GPU to get your answer back. In other words, you would think maybe there was a wriing diagram wrong or a valve placed wrong or some problem, you would submit a questionnaire on it, and that in turn would get you an answer.

Q What would be the handling of those questionnaires? Are they sent to one central clearing point first?

A They would, at that particular time, they would

have gone into the startup trailer, and then in turn be submitted to whatever organization would handle it.

(Continued on Page 88.)

SM 11 1c

Q You say, "Get into the startup trail"?

A Trailer, which would be your startup as it is.

Q And they would be GPU?

A Yes.

Q Was there some sort of a group that was basically the watchdog and supervisory group for startup, a working group?

A You mean, that watches the startup engineers or --

Q Was there some group of individuals, or committee, that basically monitored and gave overall direction to startup?

A I couldn't tell you that. I wasn't involved in that.

Q What, in your experience as an operator here at Metropolitan Edison, what methods have been available and used to bring experience both here on the Island and at other nuclear power plants, particularly power plants using Babcock & Wilcox nuclear systems to the attention of operators and to integrate that experience into the training?

A Most of it would be integrated through the Training Department or during the training week.

Q During the training what?

A Training week.

Q What do you mean by the "training week"?
A We are basically on a six-shift rotation. One week out of that six weeks is spent in training.
Q How would that experience be integrated into the training week? How would you see it?
A Well, we would either see it through the clearing house memos, you know, we would read them, or if it was significant enough, the Training Department would give you a little course on it and bring it to your attention and tell you about it.
Q What are the "clearing house memos"?
A I forget where they come out of -- Washington.
MR. YUSPEH: This is the Atomic Energy Clearing House?
THE WITNESS: Yes.
A (Continuing.) That will tell you anything that happened.
Q You say the "Atomic Clearing House"?
MR. YUSPEH: The Atomic Clearing House. As I understand, it is a private organization which has a publication that the company receives, and the publication summarizes major developments in the nuclear industry.
Q Were those publications in their original

form made available to the operators?

A Yes. If they wanted to go down and read them.

Q But were they automatically sent to the operators, or was it a question of the operator taking the initiative to go and read them?

Q Most of the time, they would be reviewed by the Training Department, and any significant event on them would be brought to our attention during the training week. Not everything would be significant, and sometimes nothing, and then it wouldn't be brought to their attention, but they were always down there, available if an operator wanted to go and read them.

Q How often were those memos circulated, once a month?

A I don't know.

Q Did you have any understanding of how the Training Department made decisions as to which experiences at other plants were brough to the attention of you all and which were not?

A No, I don't. I don't know how they decided that, although the people in the Training Department, the majority of them, are licensed.

Q Were there any other methods of communication by which --

A Between plants?

Q Let me just state the question fully.

Were there any other methods of communication which were used to bring to operators' attention here, experience at other plants; either communications, for instance, originating from NRC or from private industry groups or from other utilities or from any other source?

A I do know the NRC brings bulletins out, but as far as that getting to the operator, you know, it would be on-site. Whether it got to him or not, someone would have to make the decision to send it up to the control room. But there is no formal path for it to get to him.

Q So the clearing house memos, in your experience, were the primary source that was made available directly to the operators -- obviously, some other things may have been available through the training, but in terms of the document, the clearing house memo document, those were directly available to you all; is that correct?

A They would be down in the Training Department, and if there were any significant things, the Training Department would bring it to our attention when we were there.

Q Were there any other reference materials

like the clearing house memos that were routinely available in the Training Department for you all to review if you wanted to?

A I don't really know.

Q For instance, were Licensee Event Reports routinely available?

A Yes, they go down there also.

Q Are they kept in such a form that they can be systematically reviewed by an operator?

A I can't tell.

Q Have you ever personally gone through and browsed --

A No.

Q To your knowledge, is that something which is done with any regularity by operators, to review Licensee Event Reports themselves?

A Not to my knowledge, they don't do it.

You are saying on Licensee Event Reports -- we do have a book up there, and I forget the title of it. We do read that.

Q What kind of material is this? The memo book in the control room?

A We have more than one memo book.

Q Tell me about it.

A There is also -- I am trying to think of the name of the book. I can't think of the name of it -- but we do have to look and read that and sign them off, and I think it is incidents --

Q Reportable occurrences?

A Yes.

Q Is that what it is?

A Yes. I believe it is reportable -- yes, it is, thanks.

Q What, in your understanding, is a reportable occurrence?

A You want me to go into a whole dissertation?

Q No, just briefly.

A Basically, violations of tech specs, you know, like a pump out of service, you know. They either have to shut down, or you are violating one of your heatup-cooldown curves, which is required reportable. Then you have immediate notification, 30-day notification, et cetera.

Q To the NRC?

A Yes.

Q And there is a book that contains these reports of reportable occurrences?

A Yes.

Q Where is that kept?

A Unit 2 control room, there is one, and there is one in Unit 1, and it would pertain to each individual station, not each unit.

Q So in other words, the Reportable Occurrence Book in the Unit 2 control room --

A -- would not have Unit 1's.

Q Just has Unit 2's reportable occurrences?

A That's right.

Q And it wouldn't have reportable occurrences from any other power plant somewhere else?

A No.

Q And it is that Reportable Occurrence Book which requires reading and signing off?

A That's right.

Q Any other memo book maintained at that control room?

A We have operator memo books.

Q Does that follow the usual procedure required, to read the entries and sign off?

A Yes. Revision --

Q Any others?

A Revision review books.

Q What are they?

A Any procedure that had a revision done to it, which, based on the Supervisor of Ops' opinion, should be brought to our attention, he would have put it in that book with a cover sheet. You would read it and sign it off.

Q That is separate from the operators' memo book and separate from the Reportable Occurrence Book?

A Yes.

Q Are there any other books like that in the control room which are updated and which operators are required to read and sign off on?

A I don't believe so.

Q Are there any other sources of information, let's set aside the training presentation --

A Your regular logs, control room logs.

Q Just a record?

A Of evolutions that happened during that shift.

Q We are stepping on each other's words here, which I think is making it hard for the reporter to get it down. I will try to wait until you finish the answer, and in turn, if you could wait until I finish the question, I think we will get a clear record, all right?

A All right.

Q Other than the three books that you have described and the clearing house memos that are available in the Training Department -- and you also mentioned Licensee Event Reports that might be available in the Training Department -- are there any other sources of direct information outside of classroom presentations that are available to control room operators?

A You are talking about the FSARs?

Q No, we are still talking in the area of experience.

A Evolution? You have your control room log which CROs keep. Also, the shift foreman keeps a log.

Q Anything else?

A That's all I can think of.

Q That would include experience, not only within your own plant, that I am referring to, but experience at all other power plants?

A No, the log only takes the evolutions happening and going on in that plant.

Q Let's set aside the logs for a minute. What I am basically trying to find out --

A What happened at Toledo Edison?

Q Right. What sources of information do

you have available?

A That is it.

Q You told me the memo book may be one. Reportable Occurrences would not be one because it deals only with events here, right?

A Yes. The Clearing House would probably be it.

Q The Revision Review Books?

A Has nothing to do with it.

Q You have got to let me finish the questions, all right, so we have a clear question on the record and then your response, all right?

A All right.

Q The Revision Review Books, I take it, would be the indirect indication of experience to the extent that one of your procedures was revised on the basis of your experience somewhere else?

Q But it wouldn't be a direct indication to you of an effect that occurred elsewhere?

A That is correct.

Q Are the Licensee Event Reports kept in a systematic way in the Training Department, so that you could go and review them for a particular period of time or for a particular plant elsewhere?

A I don't know.

Q I'm sorry, you don't know?

A I don't know. I don't know how they keep them.

Q And then in addition to that, obviously you have got classroom presentations.

A Yes.

Q Now, in the classroom presentations, would experience at other power plants, for instance, be presented in the sense of saying, "We had a transient which we wanted to discuss with you at some other plant. Here are the facts about it, and here are some things that we ought to discuss." Is it presented in that format?

A No.

Q How would experience at other plants be presented in the course of classroom training?

A I wouldn't know how they would do it unless they were informed of the experience in other plants.

Q Have you ever, in the classroom training, heard an instructor say, "Well, we just had a transient at such-and-such a place, and there are some interesting things that came out of it, and we want to make sure you are aware of it in terms of the lessons that it may teach"?

A Yes, I know what you are saying, and I can't --

to my knowledge, it has never been presented that way.

Q Do you know from your own personal knowledge what sources of information the Training Department has available to it with respect to experience at other plants?

A Other than B&W passed them information on, or through the event reports or clearing house memos and the NRC incident reports, I don't know what other sources they would have.

Q I am showing you what was previously marked as Porter Exhibit No. 2. Let me advise you that it is my understanding that that is a publication circulated by the NRC on a periodic basis.

Are you familiar with the general format of that newsletter?

A I have seen something like this before.

Q Have you ever seen them circulated in a systematic fashion to the operators?

A I have seen them in Training, but I have never seen any formal flow path that said that every operator will see this.

Q Do you know if there is a record kept?

A I couldn't tell you that.

Q Is there a record kept of these current

newsletters from the NRC where someone could go and review them systematically?

A I don't know.

MR. YUSPEH: Off the record.

(Discussion held off the record.)

Q Is there any system or procedure for handling safety concerns here at Metropolitan Edison, other than simply using the management structure, going to your boss and saying, "I am concerned about something," and your boss goes up the line with your concern?

A In what way do you mean safety? Personnel-type safety or equipment-type safety?

Q I am more interested in terms of safety of operations of the plant.

A There is a safety form that you could submit a form to have the Safety Department -- and that would be mostly based on personnel safety, you know, on unsafe to operators -- this valve, because of the location, or something on the environment.

Q Is that related to personnel safety?

A I would say it would be personnel safety because personnel would have to go in and operate, and he is bringing up the question of the environment:

It is too hot.

Q "Hot" in the sense of radiation?

A No, temperature-wise, or cramped quarters or something, no scaffolding or something overhead. You could submit a form to the Safety Department.

Q The Safety Department is concerned then primarily with personnel safety?

A Basically, yes.

Q Let's take safety and define it in the context of the safe operation of the plant in the sense of avoiding bad things happening when you are operating the plant, not to a particular operator, but to workmen in general. Is there a system for submitting those kinds of safety concerns?

A I am trying to think. Let me give you an example. There is a system, but I am trying to think what the form is, what the name of the form is to fill out.

Q Can you describe it?

A Basically, you would tell what was wrong and what you recommend wrong, and then it is submitted to, probably to my boss, and he, in turn, would take it through. It may require an engineering change or something like that.

Q But you can't remember the name of the

form?

A Not a field questionnaire -- I don't really know. I forget the name of the particular form. It has been basically the same thing as a field questionnaire, which was submitted during the construction phase, a problem report or something like that. I would have to go up and pull a blank one.

Q Could you pull a blank form and supply it to us through Alan, so we could see what the form looks like?

A Yes.

Q Would that form be run through the management structure, or would it be directed to a group whose responsibility it is to review all of those forms and then make a decision as to how to handle them?

A I don't know.

Q What would you do with such a form if you had to fill it out?

A I would fill it out and submit it to my boss, and he, in turn, I would assume, would take it up through proper channels. Where it goes from there, I really don't know. If it winds up into our Engineering Evaluation Group on the Island, or if it

could get kicked up to Reading or kicked up to GPU -- I think it would have to be evaluated on the type of problem that exists.

Q But so far as you know, there is no central group here whose job it is to evaluate all such forms?

A Not with that specific function.

Q You said -- I think you used the term, "Engineering Evaluation Group."

A Our engineering, on-site engineering group.

Q But is that a term that is used here, "Engineering Evaluation Group"?

A No. We have an on-site engineering group which is our Technical Support Group. I would assume they would get to look at the form also if it could be handled locally.

Q Have you ever had any contact with it, in any of your years here at Metropolitan Edison, with design engineers who have come in and simply talked to you about the system they designed, talked to you about how you, as an operator, manipulate and understand and handle the system that they designed?

A No.

Q Have you ever had experience where personnel from B&W Training Department in Lynchburg came here

and visited you in the control room, observed what you were doing, talked to you about what you do in the control room, and sort of take a first-hand look?

A I have talked to B&W training personnel on the Island many times, strictly because I know them, but whether they were here to evaluate our control room and what we were doing, I couldn't answer that.

Q In other words, your contact with B&W training personnel here on the Island would be more in the nature of a personal contact?

A Yes. They may bring up an incident and say, "Hey, what do you think about that?" But if they were watching an evolution, I never got that out of it.

Q Have they come into the control room and talked to you in the control room?

A Sure.

Q Who would be that B&W representative that you that that kind of contact with?

A I have talked with Bill Streeter, who is no longer there. I have talked to Ted Book, who is an ex-shift foreman from the Island. I am trying to think. The same thing with Walt Perks; he is an ex-shift foreman from the Island.

Q Do you know whether those contacts that

you had with them in the control room were a conscious effort on their part to come in and kind of evaluate what was going on in the control room, or was it just curiosity on their part?

A I don't know.

Q Have you ever had training specifically addressed to the identification of a failed-open PORV?

A Before or after?

Q All my questions really are addressed to before the accident.

A No.

Q There is a procedure for identifying a failed-open PORV; is that correct?

A Basically, it is checking the temperature on the outlet.

Q But that procedure wasn't ever specifically addressed in the training program, other than the fact that you were expected to read it?

A We were expected to know what it was in the EP.

Q But it was never discussed, or you never did exercises on it, in terms of doing a simulated exercise?

A At the B&W -- at the simulator?

Q Either there or in the training program here.

A I know we do go over the EPs in our training program here. That specific one I am quite sure we went over, but I can't recollect when. The same thing-- I hate to say that B&W never laid it on us down there. I can't say. Normally, they left the spray valve open on us.

13 Q What understanding did you have, again speaking before the 28th of March, of how and to what extent the pressurizer level should be controlled within certain boundaries?

A You have the tech spec that says 85 inches to 385.

Q Under what conditions?

A That was operating conditions. That would be with plant critical.

Q What about when the plant was not critical, would those limits apply?

A They would apply when the plant was not critical, but we were always trained never to take the pressurizer solid except for hydros.

Q So your understanding up to the 28th was that the limits from 85 inches to 385 inches applied during a critical operation?

A Yes.

Q And then once you moved out of critical

operation, were there elements that applied at that time to pressurizer level?

A No hard and fast limits, no, other than the regular procedures, you know, telling you what levels you should maintain, you know, during cooldown, et cetera, or heatup, but it has always been drummed in our heads that you should never take the pressurizer solid, you know. That has been a point from Day One.

Q I am interested in knowing, Mr. Mehler -- you have said it was always drummed into your head never to take the plant solid. Could you reconstruct for me how that was drummed in your head and in what way it was?

A Basically our training--from locally and from B&W?

Q Let's take your training locally. Can you identify for me whether that understanding of not taking the pressurizer solid came to you in part from within materials that were given to you?

A There is written material.

Q Can you identify what it is?

A I think in the Limits and Precautions. I am not sure if it is heatup or cooldown procedure. It says the pressurizer should never go solid with the makeup

pump running.

Q I am referring you now to Frederick Exhibit No. 2, which is --

A Limits and Precautions?

Q Yes, Limits and Precautions, and I am referring you to Page 17, which relates to pressurizer; is that the limits and precautions that you had in mind?

A Well, that -- there is the tech spec limit there, but this isn't the particular one I had in mind.

Q Have I got the full set here? I think if there are others which you have in mind, could you identify them?

A No, this is not the full set.

Q This isn't the full set?

A I think you will find what I am talking about is in one of the operating procedures.

Q Do you know which one?

A Off the top of my head, no. I can find out. It was just brought to my attention today about someone.

(Discussion held off the record.)

Q You have indicated that there may be an operating procedure which gives some guidance on pressurizer level, and if you can find it and bring it in in the morning, I would be most appreciative.

A The reason you would never take it solid with the makeup pump running is the system is hydro originally at 3125. The discharge head of the makeup pump is 3125, and if you read your tech specs out, you shouldn't take it over, I think it is, 110 percent of 2500.

Q And at 3125, that is more than 110 percent?

A Definitely. It is 125 percent.

Q And you think that operating procedure that you were referring to may refer to heatup or cooldown; is that correct?

A I think so. I will find out.

Q In addition to the Limits and Precautions that we have just referred to as Frederick Exhibit No. 2, is there other written guidance that you are aware of relating to the issue of going solid or controlling pressurizer level?

A There is other guidance on controlling pressurizer level, as far as Ops on heatup and cooldown, which tell you what it should be, and based on some temperature, but that wouldn't pertain to your line of questioning.

Q What I am really interested in is controlling pressurizer level below 385 inches, and the issue of

when, if ever, you can go solid.

A I have never seen anything of ever taking it solid.

Q In any of your training, has there ever been any discussion of an instance where you ought to set aside the concern about going solid as being less important than doing something else?

A No. These are all pre-28th questions?

Q They all are.

You referred to the training locally here at Three Mile Island and the training at B&W. Do you have any specific recollection of training at B&W that addressed the issue of going solid?

A NOne. To take it solid on purpose?

Q Any training that referred to the desirability of going solid or the desirability of never going solid.

A I have never seen any training from pre-28th of ever taking it solid. In fact, all the casualties I ever had at B&W prior to March 28th never had the pressurizer go solid.

Q Did they tell you during the training at B&W never to let the pressurizer level go solid?

A I don't want to say yes or no to that because

I really don't -- verbally, I can never remember if someone told us that. It was always implied.

Q It was -- I take it what you have been telling me is that there was an implicit if not explicit assumption and understanding on your part that you never want to take it solid; is that a fair summary?

A That is a fair summary; that you would have a problem with the pressurizer when it is solid because you would be hydro-ing the system.

Q When you say "hydro-ing the system," are you essentially --

A You would be taking it up to the discharge head of the pump. Like I said, it would be 3125.

Q And when you say, "taking it up to the discharge head of the pump," I take it what you mean is that --

A The maximum pressure the pump would put out.

Q Can you explain for me any other reasons that you know of for not taking the system solid? You told me that obviously one aspect of taking it solid would be possibly pressurizing the system up to 3125, that is one concern. Are there any other concerns in going solid, to your understanding?

A No.

Q Now, obviously, in the potentiality for taking the system to 3125, you have a number of relief valves.

A Correct. The chances of getting up to that pressure would be nix. You couldn't do it.

Q You could not do it?

A I don't believe so.

Q That assumes everything is functioning normally?

A That is correct. The code relief lifted at 2500, and the discharge wouldn't let it.

Q I take it your concern about going to 3125 pounds would relate to whether or not you believed that your code safeties and your PORV would bail you out?

A Yes.

Q If they would bail you out, and you can be absolutely sure of that, you wouldn't be concerned, would you?

A I am trying to figure out --

Q Let me ask the question a different way.

A I have never looked at it in that aspect, you know, before, really. I always looked at it "Don't go solid." That is, you know, because the

possibility exists of taking it up to the discharge head of the makeup pump, you know, not saying, "Well, it can never happen because the code and that will bail me out.

Q In other words, what you are saying is that you always maintain the possibility that there may be a failure?

A It exists.

Q In those valves?

A Not only that, I wouldn't want to push all that water around the place.

Q When you say you wouldn't want to push all that water around the place, you mean even if your valves worked properly, you would be shoveling an awful lot of water ultimately into the contamination?

A Yes, just like we did.

Q Had your training ever specifically suggested to you that you should always keep in mind the possibility of your codes or your PORV not functioning; had it specifically addressed that?

A Training, the only thing that may have covered was maybe electromatic failed to open; that was it, and it may have opened and not closed, and that would be under an EP where you lost pressure or you lost

system pressure.

Q Had it ever specifically focussed, though, on the possibility of those valves failing closed?

A No.

Q To the extent that your training focused on the possibility that the electromatic valve might fail open, had it done so in reference to previous known failures of the PORV?

A I don't know if it has failed open before, you know. In other words, you are saying it opened and didn't close previous to the accident?

Q I am asking if your training --

A No.

Q About the possibility of a failed-open PORV had ever been in reference to the fact that it had happened before?

A They never referenced that it happened before.

Q To your knowledge, has it ever happened before?

A Not the electromatic. I think the spray has; I am not sure.

Q Did your training ever specifically focus on telling you that any time you have a PORV lift on you in a transient, that you should immediately be

concerned about whether it has failed open?

A No.

Q That was not drilled into you as an automatic response, once you saw that it had come into operation?

A No.

MR. ROCKWELL: Let's break here.

(The deposition was adjourned at 7:40 p.m.)

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Brian A. Mehler

Subscribed and sworn to

before me this___day

of_____, 1979.

---

Notary Public

I N D E X

| WITNESS | DIRECT |
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| Brian A. Mehler | 2 |

E X H I B I T S

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|---|---|---|
| 29 | Resume of Brian A. Mehler with training summaries attached | 3 |

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STATE OF NEW YORK )
) ss.:
COUNTY OF NEW YORK )

We, STEPHEN McCRYSTAL, Notary Public, and STANLEY RUDBARG, Certified Shorthand Reporter and Notary Public, of the State of New York, do hereby certify that the foregoing deposition of METROPOLITAN EDISON COMPANY by BRIAN A. MEHLER was taken before us on the 25th day of July 1979.

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

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

We are not related by blood or marriage to any of the said parties nor interested directly or indirectly in the matter in controversy; nor are we in the employ of any of the counsel.

IN WITNESS WHEREOF, we have hereunto set our hands this 26th day of July 1979.

STEPHEN McCRYSTAL

STANLEY RUDBARG, CSR.

----------x

PRESIDENT'S COMMISSION ON THE

ACCIDENT AT THREE MILE ISLAND

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CONTINUED DEPOSITION of METROPOLITAN EDISON COMPANY by BRIAN A. MEHLER, held at the Three Mile Island Nuclear Generating Station, Harrisburg, Pennsylvania, on the 26th day of July 1979, commencing at 8:45 a.m., before Stanley Rudbarg, Certified Shorthand Reporter and Notary Public of the State of New York.

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

METROPOLITAN EDISON COMPANY:

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PRESIDENT'S COMMISSION ON THREE MILE ISLAND:

JOAN GOLDFRANK, ESQ.
Associate Chief Counsel

ALSO PRESENT:

CLAUDIA A. VELLETRI

oOo

(Documents described below were marked Mehler Deposition Exhibits 30 through 35 for identification, respectively, this date.)

MS. GOLDFRANK: Note for the record that this is the continuing deposition of Brian Mehler.

B R I A N A . M E H L E R , having been previously sworn, continued to testify as follows:

DIRECT EXAMINATION

BY MS. GOLDFRANK:

Q You have brought with you today four forms

that we have requested yesterday, and we have marked those. Can we go through them.

The first one is entitled, "Three Mile Island Unit 2, Recovery, Burns & Roe Field Questionnaire," and is marked as Mehler Deposition Exhibit 30. This, as you indicated, was in existence prior to March 28th, and it would have been entitled the same except for the word "Recovery"?

A Yes, that is correct.

Q And for what reason would you have filled this form out?

A This form would be filled out for a problem that existed in the Burns & Roe-supplied systems, and it would be a questionnaire asking them, you know, there is a problem that exists, and they would in turn have to give us an answer.

Q Would you send this directly to Burns & Roe?

A Normally at this particular time when these were being filled out, you would turn it over to the Burns & Roe representative down in the startup trailer during the morning meeting.

Q For what period of time were these forms available?

A These forms were available during the construction

phase and the startup program. Right now they are available again under the recovery.

Q But prior to March 28th, they were not available after the startup?

A They were still in existence, but they weren't being utilized.

Q They were available?

A Yes, they could have been used, yes.

Q Would you have given this completed form to the Burns & Roe representative on-site, or would you have sent it through some other channel?

A I would have probably handed it to my boss, and he -- or else he would have told me who to give it to.

Q Do you know if you filled one out during the period after TMI 2 startup and prior to March 28th?

A No, I haven't.

Q What we have marked as Mehler Deposition Exhibit 31 is "Three Mile Island Nuclear Station GPU Startup Problem Report." Could you explain what this form is.

A That is basically the same form, but it is used to present a problem more or less related to the B&W-installed equipment, bring it to the attention of the GPU Startup Group, where we think a problem might

exist and, you know, we want an answer.

Q And this form also was in existence for the construction and startup phase?

A Yes, that is correct. That would have been turned over at morning startup meetings.

Q Each morning?

A Each morning, we used to have a meeting with the Startup Group, and the shift supervisor used to be present plus Supervisor of Ops, if he was here. We would go over the startup problems and submit the forms, you know. Usually a Burns & Roe rep, a B&W rep, a startup rep and a Met Ed rep would be there.

Q This form was no longer available after startup?

A That form would not be used after startup. It is available, and if you want to present the problem to GPU, you could submit it to them.

Q How would you ensure that it reached somebody in GPU? Through what channels would you draft this form?

A I don't know.

Q We have marked as Mehler Deposition Exhibit 32 a "Three Mile Island Nuclear Station Problem Report." Could you explain what this is, please.

A This is the form that basically can be utilized, and this form would be filled out and would be utilized through the Met Ed system. It would be presented to the personnel down in Reading. It would probably go to Mr. Klingaman.

Q And where is this form available?

A This is available in the control room, in the blank form drawer. It is very seldom utilized. I don't know if anyone has ever used this form.

Q Have you ever used this form?

A No.

Q Has it ever been explained to you what type of problems should be reported on this form?

A Not really, no.

Q Are people made aware that this form is available?

A I myself am aware of it. I don't know if the other people are. I just happen to know it is in the drawer. I don't know what procedure -- I don't even believe there is a procedure that covers that form.

Q How were you made aware of that form?

A I don't remember. I just know it is there.

Q This is a form that we have marked as Mehler Deposition Exhibit 33, which is entitled,

"Generation Corrective Maintenance System, Job Ticket Form, Work Request, Three Mile Island," and this indicates "Unit 1." Is this a similar form?

A This is a similar form for Unit 2, and also, there is a similar form that would be systems common to both units, which would be -- I forget the letter designation, but it is just a little different. In other words, there is like our industrial waste, which is common to both units, and you would have to use that job work request to have work done on that. It is for cost charging. This is the most common form that is used to present problems in the plant.

It is a work request. In other words, as it describes there, it says, "Describe malfunction or modification desired." If it is a malfunction, you describe what the malfunction is. If it is a modification to the system you desire, you write the modification you desire and the reasons for it. Then the rest of it, this will be submitted down to the Maintenance Department and through the normal channels, whether they need engineering evaluation, and they will take care of that.

We actually only filled out this point here. (Indicating.)

SR 2

Q You only fill out the top third of the page?

A Right.

Q And it indicates there a spot for the supervisor's signature?

A Yes.

Q Is that required?

A Yes. Basically, anyone can originate this form, anyone in the plant, and he in turn brings it to his supervisor, who, in turn, goes over the form and sees if it is valid, if it is filled out properly, and assigns it and then submits it.

Q Who is it submitted to?

A Normally, the flow tap would go down to the Maintenance Department, down to the Supervisor of Maintenance.

Basically, we have a basket up there that we put it in, and the secretary will take it down.

Q On the bottom of this form, it indicates, "Limits and Precautions." Who completes that?

A That would be completed down in the Maintenance Department, by who I don't know.

Q Do you know if anybody else looks at it?

A I don't know. I do know that on certain work

requests, depending on the type of job and the application involved, that you do have to write procedures for them, and the procedures have to be signed off by QC, and sometimes the Supervisor of Maintenance and all up the line. That is basically what this is telling youyou have to do and who it all goes to. It all depends on the type of work involved.

If it is a reworking of a makeup pump, then it would be an involved procedure.

Q So depending upon the type of work it is, certain people could be consulted?

A Yes.

Q Outside of the maintenance Department?

A Oh, yes.

Q And at the very bottom of this, there are titles -- originator, supervisor, supervisor of maintenance, maintenance foreman, job performer, maintenance performer, supervisor of maintenance. Do you know what that indicates?

A I believe it is the chain of command that it would have to go through. I am only making that assumption just by looking at it. It looks to me like the guy who originates it, the guy who he sends it to, who gets it next, and on through the line, and who it is

returned to. I don't know if that is really what is indicated, but that looks to me like what it is.

Q You indicated that the originator only completes the top third of this form, which is the portion above where he signs?

A That is correct.

Q Do you know who completes the bottom portion?

A That would be completed down in maintenance. One thing, though, there is a slot on here where, when they start the work, that either the shift foreman or the shift supervisor signs.

Q When they start the work?

A When they start the job, yes. That is just the initials, like here, and the date.

Q On the second, green page?

A Shift foreman approval to commence work -- in other words, he has ensured the system can be worked on and tagged up properly.

Q That is, his signature is just an indication that he is aware that they are going to begin work, and if it requires shutting down?

A It should already be shut down and tagged up. He is just being aware that they are commencing the

work and that he okays it. He basically okays that they can commence the work.

Q In addition, you brought with you what we have marked as Mehler Deposition Exhibit 34, which is Revision 1, dated 11/1/77, which is an Operating Procedure.

A It is Page 5 out of an operating procedure.

Q No. 2103-1.3.

A Right. That would be pressurizer system ops.

Q And you brought this with you in response to a request that you indicate where in writing concerns with respect to pressurizer level were reflected, correct?

A That is correct.

Q And you have circled on this Deposition Exhibit 34, Section 2.1.8.

A Yes.

Q And could you explain to me why?

A I was asked yesterday if there was anywhere that I knew that told us never to take the pressurizer solid, and here, this is one of the instances where I do know it is in a procedure that tells you not to take it solid, except for hydrostatic testing, and that is basically what this Limits and Precautions says.

It says, "Pressurizer/RC system must not be filled with coolant to the solid condition, 400 inches, at any time except as required for system hydrostatic testing."

Q Could you explain to me what hydrostatic testing is?

A Hydrostatic testing is pressurizing the system up to 3125 psig and testing for leaks.

Q And under what circumstances can you do that?

A We initially hydro -- that is done in initial startup.

Q That is the only time that test is performed?

A That is the only time to my knowledge that it is performed. It could be performed sometime later, which would require permission to do it.

Q Under what circumstances after initial fueling would you do it?

A I would think if we ever started Unit 2, they would have us do it again.

Q And this Exhibit 34, Operating Procedure 2103-1.3, is an operating procedure for Unit 1?

A That is one for Unit 1, yes. (Indicating) That

is for Unit 2. There is a "2" up there, I'm sorry. This other one is Unit 1.

Q Deposition Exhibit 34 is for Unit 2 operating procedure?

A Yes.

Q We have marked as Mehler Deposition Exhibit 35 an operating procedure, 1103-5, Revision 11, dated 6/28/79. This is an operating procedure for Unit 1?

A Yes.

Q You indicated that this revision is dated 6/28/79, which is subsequent to the accident at Three Mile Island Unit 2, and that this has been changed since March 28?

A That is correct.

Q You have circled Section 8, and you indicate that the change in that section that they added the phrase, "Except as required by emergency procedures"?

A Yes.

Q But prior to 6/28/79, that section read the same as Section 2.1.8 of Unit 2's Operating Procedures?

A That is correct.

Q 2103-1.3?

A That is correct.

Q Was it your understanding, prior to March 28th, that the Limits and Precautions should not be exceeded in a time of emergency?

A Prior to March 28th, no emergency procedure ever had you take the pressurizer solid.

Q You were trained that, pursuant to an emergency procedure, you should not take the pressurizer solid?

A Nowhere in the emergency procedure did it tell you to take it solid.

Q Were you told not to take it solid?

A No, I can't remember an incident where they physically, verbally told us not to take it solid. It was always implied.

Q It was implied, but there was no direct statement that you should not take the pressurizer level solid?

A Other than that particular one in the pressurizer ops procedure and the one in Limits and Precautions, which says not to take it over 385 inches.

Q So written in your operating procedures and in the limits and precautions, it was indicated that you should not take the pressurizer solid?

A Yes.

Q That was discussed in your training?

A Actually discussed, per se, "Don't take it solid"? No, I can never say that there was a specific incident where it was actually said that way. It was always implied that we would never take it solid.

Q But these particular sections that you have referred to were covered in your training?

A Yes.

Q You indicated yesterday that you were not aware of an incident at Davis-Besse 1 that occurred in September 1977.

A Correct. That is correct. I wasn't.

Q Prior to March 28th?

A Yes.

Q Were you aware of a control room operator at TMI that knew of the incident in September of 1977 at Davis-Besse?

A No, I wasn't.

Q Are you aware now of a control room operator that knew of the September 24, 1977 incident at Davis-Besse prior to March 28th?

A No, I'm not. I wouldn't know who he is.

Q Is there a requirement that hydrogen

recombiners be available at TMI Unit 2?

A Yes.

Q There is not a similar requirement for Unit 1?

A Unit 1 does not have a hydrogen recombiner at this stage. They will have one prior to startup. Prior to that, they had a hydrogen release system, where there would be a purging of the hydrogen, rather than recombining it.

Q And where is the requirement that Unit 2 have a hydrogen recombiner?

A That is in the tech specs.

Q And do you know what that requirement states?

A Basically, that we will always have one hydrogen recombiner operable, and that it meet its testing specifications per Section, I think, 54, and it always did. That was the one that was up in the spent fuel pool.

Q On March 28th, there was one operable hydrogen recombiner in the spent fuel pool?

A Pool elevation, yes.

Q And where is the spent fuel pool elevation actually located?

A It is in the fuel-handling building, the recombiner. I want to get the elevation correct. I think it is 333 elevation, fuel-handling building. There is also another hydrogen recombiner in the Unit 2 warehouse.

Q Was the hydrogen recombiner in the warehouse an extra one, or is it required that there be two on-site?

A There is no requirement that we have two operable hydrogen recombiners. The one in the warehouse did not pass its test. We never tested it up until the accident.

Q Was the fuel-handling building an area that became contaminated on March 28th?

A Yes.

Q Could you utilize the hydrogen reombiner that was located in that building on March 28th?

A We could not utilize it immediately. We had to put a lead shield around it because of the high radiation area, because of the atmosphere we were drawing on in the reactor building.

Q When was a hydrogen recombiner utilized in the course of the accident? Was it on March 28th?

A No, it wasn't. I'm not sure of the date. I

believe was either March 30th or the day after that.

Q Was a decision made on March 28th that you needed to use a hydrogen recombiner that day?

A I don't know.

Q You were not involved in any discussions concerning whether or not a hydrogen reombiner could or should be used on March 28th?

A I don't remember, honestly.

Q The hydrogen recombiner that was located at the fuel-handling building, that went through various testing procedures pursuant to the surveillance procedures?

A Yes.

Q And how frequently, pursuant to the surveillance procedures, must the hydrogen recombiner be tested?

A I don't know the actual testing frequency on it. The surveillance procedure, I believe -- and this is only a guess -- I think it is every six months.

Q And do you know what the test is that is performed?

A It is actually running it.

Q Could you explain to me where actually the hydrogen recombiner is hooked up?

A Physically?

Q Right.

A Actually, it takes suction out of the reactor building in the vicinity of the purge ducts, which I have to guess on elevation again. If I had to guess, it would be the 322 elevation of the fuel-handling building. I would say it was all part of the fuel-handling building. It discharges back into the reactor building.

Q And is this hydrogen recombiner hooked up or just made available and operable?

A The spool pieces are removed during normal operation, that would be right at the vicinity of the hydrogen recombiner. That has to be put in place prior to utilizing it, to take suction off the reactor.

Q The spool piece?

A Yes.

Q Is removed?

A A spool piece is just a small piece of pipe, flanged at both ends, that fits into normal installed piping to make a complete pipe. Normally it is removed.

Q So normally the hydrogen recombiner is tested to be operable, but it is not connected up?

A It is tested taking suction out of the normal

atmosphere. In other words, that blank is not installed for the test. In other words, there is no hydrogen for the recombiner to use, and we just have to make sure it comes up through system temperature and does function the way it is supposed to, so it can draw normal atmosphere, which we do at that time.

Q So you actually don't test it in the reactor building, but you test it on the normal atmosphere?

A Right. Normally, there is no hydrogen in the building.

Q Did you have any contact normally -- prior to March 28th -- with the NRC?

A We have an on-site inspector, Don Habercamp. We have contact with him periodically when he comes in for inspections.

Q And is that the only --

A That is basically the only contact I ever had with him, other than taking NRC tests.

Q And could you explain to me what an on-site inspection encompasses, as far as you are involved?

A Well, as far as I am involved, Mr. Habercamp could come on the Island, and he could go through our operating procedures and sign off copies and ask

questions if he finds something that is faulty or not signed off correctly or something. He could also ask questions on normal operating of the plant surveillance procedures. Also, he can make a tour of the building and ask questions along the line of shielding or HP-type questions, a multitude, really, anything that hits his eyes that he finds and he thinks is wrong that he would bring to our attention. We would correct them, and he would submit a formal report, depending on the magnitude of the problem.

Q And would you know in advance that he was coming?

A Not always.

Q Sometimes he would?

A He would just show up.

Q And sometimes he would call you and let you know he was coming?

A Well, if he showed up, he might say that he will be back tomorrow, something like that. Prior to Mr. Habercamp, we had two other individuals that used to come on-site, and I believe one of them was Paul Kelly, and another gentleman, I don't know.

Q How long has Mr. Habercamp been coming on-site?

A I can only guess. I would say about a year and a half or two years.

Q And how frequently does he come here -- a guess?

A It is only a guess. He might show up every two months or a month.

Q And for about the last year and a half, he has consistently come about every two months?

A I would say that. You see, he can come in daylight when I would be on the back shift, and I wouldn't know he was here.

Q In about the last year and a half, have you seen other NRC inspectors?

A Prior to the accident?

Q Right.

A Other that Paul Kelly and the other individual, which I don't know his name, no.

Q Have Paul Kelly and the other inspector come with Mr. Habercamp?

A Paul Kelly used to be in charge of this site prior to Habercamp.

Q So Mr. Habercamp is assigned to this site?

A Yes. He has more than just this site.

Q This is one of his responsibilities?

A Yes.

Q Once he has performed his on-site inspection would he report back to you as to his findings?

A Not to me directly. He would report -- he would have an exit meeting, which would probably be with the unit superintendent and maybe the supervisor of Ops, depending on what department he really looked at.

Q So when he would come on, he wouldn't look at the same department each time?

A That is correct.

Q And the times that he would review responsibilities that would fall within your range of responsibility, would you be involved at that exit meeting?

A NO. Usually, the supervisor of Ops would.

Q And then the supervisor of Operations would report to you?

A Yes. The only time I would ever discuss anything is if he found a problem that he wanted more or less solved immediately or needed some kind of help or finding some kind of paperwork, he would come to us. As far as his exit interviews, I have never participated in any of them.

Q You indicated that he would review operating procedures and surveillance procedures and

sometimes ask you various questions about the operations of the plant. Was he always interested in the same kind of questions?

A Not really. They were more interested in that our paperwork was being done correctly and being signed off correctly and looking at the surveillance procedures that, yes, did meet the requirements of the surveillance and that it was signed off properly.

Q Would these inspections by NRC -- were they at all helpful to you?

A They did bring up certain problem areas.

Q In terms of how procedures were written, or whether or not they met the requirements of certain formal channels?

A Normally it wasn't in the procedure area that he would find problems, except maybe a signature missing on a procedure, you know, when it was completed or something like that, along those lines.

Normally, they would find problems on the plant tour with a doorknob being locked, or clothing not being stored properly or something like that, along those lines. They would be immediately attended to and taken care of.

Q In what way did you think they were helpful

to you?

A Well, other than pointing out the specific incidents that I mentioned, other than being helpful, that would be it.

Q When the specific inspection involved certain areas within your responsibility, and the supervisor of Operations would discuss with you the results of the inspection, was this an oral meeting, or would he send you a written memo?

A Normally it was oral. In other words, I believe, and I am not sure, he would have a written copy, and then there would be items we would have to take care of.

Q Did he ever show you, if he did receive, a written critique from NRC? Have you ever seen one of those?

A I don't know. I don't remember seeing one.

Q But you think he received something in writing?

A Well, he probably wrote it down as they went over the critique. I would assume he did.

Q You are not sure if those were his notes or something received from NRC?

A That is correct.

Q If the NRC found in its inspection certain thi gs that it wanted corrected, would it give you a time limit as to when they should be oorrected?

A I don't know if they ever imposed time limits on us.

Q When the supervisor of Operations reviewed with you certain areas within your responsibility, did he put time limits on you?

A We normally did them within the next shift or the next day.

Q So you understood you should attend to it right away?

A Normally, yes, we always did. If I was on tour with him, when we found something, we would call the department immediately and have it corrected.

Q Sometimes you would go with the NRC inspector on his tour of the site?

A Yes, if he requested it, I have gone on tours in Unit 1 with both Habercamp and Kelly.

Q Habercamp was inspector for both Unit 1 and 2?

A That is correct.

Q Could you tell me what form, prior to March 28th, your contact was with Gary Miller?

A Gary Miller was station superintendent. My contact with him is we had a meeting monthly with him. He is always available to us, you know, by telephone or whenever we need him. Our notes -- we always make sure he gets a copy of all our notes, turnover notes. When he is not on the Island, he always lets us know where he is available. He always has a beeper. He was always there if we needed him.

Q He was very accessible?

A Yes.

Q You mentioned turnover notes. Are those notes that you complete during your shift and pass on to the next shift supervisor?

A Basically what you are writing down there. (Indicating.) It is a copy of the evolutions going on, what we wanted accomplished and problem areas, and then we would pass it on from shift to shift and from supervisor to supervisor. On that particular turnover, we would also have a form that we would fill out called a morning report, which went to Reading. With that, we would always staple on a copy of our midnight -- 11:00 to 7:00 -- turnover notes for him. It was not an official copy.

Q And who else would get a copy of this,

besides Gary Miller?

A Oh, supervisor of Ops; we would make sure he gets a copy -- that is, of both units -- and I myself would try and get one for the supervisor of Maintenance. I cannot speak for the other supervisors, if they did it or not. I do know that Miller always got one. That is basically the individual that got it. There were other individuals that requested, but they wouldn't get them all the time.

Q They would only request them on certain conditions?

A It all depended.

(Discussion held off the record.)

THE WITNESS: On the bottom of the Reading morning report, there is a list of names, and all of those individuals get a copy of the morning report. I have always, myself, stapled a copy of our turnover notes on that, too.

Q And what is the morning report?

A That would be the status of Unit 1 and Unit 2, and that would be telecopied down to Reading.

Q And what type of information is that?

A Plant status, reactor critical, 100 percent power, temperature on the codes and electromatic, major

evolutions that are going on, tank levels in the primary plant -- really, a short summary of the primary system and the status and any major evolutions going on.

Q And who at Reading would this be sent to?

A Mr. Herbein.

Q Would other people receive copies of it?

A I couldn't tell you if they did in Reading.

Q You indicated that you attached to this morning report a copy of your turnover notes?

A Right. Mr. Herbein never got a copy of the turnover. He would only get the morning report.

Q Who would get the turnover notes that you would attach to the morning report?

A Miller, Ross, Floyd, Kunder, Seelinger, Logan, Shovlin. Like I said, I made sure they all got one. I can't speak for all the other supervisors. Some of them would only send it to the top -- Miller, Ross, Floyd, Logan and Seelinger.

(Continued on Page 147.)

SM 5

Q So that this was your decision; it wasn't requested by them or required that you hand them copies?
A It was not required. Some of them requested, because when you turned over notes, a lot of good information on the plant status and what was going on, it contained.
Q What, prior to March 28th, was your contact with Mr. Logan?
A Mr. Logan, prior to March 28th, was Unit 2 superintendent, and I would come in contact with him basically in POD meeting at Unit 2, and that is about it.
Q So that would be every morning?
A Every morning we had Unit 2 POD meetings.
Q And if you happened not to be on shift that you would attend a meeting, you normally wouldn't have contact with him?
A That is correct.
Q And prior to March 28th, what was your contact with Mr. Kunder?
A Basically the same. He would be at the POD meeting, and if I needed his assistance, I would call him.
Q Prior to March 28th, what was your contact with Mr. Floyd?

A Pod meeting, and he would be more available in the control room during my plant evolutions during the daylight shift.

They are all available by telephone any time we needed information out of their department.

Q All of them would be available during the daylight shift?

A Yes, they all worked daylight.

Q And you indicated Mr. Floyd would be available in the control room?

A Well, he had a trailer down here, but, you know, he would be on-site. We could page him and get him if we needed him.

Q Would Mr. Kunder and Mr. Logan be on-site?

A Yes.

Q In a trailer or inside the plant?

A They both were still in trailers, yes.

Q Did Mr. Floyd have an office in the plant?

A No.

Q He would just come there and wander around and talk with different --

A He would come up to the control room and sit in the shift supervisor's office.

Q Is that the little booth in the control room?

A Yes.

Q So he would spend much time sitting there with you if you were on daylight shift?

A Yes. He would normally be in there.

Q Prior to March 28, immediately before March 28, were you aware that the PORV was leaking?

A No.

Q Were you aware that there was a concern that the PORV or the code safeties were leaking?

A Yes.

Q And is it correct to say that they were not sure whether it was the PORV or the code safeties that were leaking?

A That is correct.

Q And how would it be possible to ascertain which was leaking?

A By checking the thermocouple, the temperatures at the discharge of the valve.

Q Is there a thermocouple, a separate thermocouple for the PORV and the two code safeties?

A There is a separate thermocouple for each one.

Q So that you could take temperature measurements of each safety?

A It was a printout on the computer that you asked

for, and that was on the morning report.

Q Do you know how soon before March 28th there was indication that there was a leak?

A I know there was an indication. Prior to March 28th, far in advance of that. I can't remember. I would say probably a month, and that is only probably a guess -- an indication that indicated it was one of the codes.

Q And why could you not ascertain which of the codes it was?

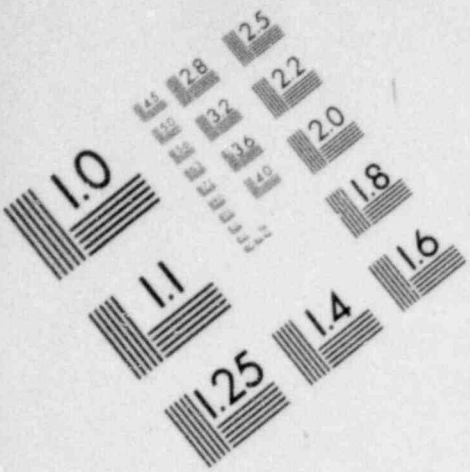
A Because the temperatures were fluctuating between the A code and the B code. One would read higher than the other one day, and thenthe next day, the other one. It may trend high for a period of a couple of days, and it was only a few degrees high, and then it would slip over to the other one.

The electromatic, itself, never indicated a high temperature prior to March 28th.

Q So it had been concluded that the PORV was not leaking, but it was probably one of the two code safeties?

A Right.

Q How would you correct that leak from one of the code safeties?



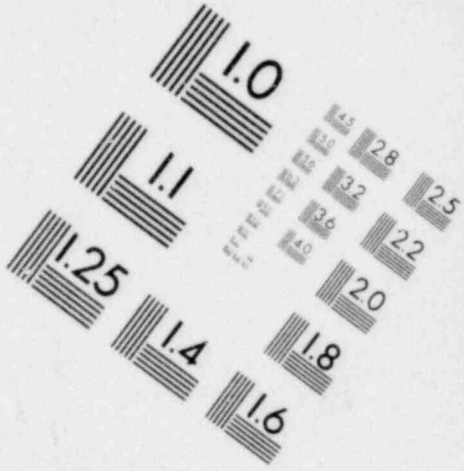
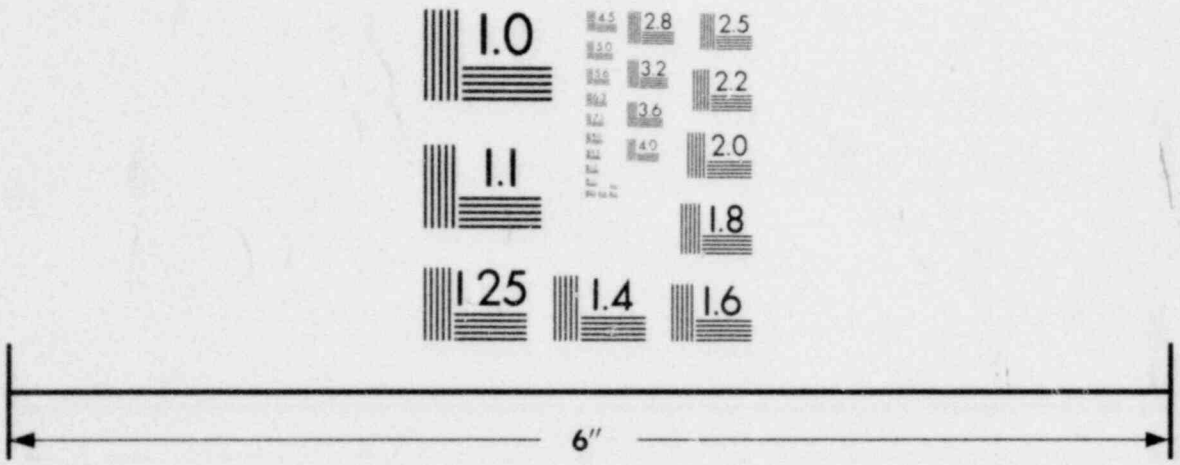
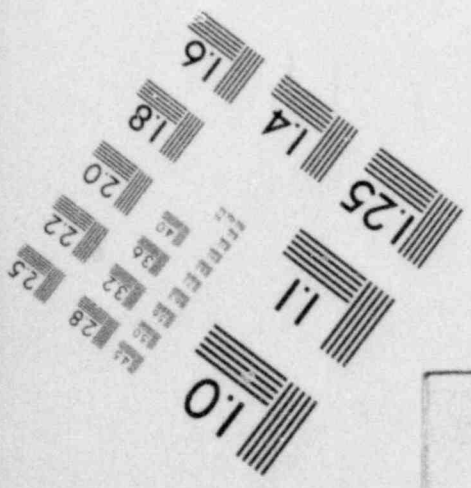
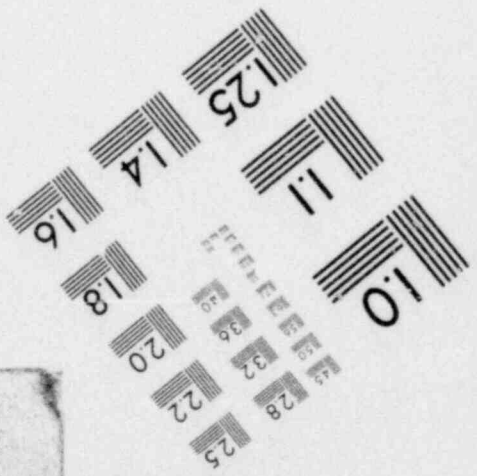




**IMAGE EVALUATION**
**TEST TARGET (MT-3)**




**MICROCOPY RESOLUTION TEST CHART**



A The only way it could have been corrected was to completely shut down, depressurize, and remove the code.

Q Was there a concern because of this leak from the code safeties?

A Thee was a concern. We were trying to determine which one was leaking so we knew which one to fix when we did shut down the next time.

Q Was there concern that you would shut down to fix that code safety?

A There was no immediate concern that we were going to shut down to fix the code safety. The next shutdown, we were going to fix it.

Q So you would wait until the plant shut down?

A Unless conditions got to the point where we would not operate -- in other words, it exceeded our leakage rate.

Q Would that be measured --

A During primary system inventory.

Q And that leakage rate is set out in the tech specs?

A Yes.

Q On March 28th, at 4:00 a.m., were you on-site?

A No.

Q Could you tell me what time you arrived on-site?

A Approximately 10 of 6:00.

Q And were you called at home to come on-site?

A Yes.

Q By whom?

A I don't -- it was an engineer. I don't know if it was George Kunder or not. Some engineer called me and got me out of bed and said, "The turbine tripped, the reactor tripped. Come out to work." I said, "I will be there."

Q You didn't ask who it was?

A No. He did identify himself, but, you know --

Q You don't remember his name?

A No.

Q What happened when you got there?

A Like I said, I got there about 10 of 6:00. When I got there in the control room at that particular time, Mr. Zewe, Mr. Fox, Frederick, Scheimann, Ross and Ken Bryan.

Q And did anybody give you instructions at that point?

A When I walked in, I asked Bryan, which would have been his Unit 1 supervisor of Ops, and he was

also filling in for Jim while Jim was in Lynchburg. I asked him what unit he wanted me to -- because Ken Bryan should have been in Unit 1 at that particular time, and he indicated to me to go to Unit 1 and assist. Ken was already there. He said he would go, so I stayed at Unit 2.

Q So Ken Bryan was on duty, on shift in Unit 1 that morning, and he had come over to Unit 2, and when you arrived, he went back and assumed his responsibility in Unit 1, and you stayed in Unit 2?

A That is correct.

Q Is there a requirement that there be a shift supervisor in each unit at all times?

A No.

Q Just one?

A Requirement of shift supervisor is on-site. The reason we had two at that particular time in Unit 1 is they were in a refueling outage.

Q And were you given specific responsibilities in Unit 2 at that point?

A No, I was not given specific responsibilities at that point. What I did do is I went up to the panel to see what was going on, and I talked to Bill, and they told me they just secured, isolated B generator,

and he said they have a tube rupture in it, and they informed me that the emergency feed valves, the 12's, were closed, and at that point I looked over Scheimann's shoulder -- he was watching pressurizer level, temperature, and pressure, and I noticed that the pressure was low and that the pressurizer was solid, and that all temperature -- also at that time, the reactor coolant pumps were off, and they were trying to maintain natural circulation, and I noticed that our temperatures were pegged high and low.

Our immediate concern, you know, when I looked at it, what I saw was the pressurizer being solid and no pressure in the system, pressure going down. It would indicate to me at that particular time that either the heaters weren't functioning or that we had a leak.

And I asked him if they checked if the heaters were on, and they sent down an AO, and I turned around and I seen Carl Guthrie coming on shift, the shift foreman, and I asked him to go down and confirm that the heaters were, in fact, energized and functioning.

Then I pushed out the temperature for the electromatic and codes, and from that point, I assumed that the electromatic was partially opened because of the temperature, and I had Scheimann close the block

valve.

Q So that you were not given any specific responsibility or directed to do any one thing, but you were assessing the situation?

A Yes.

Q You indicated that Mr. Scheimann was reading the pressurizer level and the temperature and pressure?

A He was right in the area, standing right over, and there is the pressurizer level, there is the temperature (Indicating), you know, he was right in front of it.

Q And you were receiving conflicting readings because the RC pressure was low and the pressurizer level was high?

A That is correct. At that point, with the pressurizer level being high and pressure low, from what I could see, what I could ascertain is that we had the steam bubbles in the hot lines.

Q Did you discuss that, what you were seeing from the pressurizer level and the pressure readings, with Mr. Scheimann?

A No, I didn't.

Q Did he indicate any concern to you about those readings?

A All he indicated was that the pressure kept going down.

Q So pressure was continuing to decrease?

A It was on a slow decrease when I got there, and I didn't physically look up and pick off the pressure right at that time. I just looked at the increments on the chart. I assume we were in the neighborhood of 900 pounds.

Q And because of this conflicting reading that you were receiving from the pressurizer level being high and the RC pressure low and slowly declining, you concluded that one of two things, that either the heaters were not functioning, or that there was a leak?

A Yes.

Q Is that correct?

A That is correct.

Q And you sent a shift foreman down to check the heaters?

A Carl Guthrie.

Q And what information did he come back with?

A He got back after I confirmed that the electromatic was, in fact, partially open. I already had pressure recovering before he reported back.

Q So you did not wait for him to get back

to you?

A No.

Q You at that time pulled information from the computer?

A Yes.

Q As to the temperature readings for the electromatic and the code safeties?

A Yes.

Q How quickly did you get that information from the computer?

A I got there, I would assume, around 10 of 6:00, and, you know, I still say it was 10 after 6:00 whe I told him to close the electromatic block valve. I wasn't watching the clock.

Q I understand, but you retrieved that information quickly from the computer?

A Well, if 20 minutes is quickly --

Q You think it took approximately 20 minutes to get that information from the computer?

A The computer spit out the temperatures as soon as I asked for them. The time element involved when I got there until I asked for the information is to find out what was going on.

Q But once you requested the information

from the computer --

A It came out right away.

Q It came out right away?

A Definitely.

Q And the temperatures that you retrieved from the computer indicated to you that the PORV was open?

A That is correct. Not -- partially opened.

Q Partially opened?

A Yes.

Q How can you tell that it was partially opened as opposed to fully opened?

A The temperature wasn't that great. It was just, I would say, in the neighborhood of 16 to 20 degrees higher than the codes, and if it was fully opened, pressure would have been diving at a real steep rate, not the way it was, and I made the assumption that, yes, it could be partially stuck open because pressure was decaying and there was no harm in closing the block valve.

Q And you say it was 16 or 20 degrees higher than the code safeties -- that is, in comparison to the higher temperature readings that you have been getting from the code safeties due to this leak?

A I don't remember the actual temperature readings that I read that morning. I just compared them against the other ones because each line comes off and then joins a common line, and if one leaks, you will get some feedback to the others, so the one with the higher temperature would indicate that is the one that is leaking.

Q But you were receiving higher temperatures from the code safeties due to this leak prior to March 28?

A Right. Well, somewhere in the neighborhood prior to this, I would say 195 to 203.

Q And you indicated once you received that information from the computer, you directed Mr. Scheimann to close the block valve?

A Yes.

Q Did you consult with anyone as to that decision?

A No. I just told him to close it. Then I told Mike what I saw.

Q You told Mr. Scheimann to close it, and you indicated to Mike Ross --

A Yes.

Q You indicated to Mike Ross, prior to

directing Mr. Scheimann to close --

A No, I told him to close it.

Q Did you consult with anybody else concerning closing the isolation valve?

A No.

Q Did you not have a conversation with Mr. Kunder?

A At that particular time, I didn't even know George was there.

Q So you did not discuss with Mr. Kunder your decision to close the isolation valve?

A No.

Q Did anybody, prior to your suggesting that they close the isolation valve, indicate that they thought the PORV was stuck open?

A Could you rephrase that?

Q Prior to your conclusion that the PORV was failed open and your suggestion to Mr. Scheimann that he close the isolation valve, had anybody suggested to you that the isolation valve be closed?

A No, no one suggested that, but after I closed it, I did talk to Bill, and Bill indicated that they did punch out the temperatures prior to that, and they could not determine that it was open.

Q Bill who?

A Zewe.

Q So he indicated that prior to your checking out the temperatures, that they had previously checked out those temperatures?

A That is correct.

Q From the computer?

A Yes.

Q And that they had not received --

A In their judgment, it wasn't open.

Q Based on their readings, they determined that they thought it was not open?

A That is correct.

Q Are you aware of a conversation on the phone with Lee Rogers that was at B&W concerning whether or not the PORV was failed open?

A No.

Q You did not talk with Lee Rogers concerning the PORV failed open?

A No, I didn't.

Q You indicated one of the conflicting signals you were receiving that morning was the fact that RC pressure was low and declining, and that the pressurizer level was high.

A That's correct.

Q Were there any other conflicting or erroneous signals that you were receiving that morning?

A Those were the immediate things I saw. At this particular time, we had no pumps running. We isolated B steam generator prior to my getting there. The only other thing that bothered me is that the temperatures, "T" hot and "T" cold were pegged, one low, one high.

Q And that would be a conflicting signal?

A Definitely.

Q They should not be the same --

A No, they should have been on-scale. I should have known what they were reading.

Q They were off-scale; is that what you are saying?

A Yes, they were reading as high as possible. The meter only goes up to 620 - 520.

Q And they were both --

A One was at 520 and one was at 620.

Q And that concerned you?

A Yes. At that particular time, my main concern, though, was to re-establish pressure.

Q You indicated that you noticed that the 12 valves were closed?

A No, I did not notice that.

Q When you came into the control room, they--

A I was informed that the 12 valves were closed.

Q Do you know who realized that the 12 valves were closed?

A No, I don't.

Q Who informed you that they were closed?

A Bill Zewe.

Q Did he indicate that he had instructed somebody to open them?

A Well, they were open when I got there.

Q He just was indicating to you that they had been closed?

A He indicated to me that they were closed, and that is the reason why they lost feedwater. The emergency pumps did function the way they were supposed to, and everything, but because the 12 valves being closed, which are an upstream block valve, they had no flow, which I don't know how long it took them to find that. I could tell you now because I read the report, but at that particular moment, I did not know, and all he did indicate to me was that the 12's were closed.

Q So when he indicated this to you, he was just informing you as to the status of the plant?

A He informed me of a few things, that the 12 valves were closed, he had just finished isolating the B steam generator because of a suspected tube leak; also that the reactor coolant pumps were off, and he was trying to go into natural circulation.

Q So when you came into the control room, he was giving you a status report?

A Basically, that is what he was trying to inform me of.

Q Who was in the control room from the time that you arrived at about 5:50 that morning. Was there one individual that was giving instructions?

A From 5:50 on, or prior to 5:50?

Q From 5:50 on, from the time that you arrived there?

A Up until the time, I would say, that Gary Miller and those people arrived on-site, it was more or less being discussed between Bill, Mike Ross and myself, of what evolutions we would do.

Q So the three of you discussed various decisions that were made?

A Yes.

Q And were functioning jointly?

A More or less, yes. That only lasted for a few

minutes, for about 40 minutes.

Q And after the 40 minutes, Gary Miller came?

A No, that is when all the radiation alarms went out.

Q When a site emergency was declared?

A That is correct.

Q At that point, who took charge?

A At that point, as far as the operating, you know, up at the panel, I more or less got removed from it; I couldn't answer that.

Q And when a site emergency was declared, what responsibilities were you given?

A I immediately started to set up the communications to isoplasts, etc., and tried to establish communications with people, making sure the emergency control station was manned. And then Mr. Seelinger was there, came in also, and he took over, and then he asked me to go through the procedures and make sure we were complying with all of them, and from then on -- then I moved out of that range into the range of trying to get the interlocks defeated on the reactor coolant pumps so we could start them. I was also moving into the range of trying to re-establish vacuum in the condenser so we could get steam back into the A steam generator

rather than through the atmospherics.

Q At what point were you relieved of your responsibilities that day?

A To go home?

Q Yes.

A Ten o'clock that night.

Q And you indicated that once a site emergency was declared, that you were involved with communicating with people. Which people?

A You have to establish communication with the emergency control station, which would be down in the Unit 1 HP area control tower, you know, the headphones. Also, you have to have communications up to the control room. I had put an AO on the telephone to take messages, and by that time, Howard Crawford showed up. I was on the isoplast, and Mr. Seelinger was there, and then he took control of that station. I was only involved in that maybe the first 15 minutes of trying to get it set up, trying to establish communication.

In the meantime that was being done, we had engineers in the office, making the off-site notification.

Q You had engineers contacting off-site personnel?

A Yes, off-site personnel, and Margaret Reilly -- I forget her outfit.

Q The state agencies?

A State agencies, Civil Defense -- in fact, the two engineers, I believe, who did it were Dick Bensel and Ron Warren. That is the first thing they were doing while he was setting up outside.

Q So that your responsibility was ensuring that the people were notified and ensuring that these two engineers were making the appropriate contacts?

A They were doing it. It was almost automatic. As soon as we declared it, they moved right into it.

Q Who assigned that task to these two engineers?

A I don't know.

Q It was not you?

A It was not me.

Q You indicated earlier that you were ensuring that emergency procedures were being complied with. Did you mean emergency --

A Radiation emergency procedures.

Q Did you pull those emergency procedures?

A They were all back there on the desk, the whole bunch.

Q And was there a checklist that you were going through?

A Basically we went through them to ensure that they were doing them. Some of them did not pertain at that particular moment and couldn't be done at that time because we didn't have the off-site crews on.

Q Were there people later that day from the NRC in the control room?

A Yes.

Q Were you reporting to them?

A I had no specific instructions to report to them. If they asked me information, I gave it to them, and they asked us a lot. They were a pain in the butt.

Q They would come up to you and ask you questions?

A Yes.

Q Do you remember their names?

A No, I don't.

Q Do you know how many were there?

A I can only guess, and I would say in the neighborhood of three to four.

Q When the NRC people were there, was there any conflict in who was in control?

A They had nothing to do with anything.

Q They would just ask you questions?

A Yes. They did not know what was going on.

Q Do you remember anything of the questions that they asked you?

A Yes. Most of the time, it was why are we doing this, why are we doing that. I know of a specific question is when the building spray pumps were on, why did they come on. I had to spend my time explaining to them why they came on, and they were always asking us what is the temperature, what is "T" hot, what is "T" cold, what is the pressure, and then they would report back to their own on the telephone.

MR. YUSPEH: To the best of your knowledge, were any of the NRC people in the control room at that time licensed reactor operators?

THE WITNESS: To my knowledge, none of them were.

Q Had you ever met with any of the NRC people that were in the control room at that time prior to March 28?

A The only one that I knew was Don Habercamp, and I don't know what time he showed up. I think he showed up somewhere in the neighborhood of ten o'clock that morning.

Q He was in the control room from ten o'clock on?

A Yes, I did see him.

Q Was he one of the people that were asking you questions?

A He was one of the better ones.

Q Does that mean he asked fewer questions?

A He knew where to find some of the information. He didn't bother you as much. They weren't the only problem. We had a lot of off-site calls.

Q From state agencies?

A No, from people.

Q From members of the public?

A Yes.

Q Calling the control room?

A I don't know how they got the phone number. Someone called from Chicago, Illinois. Also, the insurance carriers were calling.

Q The Metropolitan Edison insurance carriers?

A Yes.

Q And you took some of these calls?

A Well, the control room operators really took the calls, and they, in turn, didn't know what to do, and so they passed them on to me and I passed them on

George, trying to find out what they wanted to do with these people.

Q And is the phone that was in the control room that morning a direct line into the control room? Did calls into the control room have to go through a switchboard?

A If the switchboard is manned.

Q It was not manned that morning?

A I couldn't tell you. I really don't know. I don't believe it was because, you know, we were getting outside phone calls. We do have a night bell, which, in turn, when the girl leaves the switchboard, she turns it off, and then the phones do ring in the control room.

Q How many phones were there?

A Prior to the accident, I think in the control room we had three outside lines.

Q Do you know if that number that was into the control room was a listed number?

A I believe it is listed. The only unlisted I know is in Unit 1's shift supervisor's office.

MR. YUSPEH: Could we go off the record for a second.

(Discussion held off the record.)

Q You indicated that you were sure that at 10 after 6:00, you asked Mr. Scheimann to close the isolation valves, correct?

A Yes.

Q Did you look at a clock at that point?

A I don't recall if I looked up at the clock or not.

Q But for some reason that time --

A Ten after 6:00 is fixed in my mind.

Q Can you explain what your perception of time was for the period from about 10 of 6:00 to ten o'clock at night that you were in the control room?

A Time went by real fast. There is only certain instances that stick in my mind, you know, of time elements. Really there is only one, and that is when the building spray pumps came on, and that was 1:15.

Q And other than that, you really have no idea?

A Perception of time, you know, incidents, you know, one incident happening before or after another, no.

Q Things were moving very quickly?

A Well, I do know when we declared site emergency. That was roughly a quarter of, ten of 7:00. I do know that we re-established vacuum on the condenser somewhere

around noontime, I would say anywhere from 12 o'clock to 2 o'clock.

When we ran the first reactor coolant pump, that was late afternoon, you know, and I would have to guess in a period of four hours, somewhere from 4 o'clock to 8 o'clock.

Once the reactor coolant pump was running, then we started to get our temperatures, and we could really see what was going on.

Q So that morning on the 28th, did you pull any specific emergency procedures?

A No, I didn't.

Q Do you know if anyone pulled --

A No, I don't.

Q You never referred to any written emergency procedure?

A No, I didn't.

Q Do you know if anybody else referred to any specific emergency procedure?

A No, I don't.

Q Surveillance procedures for TMI 2 are required in some instances daily, some weekly, quarterly, monthly, depending upon the system that is being surveilled, pursuant to tech specs, correct?

A Yes.

Q As I understand it, the shift foreman receives a computer printout as to what specific surveillance tests should be performed.

A Yes, and the due date. That comes out weekly.

Q Do you review --

A Yes, we review that in the POD meetings.

Q Each day?

A Yes, you have the POD meeting.

Q That surveillance test is reviewed?

A I do not review the surveillance test itself. I review that the computer printout -- that it is due that day.

Q Do you ever see the completed test that has been performed?

A Sometimes.

Q Under what circumstances would you see that?

A Usually I will see them when there is an exception or a deficiency on the surveillance.

Q If there is --

A I will see it if there is an exception or deficiency because I have to sign them off.

Q If there is an exception or deficiency, you have to sign off on that form?

A Yes.

Q Do you review with the shift foreman what test has been performed if it has been ascertained that there is a deficiency?

A Normally, no, I do not go through the surveillance itself. They do the surveillance. When it is done, if some of the criteria in the surveillance is not met, if there is an E or a D, then it will be brought to me, and then I will review the E or the D to determine whether it is reportable or there is a time limit involved until we can get the system back in service and how fast we have to move on it.

An exception is not as critical as a deficiency. Deficiency says that the surveillance procedure did not meet its acceptance criteria.

Q So you review it to determine what the results were of those tests?

A Only if it has an exception or a deficiency.

Q And only if it has an E or a D do you review it, and you look to see what the results were?

A Yes.

Q And then what do you do with that information?

A That information?

Q Yes.

A Depending on the magnitude. If it is an exception, really it is just turned in to the surveillance coordinator, and a work request would be submitted to take care of the exception. It could be, like, just a broken indication, you know, which really has no bearing on meeting acceptance criteria to the surveillance.

Now, if it fails the acceptance criteria for the surveillance, it would be a discrepancy, depending on whether we had a backup system to that, which would give us anywhere from 48 to 72 hours to get that one fixed to meet acceptance criteria. Then I have to get the chain in motion to get the people to fix it. Also, I would call George at that time or Floyd.

Q What is the difference between an exception and a deficiency?

A A deficiency is when you do the surveillance and it does not meet its acceptance criteria. An exception could be that it tells you to use a zero to 100 pound pressure gauge, and you have a zero to 200 pound pressure gauge. That would be an exception. We use a zero to 200 versus the procedure, saying zero to 100, which has no bearing on meeting the acceptance criteria.

Q So for an exception, you have used, in the test surveillance, different instruments for measuring

than would be specified in the tech specs?

A No, in the surveillance procedure.

Q In the surveillance procedure?

A Yes.

Q The surveillance procedures are written pursuant to tech specs, right?

A Yes, but the tech specs don't specifically tell you what instruments to use; they just say a pump meets a certain pressure, a certain flow. How you determine that pressure, that flow, is with your instrumentation.

Q You, as we discussed yesterday, were maybe one of the founding fathers of TMI. You were here from the construction and startup of Unit 1 and involved also with Unit 2.

A Yes.

Q And since you are experienced at TMI, there have been numerous people that have come here with Navy training background, correct?

A Yes, that is correct.

Q How would you compare your training with their training?

A I can't compare my training with their training because I don't know what kind of training they had

in the Navy.

Q Based on your experience working with them--

A We have some exceptional people that came out of the Navy program, just like any industry, and you also have some that aren't so good.

Q Do you feel that the training that you received since at Metropolitan Edison has prepared you equally as well as the people that came out of the Navy training that you feel are qualified?

A Yes.

Q I understand that in the control room there is a Reportable Occurrence Book that maintains LERs from TMI 2.

A Yes.

Q In the Unit 2 control room?

A Yes.

Q And there is something called a Control Room Operations Memo Book?

A There is an Operating Memo Book up there, and I think there is also a Superintendent's Memo Book.

Q What does a Superintendent's Memo Book contain?

A Basically it is a memo that he wants to get out to the operators, and it will be put in a book for

their reading.

Q What kind of information would that contain? Do you remember a specific one?

A No, I can't think of any specific ones off the top of my head.

Q Do you know generally the kind of information?

A It would have something to do with the normal conduct, "You can't use the south gate because of something."

Q Administrative kind of things?

A Right, more administrative than technical.

Q And what kind of things are contained in the Operations Memo Book?

A That would be a memo coming from Floyd which would be basically something that deals with a system like -- I am trying to figure out one. This would be more or less giving instructions to get something done, you know, like -- I am trying to think of a specific memo that he would want to put out that would help us. Relative to that, the secondary man will take the cooling tower temperatures twice a shift, something like that.

Now, he doesn't have a memo like that, but

basically along those lines. It would not -- basically technical or pertaining to the tech specs, he would not bring out anything in a memo like that.

Q How are procedure changes conveyed to the--

A In the Revision Review Book.

Q And that is another memo book that is kept in the control room?

A That is another book that is kept in the control room which is required reading, with a sign-off sheet on that.

Q Are you required to read the Superintendent's Memo Book?

A There is no sign-off sheet.

Q Are you required to read the Control Room Operations Memo Book?

A There is still no sign-off sheet.

Q Is there a sign-off sheet on Reportable Occurrences?

A Yes.

Q So the only two books you are required to read are the Reportable Occurrences Book and the Revision Review Book?

A They have sign-off sheets.

Now, the other memo books, you should read, but

there would be no way I could determine whether an individual read it or not.

Q Is there a sign-off sheet for you to read the Reportable Occurrence and Revision Review Books?

A Yes. Every licensed individual is on that sign-off sheet.

Q So every individual that holds an NRC license must review the Reportable Occurrence Book and the Revision Review Book?

A Yes.

Q Are there any other books that you must read?

A There is no sign-off sheets that I know of right now.

Q Are there any other books, other than the Operations Memo Book and the Superintendent's Memo Book that do not have sign-off sheets, but that contain information that you should read?

A Well, there is a lot of logbooks up there. You have your Fire System Log, which just is a record of valves that might be tagged out, you know. There is the TCN Book, the SOP book. Let's see what else we have up there. There is also a "Breach of Containment" Book. Most of these books are not

required reading; it is information-type. It is available so if you want to find something out, it is there.

Q The TCN book would contain completed TCNs?

A Yes.

Q What does it contain?

A Active TCNs. In other words, your TCN is a temporary change note. That TCN would go out. All the procedures pertaining to it plus a copy gets sent to the PORC secretary, plus the original goes in that TCN book.

Now, when the TCN either becomes obsolete or is cancelled or the 90 days goes by, or it is changed by a PCR, then it is signed off and it is sent to the secretary.

Q What is the SOP Book?

A Special Operating Procedures.

Q And what are those?

A That is basically a procedure that is not covered by a normal operating procedure which might be only a one-time evolution.

Q Could you give me an example?

A An example right now is that we are draining Unit 1's natural draft cooling towers. We do have an

SOP written to do that. The actual draining is also encompassed in the normal OP, but because of the restrictions put upon us, we had to have an SOP to tell us what the frequency of sampling should be and who to notify, et cetera.

Q Who would draft that Special Operating Procedure?

A Anybody could.

Q Would it go up through the channels to be reviewed by PORC?

A On SOP, you have three blocks there, and if the blocks are "Yes," it will have to get PORC review. If, I think, just Block C is a "No," it can be reviewed and approved by one plant management personnel and a senior operator's license, which in turn, that will be reviewed within, I think, five working days by the superintendent.

Q What is the distinction made as to the kind of procedure that has to be reviewed by certain people as opposed to others?

A I forget what that block -- I think it has something to do with the effect to personnel radiation exposure.

Q Do you know who makes that decision?

A The person writing the SOP.

Q He makes that decision?

A Yes.

Q Is there any review of that decision?

A Later, by the superintendent.

Q What is the "Breach of Containment" Book?

A It wasn't "Breach of Containment"; it was "Breach of Fire Walls." I think that is the nomenclature. Basically, if you will notice through the plant, you had any type of hole through a fire barrier, let's say a pipe went through, you have to have it insulated in a certain way. Someone put that stuff on, and then you have a flow put for a fire spray that would be periodically -- it would have -- we would have to do maintenance, and that would require it to be removed, and we have to keep a record of it that we have a fire watch necessary or that it gets re-insulated after the job is done.

Q And this book would contain a record of those breaches?

A It contains a record of all those that are active. Once it is closed out, that gets sent to the, right now it is Tom O'Connor's.

Q YOu indicated that the other book was a

valve book, right?

A No, I didn't.

Q I believe you said a log that kept track of valves that were tagged out?

A That would be the Fire System, notification to insurance company for our fire system on the Island. In other words, they even have their own tags. We fill out the tags and send them a copy, and another tag goes on the valve. We have to call our insurance carrier and inform him what hydrants are tagged out and out of service.

Q In an emergency, what is the division of responsibility between the control room operators and the shift supervisors?

A What type of emergency are you referring to, radiation emergency or a regular emergency procedure?

Q When an emergency procedure is instituted.

A Basically, the way it functions is that when you have the emergency, your control room operators respond to the manual actions pertaining to the emergency for the reason that the shift supervisor could be in another plant. The shift foreman, in turn, will come up and get the procedure and verify that all the steps were carried out in that emergency procedure,

and also the follow-up actions, if necessary.

If the supervisor is there, he will back up a shift foreman, basically take an overview of the whole situation and determine everything is being done.

Q Would a shift supervisor give his instructions in that situation to --

A He should direct it to the shift foreman. Not necessarily would he do it all the time, depending on the type of emergency and the need to perform the operations immediately. He may tell the CRO to do it right now, and that is it.

Q As I understand it, on March 28th, something like 200 alarms went off?

A I couldn't tell you that.

Q Would it be accurate to say that about 200 alarms went off?

A I could believe that very easily, yes.

Q How would you prioritize which alarms to respond to?

A If I had 200 alarms lit up, I couldn't prioritize them because only two alarms up there would really tell me anything, and that would be reactor trip, turbine trip. They would be my major two. Other than that, prioritizing alarms would require me to read

all the 200 to tell which ones should be first.

Q Is it fair to say that those alarms were then ignored on March 28th?

A I couldn't tell you.

Q You were not reading them?

A I was not reading them. There weren't that many alarms coming in when I got there. They were already there.

Q Since March 28th, you have made certain statements concerning the accident, correct?

A I guess, yes. I have talked to other committees.

Q I understand you had an interview with the TMI staff on April 25, 1979?

A I did. I don't know if it was TMI staff. I had an interview. I don't remember the gentleman's name.

Q With a Mr. O'Connor?

A Yes.

Q Do you know if that is the only time you were interviewed?

A I was interviewed by the President's Committee.

Q By the TMI staff.

A That was the only time, yes.

Q You were interviewed by the President's Commission on May 10, 1979?

A That is correct.

Q Were you interviewed by the NRC?

A Yes.

Q Do you know by whom?

A I just remember one individual. I think it was Darryl Hunter.

Q Were you interviewed just once by the NRC?

A Just once.

Q Do you know the date?

A No, I don't. Would you like the tape?

Q Was that transcribed?

A It is on tape.

Q It is on tape?

A Yes.

Q You can just get us the date.

A I don't know what the date was. They caught me leaving work.

MS. GOLDFRANK: Would you have a record of the date?

MR. YUSPEH: I think so.

MS. GOLDFRANK: If you could get us the date of that, since it has not been transcribed.

MR. YUSPEH: Off the record.

(Discussion held off the record.)

Q Other than your statement with the NRC and your interview with the President's Commission and with the TMI staff, did you make any other statements?

A I made phone calls in the presence of Ernie Blake to Mr. Meyers in Washington. I believe he is a representative of the Udall Committee. I am not sure about that.

Q Did you testify before the Udall Committee?

A No, I didn't. I have talked to Mr. Meyers twice, once in the presence of the attorney, Ernie Blake, and once from my home.

Q And there was no recording made of those phone conversations?

A Not to my knowledge, there wasn't.

Q They didn't tell you that they were recording the conversations?

A They didn't tell me if they were or if they weren't.

MS. GOLDFRANK: Do you have any questions?

MR. YUSPEH: I have none.

MS. GOLDFRANK: At this time, I would like to recess this deposition. I don't anticipate that we would call you back for further questioning, but it is possible that questions would

come up that we would want to ask you, and at that time, we would arrange for you to come back.

(Whereupon, at 10:55 a.m., the deposition was recessed, as above noted.)

---
Brian A. Mehler

Subscribed and sworn to
before me this __ day
of _____ 1979

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Notary Public

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# EXHIBITS

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|---|---|---|
| 30 | Blank form entitled "Three Mile Island Unit 2, Recovery, Burns & Roe Field Questionnaire," revised since March 28, 1979 to include the word "Recovery" | 119 |
| 31 | Blank form entitled "Three Mile Island Nuclear Station GPU Startup Problem Report" | 119 |
| 32 | Blank form entitled "Three Mile Island Nuclear Station Problem Report" | 119 |
| 33 | "Generation Corrective Maintenance System, Job Ticket Form, Work Request, Three Mile Island" indicating "Unit 1" | 119 |
| 34 | Copy of Page 5 of Operating Procedure 2103-1.3; Section 2.1.8 is specifically marked with a circle | 119 |
| 35 | Operating Procedure 1103-5, Revision 11, dated 6/28/79; Section 8 circled. | 119 |

STATE OF NEW YORK )
) ss.:
COUNTY OF NEW YORK )

We, STANLEY RUDBARG, Certified Shorthand Reporter and Notary Public, and STEPHEN McCRYSTAL, Notary Public, of the State of New York, do hereby certify that the foregoing continued deposition of METROPOLITAN EDISON COMPANY by BRIAN A. MEHLER was taken before us on the 26th day of July 1979.

The said witness was previously duly sworn. The said testimony was taken stenographically by ourselves and then transcribed.

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

We are not related by blood or marriage to any of the said parties nor interested directly or indirectly in the matter in controversy; nor are we in the employ of any of the counsel.

IN WITNESS WHEREOF, we have hereunto set our hands this 27th day of July 1979.

Stanley Rudbarg for 1Cb
STANLEY RUDBARG, CSR.

Stephen McCrystal for 1Cb
STEPHEN McCRYSTAL

PRESIDENT'S COMMISSION ON THE
ACCIDENT AT THREE MILE ISLAND

Corrections to July 26, 1979, Deposition of Brian Mehler

| Page | Line | Change | To Read |
|---|---|---|---|
| 9 | 18 | OiL | old. |
| 16 | 17 | Before | for |
| 21 | 2. | Surveillance | Emergency. |
| 32 | 21 | 14 | 8 |
| 45 | 20 | four | Two. |
| 51 | 12 | Controls | Control Room |
| 58 | 3. | Bleed | Leak |
| 58 | 5 | Bleed | Leak. |
| 66 | 22 | Xes | No. |
| 70 | 7 | DeTz. 100 | Mod Comp. |
| 71 | 25 | DeTz100 | Mod Comp. |
| 77 | 21 | CRO | SRO. |
| 77 | 22 | 2 | I |
| 80 | 13 | 1 | 2. |
| 101 | 21 | wrong. | (Delete word) |
| 106 | 18 | — | add not After would. |
| 113 | 16 | CONTAMINATIO | CONTAINMENT. |

Brian A. Mehler
Brian A. Mehler

Subscribed and sworn to
before me this 9th day
of August, 1979

Loretta M. Brown
Notary Public

Palmyra [illegible] Pa.
My Commission Expires [illegible] 1980

PRESIDENT'S COMMISSION ON THE
ACCIDENT AT THREE MILE ISLAND

Corrections to July 26, 1979, Deposition of Brian Mehler

| Page | Line | Change | To Read |
|---|---|---|---|
| 124 | 5 | This | There |
| 127 | 20 | up | OUT |
| 127 | 24 | up | OUT |
| 152 | 20 | Fox | Faust |
| 152 | 24 | Bryan | Ross |
| 172 | 17 | 1:15 | 1:50 |

Brian A. Mehler

Subscribed and sworn to
before me this 9th day
of August, 1979

Notary Public

Public
Pa[illegible] County, Pa.
My Commission Expires Feb. 23, 1980