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PRESIDENT'S COMMISSION ON THE
ACCIDENT AT THREE MILE ISLAND

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DEPOSITION of METROPOLITAN EDISON COMPANY by
PAUL G. CHRISTMAN, held at Three Mile Island Nuclear
Generating Station, Harrisburg, Pennsylvania, on the
2nd day of August 1979, commencing at 3:30 p.m.,
before Stephen McCrystal and Stanley Rudbarg, Notaries
Public of the State of New York.

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

SM/mf

3 METROPOLITAN EDISON COMPANY:
-----4 SHAW, PITTMAN, POTTS & TROWBRIDGE, ESQS.
5 Attorneys for Metropolitan Edison Company
6 1600 M Street, N.W.
7 Washington, D.C. 200368
9 BY: ALAN R. YUSPEH, ESQ.
10 Of Counsel11
12 PRESIDENT'S COMMISSION ON THREE MILE ISLAND:
-----13 JOAN GOLDFRANK, ESQ.
14 Associate Chief Counsel15 ALSO PRESENT:

16 LOUIS F. COOPER

17
18 oOo19 (Presume of Paul G. Christman was marked
20 Christman Exhibit 89 for identification, this
21 date.)22 P A U L G. C H R I S T M A N, having
23 been first duly sworn by Ms. Goldfrank,
24 was examined and testified as follows:
25

DIRECT EXAMINATION

BY MS. GOLDFRANK:

Q Will you state your name and spell it for the record?

A Paul George Christman, C-h-r-i-s-t-m-a-n.

Q Your present address?

A Box 169, Rural Route 3, Hamburg, Pennsylvania 19526.

Q Your present employer?

A Metropolitan Edison.

Q And your present position there?

A Manager-Generation Administration.

Q You brought with you today a resume that we have marked as Christman Exhibit Number 89, correct?

A Yes.

Q Did you prepare this resume?

A Yes, I did.

Q When did you prepare it?

A About a week ago.

Q You graduated from Pennsylvania State University with a BS degree in Civil Engineering in 1957, correct?

A That is correct.

Q And you attended the University of Michigan

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2 in 1976, their Graduate School of Business Adminis-
3 tration, correct?

4 A Correct.

5 Q Did you receive a degree from there?

6 A No, a certificate of completion of that pro-
7 gram.

8 Q How long was that program?

9 A The program was four weeks.

10 Q And it specialized in public utilities?

11 A Public Utility Executive Program. It was pri-
12 marily a Financial Accounting Program. Its emphasis
13 was in the financial accounting areas.

14 Q Did you attend that program at the Univer-
15 sity of Michigan at the suggestion of Metropolitan
16 Edison?

17 A Yes, I did.

18 Q Were you in the United States Navy Reserve?

19 A I was commissioned a reserve officer. I went
20 through the NROTC Program at Penn State, and immediately
21 upon graduation from college, I was commissioned as
22 an ensign in the United States Navy Reserve.

23 Then I served on active duty for two years
24 and I have continued my affiliation with the Reserve
25 Program ever since.

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Q After you graduated from Penn State in 1957 you then served two years active duty at that point?

A Yes.

Q And then after your two years active duty you then came to work for Metropolitan Edison?

A That is correct.

Q Your resume indicates that your initial position here was as civil engineer cadet, correct?

A That is correct.

Q And was that at Three Mile Island?

A No, ma'am, that was in Reading at the Corporate Headquarters Building.

Q Were you involved at all at that time with the design or construction of Three Mile Island?

A No, not at all.

Q What were your responsibilities?

A In the cadet engineering position, it was really a training position for future assignments into the Transmission Engineering Department.

I was being trained to design transmission lines. I spent a couple of years sort of in training before I got my next assignment.

Q Which was in May of 1961 when you became

1 a project engineer in that field?

2 A Right, in the Transmission Engineering Depart-
3 ment, and at that time I designed transmission lines.

4 Q In 1966, March of 1966 you then became
5 a supervisor in Transmission Engineering?

6 A That is correct.

7 Q Then in February of 1973 you became a
8 supervisor in Operations?

9 A Yes. That was in the Central Division of our
10 company, again headquartered in Reading, and I had
11 functional responsibility for several departments, the
12 Relay, Meter, and Dispatching Departments.

13 That is a Transmission and Distribution
14 kind of Operations job as opposed to a Generation
15 Operations job, okay?

16 Q In January of 1974 you then became director
17 of Operations Analysis. Could you explain what that
18 is?

19 A It was a job created at that time; I was the
20 first one in that job. And the company, just prior
21 to that time period, had an outside consultant in to
22 do some consulting work in the areas of productivity
23 and to determine proper staffing requirements for all
24 the functions in the company.
25

One of the recommendations of the consultant was that we continued to do this same kind of thing in-house with our own people. So I was asked to take the job of heading up that department.

At that time I was given two or three analysts that worked for me to basically continue the work of that consultant.

Functionally, if I may add, functionally the department was responsible to the comptroller of the company, and as I indicate in the resume, I worked in that job for a period of about four years at which time I reported to the comptroller of the company.

Q And then in April of 1978 you became manager of Generation Administration, correct?

A That is correct.

Q And that is the present position you hold, correct?

A That is correct.

Q Has the one course that you indicated you took at the University of Michigan in 1976, has that been the only formal training you have had since at Metropolitan Edison?

A No, I have attended several in-house Supervisory

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2 Programs. I think over the years I probably attended
3 two of those programs.

4 I have also instructed in those programs
5 too.

6 Q And those would have been programs offered
7 by the Training Department?

8 A The Training Department back in Reading, the
9 Corporate Training Department.

10 They were generally two, three, four
11 week kind of programs, not continuous weeks at a
12 time, but we may be brought in for one week and then
13 off for a couple of weeks, and then back.

14 Those were primarily a familiarization
15 with all company functions, and also it was an awful
16 lot of management development kind of subject matter
17 presented to the trainees, all done in-house, by
18 in-house people.

19 Q How often have you instructed those
20 programs?

21 A I instructed in two of the programs, but my
22 capacity there was to come in and speak to the
23 groups on my functional responsibility at the time.

24 I recall instructing as supervisor of
25 Transmission Engineers, at which time I was coming

2 before the group to explain what Transmission
3 Engineering was all about, what my job responsibi-
4 lities were, what Transmission Engineering was all
5 about.

6 I do the same thing in the capacity as
7 director of Operations Analysis. I came before the
8 group and explained to them the purpose of the
9 function, what we were doing, how we were doing it,
10 why we were doing it, things like that.

11 So I think I may have talked overall 20
12 or 30 times in both of those programs before in-house
13 groups of employees.

14 Q Prior to March 28 was your office in
15 Reading?

16 A Yes, ma'am, it was in Reading.

17 Q Could you explain what the responsibilities
18 are.

19 A As manager of Generation Administration?

20 Q Yes.

21 A All right. In the staff in Reading I had the
22 group of people that was responsible for Generation
23 personnel and Generation budgeting, Generation
24 safety, Generation stores, document control, records
25 retention, I had a procedure coordinator, I had an

2 administrator who was the Generation representative
3 to the COMEC Committee -- COMEC standing for Construction
4 Operation and Maintenance Expenditure Control System --
5 and I had the offices services function in the corporate
6 generation office -- that is primarily the clerical
7 staff and stenographer staff that supported the rest
8 of the corporate technical support staff. I think that
9 is it.

10 Q As manager of the Generation Administration,
11 who do you report to?

12 A To the vice president of Generation, Jack
13 Herbein.

14 Q And Generation deals solely with nuclear
15 power plants?

16 A No, ma'am. He had responsibility for fossil
17 and nuclear. We support both the fossil and nuclear
18 plant from the corporate headquarters.

19 Q Was the vice president of Generation
20 located in Reading?

21 A Yes, ma'am.

22 Q How often would you, prior to March 28,
23 have come to Three Mile Island?

24 A When I took the job in April of 1978 I came here
25 for six weeks solid in the Training Program, and the

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purpose of that was to familiarize me with the plant,
with the plant system, with the plant people generally,
what was going on here at TMI.

After that six-week Training Program, I
would normally get out here possibly once or twice
a month to deal with people that I had to interface
with in an administrative function out here.

A lot of my responsibilities that I had
in Reading have paralleled groups of people here at
TMI that do the exact same thing, personnel, budgeting,
document control, so in my visits to TMI I would have
to work with those people in those particular function-
al areas.

Q The training that you got when you in-
itially came here for the first six weeks that you
were manager of Generation Administration, was that
training in a classroom or was that just training
to become familiar with the setup here?

A It was a self-study kind of program. It was
designed that I would study all the systems in the
plant, both secondary and the primary systems, and
I took examinations on those systems.

I actually traced them out, became familiar
with them, and then took some examinations. Those

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2 examinations were administered by the Training people
3 here at TMI.

4 In addition to that, I was scheduled to
5 meet with all the department heads and all the
6 functional heads of all the functions here at TMI
7 during that six-week period.

8 The purpose of that was to first get them
9 to know me a little bit better and for me to get
10 to know them and to find out what each of those people
11 were doing.

12 Q You are not licensed on either Unit 1
13 or Unit 2, right?

14 A No, ma'am.

15 Q Have you ever had a reactor operator's
16 license?

17 A No.
18

19 Q How often would the people that are
20 parallel in responsibility that are on site come to
21 Reading to meet with you?

22 A I would say also once a month, twice a month,
23 possibly.

24 I was in consultation with those people
25 by telephone. I would suspect there wasn't a day
that went by that I hadn't talked to one of the people

2 out here who was responsible for one of the admin-
3 istrative functions.

4 We hired a superintendent of Technical
5 Support and Administration late in 1978 and after
6 he got in place in this job, I think I talked to him
7 practically every day of the week.

8 So we had a very close communications
9 by telephone, but those people, to answer your question,
10 those people probably came to Reading once or twice
11 a month. We would call special meetings for special
12 projects or things that were going on, so I got to
13 see them pretty often.

14 Q Your resume indicates that one of your
15 responsibilities is procedure coordination. Could
16 you explain what that is?

17 A I have an employee back in Reading who is
18 responsible to receive written procedures. These are
19 primarily Generation procedures and Administrative
20 procedures as opposed to the Operating procedures.

21 These are coming from or being originated
22 by people in the corporate headquarters or people at
23 either the fossil or the nuclear plants, and my
24 procedure coordinator is responsible to receive the
25 initial draft of those procedures and then jointly we

select the reviewers and those are in-house reviewers who we think should review that procedure.

We distribute them and get comments back, redo the procedure and then finally get it approved.

So my responsibility is to make sure that procedures were getting written, reviewed, approved, and properly distributed to the field.

Q What kind of procedures are you talking about?

A These could vary, primarily Administrative procedures, how we conduct the business on a day-to-day basis. They vary from how we request vacations to procedures which would cover auditing kinds of processes, but most of our procedures were administrative in nature.

Now, may I continue?

The girl that has that particular job also receives, has reviewed, has approved Operating procedures from the fossil plants, because in the fossil stations we don't have as many people as we do here at the nuclear station who become that much involved in procedures. There are only one or two people at the fossil plants that really become very much involved with procedures at all, in the

2 formulation of procedures, I should say, as opposed
3 to a place like Three Mile Island where we have
4 a great many people who become involved in the formu-
5 lation of procedures.

6 So my corporate employee also served a
7 function to have reviewed and approved some of the
8 fossil operating procedures. That was unlike what
9 we did, the services that we provided for TMI.

10 And so in addition to the Administrative
11 procedures -- and they could be again about any
12 subject at all; it is basically an in-house kind of
13 procedure where we are going to set up some steps
14 as to how we are going to do something.

15 In addition to doing that for our total
16 Generation Division, we did do some Operating procedure
17 work for the fossil plants.

18 Q Are the same Administrative procedures
19 in effect for all the plants?

20 A Some are applicable across the entire Generation
21 Division. Some are applicable only for nuclear plants,
22 some for fossil plants, and some are applicable only
23 to the corporate headquarters people -- and the pro-
24 cedure itself would indicate whose procedure this
25 is, who has to follow this particular procedure -- so

2 we have a variety. Some were written for everyone,
3 some were written for specific groups of people.

4 Q With respect to the procedures that were
5 written for the nuclear plant, would they be applicable
6 across the board for all the nuclear plants?

7 A Well, we only have TMI within Met Ed generation.
8 We only have TMI, the one nuclear station.

9 Q But would the same procedures apply for
10 Unit 1 and Unit 2?

11 A Yes.

12 Q And are those procedures drafted in Reading?

13 A They could be drafted by somebody out here.
14 They could be drafted by anyone in the Generation
15 Division, whether they be at corporate headquarters in
16 Reading or the nuclear plant or the fossil stations.
17 It depends a little bit on the subject matter.

18 I think there is a GP, Genration Procedure,
19 on fire protection systems for TMI. That procedure
20 was drafted out here, then reviewed by a series of
21 reviewers which I would suspect came from here and
22 from the corporate staff, and then approved by the
23 appropriate managers and the vice president of Genera-
24 tion.

25 So in answer to your question, it depends

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Christman

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2 on the subject matter of the procedure. The initial
3 draft could have really been someone from any of the
4 locations.

5 Q But with respect to Administrative pro-
6 cedures, you would coordinate the review of those
7 procedures?

8 A Yes.

9 Q So that the initial draft could come from
10 anywhere but it would go through your office?

11 A That is correct.

12 Q Would you be involved with that review?

13 A I would be selected as a reviewer on some of
14 the procedures and not on others. It depended, again,
15 on the subject matter.

16 Q Who would make the assignment as to
17 who would review those?

18 A The procedure coordinator who worked for me.

19 Q And is there a method by which that assign-
20 ment is made?

21 A Well, not a formal method. I guess, again, we
22 look at the subject matter and pick the appropriate
23 people within the Generation Division who we think
24 should review that procedure and assign them as
25 reviewers.

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Now, in a lot of cases, the person who drafts the procedure to begin with may suggest to us who they think should review the procedure and we will most likely accept their recommendation and make sure that the people that they have suggested review that procedure become reviewers. But by and large, again, it depends very much on the subject matter.

We take a procedure and look at the subject matter of that procedure and then pretty much decide, amongst one or two of us back in Reading, who should review that procedure.

Q Is there any periodic review of all these procedures?

A Yes, there is a bi-annual review for all procedures.

Q How is that undertaken?

A The procedure coordinator has a tickler system by which she is aware when a bi-annual review is required for each and every one of those procedures. When that time occurs, she automatically sends that procedure off for review, again, to the people we think should review that procedure.

We go through the same process on that kind

2 of review as we do on the initial draft. We put it
3 out for review, we get the comments back, we incorporate
4 the comments into a final draft and again, we may
5 do that once, twice, three times. It may go back to
6 reviewers several times before it is finally approved,
7 but there is a bi-annual review required for all
8 generation procedures.

9 I might mention also that when we are
10 aware of either a change in the organization or what-
11 ever it might be that requires an update to a pro-
12 cedure and we are conscious of that fact, we then
13 try to get that procedure updated and reviewed and
14 approved when that change occurs. We don't always
15 wait for the bi-annual review.

16 We also have a process whereby we can
17 issue change memos to a procedure. Those are also
18 put through an abbreviated review process and we can
19 attach the change memo then to the procedure, but the
20 next time that procedure is completely rewritten, that
21 change must be incorporated into the procedure.

22 The point is that you might find some
23 of the GP, Generation Procedures with change numbers
24 attached to them. The next time that procedure is
25 totally redrafted, that change then would be in-

2 corporated into the final version.

3 Q In drafting these Administrative pro-
4 cedures, did you use as a guide any other nuclear
5 power plant's Administrative procedures?

6 A I don't know. The Generation procedures were
7 in effect when I got there and I am not sure when
8 they originally started or whether a guide from another
9 station was used or not. I really don't know.

10 Q Do you know if there is any analysis of
11 the Administrative procedures in effect for TMI com-
12 paring them to Administrative procedures for another
13 nuclear power plant?

14 A I don't believe there is. I don't believe
15 that is being done right now, no.

T-2:SM/mf

16 Q Can you explain what the Construction
17 Operation Maintenance Expenditure Control System is?

18 A Several years ago members of all functional
19 areas of the company got together and said, "We have
20 got to design a better way of forecasting and planning
21 our expenditures which will tie back into how we
22 are actually reporting these expenses against those
23 forecast."

24 So COMEC was born out of that need to
25 supply management with better cost information which

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2 would tie back into the way we budgeted and forecast.

3 It started as a rather small project
4 whereby we were going to take certain functional
5 areas of the company and develop a system which would
6 really meet that objective, and as the system developed,
7 all functional areas of the company became involved
8 in the program and it also became a GPU Service Company
9 program.

10 COMEC, I think, was born probably three
11 or four years ago. COMEC has gone through several
12 phases, identification of needs phase, a feasibility
13 study phase, some preliminary design phases, some
14 final design phases, and as of this day we still have
15 not implemented this whole system.

16 We have taken pieces of it, though, and
17 have redesigned some of our documents to capture the
18 information that we require to properly manage the
19 business. We have changed payroll systems, for example,
20 and we now require employees to record certain
21 information in their payroll time sheets which we
22 then will tie back into the original forecasts,
23 budgets, that we develop.

24 COMEC became a rather big and rather
25 expensive project in the GPU Service Company system.

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I have one individual administrator who is assigned as the COMEC representative from Generation to the COMEC project, and his responsibilities are to make sure that our needs are met in the development of the system.

He primarily deals with the other managers and superintendents in Generation and asks them what they want out of that system, what are their particular needs, what kind of cost information do you really want back, or what kind of any information do you want back from the system.

It is his responsibility to go back and work with other people involved in this system, to go back and crank in Generation's needs.

One of the other things that got tacked on, if you will, to the COMEC system is a Generation Maintenance System, and that is simply a way to tie in the actual man-hours and dollars spent on performing maintenance, whether it be preventive maintenance, corrective maintenance, or tech spec surveillance maintenance. The idea there again is to try to get output that can now be compared to what we expected to do in those hours, how many man-hours and how many dollars we expected to spend to perform our maintenance.

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As COMEC developed, we again found

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a lot of different areas in the business where we

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simply needed more information, and that was the

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whole idea.

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Construction Operation and Maintenance

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Expenditure Control is truly what I think the program

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still is designed for. We are still attempting to

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get that cost information back, but at the same time

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we are trying to get some productivity information

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back on our workers. We are trying to capture in-

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formation that tells us how long it takes our people

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to do certain things so that we can exercise control.

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Q This is something that is shared also

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by GPU, other parts of GPU?

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A Yes, ma'am. It is a system for the entire

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GPU system.

18

Q Are you in charge of budgeting for the

19

entire Generation Department?

20

A Yes, ma'am.

21

Q Could you explain how that fits in with

22

GPU?

23

A I think so.

24

GPU asks us about mid-year each year

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to start working on our next year's operation and

2 maintenance and capital budgets, and they put out
3 certain guidelines. These come out of the GPU
4 Corporate Budget Department.

5 The guidelines primarily come into our
6 corporate budget people who work for the comptroller
7 of the company. They, in turn, come to people in the
8 various functions who are responsible to prepare
9 these budgets and pass on these guidelines and ask
10 us to start the preparation phase for next year's
11 budget.

12 What we then do is go out with directions
13 and guidelines to our managers, our station super-
14 intendents, and ask them to start developing next
15 year's budget, and we will give them target levels
16 of expenditure if, in fact, we know what they are,
17 and we will pass on to them any other kind of re-
18 strictions that they must live with in the preparation
19 of their budget, such as "We can't or we will not
20 start new programs."

21 It could be a variety of things, but
22 nevertheless, we ask the superintendents and the
23 managers then to start developing next year's
24 budget.

25 I concentrate on next year, but what we

2 really do is try to get them to budget three or
3 five years ahead. In fact, the corporate budgeting
4 people require that when we submit a budget, which
5 we will be doing shortly, for the next year, that
6 we forecast our expenditures out five years ahead
7 by year.

8 We really then go through a series of
9 reviews of their input until we get Jack Herbein
10 to finally approve next year's O&M and capital
11 budgets.

12 He, in turn, takes the Generation's
13 budget and goes with the rest of the officers of
14 the company and presents that to Mr. Kreitz, and
15 Mr. Kreitz goes through a review and approval pro-
16 cess and then Mr. Kreitz takes that budget and pre-
17 sents it to GPU Service Company's board.

18 After that whole process, we end up with
19 an approved budget for the year and we so inform
20 all the people that we now have an approved 1980
21 budget and here is what it is and what it consists
22 of and we put out guidance at that point that says,
23 "You have got to live within that particular budget,"
24 whatever those guidelines have to be.

25 That is the procedure we go through.

2 Q How do you get information concerning
3 budgets from the Island?

4 A On site people?

5 Q Right.

6 A Here at TMI we have several people devoted to
7 budgeting. The Budget Group here at TMI has historically
8 been about three people, so I would put out some
9 direction to them that starts the process here at
10 TMI. They, in turn, will go out and deal directly
11 with the department heads and the heads of the functional
12 areas here at TMI to receive from them their proposed
13 1980 budgets.

14 So the budget people here at the Island
15 primarily do the contacting of the department heads
16 on the Island to receive that information and to get
17 it back.

18 Now, the budget people who are assigned
19 here also help them prepare that budget. They will
20 provide historical data to them that says "Last year
21 you spent so many dollars on materials and supplies,
22 so many dollars on transportation, so many dollars
23 on payroll," and with that historical information,
24 then the department head will forecast what he expects
25 to spend next year.

Now, he has the ability to forecast new programs. He may want to do something altogether new next year that he has not done in the past, so he will simply add that into his budget. He may, in fact, reduce his budget based on the fact that he doesn't want to do something that he did last year, but through a series of reviews that occur here at the plant, at the station, the TMI budget finally gets presented to Mr. Herbein in Reading. It has historically worked that way. How we will work it this year, I'm not really sure.

The station manager, though, Gary Miller, has always taken all that input that is generated by all his people and thoroughly reviewed that before it got presented back to Mr. Herbein so that it went through a screening process out here.

One of the things that we concentrate on very heavily from a budgeting standpoint here at TMI is the refueling costs, because normally we refuel Unit 1 once a year, so we went into a great deal of effort to identify those costs which were associated with that refueling outage and how many people were needed, how much material was needed, how much time it was going to take to do that refueling.

2 Those became rather detailed refueling outage
3 budgets, which were a part of the entire TMI budget.

4 So primarily, here it was done by some
5 budgeting people whom I interfaced with from Reading,
6 provided direction and guidance to, answered questions,
7 gave some assumptions, but they generally prepared
8 their budget out here -- "they" meaning the respon-
9 sible department heads.

10 Q And they would present it to you, and
11 you, in turn, would present it to Mr. Herbein?

12 A What we did in the past is all the managers
13 -- by the way, there are six managers reporting to
14 Mr. Herbein -- would get together for a day or two
15 and review all of the plant's budgets, so TMI's
16 budget was presented for the first time in Reading
17 to all of the managers and Mr. Herbein.

18 The purpose of that was, first of all, many
19 of us had input into that budget. We supported TMI
20 from Reading. Some of our expenses were in that
21 budget. Secondly, we were free to ask any questions
22 that we might want to ask about that budget, Mr.
23 Herbein and the six managers, and so we went through
24 a rather long, grueling review of that budget over
25 a two-day period.

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We did this for each of the plants. The

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fossil plants went through the same procedure. The

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fossil plant superintendent came in, he presented

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his budget to the managers and to the vice president.

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We asked him questions. He went back and re-did his

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budget and he brought it back in and we may have

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had a series of three or four meetings until we

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finally take the budget and then present it to Mr.

10

Kreitz.

11

Q With respect to the budget utilized for

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construction of TMI, was that always a joint Met Ed-

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GPU decision?

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A Yes, and I should point out that my budget

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responsibility was only in the Operations and Main-

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tenance budget. Klingaman, the manager of Generation

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Engineering, is responsible for the capital budget.

18

But in answer to your question, that is

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also GPU. The capital budget is Mr. Klingaman's

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responsibility.

21

Q How is the distinction drawn?

22

A Between the budgets?

23

Q Right.

24

A The Operation and Maintenance budget is basically

25

our day-to-day expenses, and the capital budget is

2 new construction projects or modifications to existing
3 systems, capital improvements to the plant. So
4 I was responsible, again, for the day-to-day operating
5 expense budget, and Dick Klingaman was responsible
6 for the project's capital budget.

7 Q So with respect to the construction of
8 TMI, that would fall under Mr. Klingaman's responsi-
9 bility?

10 A Yes, ma'am.

11 Q Is there some kind of surveillance set up
12 to assure that the Administrative procedures that you
13 have reviewed and instituted are followed?

14 A I think on certain ones the QA, the Met Ed
15 Quality Assurance Group performs an audit to make
16 sure that the requirements of those procedures are
17 met. I'm fairly sure that the QA Department does
18 not audit each of the procedures to make sure that
19 they are all met, but certain ones of those are audited
20 by the QA Department and audit reports are issued
21 by them when they find that the procedures are not
22 being followed.

23 How they make the distinction of which
24 ones are audited as opposed to which ones are not,
25 I'm not really sure; I can't answer that.

2 Q Was there a budget cut from the 1978
3 budget to the 1979 budget for Operations and Main-
4 tenance?

5 A I don't think so. The question is was there
6 a budget cut from 1978 to 1979 budgets?

7 Q Yes.

8 A I don't think there was. I think that the
9 preparation of the 1979 budget, which would have
10 occurred in 1978, as I recall, rather late in the
11 review and approval process of that budget, we did
12 make some significant reductions to it, but after
13 that budget was declared official and was then used
14 in 1979, I don't recall if there was a budget cut
15 made to it.

16 There are revisions to a budget made on
17 a monthly basis. The budget, in fact, is updated on
18 a monthly basis, but we generally never revise the
19 original official budget. We generally, in budgeting,
20 tend to compare ourselves back to the original budget
21 that was developed and approved.

22 The point is, though, that each month
23 we do make revisions to that budget, depending on
24 what expenses we have incurred over the month prior
25 when we make this revision and some changes as to

2 what we might forecast for the rest of the year.

3 So in fact, we tried to keep this as
4 a living budget, so to speak, so each month the
5 latest revised estimate of that budget may have
6 been different, but nevertheless, we still would
7 go back and compare ourselves to the original budget.

8 In answer to your question, I don't recall
9 a budget cut in 1979.

10 Q Concerning that requested budgets that
11 each department head suggests or would like, are
12 those budgets then analyzed by you prior to going
13 to Mr. Herbein to determine whether or not you would
14 accept those budgets or cut back those budgets?

15 A Yes. That review would be made by me and
16 also some budget people that I have working for me.

17 I have a staff of three budgeting people
18 in Reading that worked for me and that kind of analysis
19 and evaluation of that budget would have probably
20 first been made by those people who worked for me
21 in the budgeting field, and then they would come to
22 me and review their findings and their results of
23 their analysis with me, and you know, then we would
24 sit together and review that budget before we took
25 it up to Mr. Herbein for presentation.

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So that kind of a thing happened by three

3

or four people, by three people who worked for me,

4

by myself; it was a joint effort kind of thing.

5

Q And this would be utilizing the guide-

6

lines sent down by GPU?

7

A Yes.

8

Q Do you ever discuss with the department

9

heads themselves, those budgets that they have sent

10

to you?

11

A I try to sit in on as many meetings where those

12

budgets are being developed as I can. I just came

13

from one of those meetings where department heads

14

were in presenting their 1980 budgets.

15

Historically I have tried to sit in on

16

those kind of sessions where a person is coming in

17

to forecast what he wants to do next year, and

18

consequently what it is going to cost. So many times

19

I was able to -- I would sit in on that kind of

20

session to offer some suggestions to what he was

21

proposing.

22

There is also one other aspect which

23

I guess we should talk about for a minute. The

24

expense budget depends very heavily on the personnel

25

budget and historically prior to the time that we

1
2 developed an expense budget, we developed a personnel
3 budget. We forecast the staff sizes that are required
4 to do a job in a particular function and so the
5 process that I described on the expense budget, we
6 also do that on the personnel budget.

7 We get input from department heads as
8 to how many people they think it is going to take to
9 accomplish their function. It may be the existing
10 staff, it may be more people than they currently have,
11 so we go through that same kind of effort and process
12 to forecast the staff size requirements.

13 I find in many of the review sessions
14 that I sit in on, the variable in whether we are
15 going to be able to do something versus whether we're
16 not going to be able to do something is the number
17 of people that we have on the staff, so that many times
18 I will sit in on expense budget discussions with
19 department heads just to see how they forecast their
20 people.

21 MR. YUSPEH: Do you have responsibility
22 for personnel budgeting?

23 THE WITNESS: Yes.

24 MR. YUSPEH: What happens if someone
25 makes a personnel request that you disagree with?

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THE WITNESS: It happened today. There is a budget that was submitted today which forecasts some additional people for next year which I knew nothing about and I asked a series of questions of, first of all, why I didn't know those people were being forecast before I got into today's session and, you know, secondly I asked a number of questions to find out why they forecast those additional people.

I don't make a judgment that they don't need or they do need those people, I would never make that judgment at this point in time, but what I would insist on is that they come back with the proper justification that does show me that they, in fact, do need the staff that they are forecasting.

So I am responsible for the personnel budget, but only insofar as I am again the person or the manager who is responsible to carry that personnel budget up to Mr. Herbein, who then, again, carries it up to Mr. Kreitz, who carries it up to GPU Service Company.

But the personnel budget is a rather,

again, a long, tedious review and approval process that we go through and we normally will do that prior to the time we start preparing the expense budgets.

Our expense budget is very dependent on the number of people, because the great majority of the expenses in the O&M budget are payroll expenses.

MR. YUSPEH: And if someone, if there is an ultimate dispute between you and one of the operating people in terms of personnel, is he free to then discuss it with the vice president of Generation?

THE WITNESS: I would recommend that he do that, and we do that, make it jointly. I will advise Jack that we have a forecast of some people and I normally would not approach Mr. Herbein and say, "I disagree with that," but my approach there would be, "We need further discussion on that staff size and I suggest that you and I talk to whoever it is," and that is the way those things were generally handled.

One of the things the company has, I think, been very aware of since I started work back in

Operations Analysis in 1974 is the number of people we have on our staffs.

Since 1974 we have paid a great deal of attention to our staff size requirements. We have asked people to properly justify why they need the number of people that are employed in their functions, and so it has been a rather extensive review of the staffing requirements that goes on each and every year, which, again, ties very closely into budgeting.

Again, our O&M expense budget is made up primarily of payroll expenses.

There are exceptions to that. Obviously, our fueling budget is very, very large, and that is an Operating and Maintenance expense, but by and large, when we get into the rest of the Operations and Maintenance, the expense budget is very heavily weighted by the number of people that we have staffing our functions.

So the number of people is important to our overall budget.

Q If a department head wants to increase his personnel size, he has to justify that to you in writing?

1

2 A Yes, ma'am. Any increase in staff requires
3 written documentation to justify that increase.

4

5 There are a series of questions that must
6 be answered by that requestor, such as can't the job
7 that you are proposing that has been done be done
8 by somebody else, can't we share that work with
9 another department?

9

10 We get into a lot of discussions on
11 what kind of classifications of people should be
12 doing certain jobs.

12

13 So in answer to your question, yes,
14 written documentation is required for any increase
15 in staff size, whether it be one person or 50 people,
16 and rather extensive documentation.

16

17 Q There is a tendency to not want to in-
18 crease the staff size then?

18

19 A Yes.

19

20 Q Other than --

20

21 A I didn't answer that correctly, I don't think.
22 Not to increase, but to have the proper staff size,
23 and that doesn't necessarily mean not to increase.

23

24 There are a lot of reasons we should
25 add people to certain functional areas, so I think
when we discover that fact and that we need people

to do certain things that just have to be done, we have got to increase the staff sizes.

I think since 1974 we have just simply looked at that a lot closer than we had before and we have tried to set some limits as to how fast we grow, as to the number of employees we put on the payroll, but there are many cases when staffing increases are properly justified and we definitely should make those. But the attitude has been, "Let's control, let's just exercise control, let's not set zero growth limit, but let's just exercise control in that area."

Q You picked the year 1974. Is that a year --

A I only used it because that is when I went into that Operations Analysis job and I believe at that point in time the rest of the company finally realized that what the consultant was saying in his study, which was conducted actually since 1971, that company people finally realized that we were serious about properly justifying the needs for people and that they were responsible, "they" meaning the supervisory staff of the company, was responsible to properly determine their staffing requirements.

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There just wasn't enough emphasis placed on it prior to 1974, and I think there was awareness at that point in time that, yes, we were going to do this and we were serious about it.

Q From 1971 to 1974 Met Ed hired a consultant specifically on this issue?

A Actually the consultant was hired by GPU. The consultant signed the contract with the service company to study staffing requirements across the entire GPU system and to design some productivity measurement systems, again, for the entire GPU system. So it wasn't strictly a Met Ed study, it was a GPU study.

Q Who did this study, what was the consultant?

A United Research Company.

Q And as a result of this analysis, you and other management level people became aware of the concern to not --

A To not inadvertently increase staff size that wasn't justified.

Q Were there any other things that came out of that consultant?

A We had developed, or they had developed certain productivity measurement systems for various functions

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2 in that area.

3 We, for example, had a system where we
4 were measuring the productivity of our Line Department
5 personnel. We set some time standard to perform
6 certain evolutions, and we had the field people
7 report back to us how long it actually took them
8 to do those things. Then we made some comparisons
9 of how long it took versus how long we expected it
10 to take.

11 So in a sense we developed some indicators
12 which indicated that we were doing things pretty much
13 in accordance with the way we expected them to be done,
14 and in some cases, we were doing things not in accordance
15 with the way we expected them to be done.

16 There were certain systems developed by
17 United Research Company over that period of 1971 to
18 1974 which I really inherited as director of Operations
19 Analysis, which we couldn't then use after I took over
20 that job. Some of those systems were good and some
21 of those systems were very, very bad. It depended
22 pretty much on how w l time standards were developed,
23 and this is a very controversial to begin with.

24 Certain parts of our work force are always
25 much easier to study in regard to how productive they

2 are than are others. What we have found by that work
3 is that there are certain kinds of workers that you
4 can study and probably put on some reasonably good
5 productivity measurement system, but there are other
6 employees, depending on the nature of their work, that
7 it is very, very difficult to do that with, and I would
8 guess that there are an awful lot of our employees
9 that fall into the second category, that have jobs of
10 the nature that simply don't lend themselves to measur-
11 ing their productivity.

12 If we did continue those systems, and I
13 suspect that even today some of the systems developed
14 by United Research are being used -- I frankly don't
15 know that because I have really gotten away from that
16 work completely in regard to generation -- the United
17 Research Company's work, as I recall, was limited to
18 maintenance planning and scheduling and outage planning
19 and scheduling. It was just two projects that United
20 Research did, so it did not do a Productivity Measure-
21 ment System in relation to the Generation System, but
22 they did some study on planning and scheduling
23 capabilities.

24 Q Your resume indicates that one of your
25 responsibilities is generation safety. What does

2 that encompass?

3 A When I took over the job in April 1978, I had
4 a supervisor of Generation Safety that reported to
5 me, and his responsibilities were to go to the plants
6 and conduct Safety Meetings, to hold Safety Programs
7 with Generation employees, to investigate accidents,
8 to generally work in the Industrial Safety field.

9 Soon after I took over the job, that
10 employee was transferred to the Corporate Safety
11 Function within Met Ed and I no longer then had the
12 safety person directly reporting to me, and in fact,
13 I do not today.

14 We do have people, though, at the plant
15 who are responsible for industrial safety at the plant,
16 and my responsibility right now is simply to basically
17 stay in touch with those people to make sure that
18 Safety Meetings are being conducted, that a Safety
19 Program is in existence at the plants and that they
20 are generally servicing the plant from a safety
21 standpoint.

22 I do not have anybody directly reporting
23 to me at the moment in safety.

24 Q That would be personnel safety?

25 A Yes.

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2 Q One of your other responsibilities is
3 Generation stores.

4 A Again, when I took over the job, I had a person,
5 a supervisor of stores, located in Reading, who
6 was responsible to go out to the plants and help
7 develop their stores system and generally oversee
8 their warehouse operations.

9 In January of this year, of 1979, the
10 Material Management Department, which is a corporate
11 Met Ed department, has taken over all the stores people,
12 including the Generation stores people.

13 I, today, have no direct line responsibi-
14 lities to stores functions, but I still have a person
15 on my staff who generally interfaces with purchasing
16 contracts and stores function, but primarily on an
17 administrative basis, to process purchase requisitions,
18 process purchase orders, process invoices. So my
19 stores responsibility today is primarily an administra-
20 tive responsibility to make sure that the paperwork
21 associated with procurement of material or services
22 is properly handled within Generation.

23 Q Your resume also indicates that other
24 responsibilities are document control and record
25 retention. What does that entail?

2 A In Corporate Headquarters we have a Document
3 Control Center where every piece of incoming cor-
4 respondence and outgoing correspondence is filed
5 by a file number, and my responsibility in that area
6 is primarily to maintain records, retrieve records,
7 make sure records are retained for the appropriate
8 time for which they have to be retained.

9 I had a series of people, again, still
10 do, working in Reading on that particular function.
11 We attempted and really are still attempting to
12 install or institute a standard filing system
13 throughout the entire Generation Division, and that
14 simply means that documents which are being received
15 or sent from any of the Generation locations will be
16 filed in a current filing system so that we can refer
17 back and forth from plant to plant or from plant to
18 corporate office with the same reference system.

19 We have some dedicated Document Control
20 people here at TMI and I became quite involved with
21 their record retention problems and their document
22 control problems.

23 We are highly regulated as to what we
24 must keep, how we must store them, et cetera, and I
25 became pretty much involved in working with the

2 people to make sure we were meeting the regulatory
3 requirements insofar as document control and record
4 retention was concerned.

5 Again, it was from a telephone communica-
6 tions standpoint, but I did visit the plant on numerous
7 occasions to look at the records problem out here.

8 Q What kind of documents are you required
9 to retain?

10 A Our records here at TMI are primarily categorized
11 into QC kind of records and non-QC kind of records.

12 The Quality Control kinds of records are
13 drawings, operating charts, operating records which
14 have certain retention requirements on them -- I am
15 not sure if it is six or seven years or lifetime
16 of the plant; we certainly have some lifetime
17 requirements on some of our records, but again,
18 our records are primarily QC and non-QC categorized.

19 The QC records are those which have re-
20 tention requirements. The non-QC is our normal
21 correspondence back and forth to operate the business
22 on a daily basis.

23 So I get involved from both sides to set
24 up a system whereby we are going to be able to com-
25 municate and find things on the non-QC side and on

1
2 the QC side. Our problems are primarily in properly
3 storing, being able to retrieve and meeting the
4 record retention requirements that are set by regula-
5 tory agencies.

6 We tend to categorize our records one other
7 way and those are active and non-active, and again,
8 we can cross non-active QC and active QC, et cetera,
9 so we tried to separate and categorize records into
10 active and non-active simply to be able to handle
11 them, if you will, a little different because of the
12 access requirements to those records, and in fact,
13 in the staff itself we divide responsibility; certain
14 people have responsibility, if you will, for active
15 records, and other people have responsibility for
16 non-active records.

17 Q Both within your department?

18 A When I mentioned that, I was talking about the
19 TMI staff, and those people don't directly report to
20 me. I would have indirect responsibility for those
21 TMI staff people who were working in this Records Field,
22 not direct responsibility.

23 Q You were not here on the morning of March
24 28, were you?

25 A No, ma'am, I wasn't.

1
2 Q Were you called that day?

3 A No, I was not called by anyone that day. I
4 became aware of the accident when I got to the office
5 that morning. But I wasn't directly called by any-
6 body. I didn't know about the accident until I came
7 to the office.

8 Q Which would have been your office in
9 Reading?

10 A That's right.

11 Q And were you asked to come down here at
12 any point?

13 A I was asked on April 1st. The evening of April 1st
14 Mr. Herbein called me and asked me to come out the
15 next day.

16 Q Was he at the Island then?

17 A He was over at the Observation Center when he
18 called, yes.

19 Q Did he indicate to you why he wanted you
20 to come here?

21 A He asked me to come out and primarily help him
22 in his responsibilities over at the Observation
23 Center at that point in time. He needed somebody
24 to work with him on organizing staff to interface
25 with some of the other Administrative people who were

1
2 providing services to the on-site and off-site people,
3 and he just asked me to come out and work directly
4 for him in those kinds of response areas. So I
5 came out on the morning of April 2nd, five days after
6 the accident.

7 Q When you got here, what responsibilities
8 were you given?

9 A Initially I started working on organization
10 charts. At that point in time we were operating from
11 the Observation Center and trailers that were located
12 over there, and Jack asked me to deal with, talk to
13 and communicate with a number of people that were
14 working from that side and try to put down on paper
15 how all those people really fit together organizationally.

16 He asked me immediately to work on
17 organization structure, who was doing what, who was
18 reporting to whom. He asked me to help him organize
19 the operations watch which he had established over
20 in the Observation Building to make sure that that
21 was properly staffed with certain kinds of people.

22 My responsibilities there were simply
23 to really secure people to stand that watch. I
24 got a little bit into some of their operations watch
25 responsibilities in order to select the kind of people

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Christman

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2 that I thought should stand the watch.

3

4 In addition to that, the first couple
5 of days I dealt with other company people who had
6 come in to provide the administrative kind of services,
7 clerical, food, janitorial, all the things that really
8 had to be done to sustain us over there in Trailer
9 City and I continued to do so for quite some time.

10

Q Until what point in time were those
your responsibilities?

11

A Well, until we moved over here to the Island.
12 I moved over with Jack when he came over to the Island
13 and occupied a trailer on the east side of the Island.

14

At that point in time I was screening all
15 his mail. Mail started to come in soon after that.

16

17 There was an accumulation of mail that was there
18 when I got there that I went through, and each day
19 I spent a limited amount of time with him just
20 screening and going over his mail with him, calling
21 to his attention those things which I thought he had
22 to see and eliminating some of the things that he
23 didn't have to see.

24

25 Coming back to the question, we moved to
the Island, I suspect, two weeks or so after we got
here. We were probably over there for two weeks before

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2 we moved over here, and I moved with him into the
3 trailer and continued really to support him from
4 the staff assistant standpoint and from an adminis-
5 trative standpoint.

6 I still continued to do some of the things
7 I did in my manager of Generation Administration
8 responsible areas, and I continued to screen mail,
9 to schedule people for interviews, to answer questions
10 that have arisen as a result of interviews, and
11 inquiries, and generally provide in-staff assistance
12 on a day-to-day basis right now.

13 Q And Mr. Herbein and you are both located
14 on the Island full time now?

15 A Yes, we are.

16 Q The Operations watch that you were in-
17 itially involved in setting up, was that for duty in
18 the control room?

19 A No, it was to provide Mr. Herbein with certain
20 information that he wanted to have on a continuous
21 basis over in the Observation Building in order for
22 him to provide direction to the people who were in
23 the control room.

24 Again, this is early the first couple of
25 weeks after the accident, but we charted some of

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2 the plant parameters continuously over there in the
3 Observation building. We kept track of radiation
4 exposure data that was being reported by both on-site
5 and off-site teams.

6 The Operations watch was really formed
7 before I got there, and all I simply did was help staff
8 it, but to continue to keep making sure that they
9 were collecting information which was required for
10 Mr. Herbein to make some of the decisions that he had
11 to make.

12 Q And the people that were on this Operations
13 watch would gather specific information that Mr. Herbein
14 wanted and keep him up-to-date as to that information?

15 A That is correct.

16 Q Who was head of that group, was there a
17 head of it?

18 A Well, on each shift it was a 24-hour-a-day
19 watch, and we were running initially, I guess, 12-hour
20 shifts with only two sections which, after a couple
21 of days we changed to a three-section 8-hour day watch
22 schedule.

23 But on each of the shifts there was one
24 person on the watch who was responsible for the
25 watch. Initially those were plant people, people that

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were assigned here at TMI, and as we could release

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those plant people to come back and work over here on

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the Island, then we brought in some of the technical

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support people from Reading to man that watch, but we

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normally had a senior engineer in charge of each

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watch section who was basically in charge of the

8

entire watch.

9

Q Were you involved with organizing schedules

10

for the recovery effort?

11

A Not directly. I am not exactly sure what you

12

mean by "organizing schedules for the recovery."

13

I guess I don't quite understand your question.

14

I have been involved --

15

MR. YUSPEH: She will restate the ques-

16

tion.

17

Go ahead.

18

Q You indicated off the record that there

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is a standing watch while Mr. Herbein is not here

20

that other management level people are here so that

21

they can contact him if heed be.

22

Are you involved with any of that schedul-

23

ing?

24

A No. Sammy Lawyer who is one of the duty

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managers that stands the night watch, has the responsi-

1
2 bility to schedule that watch. So Sammy Lawyer
3 is scheduling that duty manager watch at night as
4 well as standing the watch.

5 Q Concerning the Operations watch that
6 you indicated was established prior to you even
7 arriving at the Island, did you become involved with
8 the people that were selected to be on that Operations
9 watch?

10 A I dealt with them on a daily basis. I still do.
11 We have that watch still established on a a 24-hour
12 a day basis, and it now works out of a trailer and
13 it is a continuation of the watch that really was
14 established over at the Observation Center, I think
15 the first day of the accident.

16 To my knowledge, Mr. Herbein established
17 that watch on March 28.

18 Now, it took a day or two before it
19 became functional, but he immediately, upon arrival
20 here, as I have been told, established that watch.

21 That watch is still in existence today.

22 Q And today it is not made up of plant
23 people but people from Reading?

24 A That is correct.

25 Q Are those engineers from Reading?

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A Yes, ma'am. We have drawn upon our Generation Technical Support staff for the lead person on that watch. There are only two people in each watch section right now. The second person in the watch section is not necessarily a Generation Department employee.

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We have drawn upon other resources in the company to provide that second person on that watch, so we have people out of other functional areas who are now standing that watch, but the lead person in that watch is still a Generation engineer, but he is out of the Reading staff.

13

Q

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When you were organizing the schedule, when you first got here, concerning that Operations watch, did you have any involvement with the people who were involved in that watch, choosing the particular people?

18

A

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Yes, to the extent that I was called back to Reading, for example, to Dick Klingaman, manager of Generation and Engineering, and I would ask Dick or request from Dick people who we thought should stand the watch and then he and I jointly would go through a list of people who we felt were qualified to stand that watch and selected those people that we would want to come out here.

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My involvement was with Dick.

Q Initially this Operations watch was made

up of people from the plant, correct?

A Yes.

Q Did Mr. Herbein choose those people

initially?

A I am not really sure. I don't know. I suspect what he did was to ask somebody from the plant staff to organize that watch for him, and as a result of that request, somebody assigned the plant people to that watch.

Q You did not rearrange the assignment of the people to that watch from the plant initially; you just were involved with who would be assigned to relieve those plant people once people from Reading were brought in?

A Yes. I had relief people who would come back to the Island to start their normal kinds of activities as they were allowed back, and my involvement was simply to replace people that were, you know, freed up by bringing them back to the Island with people out of Reading.

So people would come to me and ask me to get them a replacement and then my involvement

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was primarily in just getting a replacement for that individual.

(Continued on Page 57.)

SR:lc

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phone

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2 Q How many people initially? You said there
3 were two 12-hour shifts. How many people initially
4 would be on each shift?

5 A As I recall, initially we had four people in
6 each watch section. I am pretty sure that is right.

7 Q Once it was changed to three shifts, was
8 it still four people on each shift?

9 A For a period of time, yes. We actually changed
10 it to two people when we came over here to the Island
11 because at that point we could communicate to a much
12 larger degree with the Island, being here on the
13 Island, than we could when we were over at the Obser-
14 vation Center.

15 I guess what I am saying is the need for a four-
16 person section over there was primarily caused by some
17 of our communications problems. When we finally came
18 over here and located the watch on the Island itself,
19 we found it much easier to communicate with these
20 people that we had to communicate with. We had access
21 to the control room. We could send the people directly
22 to the control room to get the data.

23 So our communications problems became much
24 less than they had been when we were over in the
25 Observation Center. We therefore cut down the number

Christman

4.2

per watch in each watch section.

Q Now there are two people in each watch section?

A That is right.

Q Since March 28th, have you made any statements concerning the accident on March 28th, and by this I mean other than today, have you been interviewed or deposed or made a formal statement to anybody?

A No, ma'am.

Q Have you been notified of any intent of being deposed or interviewed by anybody?

A No.

MS. GOLDFRANK: At this time, we will recess this deposition. I have no further questions, but there is a possibility that we would ask you to come back for further questioning.

(The deposition concluded at 5:05 p.m.)

Paul G. Christman

Subscribed and sworn to
before me this ___ day
of -----1979

Notary Public

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I N D E X
- - - - -

Witness

Direct

Paul G. Christman

3

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

Christman Deposition
for Identification

Page

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Resume of Paul G. Christman 2

1
2 STATE OF NEW YORK)
3) ss.:
4 . COUNTY OF NEW YORK)

5 We, STEPHEN McCRYSTAL, Notary Public, and
6 STANLEY RUDBARG, Certified Shorthand Reporter and
7 Notary Public of the State of New York, do hereby
8 certify that the foregoing deposition of
9 METROPOLITAN EDISON COMPANY by PAUL G. CHRISTMAN
10 was taken before us on the 2nd day of August 1979.

11 The said witness was duly sworn before the
12 commencement of his testimony. The said testi-
13 mony was taken stenographically by ourselves and
14 then transcribed.

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

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

21 IN WITNESS WHEREOF, we have hereunto set
22 our hands this 2nd day of August 1979.

23 *Stephen M. Crystal*
STEPHEN McCRYSTAL

24 *Stanley Rudbarg*
25 STANLEY RUDBARG, CSR.

PRESIDENT'S COMMISSION ON THE
ACCIDENT AT THREE MILE ISLAND

Corrections to August 2, 1979, Deposition of Paul G. Christman

<u>Page</u>	<u>Line</u>	<u>Change</u>	<u>To Read</u>
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Subscribed and sworn to
before me this 13th day
of August, 1979

[Signature]
Notary Public

NOTARY PUBLIC

New York, Rock County, Pa.

Commission Expires July 19, 1979

[Signature]
Paul G. Christman

Christman

4.2

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2 Q Now there are two people in each watch
3 section?

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11 being deposed or interviewed by anybody?

12 A No.

13 MS. GOLDFRANK: At this time, we will
14 recess this deposition. I have no further
15 questions, but there is a possibility that we
16 would ask you to come back for further
17 questioning.

18 [The deposition concluded at 5:05 p.m.]

20

21

22 Subscribed and sworn to
23 before me this 13th day
24 of August 1979

25

Notary Public

NOTARY PUBLIC
Serving, Harris County, Pa.
My Comm. Expires Nov. 13, 1979

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BENJAMIN REPORTING SERVICE

POOR ORIGINAL