

TRANSCRIPT OF PROCEEDINGS

PRESIDENT'S COMMISSION ON THE ACCIDENT AT THREE MILE ISLAND

PUBLIC HEARING

(INCLUDING PRESS CONFERENCE)

THURSDAY,
August 23, 1979

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1 PRESIDENT'S COMMISSION ON THE ACCIDENT AT THREE MILE ISLAND

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4 PUBLIC HEARING

5 THURSDAY
6 AUGUST 23, 1979

7 Hall of Nations
8 Edmund Walsh Building
9 Georgetown University
10 36th Street N.W.
11 Washington, D.C.

12 The hearing was convened pursuant to notice at 9:39 a.m.

13 John G. Kemeny, Chairman, presiding.

14 PARTICIPANTS:

15 John G. Kemeny
16 President
17 Dartmouth College

18 Bruce Babbitt
19 Governor of Arizona

20 Carolyn Lewis
21 Associate Professor of Journalism
22 Graduate School of Journalism
23 Columbia University

24 Cora B. Marrett
25 Associate Professor of Sociology
University of Wisconsin

Harry McPherson
Attorney

Russell Peterson
President
Audubon Society

Thomas Pigford
Professor and Chairman
Department of Nuclear Engineering
University of California at Berkeley

Theodore Taylor
Professor of Aerospace and Mechanical Science
Princeton University

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PARTICIPANTS: (continued)

Anne Trunk
Resident of Middletown, Pennsylvania

Barbara Jorgenson

Stanely Gorinson

Stanley Helfman

Harold R. Denton
Director
Office of Nuclear Reactor Regulation, NRC

Victor Stello, Jr.
Director
Office of Inspection and Enforcement, NRC

Anthony Z. Roisman
Staff Attorney
Natural Resources Defense Council

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Tape 1

P R O C E E D I N G S

1
2 CHAIRMAN KEMENY: Will this meeting please come to
3 order. We apologize to those of you who had to wait for the
4 delayed start of this Commission hearing, but since this Com-
5 mission had to read the morning newspapers to discover a major
6 story on the NRC, that we had to be prepared for this particu-
7 lar witness.

8 Chief Counsel, please call him.

9 MR. GORINSON: Mr. Denton, would you please raise
10 your right hand.

11 Whereupon,

12 HAROLD R. DENTON

13 was called as a witness and, after being first duly sworn,
14 was examined and testified as follows:

15 CHAIRMAN KEMENY: Would you please state your full
16 name and your current position for the record.

17 DR. DENTON: My name is Harold R. Denton. I am the
18 director of the Office of Nuclear Reactor Regulation for the
19 U. S. Nuclear Regulatory Commission.

20 CHAIRMAN KEMENY: Chief Counsel.

21 MR. GORINSON: Thank you, Mr. Chairman.

22 Mr. Denton, yesterday there was a document placed in
23 the Public Documents Room at the NRC, which is a document from
24 you to the NRC Commissioners entitled "Resumption of Licensing
25 Reviews for Nuclear Power Plants". Do you have a copy of that

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1 document with you?

2 DR. DENTON: Yes, I do.

3 MR. GORINSON: Could you explain to these Commission-
4 ers what that document says?

5 DR. DENTON: Yes, I can. Approximately three months
6 ago, I informed the Commission that I was in favor of a tempor-
7 ary suspension of the issuance of licenses until we could
8 assess the impact of the TMI-2 accident on the licensing review
9 process. They concurred in that temporary suspension. I
10 formed task forces to look into the accident itself, operator
11 training, emergency planning, auxiliary feedwater performance.
12 At the time I told the Commission it would take me approxi-
13 mately three months to make such an assessment. The Lessons
14 Learned Task Force Report was issued about thirty days ago. I
15 have sent the Commission papers on operator training and emer-
16 gency planning and they have indicated a general concurrence
17 on those objectives. We met with the ACRS several times.
18 About 10 days ago the ACRS provided a letter in which they
19 concurred in the intent and the substance of the Lessons
20 Learned Task Force recommendations. I then had the staff pre-
21 pare a letter setting forth my conclusions in this area. I
22 considered whether or not we should resume licensing before
23 the Presidential Commission Report was out and whether the
24 NRC's own special inquiry was completed. I came to the conclu-
25 sion that since there are operating reactors that I think these

1 changes ought to be made on, I should move ahead promptly and
2 get the changes that the staff has identified as being neces-
3 sary in the process of being made on all of those plants which
4 are now in operation as well as on those plants which hope to
5 get operating licenses or construction permits in the near
6 future. So, I had the staff prepare a memo to the Commission.
7 I returned home from a trip and signed the memo Sunday. We
8 took a day or two to inform the Commission and to inform our
9 Congressional oversight committees as to what we were doing and
10 it was placed in the Public Document Room yesterday.

11 MR. GORINSON: You mentioned operator training and
12 emergency plants. What changes have been made in the operator
13 training program by the NRC?

14 DR. DENTON: We have recommended about 16 changes
15 to the way that we license operators. These changes go to en-
16 hancing the control and command function of the senior reactor
17 operator. They are intended to increase his capability to
18 handle accidents, increase the knowledge requirements. We are
19 raising the passing grade, for example, in the test categories
20 for operators to such an extent that about 40 or 50 percent of
21 all the existing operators will not be qualified if these re-
22 quirements were in effect previously.

23 MR. GORINSON: Are you keeping the same test?

24 DR. DENTON: No, we are going to change the quality
25 of the test also.

1 MR. GORINSON: How long will that take?

2 DR. DENTON: It depends on what the Commission
3 approves as the implementation schedule.

4 MR. GORINSON: Well, have their been recommendations
5 as to how long it will take to get a new test ready?

6 DR. DENTON: I don't recall what the schedule is
7 for the new test. I would expect that we would have -- it
8 would be around the first of the year before requirements would
9 be fully effective.

10 MR. GORINSON: But what about the test itself. You
11 don't have information at this point as to how long it will
12 take to develop the new test?

13 DR. DENTON: I am just not familiar with that de-
14 tail. It is something that would be handled by Paul Collins
15 who appeared before you yesterday.

16 MR. GORINSON: He works for you doesn't he?

17 DR. DENTON: Yes, he does.

18 MR. GORINSON: But you haven't asked him about that?

19 DR. DENTON: I just don't remember the answer to
20 that question.

21 MR. GORINSON: Did you ask it?

22 DR. DENTON: I don't recall.

23 CHAIRMAN KEMENY: Excuse me, Mr. Denton. Don't
24 you think the answer to that question would have been relevant
25 to the decision you just announced?

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1 DR. DENTON: No. One of the decisions that we just
2 announced is to add to the control room a shift safety engin-
3 eer. This is a person who has college level training in all
4 of the engineering sciences needed. So, I see this as a mea-
5 sure that would provide the additional protection that I am
6 looking for, while we revamp the operator licensing and train-
7 ing program. But as a condition for operation of a new -- of a
8 plant that presently doesn't have an operation license we would
9 require a shift safety engineer in the control room at all
10 times. So, I see in this manner we would provide the protec-
11 tion necessary and the type of protection we would hopefully
12 achieve ultimately by revising the operator training and licen-
13 sing program.

14 MR. GORINSON: This safety engineer, as I under-
15 stand it, is this the type of person that Dr. Mattson recom-
16 mended be put in the control room?

17 DR. DENTON: Yes, he is.

18 MR. GORINSON: And this is the person who presum-
19 ably, had he been familiar with the Davis-Besse transient,
20 would have notified the operators in the control room to change
21 their procedures?

22 DR. DENTON: This is a person who would have -- it
23 would be a function and it would probably be more than one
24 person. Part of the requirement that I recommended that we
25 are now requiring on all plants is to have a shift safety

1 engineer who would be present in the control room at all times
2 to advise the control room operating personnel on how to re-
3 spond to accidents. And a second function that would have to
4 be performed is an assessment of operating experience such as
5 occurred at Davis-Besse and advise the company on what its
6 applicability would be to their own operation.

7 MR. GORINSON: So, the answer to my question is
8 this would be the person who would have recognized the signifi-
9 cance of Davis-Besse had he been reviewing the LERs?

10 DR. DENTON: That is correct.

11 MR. GORINSON: And this would be a person with a
12 baccalaureate degree?

13 DR. DENTON: We have spelled out in the paper to
14 the Commission what the requirements would be. He certainly
15 would have to have college-level training and all the engineer-
16 ing specialties. It wouldn't necessarily have to be a degree,
17 although I would expect that most people who possess the tech-
18 nical qualifications would have degrees also.

19 MR. GORINSON: Dr. Mattson has a Ph.D., does he not?

20 DR. DENTON: Yes, he does.

21 MR. GORINSON: He didn't recognize the significance
22 of Davis-Besse, did he?

23 DR. DENTON: Not at the time it happened.

24 MR. GORINSON: It took TMI to do that.

25 DR. DENTON: That is correct.

1 MR. GORINSON: Will it take another TMI for the
2 safety engineer to recognize certain errors?

3 DR. DENTON: I would hope not. I would think by
4 focusing -- by putting in the control room someone who can fo-
5 cus full time attention of the safety aspects of operation, it
6 would go a long way toward preventing undetection of a Davis-
7 Besse type complication.

8 MR. GORINSON: What increase has been made in the
9 operating licensing branch personnel?

10 DR. DENTON: We are looking at ways to supplement
11 it through contracts and dollars in the near term and I have
12 added people to that operation for the 1981 budget.

13 MR. GORINSON: For the 1981 budget?

14 DR. DENTON: Yes.

15 MR. GORINSON: So when would those people be
16 available at the earliest?

17 DR. DENTON: Well, Congress has authorized the
18 hiring of approximately 100 additional people in my office be-
19 ginning this forthcoming fiscal year and I hope to obtain peo-
20 ple in the operator training and licensing area in 1980 and be
21 fully up to speed in '81.

22 MR. GORINSON: Do you have any idea you intend to
23 obtain for that area?

24 DR. DENTON: Well, I think we intend to elevate
25 considerably the attention we give the reactor operations. And

1 it is not just operator training, I think we are going to
2 elevate the status and the role of operational safety in our
3 office and it might be more people than just go into operator
4 training.

5 MR. GORINSON: Do you have any idea how many people
6 you will obtain for the operator licensing branch?

7 DR. DENTON: I hope to get five to 10 people in
8 this function in the forthcoming fiscal year.

9 MR. GORINSON: And they will be looking at opera-
10 tor licensing?

11 DR. DENTON: Yes, sir.

12 MR. GORINSON: Will they be looking at the training
13 programs given by the vendors?

14 DR. DENTON: That question has come up on whether
15 we should look at the training as well as the testing. I guess
16 we haven't made a final decision on how we will go on looking
17 at the training. We are certainly going to increase our
18 efforts to assure that the people that we find qualified are
19 qualified. We may well require that the licensee and the
20 utility themselves do far more in testing and demonstrating
21 the capability of their operators prior to our final examination.

22 MR. GORINSON: Okay. But you have made no decision
23 yet as to whether NRC will actually begin looking at the vendor
24 training programs?

25 DR. DENTON: That is correct.

1 MR. GORINSON: Could you tell the Commission speci-
2 fically what the recommendations are that are being implemen-
3 ted in terms of the licensing applications?

4 DR. DENTON: Perhaps, the easiest way to focus on
5 them is to go to Enclosure 6 of the memo. Enclosure 6 identi-
6 fies in abbreviated fashion the nature of the change and shows
7 the time frame for implementation. The Category A items are
8 ones to be completed by January 1, 1980 for plants that are
9 currently in operation and to be completed prior to operation
10 for any plants that don't already have an operating license.
11 The first requirement, emergency power supply goes to keeping
12 the pressurizer heaters energized for emergency power. That
13 is not presently a part of our design basis requirement. Re-
14 lief in safety valve testing goes to determining the reliabil-
15 ity of these valves to operate and to reseal following their
16 lifting. That is an A requirement. Direct indication of
17 valve position -- you may recall at TMI we did not have a direct
18 indication of valve position. That is an A requirement. In-
19 strumentation to demonstrate adequate core cooling, which might
20 in order to meet the requirements might include water level
21 instrumentation. They are A requirements to design the system
22 and a B time frame for installing it. Diverse containment
23 isolation so that it isolates on more than just pressure is an
24 A requirement. Penetrations in the containment for hydrogen
25 control mechanisms, A requirement to design, a B to implement.

1 Automatic initiation of auxiliary feedwater systems, rather
2 than manual initiation is an A requirement to install control
3 grade instrumentation and B to improve that to safety grade.
4 Provide an indication in the control room of auxiliary flow
5 directly is a requirement in the A category. Provisions to
6 facilitate sampling of the primary coolant and the containment
7 atmosphere following an accident are A requirements to design
8 and B to implement.

9 Installation of radiation monitors to be on scale
10 during an accident is a B requirement. Improved instrumentation
11 to monitor iodine releases is an A requirement. I am now down
12 at the bottom of page 3 and Table 6. Listed a number of
13 monitors that were suggested by the ACRS in their review of
14 the Lessons Learned Report. These are monitors for contain-
15 ment pressure, containment water level, containment hydrogen
16 monitor. These are B requirements to complete the installation.
17 I added to the recommendations of the Task Force a requirement
18 to be able to vent the high spots in the reactor system by
19 remote means. This is an A requirement to have the design
20 done and a B to complete. On the next page, to develop the
21 bases and install recombiners for the type of hydrogen genera-
22 tion that might be expected in an accident such as TMI-2, was
23 an A requirement. Systems to insure the RHR leakage and main-
24 tainability can be achieved in the event of major accidents is
25 an A requirement. Requirements to review the shielding in the

1 auxiliary building to allow for personnel access for monitoring
2 repairs is an A requirement.

3 Page 4, to redefine the shift supervisor responsi-
4 bilities. By this we mean to eliminate the bulk of those
5 duties that he now has which are administrative in nature
6 which can be as high as 70 percent in some cases and to allow
7 him full time to devote to the command and control function of
8 the operators is an A requirement. To add the shift technical
9 advisor on duty around the clock on all shifts is an A require-
10 ment. To be sure that shift turnover procedures are well de-
11 veloped and followed is an A requirement. To require the
12 facility to specify somewhere in the reactor building an area
13 for direction of auxiliary operators and health physics tech-
14 nicians in the event of an accident. This is to provide a
15 locale for people to assemble other than in the control room.
16 At TMI-2 we had as many as 85 people in the control room at
17 one time trying to get directions. This is an A requirement.
18 The onsite technical report center and the onsite operational
19 support center are A requirements.

20 I think you will find about 75 percent of our
21 recommendations will have to be completed by the plants pre-
22 sently in operation by January 1, 1980 and all of the A's
23 have to be completed by plants that don't have operating li-
24 censes before we allow them to go into operation. The remaining
25 25 percent of the items will have to be completed before

1 January 1, 1981.

2 MR. GORINSON: Let me ask you two things. The first
3 is on page 4, the shift technical advisor that you have been
4 talking about. It is an A to have him on duty. It is a B to
5 complete his training under your recommendation. Is it not?

6 DR. DENTON: Yes.

7 MR. GORINSON: That means you are going to have
8 him on duty for a year before he is trained.

9 DR. DENTON: We are going to have him on duty as
10 soon as possible because we have plants that are in operation
11 today and I want to be sure that we have people out there that
12 possess these types of qualifications and it will take some
13 time to train them in the kinds of areas that we hope. But
14 rather than defer the implementation of this requirement, I
15 would rather have trained nuclear engineers in the control room
16 around the clock today, even if I have not been able to complete
17 a specific training program.

18 MR. GORINSON: Have you developed a training program
19 for them?

20 DR. DENTON: No, we haven't.

21 MR. GORINSON: How long is that going to take?

22 DR. DENTON: I think the training program develop-
23 ment is on the same order as I mentioned earlier, probably by
24 the end of the year.

25 MR. GORINSON: By the end of this year?

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1 DR. DENTON: Yes.

2 MR. GORINSON: Is Mr. Collins working on that?

3 DR. DENTON: Yes, he is.

4 MR. GORINSON: Has he developed a program for that?

5 DR. DENTON: I don't know if he has or not.

6 MR. GORINSON: Have you asked him about that?

7 DR. DENTON: I don't think I have.

8 MR. GORINSON: Well, then how do you know he will
9 have it in place by the end of the year.

10 DR. DENTON: I just understand how our process works
11 and once we require them there we will turn to and develop a
12 training program. We can't do it all at once. I think the
13 important objective is to get degreed -- get nuclear engineers
14 and physicists who have a proper background in education in the
15 control room today and we will develop a training program to
16 be sure that they are continually upgraded in the very near
17 future.

18 MR. GORINSON: Fine. Who is Mr. Collins drawing on
19 within the NRC to help him in that task in setting up that
20 training program?

21 DR. DENTON: He is working closely with the Lessons
22 Learned group and between the two I expect the two groups to
23 define the type of training program that will be needed.

24 MR. GORINSON: Well, can we have some names of
25 specific individuals?

1 DR. DENTON: I would say Roger Mattson and the
2 members of the Lessons Learned Task Force. Bear in mind that
3 the Lessons Learned Task Force Report is the near term task
4 force that addresses those things that need immediate attention.
5 I expect a second report in early or mid-September that deals
6 with a longer term issues.

7 MR. GORINSON: Does the short term report say what
8 kind of training this shift technical advisor will need?

9 DR. DENTON: I have spelled out in one of the enclo-
10 sures what his qualifications should be. Now, we have not de-
11 veloped specific requirements for the training of these people.
12 Let me refer you back to Enclosure -- I believe it is Enclosure
13 2 and page 3 of Enclosure 2. It says the technical education
14 of at least one person in the control room should include the
15 following and it is mathematics, reactor physics, chemistry,
16 materials, reactor thermodynamics and so forth. So we have
17 attempted to spell out in abbreviated fashion what the qualifi-
18 cations of these people should be. Then each utility would
19 propose people along with their curriculum vitae to demonstrate
20 that they met these requirements and we will review the people
21 that they propose against this format and then we will also
22 require utilities to propose training programs and then we will
23 review those programs.

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1 MR. GORINSON: Where on this list is operator training
2 for the implementation table?

3 DR. DENTON: Operator training is in a separate memo
4 to the Commission that was forwarded earlier.

5 MR. GORINSON: I see. So it's not on here for
6 implementation.

7 DR. DENTON: That's right.

8 MR. GORINSON: And the implementation for that is?

9 DR. DENTON: I just don't recall the implementation
10 schedule in the other memo.

11 MR. GORINSON: I see. But it's not part of this
12 memo.

13 DR. DENTON: This memo deals with the lessons
14 learned recommendations; the operator training recommendations
15 to the Commission cover 16 areas and is before the Commission
16 presently. And let me be sure I've conveyed properly the
17 connection between operator training and the shift technical
18 advisor. I see the shift technical advisor being a stopgap
19 measure to be sure we've got in the control room the type of
20 capability we need while we revamp the operator training pro-
21 gram. We have about 2500 operator -- we have about 2500
22 people who possess either operator or senior operator licenses.
23 And it's obvious we are not going to be able to revise and
24 train them overnight. So part of my rationale is to get the
25 shift safety engineer in place today, while we develop the

LA 2 1 procedure and training program for operators, which is a longer
2 term objective.

3 MR. GORINSON: I see. Do you know the qualifications
4 of any of the engineering personnel that were in the TMI con-
5 trol room on March 28, 1979?

6 DR. DENTON: I don't know a lot about them. I know
7 that they were, I think without exception, all out of the Navy
8 program and that they made average or better scores on the
9 operator exams.

10 MR. GORINSON: What about support engineering per-
11 sonnel that came aboard during the day?

12 DR. DENTON: I don't know a lot about their back-
13 ground. One of the things I have done is sent a survey or
14 questionnaire to all utilities that have operator licenses or
15 have construction permits, asking for them to provide in some
16 detail their managerial and technical capabilities to cope
17 with accidents. And this information is due back to us at
18 about this time. And we will be compiling it and attempting
19 to establish more uniform standards between -- for all plants,
20 for both management and technical capabilities to respond to
21 accidents.

22 MR. GORINSON: I see. Looking at enclosure six
23 again, on the first page, where it says instrumentation for
24 inadequate core cooling, there it says that you're going to
25 develop procedures, as in a, and describe existing

LA 3

1 instrumentation; then a new level instrument design submitted,
 2 that's in a; and a subcooling meter installed, that's an a;
 3 and then the new level instrument installed, that's a b.
 4 Could you explain that for us?

5 DR. DENTON: The intent is to have them tell us what
 6 instrumentation they have and how they propose to meet the
 7 requirements spelled out in the more detailed new regs that
 8 this refers to, allow us to review that and improve, and it
 9 may require the installation of border level instrumentation,
 10 for example. It will take us awhile to review their proposed
 11 instrument and concur in it, and then give them time to pro-
 12 cure and install the instrument itself.

13 MR. GORINSON: I see. Now, another thing you men-
 14 tioned before, you said operator training program, that had
 15 gone to the Commission, another memo on emergency planning.
 16 Is that correct?

17 DR. DENTON: Yes.

18 MR. GORINSON: What is the proposed implementation
 19 for new requirements for emergency planning?

20 DR. DENTON: The emergency planning one is intended
 21 to accomplish several objectives. We have a regulatory guide
 22 on emergency planning, which has not been fully implemented on
 23 all operating plants. It's being implemented on new plants.
 24 One of the requirements in the emergency planning area is to
 25 implement this guide on all plants that have operating licenses

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A 4 1 and on all new posed plants. Another requirement in the emer-
2 gency planning area is to require planning out to ten miles,
3 which is an extension of present practice. The ten miles is
4 recommended by an NRC-EPA task force as the zone within which
5 planning for protective measures would be done. This proposal
6 on emergency planning goes out to ten miles. It also requires
7 all utilities to establish emergency response centers, such as
8 we needed at Three Mile 2 and didn't have. This would be a
9 center somewhere away from the plant, in a nearby town, where
10 the company executives, the state officials, federal officials,
11 and the media could gather. It would also have in this center
12 printouts of the important instrumentation in the plant. This
13 would be sort of a slave computer, so the decisions could be
14 made in the center and the decisions disseminated to everyone
15 involved.

16 And there are a number of similar recommendations
17 in that memo in other areas. And the Commission has informally
18 indicated their desire to go ahead with that.

19 So that kind of report also would have a's and b's.
20 In other words, some of the items I would expect to implement
21 in any new plant before I issue an operating license. One
22 which requires design changes and our approval I would provide
23 some time for them to make the change in.

24 MR. GORINSON: I see. Am I correct, did you state
25 that the regulatory guide had not been implemented for

LA 5

1 operating plants?

2 DR. DENTON: Not for all operating plants. I think
3 it has been implemented for a few. This is the latest version
4 of an older guide. All the plants have been reviewed against
5 some guidance of the Commission, but we have constantly up-
6 graded our guidance. The most recent guidance is contained in
7 a reg guide, and that one had not been backfitted to existing
8 plants.

9 MR. GORINSON: When did that new reg guide come out?

10 DR. DENTON: I think it came out about the time the
11 TMI 2 operating license was issued, which I guess was a year or
12 18 months ago.

13 MR. GORINSON: So we're talking about 1978?

14 DR. DENTON: Yes.

15 MR. GORINSON: And emergency planning had not been
16 backfitted?

17 DR. DENTON: The requirements in the new guide had
18 not been backfitted, that is right.

19 MR. GORINSON: What was the reason for that, sir?

20 DR. DENTON: I think it was a decision that it
21 wasn't that important than the old one and that the manpower
22 restraints gave it a low priority for backfitting.

23 MR. GORINSON: The manpower restraints of who?

24 DR. DENTON: Of the NRC's ability to backfit. We
25 were backfitting a number of things. It was perceived at the

1 time that this guide didn't represent such a major step that
2 it had to be backfitted.

3 MR. GORINSON: But the emergency plans have to come
4 from the utility, don't they?

5 DR. DENTON: Yes.

6 MR. GORINSON: Then what was the resource restraint
7 on the NRC?

8 DR. DENTON: Well, we've always required utilities
9 to submit emergency plans, and we've always reviewed them
10 against some guidance. But we've continually upgraded our
11 guides as we've learned more. And the guide I'm mentioning
12 is the most recent version of our review plans for emergency
13 planning.

14 MR. GORINSON: Yes, but you said there wasn't much
15 change from earlier guides.

16 DR. DENTON: You asked me why --

17 MR. GORINSON: Yes.

18 DR. DENTON: It wasn't backfitted. I'm saying when
19 that judgement was made, it must have been judged that the
20 difference wasn't that major.

21 MR. GORINSON: I see. Who made that decision, sir?

22 DR. DENTON: It would be made by a committee of
23 senior in-house members, called the Regulatory Requirements
24 Review Committee.

25 MR. GORINSON: Who sits on that committee?

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1 DR. DENTON: The senior members of management.

2 MR. GORINSON: Could you give us some names?

3 DR. DENTON: It's chaired by Mr. Ed Case, the deputy

4 director of my office, and it's manned by the division direc-

5 tors in my office --

6 CHAIRMAN KEMENY: That particular incident comes

7 under our charge on the media's role in the accident.

8 DR. DENTON: Shall I continue and name the people

9 who sit on --

10 MR. GORINSON: Yes, please, Mr. Denton.

11 DR. DENTON: It was chaired by the deputy director of

12 my office, Mr. Ed Case, and sitting as members of the committee

13 were the division directors from my office, and this includes

14 Dr. Mattson, used to include Mr. Stello, I'd included myself

15 in a previous role, it included representatives from standards

16 office and from the research office. And when changes were

17 made in our process, these changes would be brought to this

18 committee, discussed with the committee, and the committee

19 would decide whether this change had to be applied to all

20 plants regardless of their status or whether it would be

21 applied to a certain class of plants.

22 MR. GORINSON: I see. Were you sitting on that

23 committee at that time?

24 DR. DENTON: I think I was.

25 MR. GORINSON: Okay. And could you just explain for

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LA 8 1 us what that reasoning was?

2 DR. DENTON: I don't recall the reasoning for reg
3 guide 101. I'd have to go back to the files and see what was
4 proposed at the time. Usually we were influenced by the per-
5 son making the proposal as to what its implications were, how
6 significant it would be. And then we would exercise our own
7 judgement. The recommendation would then be forwarded from
8 the committee to the person who was the director of NRR, and
9 the director of NRR would make the final judgement about the
10 class of plants to which new requirements would be implemented.

11 MR. GORINSON: I see. But the committee would
12 recommend whether there would be backfitting or not.

13 DR. DENTON: Yes, sir.

14 MR. GORINSON: Okay. Would that be written in memo-
15 randa?

16 DR. DENTON: Yes, it would.

17 MR. GORINSON: It would.

18 DR. DENTON: The number of this guide is reg guide
19 101. And I'd be happy to provide a copy of it to the committee.

20 MR. GORINSON: Oh, I have a copy of the reg guide.
21 I'm asking about the memoranda going to the director of NRR.

22 DR. DENTON: Yes, those are publicly available.

23 MR. GORINSON: I'd like to have copies for the
24 Commission.

25 DR. DENTON: Be glad to provide them.

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1 MR. GORINSON: Returning to this, was there a meeting
2 that was held among the staff before this memorandum went
3 forward to the commissioners?

4 DR. DENTON: We've had several meetings on this one.
5 It had been my intent, from the time I suspended licensing,
6 to return to the Commission with a recommendation, once I
7 could obtain the views of the advisory committee on reactor
8 safeguards. So I was out of town at the time, but I talked
9 by phone with my staff and returned. And I had seen earlier
10 drafts of the memo. And after discussing with them and making
11 a few changes, we went forward with this version.

12 MR. GORINSON: Who were the people on your staff that
13 you discussed this with before you went forward?

14 DR. DENTON: This would include Dr. Mattson and Ed
15 Case.

16 MR. GORINSON: And when did those discussions take
17 place?

18 DR. DENTON: They took place following the ACRS
19 meeting, which occurred earlier in August.

20 MR. GORINSON: In a newspaper article which appeared
21 in this morning's paper on this memorandum, it said that there
22 were two plants that might be going to operating license deci-
23 sion. When will you be in a position to recommend those par-
24 ticular plants?

25 DR. DENTON: It will depend on how promptly these

LA 10 1 plants can make the changes that are listed in here as a
2 requirements and also comply with those parts of the operator
3 licensing and the emergency planning memos, which also contain
4 a requirements. I think it will take at least a month and
5 perhaps longer before these changes can be made in those plants
6 and we can certify and document that they are made. And at
7 that time, I would go and brief the Commission on what changes
8 had been made and what my view was at that time, after review-
9 ing their response to these requirements.

10 MR. GORINSON: Those two plants, they went through
11 the licensing procedures at the NRC?

12 DR. DENTON: Yes, both these plants were essentially
13 completed and might have been licensed by this time if it had
14 not been for our decision to suspend licensing.

15 MR. GORINSON: So these plants went through proce-
16 dures as the existed prior to TMI 2?

17 DR. DENTON: Yes, sir.

18 MR. GORINSON: And these plants were reviewed by the
19 ACRS?

20 DR. DENTON: Yes, sir.

21 MR. GORINSON: And are you aware that Mr. Ebersole
22 of the ACRS testified yesterday?

23 DR. DENTON: Yes, I am.

24 MR. GORINSON: Is the ACRS usually provided with
25 the staff safety evaluation report?

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DR. DENTON: It is always provided with staff safety report.

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MR. GORINSON: And what does the ACRS do with that report?

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DR. DENTON: That's part of the basis for the ACRS, our advice to the Commission. They meet with a company and they review the staff's safety evaluation report. And on the basis of their total review of the applicant's case, they make a recommendation to the Commission. With regard to Salem 2, the ACRS has reviewed extensively with us the lessons learned report and the type of response that the Salem 2 applicant intends to make to the response and has provided to the Commission recently a letter indicating that they concur with the issuance of an operating license on Salem 2, provided the kinds of changes that we've discussed are made.

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MR. GORINSON: I see. But the basic document that the ACRS used prior to TMI 2 in reviewing these two plants was the SER?

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DR. DENTON: No, I think the basic document is the same document that the staff uses. It's the safety analysis report provided by the licensee. It's our review of that document that leads us to write a safety evaluation report. The ACRS also starts with the information provided by the licensee and I'm sure considers, as an important part of their review, the views of the staff in our safety evaluation report.

LA 12 1 So they don't rely exclusively on the SER.

2 MR. GORINSON: They only have a staff of 20 on the
3 ACRS, don't they?

4 DR. DENTON: That sounds correct.

5 MR. GORINSON: Is it more probably than not that they
6 rely to a good deal on the safety evaluation report, rather
7 than doing a new in-depth review of the SAR?

8 DR. DENTON: They certainly don't have the staff
9 to do a second in-depth review of the nature that the staff
10 does itself. They do form subcommittees. They meet with the
11 applicant. They tend to pick out their own areas of interest.
12 I think the areas that the staff identifies as troublesome are
13 ones that the ACRS also focuses on. But by no means is their
14 interest confined to those areas that the staff is interested
15 in.

16 MR. GORINSON: I was just interested in that, because
17 it was Mr. Ebersole's view that the safety evaluation report
18 tended to obscure safety issues rather than reveal them.

19 DR. DENTON: I would hope they would not -- I don't
20 find them that way. I think they sharpen the issues myself.
21 But we have talked to the committee historically many times
22 about how to improve the quality of our safety evaluations.
23 I think the ACRS would prefer a much more focused safety
24 evaluation report that didn't cover, area by area, all features
25 of the plant. But since our safety evaluation report serves

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1 many purposes, it's also the basic evidence that we present
 2 at hearings to document the extent of our review. So I think
 3 lots of times the ACRS is not interested in areas which turn
 4 out relatively clean, and they would prefer a more extensive
 5 discussion of areas in which there are problems. But from
 6 our standpoint, since we use it to serve many purposes, it's
 7 an across the board review of the plant.

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1 MR. CORINSON: I just have two more questions.
2 Turing to Page 2 of your memo, at the last paragraph where
3 you talk about your intent to ask the Office of Standards
4 Development to proceed, somewhere toward the end of that
5 paragraph, the next to the last sentence, you are talking
6 about an alternative to a task force recommendation, so as
7 to differentiate between an isolated occurrence and a
8 repetitive pattern.

9 If we could, referring again to that paragraph,
10 could you please tell us what the issue there is, you are
11 talking about, and could you explain to the Commission what
12 your alternative is that you are proposing?

13 MR. DENTON: The recommendation of the task force
14 is intended to get at the problem of maintenance of all the
15 important safety functions at all times while the plant is
16 operating.

17 One approach to assure the containment integrity
18 in the auxiliary feed water in ECCS and all the other vital
19 safety functions are available at all times is to do an
20 in-depth review of maintenance procedures, test procedures
21 and would be really an intensive effort to look at how the
22 plant operates.

23 A second approach would be to try to find a way,
24 a carrot on a stick approach, to assure that the utility
25 has sufficient incentive to maintain all these systems in the

1 proper condition himself, and the solution that the task
2 force came up with, I think, is a workable solution. It
3 would require that whenever a utility discovers that a plant
4 cannot perform a vital safety function, if it had been called
5 upon, such as containment integrity, a high-pressure injection
6 or any one of a number of them, the plant would be required
7 to shut down promptly. We would hold public meetings at which
8 the utility management would explain to the Commission
9 why this had happened and what they were doing about it, and
10 that we would not permit the plant to resume operation until
11 after we were satisfied with the company's response.

12 Now, we have done this in the past on an ad hoc
13 basis, depending on how severe we thought the violation
14 was. We did it, for example, during a transient at Jersey
15 Central this year, but it is not written down. It is not
16 a formalized procedure.

17 The cessation of power generation is an aspect
18 that requires a careful look. It could be instances in which
19 the safety function is immediately restored to operation
20 30 seconds after it is discovered to be out.

21 I guess when I looked at the situation and looked
22 at the pattern of occurrences that had happened in the past,
23 I became more concerned about repeated occurrences at certain
24 utilities where several times in one year they would either
25 report, our I&E personnel would report they had found a

1 condition at the plant of this type.

2 So, I guess in my view I would defer or I would
3 like to think seriously about deferring automatic shutdowns
4 for the first instance and give the utility a chance to
5 explain what managerial steps they were taking to prevent
6 its recurrence and give them an opportunity to demonstrate
7 this would work.

8 However, if it occurred again in a reasonably short
9 time period, I would take that as evidence that they had
10 serious managerial problems and at that time I would adopt
11 the full recommendation of the task force to require shutdown
12 and a meeting with the Commission before resumption of
13 operation.

14 Now, the ACRS comment on the topic was that perhaps
15 we should initiate show cause proceedings but allow the plant
16 to operate. So, there are a variety of methods by which the
17 Commission can achieve this goal, and I wanted the Commission
18 to have a spectrum and be aware of the fact that they would
19 be presented with a spectrum of alternatives when they see
20 the paper on this issue. This will require changing our
21 rules, and that is why I refer it to standards, so standards
22 will develop a commission paper laying out pros and cons of
23 adopting various regulations and the Commission can then pick
24 from its choice it prefers.

25 MR. GORINSON: I see. So, it is fair to say then

1 that the Lessons Learned Task Force view is that there should
2 be a shutdown the first time it happens?

3 MR. DENTON: Yes.

4 MR. GORINSON: And your view is to give them a second
5 chance?

6 MR. DENTON: That is my tentative view. I, also,
7 think maybe a system of fines might be another workable
8 alternative.

9 MR. GORINSON: And just at the bottom of Page 1,
10 you say, "The Lessons Learned Task Force and I, also, have
11 considered whether the actions associated with these
12 activities would foreclose other actions that subsequently
13 may be shown to be necessary by the Lessons Learned Task
14 Force, the President's Commission or the NRC Special Inquiry.
15 We have no indication that they will." Do you have any
16 indication that they won't?

17 MR. DENTON: What we asked ourselves is what types
18 of changes might be foreclosed by putting these types of
19 changes into operation. I guess I cannot identify recommenda-
20 tions that might come out of my own Lessons Learned Further
21 Group or our NRC Special Inquiry or the Presidential
22 Commission which would be foreclosed by implementing the
23 types of changes in here.

24 I thought it was important to get started on making
25 these changes in all the plants that are presently in operation

1 and that want to go into operation, and would intend to fully
2 implement the recommendations that come out of the
3 Commission or the NRC Special Inquiry at the time they come
4 out.

5 I guess in making this recommendation it should not
6 be focused solely on those plants which expect to get
7 operating licenses. I am focusing on plants that already
8 have operating licenses and the need to move promptly to
9 make the changes in those plants that we can now see are
10 necessary, and this, in my view, would not foreclose the
11 implementation of whatever recommendations the Presidential
12 Commission or others come up with.

13 MR. GORINSON: Right. Of course, the title of your
14 memo is resumption of licensing reviews. I have no further
15 questions.

16 CHAIRMAN KEMENY: I would like to pick up on that
17 title, and I would like to concentrate entirely on the issue
18 of the resumption of licensing reviews. In your document
19 you say, and I quote, you describe a certain number of steps
20 you are taking on Page 1 and then say, and I quote, are
21 necessary and sufficient for the continued safe operation
22 of operating plants and for the resumption of staff licensing
23 activities. I would like to concentrate on that part. I
24 don't wish to probe the necessary part of it. Mr. Denton,
25 how do you know that these are sufficient?

1 MR. DENTON: You don't know absolutely. I am
2 reflecting the judgment of the senior people on the task force
3 and the advice I have received from the Advisory Committee
4 on Reactor Safeguards and my own views.

5 CHAIRMAN KEMENY: Could I then ask some examples,
6 for example, one of the requirements you will have will be
7 analysis of small break loci by the utilities. Is that not
8 correct?

9 MR. DENTON: Yes, sir.

10 CHAIRMAN KEMENY: How will your office make a
11 decision as to whether the analysis the utility comes up with
12 on this is adequate or not?

13 MR. DENTON: We run our own analyses using codes
14 which have been developed through our research program for
15 our use.

16 CHAIRMAN KEMENY: Which office would do this?

17 MR. DENTON: My office performs audit calculations
18 for this type of calculation.

19 CHAIRMAN KEMENY: Would Dr. Mattson be involved
20 in that kind of evaluation?

21 MR. DENTON: Yes, he would.

22 CHAIRMAN KEMENY: Are you aware of the fact that he
23 testified yesterday that his office had necessarily neglected
24 the analysis of small break loci to a degree that he found
25 unsatisfactory because he has insufficient staffing for that?

1 MR. DENTON: No, I was not aware of that specifically.
2 We do audit calculations. We don't duplicate every calculation
3 that a licensee does.

4 CHAIRMAN KEMENY: But isn't one of the lessons to
5 be learned from Three Mile Island that relying entirely on
6 the calculations that were made by utilities without the check
7 by the NRC on whether all the routine areas have been
8 explored is an inadequate procedure?

9 MR. DENTON: We don't rely. We certainly learned
10 that we should not rely in some areas as much as we have,
11 but we have always audited a sample of all types of licensee
12 calculations. I think what we found here was that our
13 assumption that by auditing certain types of locus which
14 we thought encompassed very small breaks, turned out in fact
15 didn't, and as Dr. Michaelson has pointed out, there are
16 situations for very small breaks that we have not adequately
17 explored. We thought at the time, if you go back a year ago,
18 I think, that we were doing an adequate job in auditing
19 loci calculations. It has become clear now that we have not
20 for very small locus, and we will certainly do more in the
21 future.

22 CHAIRMAN KEMENY: In view of Dr. Mattson's state-
23 ment that he still does not have adequate staff to do a
24 major job on the analysis of small break loci, would you
25 believe that your office will be in a position within one

1 month to complete such analyses?

2 MR. DENTON: We have completed such analyses
3 already for B&W plants, and as we let them go back into
4 operation we assure ourselves that the analytical techniques
5 they were using were adequate for small break locus, and
6 we are presently now working our way through Westinghouse
7 plants and Combustion plants, and eventually we will get to
8 GE.

9 CHAIRMAN KEMENY: But you are satisfied with
10 B&W plants?

11 MR. DENTON: Yes, sir.

12 CHAIRMAN KEMENY: Then may I read you part of the
13 testimony from yesterday's hearing? Dr. Mattson had been
14 discussing a number of kinds of lessons that may be learned
15 from Three Mile Island.

16 Commissioner Taylor, and I quote, are you or
17 someone in your office following these studies to learn what
18 the results will be and in particular what implications those
19 results might have on the licensing process itself, that
20 is in areas that are directly within your office's responsibility?
21 This is Dr. Mattson's office.

22 Dr. Mattson responds in part, "We are not, and that
23 is a shortcoming," and then he goes on, "The Lessons Learned
24 Group fully recognizes that the complete engineering
25 understanding of the accident is not yet available." How is

1 that consistent with your previous statement?

2 MR. DENTON: I guess we won't have a complete
3 engineering understanding until many, many years down the
4 road when the containment is open, the core is taken out and
5 analyzed. I, at the same time, think that is no basis for
6 not acting today on the basis of what we do know, and Salem-2
7 is not that different than Salem-1.

8 CHAIRMAN KEMENY: Do you have any knowledge of what
9 recommendations the NRC Special Inquiry Group, Mr. O'Gogan's
10 group is considering?

11 MR. DENTON: No, I do not.

12 CHAIRMAN KEMENY: Do you have any knowledge of
13 what recommendations this particular Commission is considering?

14 MR. DENTON: None other than what I can infer
15 by following your activities.

16 CHAIRMAN KEMENY: Nevertheless, you reached a
17 conclusion that the step you are taking in re-opening the
18 licensing process -- you have no indication that that could
19 prejudice any of the conclusions either of these two inquiries
20 or Congressional inquiries could come up with?

21 MR. DENTON: I recognized at the time that it is
22 a policy issue on whether we resume licensing before your
23 recommendation is out or not, and I, also, considered how
24 many other committees are doing investigations. I guess I
25 came to the conclusion that we really were not by these

1 actions foreclosing, and I thought about them in some detail,
2 about what sorts of things I would anticipate to be
3 recommended, but they would not be foreclosed in these plants.
4 The plants are essentially built. If we allow them to
5 operate the system becomes radioactive, and it makes changes
6 in --

7 CHAIRMAN KEMENY: I am not speaking about the
8 plants now in operation. I am speaking about your resumption
9 of further issuing of licenses.

10 MR. DENTON: So am I. I am talking about Salem
11 which is otherwise ready to operate and by permitting it to
12 operate would make the system radioactive, and therefore the
13 down side of resuming operation without a full knowledge of
14 what you might recommend would be increased personnel
15 exposures for the types of changes that you might require
16 that we have not required in radioactive areas.

17 CHAIRMAN KEMENY: But suppose either the NRC Special
18 Inquiry or this Commission should find as one of its findings
19 that the current process of licensing by NRC staffed by the
20 current staff is totally inadequate. What would you then
21 say as to whether you foreclose some of the options?

22 MR. DENTON: Then I don't see how you can
23 distinguish between Salem-2 and the other 70 plants that are
24 running.

25 CHAIRMAN KEMENY: Except that one has been licensed,

1 and the other one hasn't.

2 MR. DENTON: I have equal jurisdiction over, this
3 office has equal jurisdiction over both, and I guess if you
4 come to the conclusion that Salem-2 is unsafe and presents
5 an undue risk, I would have to reach the same conclusion
6 regarding Salem-1.

7 CHAIRMAN KEMENY: Governor Babbitt?

8 COMMISSIONER BABBITT: Mr. Denton, you have indicated
9 that you feel quite strongly that your action does not
10 foreclose any recommendations from this Commission.

11 I wish you would again just summarize on what
12 basis you conclude that? For example, did you talk with the
13 Chairman of this Commission?

14 MR. DENTON: No, sir, I have not. I have not had
15 any discussions with any members of the Committee, Commission
16 or their staff.

17 COMMISSIONER BABBITT: You have not talked with
18 Dr. Taylor?

19 MR. DENTON: No, I have not.

20 COMMISSIONER BABBITT: Dr. Pigford?

21 MR. DENTON: No, sir.

22 COMMISSIONER BABBITT: You have not talked with
23 Mr. Gorinson?

24 MR. DENTON: No, sir.

25 COMMISSIONER BABBITT: Have you talked with any

1 of the Commission consultants?

2 MR. DENTON: No, sir.

3 COMMISSIONER BABBITT: Have you read the transcripts
4 of the Commission proceedings?

5 MR. DENTON: I followed the Commission proceedings,
6 yes.

7 COMMISSIONER BABBITT: That wasn't my question.

8 MR. DENTON: I have not read the transcripts.

9 COMMISSIONER BABBITT: Okay. What other sources
10 of information would you have that would lead you to the
11 conclusion that you are not foreclosing any actions by this
12 Commission?

13 MR. DENTON: I think I am coming at it from a
14 different perspective.

15 COMMISSIONER BABBITT: That was not my question.

16 MR. DENTON: The basis I have is one of understanding
17 the ability of utilities to make --

18 COMMISSIONER BABBITT: No, that wasn't my question
19 either. My question was what other, if any, sources of
20 information do you have as to what it is that this
21 Commission may or may not do?

22 MR. DENTON: I have no sources of information
23 other than following reports on what has transcribed in public
24 meetings here.

25 COMMISSIONER BABBITT: But you told me you had not

1 read the transcript?

2 MR. DENTON: That is correct.

3 COMMISSIONER BABBITT: So, I am still not clear
4 now would you conclude that this Commission won't do anything
5 that will be at variance with your recommendations.

6 MR. DENTON: I am not attempting --

7 COMMISSIONER BABBITT: Isn't it fair to say that
8 you, in fact, do not know what this Commission will conclude?

9 MR. DENTON: I think that is what I have been
10 trying to say. I have no knowledge of what this Commission
11 might recommend.

12 COMMISSIONER BABBITT: Therefore you have absolutely
13 no basis for saying that your recommendations do not foreclose
14 action by this Commission?

15 MR. DENTON: No, I would not agree with that. I
16 do have a basis for making that conclusion.

17 COMMISSIONER BABBITT: Let me, if I might, give
18 you a specific. Is it fair to say that the issuance of a
19 construction permit grants some rights to the utility?

20 MR. DENTON: None that I cannot revoke.

21 COMMISSIONER BABBITT: You are saying that if
22 a construction permit issues you have unilateral -- a utility
23 goes out and signs contracts for several hundred million
24 dollars on the basis of that construction permit that you,
25 Harold Denton, have unilateral authority to tear up those

1 contracts?

2 MR. DENTON: I have no control over the contracts.
3 I can revoke the construction permit if I think it presents
4 an undue risk to public health and safety at any time.

5 COMMISSIONER BABBITT: Doesn't that mean that you
6 have arbitrary authority to tell the utility that the
7 \$200 million it has spent is down the drain? You don't have
8 that kind of authority, do you?

9 MR. DENTON: The Commission certainly does.

10 COMMISSIONER BABBITT: Are you familiar with the
11 court decisions that outline rights that vest upon a
12 construction permit issuance?

13 MR. DENTON: Yes, I am.

14 COMMISSIONER BABBITT: You don't have unilateral
15 authority to simply tear that up, do you?

16 MR. DENTON: The Commission certainly has the
17 authority to suspend, modify or revoke either construction
18 permits or operating license if they find it is needed for
19 public health and safety.

20 COMMISSIONER BABBITT: Let me ask you this. Suppose
21 that you issue a construction permit in the next week and in
22 October this Commission concludes that a steam supply system
23 of a given vendor is inherently unsafe and should not be used.
24 Wouldn't that be at variance, assuming that your construction
25 permit carried contracts for that kind of steam supply

1 system? Wouldn't that be at variance with what you had
2 done?

3 MR. DENTON: Yes, it would be at variance, yes, sir.

4 COMMISSIONER BABBITT: It certainly would. Now,
5 what I am suggesting is that your commitment here to resume
6 the licensing process really implies on your part, doesn't
7 it, a judgment that the system is basically sound and that
8 we ought to proceed with nuclear development and that you are
9 content that the system is inherently sound and that there
10 won't be any big changes?

11 MR. DENTON: No, it is more --

12 COMMISSIONER BABBITT: But aren't you proceeding
13 to vest rights in utility companies to proceed on the basis
14 of the existing system?

15 MR. DENTON: I don't see it that way. I see it
16 that I am not foreclosing the ability to require whatever
17 changes would flow from your investigation.

18 COMMISSIONER BABBITT: Mr. Denton, I think you are
19 kidding me. Are you saying that you can issue a construction
20 permit approving a steam supply system one month and then
21 turn around the next month on the basis of our proceedings
22 and say, "On the basis of the Presidential Commission Report,
23 I am canceling \$200 million worth of contracts"?

24 MR. DENTON: If the Commission finds the situation
25 to be as you have described, yes.

1 COMMISSIONER BABBITT: Are you saying that you
2 will do that?

3 MR. DENTON: I am not sure I have the final say
4 in this.

5 COMMISSIONER BABBITT: But you just told me you
6 have the say to revoke permits.

7 MR. DENTON: What I would do is I would read the
8 Commission's report and the basis for its actions and give
9 considerable weight to any recommendation you make.

10 COMMISSIONER BABBITT: What you are saying is that
11 you may ignore the recommendations and that you are taking
12 steps in the meantime which will foreclose Commission action,
13 isn't that correct?

14 MR. DENTON: Well, I sure was not intending to
15 foreclose the actions of the Commission, and I guess if it
16 sounds that way, I apologize for it. I was attempting to --

17 COMMISSIONER BABBITT: Let me just ask you once
18 again, and then I will abandon this line of questioning,
19 if you issue a permit involving the purchase, a construction
20 permit premised upon the purchase of a steam supply system
21 from a vendor, and this Commission subsequently says that
22 that steam supply system is inherently defective, are you
23 affirming to me that you will revoke that permit?

24 MR. DENTON: I am affirming that we certainly have
25 the authority to, and if you make the showing that it is needed

1 for public health and safety, I have no doubt but what that
2 is the end result.

3 Actually when we talk construction permits it takes
4 so long to build a plant that allowing a plant to begin the
5 initial stages of construction does not foreclose major
6 changes in the primary nuclear steam supply system.

7 COMMISSIONER BABBITT: Have you ever revoked a
8 contract for the supply of a nuclear steam supply system?

9 MR. DENTON: No, but we have revoked operating
10 licenses for plants that have been built.

11 COMMISSIONER BABBITT: Mr. Denton, one further
12 set of questions, if I may. There is some reference to the
13 hydrogen control recommendations that the Lessons Learned
14 Task Force made. How did the ACRS respond to those hydrogen
15 control issues?

16 MR. DENTON: I have attached to my memo the
17 letter from the ACRS. It is Enclosure 1. They agree with the
18 need to improve our ability to control hydrogen generation.
19 They propose to defer implementation of the Task Force
20 requirements until a month or two, so they can look at the
21 broader question to be sure that the type of instrumentation
22 and recombiners that are being talked about are adequate.

23 COMMISSIONER BABBITT: Oka'. So, it is fair to
24 say then, isn't it, that you are proceeding with licensing
25 process in the absence of any action on the hydrogen control

1 issues and in fact, in the face of a recommendation from
2 ACRS which you have accepted in toto which says, "We are
3 going to postpone a decision on hydrogen control." Is that
4 correct?

5 MR. DENTON: But only for a month or two on
6 recombiners.

7 COMMISSIONER BABBITT: I understand, but you are
8 postponing it.

9 MR. DENTON: Yes, sir.

10 COMMISSIONER BABBITT: You right now have no
11 official position of any kind on hydrogen control, official
12 position?

13 MR. DENTON: I am not proposing one, that is right.

14 COMMISSIONER BABBITT: That means you have no
15 position?

16 MR. DENTON: Yes, sir.

17 COMMISSIONER BABBITT: And you are starting the
18 licensing process without having addressed that issue?

19 MR. DENTON: That is correct.

20 COMMISSIONER BABBITT: I have no further questions,
21 Mr. Chairman.

22 CHAIRMAN KEMENY: Commissioner Peterson?
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1 COMMISSIONER PETERSON: Thank you, Mr. Chairman.

2 Mr. Denton, I can understand why it might be in order
3 to make some changes in the currently operating plants, in light
4 of the lessons learned at Three Mile Island, to protect the
5 health and safety of the people, but I wonder why it is neces-
6 sary to move ahead with the licensing of new plants or with
7 licenses to start constructing new plants.

8 Are you under pressure from members of the Commission
9 to go ahead with the licensing?

10 MR. DENTON: No. Since I recommended the temporary
11 suspension in the first place, I felt free to end that suspen-
12 sion when I felt reasonably comfortable with the changes to be
13 made. I guess, for my own part, I have trouble distinguishing
14 between duplicate plants at the same site in terms of their
15 health and safety impact, and it seems to be to be consistent,
16 if I am going to permit Salem I to continue operation, I
17 should let Salem II go into operation, and I have no doubt but
18 I have equal authority to require changes in either plant,
19 even though they both have operating licenses, and I told the
20 Commission at the time that we suspended because I wanted to
21 be sure that the Task Force did not come up with recommendations,
22 and I wanted that chance to think about the recommendations, to
23 be sure that by letting the system become hotly radioactive,
24 we would not foreclose an ability to make changes that we
25 desire.

1 Having looked at the types of changes that were
2 being suggested, I came to the conclusion we were not fore-
3 closing an ability to make changes in plants even after they
4 had begun operation.

5 COMMISSIONER PETERSON: It would seem to me to be a
6 major difference. A plant which is currently operating may
7 have some hazardous condition which you now recognize as hazar-
8 dous in view of Three Mile Island, and you want to correct that
9 to protect the community. But why need you rush ahead with one
10 which isn't even started up yet?

11 MR. DENTON: Well, I certainly do not need to rush
12 ahead, and I gave some consideration as to which choice should
13 I make. Should I propose to the Commission to make these
14 changes on the operating plants and defer resumption of licens-
15 ing until after the Commission, the Presidential Commission's,
16 recommendation, and then I asked myself, well, if I say that,
17 should I then propose to the Commission deferral until after
18 their own inquiry group, and then what about the congressional
19 inquiry groups?

20 I guess I just didn't know where to draw the line,
21 and since I don't see any difference in my authority to effect
22 changes, and I don't see that I have foreclosed options, I
23 didn't see that for the next couple of plants, which are dupli-
24 cates of plants which are operating, that it wasn't in the
25 public interest to go ahead and allow those plants to operate,

1 since I was not foreclosing any opportunities.

2 COMMISSIONER PETERSON: Are you under any pressure
3 from the commissioners to move ahead with licensing?

4 MR. DENTON: The only pressure I feel is, I had told
5 the Commission that what I was going to do would take about
6 3 months, and they concurred in that change. So I am not under
7 any Commission -- under any pressure to resume licensing.

8 COMMISSIONER PETERSON: Are you under any pressure
9 from people outside of the Commission?

10 MR. DENTON: I think the utilities which have plants
11 that are built would like to move ahead, but I don't make
12 my decision on that basis.

13 COMMISSIONER PETERSON: Well, the economic pressure
14 to proceed with the licensing and continue the operation of
15 plants must be very high. I noticed in the morning news
16 stories about the Virginia Electric and Power Company asking
17 for a 30 to 40 percent rate increase because of two plants
18 being shut down, nuclear plants being shut down, and having
19 to purchase power elsewhere.

20 Is the economic factor a principal motivation for
21 your decisionmaking?

22 MR. DENTON: No, it really isn't. I am indifferent
23 to whether the industry survives or contributes power or not,
24 and I am really basing my decision more on the compatibility
25 between the several plants that are built and the plants that

1 are operating.

2 If the plant that was about to come into operation
3 was a new or novel design and I wasn't sure what the recommenda-
4 tions might be, I might well defer operation of it, but since
5 Salem II is a Westinghouse reactor of the same general type
6 in which there are many of them operating, I just could not,
7 in my own mind, rationalize not letting it operate because of
8 health and safety reasons, while I let other plants very similar
9 operate.

10 And so that is my rationale. It is not one based on
11 the cost, which I realize has high costs, but I put those
12 costs in the back of my mind somewhere and try not to let them
13 influence my decision.

14 COMMISSIONER PETERSON: Let me ask you a different
15 question. As I understand it, you were the ranking person
16 present in the meeting in Bethesda on the morning of Friday,
17 March 30, when the decision was made to recommend evacuation
18 of the area around Three Mile Island. Is that right?

19 MR. DENTON: I was certainly one of the ranking mem-
20 bers there.

21 COMMISSIONER PETERSON: Who was present at that meet-
22 ing?

23 MR. DENTON: I think John Davis, the Acting Director
24 of the Division of Inspection and Enforcement, was there, and I
25 also believe Lee Gossack, the Executive Director for Operations,

1 was there.

2 COMMISSIONER PETERSON: Well, I understand as a
3 result of that meeting Harold Collins, who was there, was asked
4 to call the Pennsylvania authorities to pass on this recommenda-
5 tion to evacuate the area. Do you know whom he was directed
6 to call?

7 MR. DENTON: I don't think we gave him any instruc-
8 tions on whom to call. We assumed that he had, being in state
9 programs, had familiarity with the state and would know the
10 correct people to call.

11 COMMISSIONER PETERSON: You don't have any firm
12 understanding of what is the right procedure to follow, whom
13 to notify in a state when you think an area should be evacuated?

14 MR. DENTON: That was the function of the State
15 Programs Office, and I think we assumed that Harold Collins
16 would know the proper channels to go through in that his office
17 had been dealing routinely with states.

18 I guess I do feel, in retrospect, that the Governor
19 deserved much better advice than we were able to give him
20 Friday morning.

21 COMMISSIONER PETERSON: And would you say that in
22 your meeting you had some of principals of the whole operations
23 of the Nuclear Regulatory Commission present in that meeting?

24 MR. DENTON: Yes, sir.

25 COMMISSIONER PETERSON: I understand that at the same

1 time that you were meeting at Bethesda on this issue that Dr.
2 Roger Mattson, in another room at Bethesda, independently came
3 up with the decision to recommend evacuation, and he so in-
4 formed Chairman Hendrie.

5 MR. DENTON: Well, he was across the hall, and I was
6 in touch with him at the same time also. He was working on
7 the problem of what the current status of the core was, the
8 temperatures that were being reported by the thermocouples
9 right about the fuel.

10 COMMISSIONER PETERSON: He told us yesterday that
11 he had independently come up with this and that he notified
12 Chairman Hendrie. Did you notify Chairman Hendrie that morning
13 of the meeting in which you participated?

14 MR. DENTON: Yes, I did.

15 COMMISSIONER PETERSON: Now, we heard from Governor
16 Thornburgh that when he got the message in Pennsylvania, includ-
17 ing a recommendation from the head of Emergency Preparedness,
18 Colonel Henderson, to evacuate, that when the Governor got
19 the message saying that a man named Harold Collins had called,
20 he did not know who Harold Collins was, and, properly, he
21 called Chairman Hendrie to see what the Commission's view was,
22 and Chairman Hendrie recommended it not be evacuated.

23 I wonder what understanding you have of the basis for
24 Chairman Hendrie's position.

25 MR. DENTON: When I arrived in the incident center

1 that morning, I was briefed by Roger on the fact that our views
2 of the core were changing and we were beginning to be very
3 concerned about the extensive fuel damage that had occurred
4 the radiation levels, the fact that there was a bubble in the
5 top of the vessel. I was also informed that morning that the
6 applicant, the utility had lost letdown flow and what implica-
7 tions this would bring.

8 Roger's concerns about the fact that the utility
9 might attempt to go on the RHR and therefore uncover an even
10 larger volume of the core by lowering the pressure was a mount-
11 ing concern, and then when we had a report that there had
12 been a large release of radioactivity from the plant and that
13 a helicopter had read the reading of about 1,250 MR above the
14 containment, in my mind that was the last straw. I said, the
15 situation is too uncertain. Comparing the potential downwind
16 doses to EPA guidelines means that we should begin to take
17 protective action, and that is when I think I did assume a lead
18 role in recommending that Harold Collins call the state and
19 recommend evacuation in the downwind direction.

20 We were not able to get in touch with the Commission,
21 any of the commissioners themselves, while that immediate dis-
22 cussion was going on. I think Mr. Collins did call his contact
23 in the state. By the time he had succeeded, I was on the phone
24 with the commissioners, including the Chairman, and we were
25 beginning to get reports back that the off-site doses were not

1 hundreds of MR as we had calculated might exist but really were
2 on the order of more like 10 MR an hour, and in fact I think
3 while we were discussing the topic with the Commission, with
4 the Chairman, a report came in that the release had been
5 stopped.

6 I was reacting, I think, more to the uncertainty of
7 the situation. There was no assurance that morning that anyone
8 knew where the release was coming from, how long it would con-
9 tinue, and whether or not it would be stopped.

10 In the process of talking to the commissioners and
11 getting the new information, the situation looked somewhat more
12 until control, although we still had the problem of the bubble,
13 and the Chairman did call the Governor, and between the two,
14 a decision was made on precautionary evacuation.

15 CHAIRMAN KEMENY: Governor Peterson, may I remind
16 you that it was Commission consensus that we should concentrate
17 on the subject of the resumption of licensing and then see
18 whether there is any action this Commission wishes to take. We
19 can recall Mr. Denton if necessary afterwards for any other
20 questions you wish to ask, but I am going to rule out of order
21 any questioning for this period --

22 COMMISSIONER PETERSON: All right.

23 CHAIRMAN KEMENY: -- other than those that are
24 directly connected with the question of whether this Commission
25 should take an action.

1 COMMISSIONER PETERSON: All right, Mr. Chairman.

2 MR. DENTON: Could I say something on that point?

3 It will take us, as I indicated, at least a month to get let-
4 ters out to applicants such as Salem and to review their
5 changes, and I indicated in my letter to the Commission that
6 I would, before actually issuing any licenses, I would be back
7 to them and advise them of the results of this. So I think
8 there is ample time and opportunity for the Commission to
9 express its views on this subject if it so desires.

10 CHAIRMAN KEMENY: Since you brought that up, did you
11 discuss with any members of the NRC Commission your decision
12 prior to issuing it?

13 MR. DENTON: No, I did not.

14 CHAIRMAN KEMENY: You did not go to the Chairman of
15 the NRC and say, "I, Harold Denton, am now resuming the licens-
16 ing process"?

17 MR. DENTON: That was understood, I think, from my
18 early presentations with the Commission, that once I had gotten
19 the Lessons Learned Report and the ACRS, assumed that the tech-
20 nical staffs were in agreement, we would resume. So I did not
21 feel it was necessary to go back to him, but I did want to flag
22 the policy issue so the Commission could act on it if it so
23 desired.

24 CHAIRMAN KEMENY: How many other plants are nearing
25 completion of their operating licenses besides the two you keep

1 referring to?

2 MR. DENTON: These are the only two that would have
3 any opportunity to complete the changes prior to October 25.
4 There are perhaps four more between October 25 and the end of
5 the year that might be, or one or more of the four might be
6 completed.

7 CHAIRMAN KEMENY: Would Diablo Canyon be one of
8 those?

9 MR. DENTON: Yes, it is, although it is in hearing,
10 and we would -- that is a time-consuming process in itself.

11 CHAIRMAN KEMENY: Are you aware of the fact that Mr.
12 Ebersole raised certain generic safety issues concerning that
13 particular license application?

14 MR. DENTON: No, I am not.

15 CHAIRMAN KEMENY: Then I think it might be useful for
16 you to continue reading, or start reading, the transcripts of
17 the hearings of this Commission.

18 Commissioner Lewis?

19 COMMISSIONER LEWIS: Mr. Denton, when you decided to
20 make this announcement about resuming the licensing, were you
21 aware that this Commission would be holding its public hearings
22 on the NRC?

23 MR. DENTON: Yes, I have been aware of -- you mean
24 of today?

25 COMMISSIONER LEWIS: Yes. Yesterday and today.

1 MR. DENTON: Yes.

2 COMMISSIONER LEWIS: It is an old political ploy to
3 try to deflect attention from hearings that might be a little
4 embarrassing. Was that in the back of your mind in the timing
5 of this release?

6 MR. DENTON: No, not at all. It was -- we would have
7 released it on the same day if there had not been a Presiden-
8 tial Commission meeting. I was taking a course at Harvard in
9 how to be a better government bureaucrat --

10 COMMISSIONER LEWIS: You're doing very well at it,
11 by the way.

12 MR. DENTON: -- and my interest was in moving as
13 rapidly as we could once we had the ACRS report. The ACRS
14 report was produced Friday or Saturday, 10 days ago, and I
15 had a copy of the memo that Roger Mattson had prepared flown
16 up to me a few days later. I wasn't quite satisfied with that
17 version or I could have signed it a week ago. I sent back
18 the changes I wanted to make, came home, signed it on Sunday,
19 went back to school, and I wanted to allow time for the com-
20 missioners to receive their copies and our oversight commit-
21 tees to be notified; then it was placed in the Public Document
22 Room.

23 COMMISSIONER LEWIS: Don't you think it would have
24 been at least a courtesy to have informed this Commission be-
25 fore yesterday's hearings of your intention?

1 MR. DENTON: It certainly would have been, and I
2 obviously need more schooling before I understand that process.

3 COMMISSIONER LEWIS: Thank you for that admission.

4 The Lessons Learned Task Force report basically con-
5 cerns changes in hardware and personnel. It is, in effect,
6 tinkering with the hardware process, in the safety process, but
7 we as a Commission have no signs of systematic changes inside
8 the NRC. For example, how are you going to deal with the
9 generic problems; what you are going to do about the memoranda
10 that fall within the cracks. In other words, we see no basic
11 structural changes in how you exercise your oversight of the
12 nuclear power industry, nor, frankly, do we see even a willing-
13 ness to make those kinds of broader changes.

14 Isn't this action of yours therefore somewhat pre-
15 mature?

16 MR. DENTON: I didn't see this action as premature.
17 I have given some thought to how we should reorganize the
18 office to address some of the issues that you have talked about,
19 and I have -- that is a decision that I deliberately did post-
20 pone until after the recommendation of the Presidential Commis-
21 sion. I thought it would be premature to set up new offices
22 and change the relative priorities and new organizational
23 structures without having your advice. So that is an issue I
24 did put on the back burner awaiting your advice.

25 COMMISSIONER LEWIS: Do you think it is possible to

1 make the nuclear power industry safer, and this is what people
2 are asking us to address and you to address, without having
3 made those structural changes?

4 MR. DENTON: I wanted to avoid from the outset making
5 band-aid changes, and I didn't want business as usual. I don't
6 consider that the recommendations of the Lessons Learned Task
7 Force are band-aid approaches. We are trying to address the
8 fundamental underlying causes, and the Task Force isn't com-
9 pleted. They are going to come back with a second report
10 that deals with issues of single failure criteria, more funda-
11 mental concepts -- the use of risk assessment in the licensing
12 process -- but I see these kinds of changes will take longer
13 to implement.

14 So my concern was that we implement those changes
15 such as shift technical advisors, better attention to limiting
16 conditions for operation and these kinds of things now, and I
17 would intend to implement the longer term lessons as they be-
18 come available.

19 I would anticipate that we might change our organiza-
20 tional structure, and in fact we have already begun to do so
21 in the area of License Event Reports. This is an area which
22 no one was satisfied with, has been satisfied with for years,
23 but we have just not addressed it in an organizational fashion.
24 The Commission now has established an office reporting to the
25 Executive Director operation whose sole function will be to

1 review operating experience and make recommendations to the
2 various offices on changes that should be made, and I think
3 they are in the process of searching for a director for that
4 office, and I see that kind of structural strengthening of the
5 agency as being very likely in the future.

6 COMMISSIONER LEWIS: But in the interim, you are
7 pressing on with business as usual.

8 MR. DENTON: Well, I --

9 COMMISSIONER LEWIS: That is the impression that is
10 left with us, and I think with the public, that before these
11 major changes have been made, you are going to move on with
12 the licensing process.

13 It seems to me, Mr. Chairman, that it shows a kind
14 of sense of the NRC thumbing its nose at this Commission, and
15 I hope that later when we deliberate we might decide what ac-
16 tion we want to take.

17 CHAIRMAN KEMENY: Thank you, Commissioner Lewis.

18 Commissioner McPherson?

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COMMISSIONER MC PHERSON: Chairman Denton -- Mr. Denton -- you are not Chairman, although as I read the letter that you wrote this morning, it seems almost as if you have the authority of the Chairman of the Commission. You say, "I have decided to resume staff licensing activities," and you did not discuss this with the Commission beforehand. This is in your authority to do.

MR. DENTON: It is a delegated authority and, over the years, we take action in issuing licenses or suspending licenses, and seek the Commission's guidance as necessary. In this one, the Commission was fully aware of my plan at the time that I suspended, and they were aware of what conditions had to be met to resume, and it would be my expectation that they would expect me to propose this, once I have satisfied myself and the ACRS.

COMMISSIONER MC PHERSON: Well, is this a proposal or a statement?

MR. DENTON: This is a statement that we are resuming licensing reviews. Now, I have also told them that no license will be issued until they have a chance to review the results of this increased review. And, of course, at any time they can decide that they would like to have something done differently. So I wasn't foreclosing their involvement at all; they are still standing at the gate and can open it or close it as they see fit.

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1 But I felt that it was important -- and I know you
2 don't want to talk about the operating plants -- but I had that
3 in mind as much as I did the one or two plants that would be
4 ready for operating license, and I just swept them into the
5 same plan.

6 COMMISSIONER MC PHERSON: I can appreciate that. The
7 newspaper story this morning says, "Harold R. Denton said the
8 first completed application for an operating license probably
9 will be ready for a final decision in about a month. The
10 plant, probably Salem 2 in New Jersey or North Anna 2 in Mineral,
11 Virginia, could then load its uranium fuel immediately and
12 start operations about a week later."

13 Now, the operating license that will be ready for a
14 final decision in about a month -- will that decision be made
15 by the staff of the Commission or by the commissioners?

16 MR. DENTON: Well, if it is in hearing, as North
17 Anna is, it will require a decision by the Board that is favora-
18 ble to the issuance of an operating license before I can issue
19 one. And so I would --

20 COMMISSIONER MC PHERSON: But that is by the licensing
21 board.

22 MR. DENTON: That is by the licensing board, so what
23 I would do, I would require North Anna to make these changes;
24 I would review the changes; I would document our assessment of
25 them, send that to the board, adjudicate the issue, and if the

1 board issues a favorable decision in that case, I would issue
2 an operating license pursuant to the direction of the board.

3 Now, in Salem, there is no board sitting, and so we
4 can issue a license at our discretion when we think they meet
5 the requirements of the Commission.

6 COMMISSIONER MC PHERSON: The reason for the question
7 is that it appears, in the nature of the memorandum and in the
8 nature of the newspaper story, that the Commission itself, the
9 Nuclear Regulatory Commission, operating five months after
10 TMI-2 is nevertheless not explicitly in this ballgame. It is
11 between the licensing board and your decision as to whether to
12 permit Salem 2 or North Anna 2 to proceed into operation.

13 Is that incorrect?

14 MR. DENTON: Normally, the Commission, in their
15 adjudicatory role, are excluded from participating in individual
16 cases until the case reaches --

17 COMMISSIONER MC PHERSON: Well, I am talking about the
18 policy here of going ahead with the licensing.

19 MR. DENTON: Well, in North Anna, I could not discuss,
20 under normal circumstances, my review of North Anna with the
21 Commission except through the adjudicatory process. I can
22 discuss Salem with the Commission, since there is no sitting
23 board.

24 So I intended to leave them fully in the process. I
25 see, as part of my role in the Commission, as being the

1 proposer of changes such as this. Someone has to initiate a
2 direction to go.

3 COMMISSIONER MC PHERSON: Well, let me ask you this,
4 just to finish up this line of questioning: Are you inviting
5 the Commission to say, "Go ahead, Denton" or "Stop, Denton"?

6 MR. DENTON: I am inviting them to advise me as they
7 see fit, and this memo --

8 COMMISSIONER MC PHERSON: If the Commission wants to
9 say "Don't do this until the President of the Commission pro-
10 ceeds," then you would certainly recognize the Commission's
11 authority to do that.

12 MR. DENTON: Certainly. That is right. And the time-
13 frames are such that I think they have ample opportunity, before
14 we get very far down the resumption of the reviews.

15 COMMISSIONER MC PHERSON: I understand. The newspaper
16 report also says, quotes you in an interview as saying, "It is
17 unlikely that any of the other review groups will come up with
18 anything that would foreclose these changes." You have dis-
19 cussed what you meant by that earlier.

20 "By and large, this covers the hardware issue" --
21 "this" meaning in your submission yesterday. "The other groups
22 will be making more policy recommendations than hardware ones."
23 That, I assume, includes the President's Commission, that we
24 would be making policy recommendations.

25 MR. DENTON: Well, I retract and say I have no knowledge

1 of what the Presidential Commission may --

2 COMMISSIONER MC PHERSON: Well, assuming for the
3 moment that this represents your view in general of the nature
4 of this Commission's recommendation -- let me just assume that
5 it does, whether it is entirely accurate -- this is precisely
6 the problem, Mr. Denton, that this Commission has been very
7 worried about. It has been the concentration on hardware,
8 as Commissioner Lewis says, by the Nuclear Regulatory Commission
9 that has resulted, in our view, in inadequate regulation of this
10 industry and in the unsafe regulation of this industry, in my
11 judgment.

12 Now, yesterday, we had a good deal of testimony from
13 Mr. Collins, the training man in NRC. Mr. Collins answered ques-
14 tions as follows -- since I know you don't have this testimony,
15 it just was printed this morning.

16 (Whereupon, Commissioner McPherson proceeded to
17 read from testimony of the previous day, as follows:)

18 Mr. Kane, our counsel: Permitting him to function,
19 assuming that someone had failed a couple of parts of the test,
20 failed the safety part and failed the part relating to emergency
21 equipment and procedures, permitting him to function as a
22 licensed operator then would be notwithstanding his poor per-
23 formance in those two parts related to safety and emergency
24 equipment and procedures specifically.

25 Mr. Collins: Correct.

1 Does the NRC impose any specific requirements for
2 qualifications of instructors in these courses?

3 No, we do not.

4 What about simulator training? Simulator training
5 in the requalification program is not audited at all by the
6 NRC, is it?

7 No, it is not.

8 Mr. Kane: Is it true that the NRC requires no
9 psychological evaluation for licensed applicants and no investi-
10 gation of an applicant's criminal record or employment history?

11 This is correct.

12 Cross licensing --

13 (End of quoting from transcript.)

14 COMMISSIONER MC PHERSON: Now, cross licensing, as
15 I understand it, applies particularly where there is a TMI-1
16 and TMI-2, two plants on the same site. And I must say that
17 there is a certain chill that goes into my spine when I see
18 that the two next in line to be considered are something called
19 Salem-2 and North Anna-2, because the reason we exist here is
20 because of TMI-2, and your question as to whether there is any
21 difference between continuing Salem-1 and permitting Salem-2
22 to come into being goes right to that question, it seems to
23 me, because it was TMI-2 where the problem occurred.

24 (Commissioner McPherson continues to read from testi-
25 mony of the previous day:)

1 Cross licensing, as I understand it, is a program for
2 an individual license at one plant to be licensed at another
3 similar plant if he completes a differences course and a differ-
4 ences examination administered by the utility. Does the NRC
5 audit this differences course?

6 No, we do not.

7 (End of quoting from transcript.)

8 COMMISSIONER MC PHERSON: Now, that would apply, as
9 I understand it, to Salem-2 and North Anna-2.

10 (Commissioner McPherson continues to read from testi-
11 mony of the previous day:)

12 Does the NRC receive the results of the differences
13 examination given by the utility?

14 On occasion we have, but it is not a mandatory
15 practice.

16 But the NRC does not regularly receive the results
17 of the examination?

18 No.

19 Does the NRC even know what questions the individual
20 is asked on these examinations?

21 No.

22 Does the NRC require any examination of its own in
23 this regard?

24 No.

25 Mr. Kane: Does the NRC have any requirement that

1 significant transients at nuclear reactors be incorporated into
2 classroom or simulator training?

3 There is no regulation for it, no.

4 Mr. Kane: It is also true that saturation conditions
5 in the reactor coolant system has not been covered in training
6 because that condition was just not considered that possible?

7 I believe so, yes.

8 Is it true that questions on the relationship between
9 pressurizer level and core coolant level have not been included
10 in NRC examination because it was assumed that if you have a
11 water level in the pressurizer, you have solid water below that
12 in the reactor coolant system?

13 Mr. Collins: That is true.

14 (End of quoting from transcript.)

15 COMMISSIONER MC PHERSON: Now, that was some of the
16 testimony we received yesterday as to training. Mr. Collins
17 said toward of his questioning yesterday that the training
18 department of the NRC is undermanned and has been for a long
19 time. He simply doesn't have the staff to send out and to check
20 into the nature of the training that is being given, the quality
21 of it, and whether the operators are adequately trained, except
22 through the examination procedure, the initial examination
23 procedure.

24 We have had evidence from a number of people, including
25 Governor Thornburg, as to the inadequacy on Wednesday, certainly,

1 and probably on Tuesday, March 30th, of the emergency planning
2 system, the emergency planning readiness at Three Mile Island.
3 We have had copious testimony, Mr. Denton, and I hope it
4 will really -- I am serious about this -- I hope it will be
5 possible for you to read this testimony from the supplier at
6 Three Mile Island, Babcock and Wilcox -- copious testimony of
7 the infuriating difficulty of surfacing serious safety issues
8 up through the supplier.

9 MR. DENTON: I have read parts of that testimony.

10 COMMISSIONER MC PHERSON: You have read parts of
11 that testimony, Mr. Dunn and Mr. Kelly --

12 MR. DENTON: Yes, sir.

13 COMMISSIONER MC PHERSON: Yesterday we had testimony
14 from Mr. Creswell about the equally infuriating difficulty
15 of surfacing serious safety issues within the NRC, coming up
16 from the bottom, from the places where the engineer is face to
17 face with the event, makes the examination, and then tries to
18 surface it; where a TVA scientist, technician, Mr. Michaelson,
19 sends the same thing up with great difficulty in getting it
20 brought to the attention of senior management in the NRC.

21 We have had testimony, certainly in our depositions,
22 about the breakdown in communications between -- I am talking
23 about sheer physical communications, the ability to get somebody
24 on a telephone -- between the NRC and the licensing plants,
25 between elements of the NRC itself, between staff of the NRC,

1 between the commissioners and the staff at a crucial time,
2 on Wednesday, Thursday, Friday, Saturday, Sunday, five days
3 of this event, when I believe it is true that the commissioners
4 did not know what the staff believed was happening. And I
5 believe elements of the staff did not know what each other
6 thought, and I certainly believe that Governor Thornburg, who
7 bore the responsibility for declaring evacuation or not, had
8 the worst kind of difficulty in getting a clear picture from
9 the NRC.

10 I don't know what the situation is with radiation
11 monitoring. I guess that is still to come. In any event,
12 90 percent of what I have just been making a speech about here
13 is not hardware; I guess it would come under policy recommenda-
14 tions. Now, that is what we have been at here. Most of us
15 here are not capable of walking into a nuclear plant and defining
16 where the tail pipe is, where the candy cane is, and all the
17 rest of it. I can't do that, even though I have been up to
18 Three Mile Island. But I sure am capable of hearing people tell
19 about these policy questions which will result in future TMI-2's
20 unless corrected, in my judgment. I don't think there is any
21 doubt that they will, and that those future TMI's will be just
22 as inadequately addressed beforehand, during, and immediately
23 afterwards as TMI-2 was, unless these things are changed. And
24 it is not just the hardware that needs changing.

25 Now, my difficulty with your order of yesterday is,

1 very frankly, your judgment that if you stopped the licensing
2 procedure right now, that there is some kind of an illogic
3 in not going back and closing down the 70 plants that are
4 presently operating.

5 Part of the difficulty of a regulator is to deal with
6 illogic. There is a certain illogic in doing that. The question
7 is whether you want to add the difficulty that could be imposed
8 by failing to address and correct these matters to a Salem-2
9 or a North Anna-2, on top of what already exists with a Salem-1
10 and a North Anna-1.

11 That is the question. You have made the decision
12 that you might as well go ahead because you have addressed the
13 hardware questions here, without waiting for this Commission
14 which President Carter, I believe, is looking to for some
15 guidance, as he has said repeatedly in public statements, on
16 safety questions -- how to make nuclear power safe -- and we
17 are going to, I can assure you, to address these questions in
18 detail with recommendations in the belief that they will help
19 to make nuclear power safer -- that you have gone ahead and
20 said let's go ahead and license before we hear from the Commis-
21 sion or before we make sure that our own analysis has not only
22 covered these matters, but has set in train the implementation
23 of those changes.

24 That is my difference with you. Now, that is a speech.
25 You are entitled to make a speech in reply.

1 MR. DENTON: Well, let me say I share exactly your
2 concerns, and that is why I didn't concentrate on just the
3 lessons learned. We have also provided the Commission the
4 changes we want to make in the emergency planning, the changes
5 we want to make in operator training. I, too, am disturbed
6 that operator training has been treated as a subject apart, and
7 what we really are looking for is excellence of operation;
8 that we have to have a system that integrates not just the
9 hardware, but the people part of the plant. I have made
10 repeated speeches to utilities of the need to not operate these
11 plants like coal-fired plants. I visited O'Cony while it
12 was shut down, talked to the operators, and ascertained that
13 they really did not understand the changes that we had required
14 just in their area of the order, and even at O'Cony we raised
15 the passing grade, changed the nature of the testing and the
16 training of the operators, and I expect to make major changes
17 in integrating the operator training role.

18 And with regard to simulator training, they have not
19 been adequately trained. They have been trained for design-
20 basis accidents. We should obviously expand that, and train
21 them for a wide spectrum of accidents. I expect to train my
22 own staff on simulators, to model more Chapter 15 accidents, to
23 see that we really understand how it goes.

24 So I would not like to go ahead either on just hard-
25 ware, so I do have the concurrence of the Commission with

1 regard to the emergency planning changes and with regard in
2 general to the operator training direction we are going.

3 COMMISSIONER MC PHERSON: Does that mean you won't
4 do so?

5 MR. DENTON: Excuse me?

6 COMMISSIONER MC PHERSON: That you will not do so?
7 Is that what you just said? You will not go ahead with licen-
8 sing until you have the concurrence of the Commission on
9 emergency planning and training changes?

10 MR. DENTON: Yes, sir. I said I have the general
11 concurrence of the Commission from talking about these subjects
12 with them in the past, and they have papers before them out-
13 lining the kinds of changes I would require in Salem before
14 going ahead.

15 Now, I consider the shift technical adviser as some-
16 what of a stop-gap measure to compensate for getting all the
17 operators retrained and up to speed, and I considered very
18 carefully whether I would be seen as preempting the various
19 investigations that are going on and, weighing the pros and
20 cons, I came down on the side that we should proceed and treat
21 them as though they were operating plants, and that I didn't
22 have any difference in authority to make changes.

23 I can understand your perspective that we shouldn't
24 go ahead, and it wouldn't bother me at all if the Commission
25 decides, or if you decide to recommend to the Commission not

1 to proceed. I was just trying to weigh where was the public's
2 interest better served -- to lump them in with the plants that
3 operate or leave them out -- and I am not advocating on this
4 close call one way or the other.

5 And if it is seen by my Commission or by you as being
6 the improper role to take, that is fine with me, too. I don't
7 want you to think I am an advocate full speed ahead on these.
8 I did try to make a balance and reach a decision, and I obviously
9 reached a different one than you would.

10 COMMISSIONER MC PHERSON: Well, it is not, I can
11 assure you, on my part, Mr. Denton, it is not a matter of what
12 the French would call amour propre. It is not a matter of our
13 nose being out of joint because you have ignored either the
14 thrust of the hearings here, or that you have chosen not to
15 wait for this Commission's report. It is a genuine concern
16 that the present system of regulation can easily result in
17 unsafe operations, and that at the heart of that is not hard-
18 ware considerations, but human ones.

19 Let me ask just two final questions, Mr. Chairman,
20 and then I will be done.

21 To make sure I understand what will happen with this
22 list that you have provided, this A list and B list, what will
23 happen to existing operating plants if these A list category
24 requirements are not met by January 1, 1980?

25 MR. DENTON: The way I would implement these, I would

1 implement these, I would send letters to all operating plants
2 and plants under construction, particularized to their status,
3 saying please reply in X days a commitment to do these things.

4 Now, let's assume an operator wrote back and said
5 I don't think we need to do post-accident sampling at all --
6 I mean that is a possibility that someone would say that --
7 then I would be faced with a choice of how do I effect the
8 changes I would like to make. And I would probably move toward
9 orders, and I would ask --

10 COMMISSIONER MC PHERSON: You would move to what?

11 MR. DENTON: Toward issuance of an order, ordering
12 them to make this change or suspend the operating license.
13 That would be the lever at which to assure that these changes
14 are made.

15 Now, I have indicated some flexibility in schedule,
16 that if they can't make it on January, but show a good faith
17 attempt or there is a procurement problem, or something just
18 cannot be gotten, designed, and installed right on the date,
19 I might make some exceptions to the schedule, but otherwise I
20 would expect to implement all these changes in all the operating
21 plants in the U. S. by the end of '81, and I would expect to
22 get a large fraction of them implemented much earlier.

23 COMMISSIONER MC PHERSON: Will the Salem-2 and North
24 Anna-2 plants have to meet all these criteria?

25 MR. DENTON: They would have to meet all the A's.

1 COMMISSIONER MC PHERSON: All the A's?

2 MR. DENTON: Yes, sir.

3 COMMISSIONER MC PHERSON: Before the license can be
4 issued.

5 MR. DENTON: That is correct. But these are those
6 which I thought would take a longer time for design, procurement,
7 and installation, and could not be put in in the short term.

8 Certainly, the administrative-type changes I would
9 expect to be met immediately.

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1 CHAIRMAN KEMENY: Mr. Denton, did I understand
2 correctly that you have during the three-month moratorium
3 provided a number of memoranda for the Commissioners on the
4 subject? I hereby request copies of all memoranda you have
5 written as an individual to any member of the Commission
6 or to the Commissioners during the past three months.

7 MR. DENTON: All right.

8 CHAIRMAN KEMENY: We have three Commissioners
9 waiting. The order will be Commissioner Pigford, then
10 Commissioner Marrett and then Commissioner Taylor.

11 COMMISSIONER PIGFORD: Mr. Denton, to follow up
12 on Commissioner's McPherson's point, there does appear to be
13 one non-hardware issue in your present enclosure, and it is a
14 Category A of high priority, and that is apparently in the
15 issue of emergency procedures for handling loss of coolant
16 accidents. Is that correct?

17 MR. DENTON: Yes, sir.

18 COMMISSIONER PIGFORD: And I suppose you have
19 come to this position in light of the existing reviews
20 by NRC of what has been learned from Three Mile Island, like
21 for example, the Todesco Report and the I&E Report, New Reg
22 0600. Can we call that the Stello Report? Is that the way
23 you call it?

24 MR. DENTON: That is fine.

25 COMMISSIONER PIGFORD: Now, so the emergency

1 procedures we learned yesterday from Mr. Collins are at least,
2 on the man-machine interface, this is the guidance to the
3 operators and in his testing of operators he uses these
4 emergency procedures then that are in existence to formulate
5 his examinations to see if the operators are adequate,
6 adequately trained. They are important then. Now, is there
7 someone within your staff that evaluates the emergency
8 procedures?

9 What we have done in this area of small break LOCA's
10 for starting first with B&W is we have assembled teams of
11 people who are able to translate through radical analyses
12 of small break LOCA's to bridge the gap between a theoretical
13 analysis and the translation of those requirements into
14 procedures.

15 So, we have had teams of people visiting every
16 plant who are thoroughly knowledgeable with the analytical
17 models and results who do read and review the procedures and
18 make sure that the procedures will implement what the
19 theorists want done.

20 COMMISSIONER PIGFORD: Who is the principal leader
21 of that team?

22 MR. DENTON: Dr. Ross.

23 COMMISSIONER PIGFORD: Ross. Is he within your
24 Division or office?

25 MR. DENTON: Yes, sir.

1 COMMISSIONER PIGFORD: All right. So, you have come
2 to this conclusion that the procedures could be given a
3 Category A rating, especially those procedures related to
4 loss of coolant accident and so forth.

5 We see a Category A rating on Page 5 of your
6 Enclosure 6. In fact, it appears that the preparation of
7 emergency procedure guidelines must be just about complete,
8 because it is slated for September, and that means that
9 would include your evaluation of existing procedures. Is
10 that correct?

11 MR. DENTON: What is going on in this area is
12 meetings with the various suppliers, like B&W, Westinghouse
13 and Combustion Engineering, and owners groups of utilities
14 who own these types of plants, wherein the nuclear steam
15 supply system design is preparing guidelines applicable to
16 all plants, and then these guidelines will be taken plant by
17 plant and turned into procedures where the correct valve
18 designations get added.

19 So, the activity of Item 1 is the development of
20 guidelines by the vendors which will be followed by the
21 plants themselves.

22 COMMISSIONER PIGFORD: Yes, of course, and I am sure
23 that in arriving at your current conclusion it is based, also,
24 upon the evaluation of lessons learned from TMI, hardware,
25 operator error, procedures and so forth. Is that correct?

1 MR. DENTON: Yes, sir.

2 COMMISSIONER PIGFORD: And apparently the conclusion
3 is that among the lessons learned is that if the operators
4 at TMI had followed the procedures the accident would not
5 have occurred. Is that correct?

6 MR. DENTON: If they had not turned off the
7 high-pressure injection system the accident would not have
8 occurred. They had procedures which were not clear enough
9 to indicate what was happening. They followed some
10 procedures but not others. So, I think if they followed --

11 COMMISSIONER PIGFORD: You disagree with the
12 conclusions of the Stello Report that said that if the
13 operators had followed the procedures the accident would not
14 have occurred?

15 MR. DENTON: I have not spent the time in looking
16 at the procedures that I&E has, and I would defer to their
17 conclusion. I guess from the design standpoint and knowing
18 what I know about procedures, I would sure like in the future
19 to have a better indication in the procedures as to what
20 should be followed.

21 COMMISSIONER PIGFORD: Yes.

22 MR. DENTON: They followed some procedures, and
23 it turned out they followed the wrong ones.

24 COMMISSIONER PIGFORD: You want to defer to that
25 conclusion and Mr. Ross who is responsible for evaluating

1 procedures is in your organization. Have you discussed this
2 with him, the adequacy of the procedures?

3 MR. DENTON: Not the specific TMI Report. We are
4 going plant by plant, reviewing the changes they are making
5 in response to small break LOCA analyses.

6 COMMISSIONER PIGFORD: Apparently Mr. Stello's
7 conclusion is as I stated. It is written down, and it has
8 been highlighted. It appeared and was tested many times
9 in the briefing of August 2 to the NRC Commissioners.

10 Were you at that briefing?

11 MR. DENTON: Yes, I was.

12 COMMISSIONER PIGFORD: And you have heard that
13 statement before?

14 MR. DENTON: Yes.

15 COMMISSIONER PIGFORD: And you defer to him. It
16 means you accept it. Is that right?

17 MR. DENTON: It means I don't read the -- I have not
18 read in detail the TMI procedures one by one. I have a
19 general perception that the procedures were somewhat
20 ambiguous at TMI as to which one to follow, and I take as my
21 charter to remove that ambiguity in the future.

22 COMMISSIONER PIGFORD: Yes. I am a little bothered
23 by the deference, Mr. Denton, but I guess it is logical.
24 You are saying that there are people more expert who have
25 examined it in detail, but you finally had to make the

1 evaluation that all of these things are there because this
2 is your paper, your recommendation and your authority, and
3 you have, yourself then, made an evaluation on the procedures,
4 maybe because of your trust in other people, but you simply
5 have not let it go by you, have you?

6 MR. DENTON: Let us start first with the B&W plants,
7 for example. We made the explicit finding before we let them
8 resume operation that the procedures were adequate, that they
9 did reflect all the full spectrum of analyses as to what
10 might happen, the pressurizer level and other important
11 parameters, and we are going plant by plant, being sure that
12 that exists in the future.

13 I am not responsible for the investigation of the
14 TMI accident itself. They have had many people in that
15 accident reviewing extensive reviews of the pre-TMI procedures
16 at TMI, and my group has not attempted to investigate the
17 nature of the procedures that existed prior to the accident.

18 COMMISSIONER PIGFORD: Your group has not?

19 MR. DENTON: Not at TMI. That is an I&E function.

20 COMMISSIONER PIGFORD: I see, and are you aware
21 that the ECRS has not evaluated those procedures?

22 MR. DENTON: I would not be surprised.

23 COMMISSIONER PIGFORD: And it has not evaluated
24 any procedures. Therefore Dr. Karpin's recommendation in his
25 letter does not, cannot be based upon any independent evaluation

1 evaluation by them about adequacy of procedures?

2 MR. DENTON: That is certainly true in any
3 detailed sense.

4 COMMISSIONER PIGFORD: If you had some idea,
5 yourself, that the TMI emergency procedures were inadequate,
6 wouldn't you have objected then to the conclusion of the
7 Stello Report, especially when you heard it highlighted at
8 the August 2 meeting?

9 MR. DENTON: I don't think that we are that far
10 apart. The investigation did a lot of study. They read
11 the particular procedures, and the investigation concluded
12 that there were procedures available at TMI, which if they
13 had been followed would have eliminated the accident.

14 I know that the operators followed some procedures,
15 and they followed the wrong procedures in some area in some
16 of the actions they took. So, I have not attempted to have
17 my staff differentiate between the instructions in these
18 procedures as to what to follow. I am just more making the
19 point that it is important in the future to be sure that
20 the operator recognizes what procedure to pull out of the
21 bin, given certain indications and that he follows the right
22 procedure.

23 COMMISSIONER PIGFORD: And what I am getting at
24 is are you really ready to make this recommendation which
25 by the list of items implies that by making it you have

1 evaluated the procedures?

2 MR. DENTON: Before Salem-2 would start up I would
3 send the same team of people that I sent to Okony, for
4 example, to review in detail whether or not their procedures
5 adequately couple with the analyses done by Westinghouse
6 on that plant and whether or not the operators can demonstrate
7 a knowledge.

8 COMMISSIONER PIGFORD: That was the same team that
9 reviewed the TMI-2 procedures?

10 MR. DENTON: No, sir. No, this is a different one.

11 COMMISSIONER PIGFORD: Those procedures were
12 reviewed by your organization, weren't they?

13 MR. DENTON: No, they weren't.

14 COMMISSIONER PIGFORD: You originally gave them
15 the license?

16 MR. DENTON: That is correct.

17 COMMISSIONER PIGFORD: I thought the procedures
18 were reviewed by your organization.

19 MR. DENTON: Detail procedures are reviewed by
20 inspectors in the field. Now, we have modified that approach
21 following TMI and following the shutdown of all B&W plants
22 at which we sent to the regions, to the various plants,
23 people from my staff who were familiar with the theoretical
24 side of analysis, and my staff together with the I&E inspectors
25 went through the procedures to be sure they coupled, and that

1 is what we would do at Salem-2 before allowing it to resume
2 operation.

3 COMMISSIONER PIGFORD: Technical specifications
4 for a license are reviewed by your organization, are they
5 not?

6 MR. DENTON: Yes.

7 COMMISSIONER PIGFORD: And a technical specification
8 at Three Mile Island-2 says that in the hot shutdown
9 condition pressurizer level must be maintained at less than
10 385 inches, period.

11 MR. DENTON: Yes.

12 COMMISSIONER PIGFORD: And it would be illegal
13 for the operator to violate that technical spec. Is that
14 right?

15 MR. DENTON: Yes, sir, but we issue the license
16 and put the conditions in the license on the bounds of plant
17 operation. Now, the separation between the offices is such
18 that the inspectors review the detailed procedures that
19 implement their means of conforming to the license, whereas
20 procedures may be thousands of pages and quite detailed.
21 That has always been a function of the Office of Inspection
22 and Enforcement, to be sure the procedures reflect what the
23 license requires.

24 COMMISSIONER PIGFORD: A lot of procedures to
25 evaluation, and it is Inspection Enforcement's responsibility,

1 at least it has been in the past?

2 MR. DENTON: Yes.

3 COMMISSIONER DENTON: And your present position
4 then is based upon your accepting the Inspection and Enforcement's
5 view on the adequacy of procedures?

6 MR. DENTON: Plus a stated intention to specifically
7 review small break analysis procedures in detail by a
8 combination of my staff and --

9 COMMISSIONER PIGFORD: That is what you are going
10 to do.

11 MR. DENTON: It is what we will do. It is what
12 we have done for all B&W plants. We are doing it plant by
13 plant now on all plants in operation, and we will do it
14 explicitly for Salem-2, for example, before I would permit
15 them to go into operation.

16 COMMISSIONER PIGFORD: And you have not done it
17 for Three Mile Island-2?

18 MR. DENTON: I have not looked at all at Three
19 Mile Island-2, that is right.

20 COMMISSIONER PIGFORD: Incredible because that is
21 the place to learn lessons from. Why not? Simply because
22 some other group has assigned the responsibility of
23 investigating Three Mile Island-2?

24 MR. DENTON: It is a division of manpower. Our
25 people doing this review read the I&E inspection report. They

1 don't need to go back and read the TMI procedures themselves.

2 COMMISSIONER PIGFORD: Okay. Later on, perhaps
3 depending upon what happens, there will be further inquiry
4 into the procedures, but it certainly does appear that your
5 present position which has adequacy of procedures as a very
6 strong element in it must then be based upon your final
7 conclusion, you, personally, that your approach is adequate
8 in this area. It has to be, doesn't it?

9 MR. DENTON: I was personally involved in the
10 first B&W plant that we let resume operation. I visited the
11 plant. I read the procedures. I queried the operators and
12 for each B&W plant after that I went over carefully with my
13 team of specialists what they had found, and we had made many
14 changes in the procedures themselves for small break analyses,
15 and that same team is visiting every plant and will visit
16 any plant that needs an operating license.

17 COMMISSIONER PIGFORD: Okay, now, is Okony one of
18 those?

19 MR. DENTON: O'Kony is an operating plant.

20 COMMISSIONER PIGFORD: All right, and are you
21 aware that the new procedure for the small break loss of
22 coolant accident there still calls for the operator to
23 throttle the high-pressure injection to maintain pressurizer
24 level?

25 MR. DENTON: I know that we have reviewed Okony

1 MR. DENTON: There are multitudinous procedures,
2 and I need to --

3 COMMISSIONER PIGFORD: In Three Mile Island I only
4 found one, but if there is an instruction to the operator
5 that for the small break loss of coolant accident at Okony
6 you must throttle the HPI to maintain pressurizer level, would
7 you be happy with that?

8 MR. DENTON: Taken in context I would be because
9 we have required that they install feed water flow indicators
10 in the control room. We have taken a number of other steps,
11 and you have to read the entire procedure and the changes
12 made, than just looking at the one isolated example. I would
13 be happy to respond more fully on that one, but I guess I
14 cannot respond to an isolated statement.

15 COMMISSIONER PIGFORD: Was this --

16 MR. DENTON: I don't know what steps they have
17 taken before that or after that. I mean procedures are
18 sequential matters.

19 CHAIRMAN KEMENY: Mr. Denton, just to pin it down
20 without talking about that procedure, was it not the operators'
21 understanding that they are supposed to follow a procedure
22 like that that was one of the major causes of the accident
23 at Three Mile Island-2?

24 MR. DENTON: Their major cause was their attempt
25 to maintain pressurizer level.

1 CHAIRMAN KEMENY: I would like a yes or no answer
2 to my question, Mr. Denton.

3 MR. DENTON: Would you repeat it for me, please?

4 CHAIRMAN KEMENY: Yes. Without asking whether
5 this is correct about Okony, wasn't one of the major causes
6 of the accident at Three Mile Island-2 that the operators
7 employed a procedure that followed exactly those instructions
8 or their understanding was that that was what they were
9 supposed to do?

10 MR. DENTON: Yes.

11 COMMISSIONER PIGFORD: Isn't it, also, correct
12 there was a technical spec, which is the technical specs
13 are the most important identified items of all, aren't they,
14 that says, "The operator may not exceed a pressurized level
15 greater than 385 inches in the hot shutdown condition," may
16 not, period? You are aware of that?

17 MR. DENTON: Yes.

18 COMMISSIONER PIGFORD: Now, Mr. Denton --

19 CHAIRMAN KEMENY: There is a matter of personal
20 privilege here, and we will come back to you, I assure you,
21 on your line of questioning.

22 COMMISSIONER PIGFORD: All right, certainly.

23 CHAIRMAN KEMENY: But the member of the Commission
24 has to leave before we will be able to have our session, and
25 he has asked for a chance to make a statement. Will you

1 defer to him?

2 COMMISSIONER PIGFORD: Certainly.

3 CHAIRMAN KEMENY: Governor Babbitt?

4 COMMISSIONER BABBITT: Professor Pigford, thank
5 you.

6 Mr. Chairman, I must leave, but I do want to leave
7 with the understanding that I support very firmly the
8 consideration of a request by this Commission to the Nuclear
9 Regulatory Commission that it instruct Mr. Denton that there
10 will be a continuing moratorium on any licensing until this
11 Commission has finished its work and reported to the
12 President.

13 Now, just briefly, Mr. Denton, for your benefit,
14 as well as the Commission's, I would like to explain very
15 briefly why I am personally so outraged by what I perceive
16 to be kind of a damn the torpedoes attitude on your part.
17 To hell with the torpedoes, we are going straight ahead.
18 There are two issues with this licensing thing, and I think
19 to all of us it is quite clear what those are; first of
20 all operating licenses. If you issue an operating license,
21 you are expanding the risk. I think every member of this
22 Commission is deeply troubled by the status of this
23 industry and its regulation, and what we are saying to you
24 is, it is one thing for you to take interim measures with
25 respect to the reality that is already out there. We

1 understand that. That is difficult, and you must act, but
2 why do you insist upon proceeding headlong into an expansion
3 of what I think every one of us feels is a real live risk?
4 Why do you insist on expanding it?

5 The second issue is construction permits. Now, I
6 suppose your response, if you thought about it, would be a
7 construction permit is not going to add to the operating
8 reality in the next few months, but you must understand that
9 when you issue a construction permit you inevitably create
10 certain rights and certain facts that you cannot willy-nilly
11 revoke, and if you go to your lawyers they will make you
12 aware of that. They will make you understand that if you
13 issue a construction permit you have indelibly added some
14 facts. You have created conditions that in any reasonable
15 universe probably cannot be totally revoked no matter what
16 it is we subsequently find, and what I think we are simply
17 saying to you is, is that reasonable conduct?

18 I think the answer is clearly no, and that is the
19 reason that take my leave with a strong suggestion to my
20 fellow Commissioners that we simply formally request the
21 Commission to revoke the action that you have already taken.

22 Thank you, Mr. Chairman.

23 CHAIRMAN KEMENY: Thank you, Governor Babbitt.

24 Professor Pigford, you have the floor.

25 COMMISSIONER PIGFORD: Yes, I will try to wind this

1 up briefly.

2 Mr. Denton, you have made a very clear statement,
3 your approach towards licensing which is, quote, you are
4 indifferent to whether the industry survives or not, unquote.
5 Is that the policy of the NRC?

6 MR. DENTON: My lawyers tell me that I cannot
7 consider at all any economic impact, socioeconomic impacts,
8 balance of payments in my decisions. My sole decision
9 criteria are undue risks to public health and safety.

10 COMMISSIONER PIGFORD: You cannot consider any
11 economic impacts?

12 MR. DENTON: Except insofar as new requirements
13 where you can consider economic impacts and ways of achieving
14 those requirements in the Commission's laying on initially
15 of new requirements, but in making the determination about
16 existing requirements that is not possible.

17 COMMISSIONER PIGFORD: Once you develop your
18 standards then no more economic impacts?

19 MR. DENTON: That is correct.

20 COMMISSIONER PIGFORD: Do your regulations require
21 a cost/benefit analysis?

22 MR. DENTON: In the environmental area, for example,
23 it is different, and there cost/benefit considerations are
24 permitted, and the Commission, also, requires cost/benefit
25 or value impact assessments on new policies that the Commission

1 might adopt.

2 COMMISSIONER PIGFORD: And that is one of the
3 considerations in a license. Is that right?

4 MR. DENTON: Well, it is one of the considerations
5 for changing, for requirements which have changed. It is more
6 of a consideration for operating plants than it is for a
7 plant that is going to receive a --

8 COMMISSIONER PIGFORD: In carrying out your
9 licensing review, you have to review that part of the analysis
10 and make a judgment on it. Is that correct?

11 MR. DENTON: That is especially true for operating
12 plants. It is not as true for the issuance of a CP or an OL.
13 I must find that that plant meets the Commission's regulations
14 and does not present undue risk to public health and safety,
15 and that finding --

16 COMMISSIONER PIGFORD: For the operating license
17 that is true?

18 MR. DENTON: Yes.

19 COMMISSIONER PIGFORD: And your Division is
20 responsible for operating licenses, and the Commissioners of
21 NRC look over all of this, and so it is one of their
22 responsibilities, also, the cost/benefit analysis, and surely
23 that has economic impact in it, as well as it has safety
24 analysis in it, doesn't it, as well as other aspects of
25 environmental analysis. Is that correct?

1 MR. DENTON: Yes, sir.

2 COMMISSIONER PIGFORD: And you then have to arrive
3 at some balancing conclusion. Earlier you said, "Where the
4 public interest is better served." Is that what you have
5 in mind, that kind of balancing conclusion?

6 MR. DENTON: I am trying to make the point that
7 I am very restricted in the amount of balancing I can do,
8 because I carry out the Commission's regulations. I think
9 they have more discretion than I do when they set the
10 original standards.

11 COMMISSIONER PIGFORD: Okay, but your Division
12 does have to both review and carry out and make a judgment
13 on the cost/benefit analysis?

14 MR. DENTON: Well, no. We do make cost/benefit
15 judgments in certain actions, namely, environmental actions
16 when they relate to NEPA. We are required by law to make
17 certain value impact assessments, and we, also, make
18 certain judgments about changes in plants that already have
19 operating licenses, such as older plants, but for the
20 issuance of Salem-2, I do not balance off the increased risk
21 from letting Salem-2 operate against the decrease in the
22 amount of oil consumed in the nation. That is not permitted,
23 and I do not consider that in making a decision.

24 COMMISSIONER PIGFORD: But one finds in your
25 analyses a comparison of impacts of nuclear versus coal, is

1 that correct?

2 MR. DENTON: And that is required by NEPA.

3 COMMISSIONER PIGFORD: Now, when you tell me then
4 that you are indifferent to whether industry survives or not,
5 is this meaning you, personally, or your Division?

6 MR. DENTON: I try to -- I think the office -- I am
7 trying to project the office, and it includes me personally.

8 COMMISSIONER PIGFORD: You, personally?

9 MR. DENTON: Yes, sir.

10 COMMISSIONER PIGFORD: Prior to your present job,
11 were you involved in the analysis of the as low as practicable
12 rule making?

13 MR. DENTON: Yes, I was.

14 COMMISSIONER PIGFORD: Which was a very extensive
15 cost/benefit analysis, and you made some estimates of cost
16 and then some estimates of benefits and finally made some
17 recommendations, didn't you?

18 MR. DENTON: Yes, sir, but that is in the setting
19 of standards. That is not in the issuance of the license.
20 I think you need to differentiate between the discretion
21 the Commission has in setting the basic standards under which
22 these plants will be assessed.

23 COMMISSIONER PIGFORD: Yes. It would seem to me
24 that if one is indifferent to whether the industry survives
25 or not, and you have the very serious charge on safety, the

1 only thing you can come out with is you must not have any
2 radioactivity?

3 MR. DENTON: No, it is not none. I think at times
4 society perhaps expects us to follow the Delaney Clause type
5 principle that no releases of radioactivity. My understanding
6 is that I follow no undue risk or a reasonable assurance
7 of no undue risk. So, I don't operate on a -- our statute
8 is not a zero risk statute but a lack of undue risk. So,
9 if I had to make a finding that there would be no radioactivity
10 released from a plant, I obviously could not make that
11 finding.

12 COMMISSIONER PIGFORD: And then so when you find
13 undue risks, cost/benefit analysis there then is this weighing
14 to find what is undue?

15 MR. DENTON: If I find that there is an undue risk
16 present, we require that utilities fix it and in looking at
17 the alternative ways to fix it, I do have the discretion
18 to consider cost in making sure that the fix is a reasonable
19 cost one, but not in the finding that it needs to be fixed
20 in the first place.

21 COMMISSIONER PIGFORD: But you make a discretionary
22 judgment in how far it has to be fixed, right?

23 MR. DENTON: Yes, sir.

24 COMMISSIONER PIGFORD: Thank you.

25 CHAIRMAN KEMENY: Professor Marrett?

1 COMMISSIONER MARRETT: I want to turn for a moment
2 to the GAO report, Nuclear Power Plant Licensing -- Need for
3 Additional Improvements. Are you familiar with that report?

4 DR. DENTON: Yes.

5 COMMISSIONER MARRETT: All right. I'd like to refer
6 especially to the chapter that focuses on management issues
7 in the current licensing process. There is a statement, "NRC,
8 though it hires qualified employees, does not have adequate
9 training programs to maintain and update reviewers' technical
10 skills. Moreover, no training program exists on how to conduct
11 a review using NRC written guidelines, how to orient new
12 employees, or how to familiarize individual specialists with
13 how their efforts contribute to the overall regulatory pro-
14 gram."

15 Could I get you to respond to these specific comments?
16 First, the criticism is that NRC does not have any training or
17 guidance for how technical reviewers should use its own stan-
18 dard review plan, which is the guidance for the staff during
19 the reviews. Would you first comment on that?

20 DR. DENTON: Before the standard review plan, there
21 was a total lack of documentation for how reviewers would do
22 a review and it was mainly through personal training and work-
23 ing under a senior reviewer. We wrote standard review plans
24 about five years ago in an attempt to document how review
25 should be done. We told a reviewer what findings he had to

LA 2 1 make, what analytical tools he had at his disposal to make --

2 CHAIRMAN KEMENY: I believe addresses a post standard
3 review plan --

4 COMMISSIONER MARRETT: Yes.

5 CHAIRMAN KEMENY: And I wish you would respond to
6 Commissioner Marrett.

7 COMMISSIONER MARRETT: The statement is that there
8 is a standard review plan, but there are inadequacies with
9 reference to staff training in the use of that plan.

10 DR. DENTON: I think that's probably -- that's a
11 fair statement. It varies considerably from branch to branch.
12 We've left it at their discretion. I know some branches have
13 excellent training programs. Other branches apparently have
14 the type the GAO --

15 COMMISSIONER MARRETT: All right, so there are
16 problems in the use of the current standard review plan.
17 Incidentally, the statement was that 82 percent of the review-
18 ers who respond to the GAO questionnaire stated that training
19 was needed.

20 Let me move to the next issue in the report, with
21 reference to training. This is the criticism that NRC does
22 not provide for the updating of technical skills, that the
23 reviewers have difficulty keeping current their skills and
24 capabilities within their areas of expertise. Is that an
25 accurate assessment?

A 3 1 DR. DENTON: I think it was at the time. I've tried
2 to be more liberal in my tenure in the job in authorizing
3 training and technical attendance at professional meetings and
4 presentation of papers and this sort of thing. In fact, I've
5 forgotten the number, but we've allocated a fair percentage
6 of our resources to those activities and should help those
7 figures.

8 COMMISSIONER MARRETT: This is post-April 1978 when
9 the report came out?

10 DR. DENTON: Yes.

11 COMMISSIONER MARRETT: Would you have any idea of
12 what proportion of the staff would have had the opportunity to
13 participate in such programs?

14 DR. DENTON: We try to provide every staff member
15 an opportunity to take a week or two a year in attending pro-
16 fessional development courses. Now, the office has been flat
17 in growth for three years up to now, at the same level. And
18 last fall, I requested 85 new slots for the organization.
19 This was cleared by OMB, but turned down by Congress. Now,
20 after TMI, Congress has decided to provide another hundred
21 slots for this office to enable us to meet all our obligations,
22 and we can be sure that training gets a proper --

23 COMMISSIONER MARRETT: Well, I want to come back, to
24 a moment, in the implications of the expansion -- these issues
25 have for the expansion that's going on. But let me ask more

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1 precisely, in terms of the technical skills, at the time of the
2 GAO report, it was indicated that 52 percent of the staff mem-
3 bers indicated questioned the adequacy of the training provided,
4 67 percent believed that a need was moderate to critical. In
5 terms of the activities that you have conducted subsequently,
6 how much would that percentage be reduced?

7 DR. DENTON: I couldn't really give you a number
8 without a resurvey.

9 COMMISSIONER MARRETT: All right. Let me move to the
10 third area. This was the need for an orientation to the entire
11 review process. The statement: "A consultant hired to survey
12 NRC's organization and management reported that technical
13 reviewers feel isolated and want to know more about how their
14 efforts fit into the overall program of protecting the public
15 health and safety."

16 What is the response to that particular argument?

17 DR. DENTON: That's a very valid concern. We had
18 become a very fractionalized, specialized group, and we're
19 attempting to devise ways to take a more holistic view of the
20 plant safety, and it includes just the things that Commissioner
21 McPherson mentioned, integrating operator training, management
22 skills at the utility, and our specialized branches all toge-
23 ther for the common goal. It's an area that I think will take
24 a structural change in our organization to make a significant
25 impact in.

A 5 1 COMMISSIONER MARRETT: Now, to come back to how this
2 fits into the matter of the plans that you're talking about
3 now, as you've indicated, you have planned to expand the staff.
4 Is that correct?

5 DR. DENTON: Yes.

6 COMMISSIONER MARRETT: Expansion first will be on the
7 basis of contracts, that is, not people who will be added to
8 the permanent staff, because of, I suppose, personnel kinds of
9 considerations. Did I misunderstand how that will take place?

10 DR. DENTON: No, no, no. Coming with a new fiscal
11 year, we are authorized to hire almost a hundred more people
12 than have been on board for the past three years.

13 COMMISSIONER MARRETT: Now, if you're going to be
14 hiring a hundred more people, and, in this last area, 88 per-
15 cent of the current staff felt that they needed additional
16 training, how are you going to manage to incorporate these
17 additional people, given the concerns already expressed in the
18 current staff?

19 DR. DENTON: The concern over training has always
20 been one where the staff faced with a schedule or demands has
21 normally deferred training in order to complete whatever tasks
22 were at hand. And so it's the feeling of the staff is that
23 we should be sure that everyone gets trained every year or
24 attends professional meetings and gives papers, even though
25 we have to interrupt otherwise scheduled activities. It's

6
1 been very difficult in the past to assure that everyone got
2 the training that we consider desirable. Everyone agrees that
3 we need training. It was just that in past times training was
4 always deferred because it was one thing that the staff was --
5 the management at the time was willing to defer to complete
6 other tasks.

7 COMMISSIONER MARRETT: Well, let me be more --

8 DR. DENTON: And I've tried to elevate the role of
9 training in the organization and be sure that people aren't
10 forever deferred.

11 COMMISSIONER MARRETT: Let me be more precise on what
12 I think would be of most concern to this particular Commission.
13 And that is the complaint that the existing procedures do not
14 orient staff members to the questions of public health and
15 safety. My concern is this comment that so many felt that
16 they had no idea how their efforts fitted into the concerns
17 for public health and safety. How are your orientation programs
18 now and those planned for your new people going to correct that
19 deficiency?

20 DR. DENTON: We don't have a magic bullet for that
21 one. I think the observation is correct; we're too specialized
22 and compartmentalized. We've tried professional seminars,
23 where we have people come in once a month to give us a broader
24 overview of things. And as I mentioned, I am considering
25 organizational realignments that would enable the staff to

7 1 focus more completely on the safety of a plant. One experiment
2 that we did make was with regard to Palo Verde 4 and 5, two
3 plants which have now been cancelled, an attempt to address
4 that very point. We assembled a team of technical specialists
5 under a project manager, who worked full-time only on Palo
6 Verde. And they had all the public meetings out in the region
7 of Palo Verde. And it was an attempt to build a team approach
8 so that the people working on Palo Verde worked on it, and they
9 knew and interfaced with each other. And it was their only
10 job, was Palo Verde until completion.

11 That's a contrast to the way we normally do it, in
12 which each individual specialist spends a few hours a day on
13 a wide variety of cases, identifying with none and perhaps
14 not understanding the full role of his contribution in those
15 cases.

16 So some sort of team approach, I think, might achieve
17 that objective.

18 COMMISSIONER MARRETT: Well, let me again ask if I
19 understood your earlier statements correctly. Do I understand
20 that what you're saying, these managerial, organizational
21 issues are being worked on and that there will be long term
22 recommendations, but you see no implications that they have
23 for resuming licensing?

24 DR. DENTON: Not in the short term. Certainly they
25 have long term implications. And that is an issue that I was

1 deferring action on reorganization plans until I had the advice
2 of the President's Commission.

3 COMMISSIONER MARRETT: Well, one final statement.
4 There is the comment that the supervisory, managerial issues
5 certainly bear quite directly, if in fact there are staff
6 carrying out the responsibilities who aren't clear on those
7 responsibilities. One final question. There is also a criti-
8 cism that's been leveled that the regulatory guides that come
9 out are issued by a largely unsupervised NRC staff. What's
10 the response to the extent to which there is supervision over
11 what goes on in the issuing of guides and determining what out
12 of plans will be emphasized and just how the entire review
13 process will be carried on by individual reviewers?

14 DR. DENTON: Regulatory guides are -- we've made a
15 couple of changes in the way we issue guides. It used to be
16 that when guides came from the Regulatory Requirements Review
17 Committee, if it was a change in the licensing process, it
18 was sent to the director of NRR, if it was a change in our
19 regulatory guides, it was sent to the director of standards.
20 And he acted on it without any public input.

21 One of the changes I have implemented is that all
22 the recommendations that I or Bob Mineau gets about either reg
23 guides or licensing process, we put these recommendations in
24 the public document room for a given period of time to allow
25 the public to comment before we actually implement the changes

1 in guides or changes in standard review plans. So that's one
2 structural change, and it may not be enough. But it's an
3 attempt to open the process up for a wider perspective so that
4 we don't look only inside when we make these changes.

5 CHAIRMAN KEMENY: We will conclude with two more
6 commissioners this line of questioning. Professor Taylor and
7 then Commissioner Trunk.

8 COMMISSIONER TAYLOR: Mr. Chairman, in view of the
9 time, I'll try to be brief.

10 Mr. Denton, there's a long sentence in the second
11 paragraph of your memorandum to the commissioners of the NRC
12 that I find astonishing. I won't read the whole sentence, but
13 I think I can get across my concerns by reading part of it.
14 It starts, "It is my judgement that the TMI 2 related actions
15 being taken by NRR on licensee emergency preparedness" -- and
16 then a number of other items that you list -- "if accomplished
17 generally on the schedule we have selected, are necessary and
18 sufficient for the continued safe operation of operating plants
19 and for the resumption of staff licensing activities on pend-
20 ing construction permit and operating license ap plications."

21 The reason I'm astonished at that sentence is because
22 of your use of the phrase "necessary and sufficient" and
23 "continued safe operation."

24 I read that sentence as telling me that you have
25 formed a firm judgement that without these actions being taken,

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1 the continued operation of operating plants is not safe, and
2 with these actions, and only these actions, the continuing
3 operating license application activities on pending construc-
4 tion permits and on reactors that have passed that phase is
5 safe. I guess the key word in that sentence to me is "safe."
6 I want to explore briefly what that means.

7 Let me first ask this. The only way I could imagine
8 getting up a sense of what you mean by safe operation is to
9 pick some specific instances. Would you say that the TMI 2
10 reactor, let's say for the week prior to the accident in March
11 and during the first two days of the accident, was being
12 operated in a safe condition? Yes or no.

13 DR. DENTON: Where I am in time, today or the day
14 before the accident?

15 COMMISSIONER TAYLOR: No, I'm saying today -- I'm
16 asking you to express an answer to the question with all that
17 is in your mind about the meaning of safety. As of today,
18 would you say that the way in which TMI 2 was being operated
19 immediately preceding the accident and during the time when
20 the accident developed, was that, in your mind, a safe opera-
21 tion?

22 DR. DENTON: No, it was an unsafe operation.

23 COMMISSIONER TAYLOR: Would you say that the period
24 prior to the time when the turbine trip occurred at TMI 2
25 constituted a safe operation?

A 11 1 DR. DENTON: Knowing what I know now, the plant was
2 being operated unsafely prior to the time of the turbine trip.

3 COMMISSIONER TAYLOR: Would you make -- what would
4 you say about the --

5 DR. DENTON: Can I give a reason for that?

6 COMMISSIONER TAYLOR: Yes, yes, by all means.

7 DR. DENTON: For example, prior to the turbine trip,
8 we thought they had analyzed all small break LOCAs, but they
9 had not adequately analyzed small break LOCAs in the steam
10 space of the pressurizer, which is what the opening of the
11 pressurized relief valve represented, also a number of other
12 ones like that, such as the inadequate shift turnover proce-
13 dures, the type of procedures they used that resulted in
14 failure to keep open the auxiliary feedwater valve. These are
15 the components of operation that I now would consider unsafe
16 even before the turbine trip occurred.

17 COMMISSIONER TAYLOR: Well, let me go to another
18 example. Would you say that the operations involved in running
19 the TMI 1 reactor were an example of operation under safe
20 conditions?

21 DR. DENTON: I have no reason to suspect that TMI 1
22 was operated any safer than 2. And therefore I'd consider TMI
23 1 operations unsafe at that time frame.

24 COMMISSIONER TAYLOR: You consider the TMI 1 operation
25 unsafe during that time?

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DR. DENTON: Based on what I know today, it was operating with the same potential as TMI 2.

COMMISSIONER TAYLOR: So you're suggesting, then, that a nuclear power plant that was not TMI 2, but was very similar to it, was in fact being operated in what you would call an unsafe condition.

DR. DENTON: And that's the reason that I advocated shutting down all the B&W plants.

COMMISSIONER TAYLOR: That suggests that you would then say that all the B&W plants of that design were also being operated in an unsafe condition.

What would you say about the operation of Westinghouse PWR plants now or last March?

DR. DENTON: I thought that short term operation of Westinghouse plants were not unsafe. They are sufficiently different than the B&W plants to not warrant a shut-down.

COMMISSIONER TAYLOR: Are you quite -- has there been a detailed analysis of small LOCAs in Westinghouse plants that form part of the basis for your conclusion that they are being operated in a safe way, taking into account, incidentally, not just the hardware, but the training of the operators, the educational background and general credentials of the shift supervisors and so on?

DR. DENTON: That's right.

COMMISSIONER TAYLOR: Would you make the same

LA 13 1 statement? You would say that, contrary to the B&W plants,
2 the PWR plants were and, as far as you know now, being operated
3 in a safe condition.

4 DR. DENTON: That's correct.

5 COMMISSIONER TAYLOR: Are you requiring these addi-
6 tional changes, these changes that are listed in detail on the
7 back of your memorandum, of PWR plants built by Combustion
8 Engineering and Westinghouse?

9 DR. DENTON: Yes, I am.

10 COMMISSIONER TAYLOR: Do you apply the statement --
11 is your statement of judgement that says, "It is necessary
12 that these actions be implemented for safe operation" -- "safe
13 continued operation of nuclear power plants," does that include
14 the non-B&W reactors?

15 DR. DENTON: Yes, it does. And I --

16 COMMISSIONER TAYLOR: Does that mean to say that
17 you were saying that the present method of operating the
18 lightwater reactors in the United States is unsafe?

19 DR. DENTON: It's unsafe unless they make these
20 changes in a reasonable fashion.

21 COMMISSIONER TAYLOR: Is it unsafe today, as of right
22 now?

23 DR. DENTON: Not in my judgement. I'd like to add --

24 COMMISSIONER TAYLOR: I'd like you to explain what
25 you mean by "necessary." That is, your statement says that

LA 14 1 in your judgement, it's necessary to take these actions to
2 make the operation of the -- the continued operation of nuclear
3 power plants -- and I presume you include all lightwater
4 reactors -- to make them safe.

5 DR. DENTON: This finding originated with my task
6 force. They made the finding that these were necessary and
7 sufficient changes in all lightwater reactors. It was reviewed
8 by the Advisory Committee on Reactor Safeguards and they
9 reported to the Commission that they agreed with the intent
10 and substance of the task force recommendations.

11 I also agree with the intent and substance of the
12 task force recommendations. These words carry legal import,
13 which have special meaning, perhaps, within the NRC, and are
14 the kind of finding that I'd need to make to be sure that I can
15 enforce these changes in the plants which operate. But I don't
16 consider a plant operating -- a Westinghouse plant operating
17 today unsafe, or if I did, I'd have an obligation to make
18 that known and to order them to cease operation.

19 COMMISSIONER TAYLOR: Then why do you say, as I
20 understand it, these new requirements, which, as I understand
21 it, are not now enforced at any -- I mean, generally at U. S.
22 nuclear power plants, then why do you say it's necessary that
23 they be enforced for them to be continued to be operated in
24 a safe manner?

25 DR. DENTON: Well, because we have a black or a white

A 15 1 situation in making these findings. See, the plant's either
2 safe -- and if it's safe, I can't make any changes in it, and
3 the only changes I can effect are those that are necessary for
4 safety. In order to make changes, I have to make the finding
5 that these are necessary for safety. That's a finding in the
6 usual legal terms that indicates and is a signal to the
7 utilities that these are changes that we're prepared to follow
8 up on in legal actions as necessary.

9 COMMISSIONER TAYLOR: This Commission has been exposed
10 to a lot of legal phrases used by NRC, by the licensees, by a
11 number of other people to justify certain actions or to pro-
12 vide the rationale for doing this or that. I'm not interested
13 in that.

14 DR. DENTON: Well, I guess what I'm trying --

15 COMMISSIONER TAYLOR: I'm interested in what's going
16 on in your head when you say the reactor is safe.

17 DR. DENTON: I don't think that we should let light-
18 water reactors of whatever design in this country, Westinghouse
19 or Combustion or GE, operate for the next 40 years of their
20 license without some changes. I think there are some things
21 that we've learned from Three Mile Island, very important things
22 that we need to have done at those plants. Now, neither do I
23 think that for those classes of plants, these changes are so
24 necessary that they should cease operation this afternoon and
25 not operate until they are made. I think risk does have some

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1 time factor in it, and I'm willing to give them a reasonable
2 amount of time to comply with the recommendations. It took me
3 some time to develop them. Many of the ones that I consider
4 important, I'm requiring that they do in the very near term,
5 prior to January of '80. Those that involve other ones, I'm
6 willing to defer. And I've had that judgement supported by the
7 staff and by our advisory committee.

8 COMMISSIONER TAYLOR: Is the reason you're willing
9 to make those compromises, I would say -- and I don't mean
10 compromises in a pejorative sense, but I understand you have
11 a certain -- there are some dilemmas associated with all of
12 this -- but is the main reason that you're making those compro-
13 mises, that is, not requiring that the licensing process be
14 deferred still longer or not requiring that the reactors be
15 shut down, strictly for economic reasons?

16 DR. DENTON: No, it's not. It's for time reasons.

17 COMMISSIONER TAYLOR: I guess I don't understand
18 what you mean.

19 DR. DENTON: The risk is distributed in time and
20 the risk of letting a plant operate without these changes over
21 40 years is different considerably than letting it operate
22 for the next three months, the total risk --

23 COMMISSIONER TAYLOR: I see. So you're saying that
24 there is a risk, and the risk depends on the character of the
25 regulations, or at least to the enactment of the -- the

17 1 response to the regulations, and that risk is never zero, but
2 it's smaller if you are talking about four months of operation
3 than four years. And I can only agree with that.

4 And I'm not trying to paint a black or white picture.
5 But I got a black or white picture painted by you in your
6 memorandum. And that's why I was astonished, because I've
7 never been able to think about things in that black or white
8 a sense.

9 I do want now to shift to the other word, and that
10 is "sufficient." And that really astonished me the most. And
11 I must say the reason it did was because I could never make
12 such a statement myself, based on what this Commission as a
13 whole has been exposed to and I have been exposed to as an
14 individual. And that is that these actions are what the
15 response to the TMI 2 accident that we're going to announce to
16 the world, at whatever time your memorandum becomes a basis
17 for action in resuming the licensing process -- we're telling
18 the Swiss, the Nigerians, the Americans, the Russians, we're
19 telling the whole world, here are the lessons of TMI 2; if
20 they're applied, nuclear power, at least lightwater reactors,
21 which constitute most of the nuclear power worldwide, is safe;
22 we've had our accident, we've analyzed it, we're all done.

23 The reason I was astonished at that "sufficient"
24 word is that, just as an individual -- and I guess I have to
25 say also as formally a member of this Commission -- I have not

LA 18 1 seen the basis, and I've not seen it yet, including a rather
2 rapid perusal of your memorandum, for that conclusion. We're
3 sending a signal out, which is very strong, if this is
4 implemented.

5 Now, I want to ask you one final question, and that
6 is have you considered the impact on this whole situation
7 evolving out of TMI, nationally and internationally, of two
8 things. One is the implementation of your recommended action,
9 to proceed with the licensing process, let the Salem 2, the
10 Point Anna -- whatever it is -- 2 reactor go ahead, perhaps on
11 a scale of maybe a month from now, the impact on everything if
12 that decision is then reversed, as a result of the NRC investi-
13 gation, the complete investigation, and/or this Presidential
14 Commission investigation.

15 I've thought about that for a few minutes off and on,
16 since I first read your memorandum, and I became very concerned
17 at the credibility of the nuclear power business as a whole
18 if a major decision like this, with a worldwide focus of atten-
19 tion on it, is made and then reversed. I think that would be
20 damaging to the present form of NRC's credibility. Now, NRC's
21 credibility as of right now is, in detail, overall, and in
22 somewhat microscopic structure, is, to say the least, open
23 to question. The credibility is open to question. I don't
24 know whether that has any meaning for anybody. I find myself
25 not sure that NRC is organized to do its job in such a way

1 as to guarantee the continued safe operation of reactors.

2 The other kind of impact that I'm concerned about
3 is the impact on the industry of a go-ahead and the effects
4 of the impact on the industry of a go-ahead on the ease or
5 difficulty of modifying these recommendations or changing them
6 or throwing them out and replacing them by others that would
7 in fact exhibit a sort of foreclosure of options. I guess I'm
8 strongly disagreeing with your statement that this will clearly
9 not foreclose recommendations or actions coming out of the
10 NRC's full investigation or our Commission's investigation,
11 because I can make up a lot of scenarios of real foreclosure.

12 For example, suppose that a finding is made that the
13 start-up of new reactors -- start-up of reactors that are
14 ready to go now that are given an operating permit, let's say,
15 in a month, has to be stopped, that it serves the interest of
16 safety to do so, that is an irreversible decision and adds
17 to the inertia of pressure of the fact that we've already got
18 something that we have to deal with that, as I understand it,
19 has led you to say, well, you don't really distinguish between
20 Salem 2 and Salem 1; if Salem 2 is operating, you have to say
21 that -- if Salem 1 is operating, then Salem 2 has to operate,
22 because it's the same kind of system.

23 DR. DENTON: No, or the converse. If you can't --

24 COMMISSIONER TAYLOR: Or the converse, exactly. You
25 have to treat them both alike. And I think I see enormous

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1 difficulties if we say that at the present time in history of
2 the development of the nuclear power industry worldwide, we
3 have to treat everything in exactly the same way. I think you
4 would agree with that.

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1 MR. DENTON: I guess I didn't consider all those
2 ramifications. I had thought about issuing a conditional
3 license. As I say, this license is only good for the next 30
4 days or 60 days, pending outcomes. Well, then I guess the
5 reason for the disconnect between our views, if there is one,
6 is I haven't perceived any difficulty in accomplishing those
7 changes that the staff and all of our advisory groups or any
8 other duly-appointed group likes to see done. I haven't had
9 any difficulty in getting those made. In other words, we were
10 able to shut down plants this spring for seismic reasons; I
11 have shut down plants for a number of reasons, and the Commis-
12 sion seems to have extraordinary authority to lift licenses
13 whenever they find it necessary.

14 So the action that I was saying today is necessary
15 and sufficient is based on the knowledge in my head today.
16 And I can only act on today's knowledge, and if tomorrow you
17 tell me something, or something happens in the field, or there
18 is some new scientific discovery, or a big fault is found off-
19 shore near one of my plants, I have no intellectual problem
20 saying yesterday I thought this plant was safe, today I think
21 it is unsafe, issue an order to cease operations and make
22 modifications.

23 So I would fully intend to implement whatever findings
24 are made down the road, and this was just today's, and I think
25 the nuclear industry does operate at considerable risk. They

1 are at the risk of our regulators changing our mind tomorrow,
2 and they have very little protection against that sort of thing
3 happening either because of new operating experience and your
4 physical facts and your research findings, and there has been
5 no hesitancy in the past that I see, and certainly I have
6 experienced none in being able to stop operation whenever the
7 facts warrant.

8 So that is why I was perfectly confident that we
9 could get these things done which I felt were necessary to get
10 done in the operating plants, and I was going to throw in the
11 ones that were almost there, and whatever else comes out of
12 the investigation, I will throw them in as they come out.

13 I guess that was my attitude.

14 COMMISSIONER TAYLOR: I guess I am very concerned
15 about that way of making this particular decision in the context
16 of the extreme importance of the TMI-2 accident, its effect
17 on considerations of the whole energy crisis situation, the
18 whole question of the acceptability of nuclear power worldwide.
19 A failure to sort of anticipate what may happen as a result of
20 certain actions, it seems to me, is just too -- represents too
21 narrow a view of the leverage that this carries.

22 Now, I don't want to belabor this. As far as question-
23 ing is concerned, I guess, Mr. Chairman, I have completed it.

24 CHAIRMAN KEMENY: Commissioner Trunk.

25 COMMISSIONER TRUNK: Mr. Denton, I would like to ask

1 you a gut question. I am a resident of Middletown and, having
 2 lived through that incident, I am leery about how fast you are
 3 going into this, your timing. We have criticized Babcock and
 4 Wilcox, Met-Ed, the operator of training, the NRC with its
 5 highly-trained, technical, educated people on site made a lot
 6 of mistakes, and the people in Middletown don't find you fault-
 7 less. And so I feel if you go through this licensing, could
 8 you give me just one good reason why I should trust you or the
 9 NRC?

10 You know, you have to restore my trust in you before
 11 I would say you can go ahead and do it, you know what you are
 12 doing, because I really know if you know what you are doing yet.

13 MR. DENTON: Well, we have a process that is intended
 14 to be sure that all voices are heard, and it starts with the
 15 staff, who we try to hire and train qualified staff to make
 16 recommendations, and we get independent input from a statutory
 17 advisory group. If there are hearings in progress, such as
 18 there are in a number of plants, we expose our views and have
 19 them adjudicated and often changed, and the Board reflects all
 20 of the input.

21 You can't ever guarantee exactly that you know what
 22 you are doing. All you can do is to say I have looked at all
 23 the information I have available and here is an assessment and
 24 the basis for it, and let others assess.

25 I really think that in this area of nuclear, it has

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1 gotten to the point that the country needs to consider alterna-
2 tives. Nuclear cannot be made absolutely safe. I think we can
3 make it a lot safer than it was before TMI, and I recognize that
4 different people have differing levels of perception of safe.
5 I have one level, and that is reflected in the changes that I
6 would suggest be made in a plant. Perhaps other people would
7 suggest other changes.

8 I would have no hesitance in living near, with my
9 family, a plant that had made these changes. And that is my --

10 COMMISSIONER TRUNK: But wouldn't it be better if
11 you waited for all the reports to come out before you decided
12 on issuing licenses? I mean I may find out something that you
13 don't know yet.

14 MR. DENTON: Well, I will act on that tomorrow. I act
15 every day on whatever information we find that day. That has
16 been a pattern with me in my year in the job, and as new informa-
17 tion comes in we act on it.

18 I don't know how long to wait for yours, your report.
19 Would you meet the deadline or not? Should we wait for the
20 next inquiry? And when does it end? And so I guess I am taking --
21 I propose to take it -- that here is what the staff in its
22 normal process thinks, and leave it up to the Commission as to
23 where to go from there.

24 I can understand the point of view that it may send
25 a signal, but I wasn't sure, frankly, what the Commission's

1 point of view would be with regard to ongoing activities. And
2 I guess my main concern was the safety of the operating plants,
3 and I had sort of thrown in the plants that are awaiting opera-
4 ting license as a small part of that. There are only two
5 plants, compared to 70. So I didn't see that lumping them in
6 made that big a difference, but I can understand the other
7 perspective.

8 COMMISSIONER TRUNK: Well, our report is supposed
9 to be out October 25th. I mean, no matter what, you have a
10 date. So it really isn't that much more longer to wait for,
11 and I just feel, before we go ahead and start doing things --

12 MR. DENTON: Well, it is probably moot anyway, in
13 that that plants wouldn't receive a license till very close to
14 October 25th. They wouldn't be generating any power, and on
15 October 26th I could be implementing your recommendation.

16 So I think in retrospect, maybe I should have proposed
17 that alternative, just to wait; it might not have made any
18 real difference in terms of total risk to the public, whichever
19 way it turned out, in that I would have your recommendations
20 prior to a significant power operation of a plant.

21 COMMISSIONER TRUNK: I wouldn't want a plant started
22 up and have the people go through what we did, after having
23 the lessons learned I mean, and not implementing them. I just
24 don't feel that you know everything that you have to know to
25 run a plant safely.

1 MR. DENTON: My point of view was that we need to
2 get started on making these changes. It is going to take a
3 long time. And that is what I was proposing to start, in that
4 I anticipated that you would supplement these changes and that
5 you would probably not find any of these objectionable. But
6 that was a supposition.

7 COMMISSIONER TRUNK: Just one final question. What
8 are your plans for TMI-1?

9 MR. DENTON: TMI-1 is in the course of -- it is shut
10 down and a hearing has been set in motion, and that will be
11 adjudicated, and it will probably be a year before any decision
12 is reached by the Board.

13 CHAIRMAN KEMENY: All commissioners have had their
14 chance, but one factual question has come up that I feel we
15 need to clarify. Commissioner McPherson.

16 COMMISSIONER MC PHERSON: Mr. Denton, yesterday Mr.
17 Collins testified that his recommendation had been to require
18 the retraining of all B&W operators; that that recommendation
19 had been taken up in the staff of the NRC, and the decision
20 had been made instead to remain with the current practice,
21 which is to do spot-checking of these operators instead of
22 retraining them all.

23 He did not know who had made that recommendation, but
24 he was sure that it had gone up to your office. Did it?

25 MR. DENTON: No, it didn't. It was made between he

1 and I apparently.

2 CHAIRMAN KEMENY: Could Chief Counsel ask a question
3 along the same lines you are asking?

4 COMMISSIONER MC PHERSON: Certainly.

5 MR. GORINSON: In the weeks following TMI-2, there
6 was a directive to send B&W operators through the simulators
7 again, wasn't there, Mr. Denton?

8 MR. DENTON: Yes.

9 MR. GORINSON: And Mr. Collins afterwards made a
10 recommendation that the NRC retest all those operators after
11 they completed their simulator training, didn't he?

12 MR. DENTON: Yes.

13 MR. GORINSON: That recommendation went up the
14 chain from Mr. Collins. Did that go up to your office?

15 MR. DENTON: I don't remember that recommendation
16 or the difference in views. I do remember that in actual
17 practice what we found were that the very first set of operators
18 that we tested on an audit basis did not pass muster, and we
19 required considerable number of changes, and we raised the
20 passing grade, and this practice was followed from there on out.

21 So I take it this was a factual dispute somewhere
22 below my level, before the process started. But the very first
23 group we audited didn't indicate satisfactory understanding
24 on the operator's part, and so I am not sure but what the
25 retraining of a large fraction wasn't achieved anyway.

1 MR. GORINSON: What happened to the operators you
2 didn't audit?

3 MR. DENTON: All the scores, as I understand what was
4 done is, all the scores of all the operators were looked at
5 in each of the seven or eight categories, and a selected number
6 of operators were interviewed by our operator training people
7 and, based on the scores they had made in the various areas
8 in their knowledge, some extrapolation was done about the
9 operators in the other categories.

10 And the very first time it happened was at O'Cony,
11 and I think that is where the whole program became somewhat
12 suspect and the passing grade was raised to, I believe, 80
13 percent or 90 -- it was raised to 90 percent in each of the
14 categories for those changes which had been ordered.

15 MR. GORINSON: Those were utility tests.

16 MR. DENTON: No. Well, they started with utility
17 test, and then they are tested by our own people in some areas.

18 MR. GORINSON: On a spot-check basis.

19 MR. DENTON: On a spot-check basis. So there were
20 some operators who were not reaudited, but our auditor did have
21 the benefit of the test scores that they had made.

22 MR. GORINSON: Okay. Just so we are clear -- the
23 utilities performed tests after TMI-2, and the decision was
24 made that the NRC would not check -- would not thoroughly test
25 every operator itself, it would merely perform an audit.

1 MR. DENTON: That is right.

2 MR. GORINSON: And you are saying that that decision
3 did not come to your level. It was made below your level?

4 MR. DENTON: I don't remember that decision. It
5 didn't seem to get to me. I just have no recollection of
6 becoming involved in that discussion. I would suspect it was
7 made between Collins and myself in the organization.

8 MR. GORINSON: It was made between Collins and
9 yourself?

10 MR. DENTON: No, made in the organization somewhere
11 between Collins and I, perhaps as assistant director or the
12 division director. And I understand this was in a meeting
13 between his supervision and the supervision of the inspection
14 and enforcement area.

15 MR. GORINSON: Don't you think that is an issue that
16 should have come up to your level?

17 MR. DENTON: At the time, no one raised it. Mr.
18 Collins apparently didn't feel strong enough to pursue it at
19 the time. And what I am saying is that perhaps it was somewhat
20 mooted by our finding in the very first plant that we audited
21 of unsatisfactory performance.

22 MR. GORINSON: Just one final point. Do you know who
23 Mr. Ross is?

24 MR. DENTON: Yes.

25 MR. GORINSON: Who is Mr. Ross?

1 MR. DENTON: Mr. Ross is Deputy Director of the
2 Division of the Reactor Projects.

3 MR. GORINSON: According to Mr. Collins, Mr. Ross
4 concurred in his recommendation, and sent it forward from
5 there. Who would it have gone to from Mr. Ross?

6 MR. DENTON: It could have gone to Mr. Ross' boss,
7 who was the Director of Division of Project Management, and
8 from there it would have gone to my office.

9 MR. GORINSON: So it might have gone up to your
10 office?

11 MR. DENTON: It could have. Perhaps I concurred in
12 it, but I just have no memory of that being an issue. I don't
13 remember getting involved in discussions of that matter.

14 CHAIRMAN KEMENY: Thank you, Chief Counsel. We
15 thought we would bring that out because it might be relevant
16 to the subject of lessons learned.

17 The witness is excused subject to recall, Mr. Denton.

18 (Witness excused.)

19 The Commission's business now is to ask whether there
20 is any action to be taken in view of testimony we have heard.
21 You have heard Governor Babbitt urge us to take some appropriate
22 action. Are there any proposals for Commission action?
23 Governor Peterson.

24 COMMISSIONER PETERSON: It think it is clear that
25 our Commission members are deeply concerned about Mr. Denton's

1 decision to move ahead with licensing procedures without
2 awaiting the recommendations of this Commission. Therefore,
3 I move that we ask Chairman Hendry and/or the other four
4 members of the Nuclear Regulatory Commission who can do so,
5 to meet with us this afternoon to discuss the question of the
6 Nuclear Regulatory Commission moving ahead with licensing prior
7 to their having the benefit of our report to the President.

8 CHAIRMAN KEMENY: That is a motion. Is there a
9 second to the motion?

10 COMMISSIONER MC PHERSON: Second.

11 CHAIRMAN KEMENY: Commissioner McPherson seconds
12 Governor Peterson's motion. The motion is open for discussion.
13 I see no one asking for the floor.

14 Would all those in favor of the motion please raise
15 their hand?

16 (There was a show of hands.)

17 It is a unanimous vote of the President's Commission.
18 The President's Commission has delegated to its Chairman the
19 power to subpoena. I therefore hereby instruct Chief Counsel
20 to try to obtain the presence of Chairman Hendry here this
21 afternoon to appear before this Commission or, if he is not
22 available, such other commissioners of the Nuclear Regulatory
23 Commission as he can obtain, and I hereby delegate to you the
24 power of subpoenaing any of the aforementioned individuals for
25 this purpose. Is that clear, Chief Counsel?

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MR. GORINSON: Yes, it is, Mr. Chairman.

CHAIRMAN KEMENY: Thank you. The President's Commission will recess for lunch, and I will be available to answer questions from the press during that period.

(Thereupon, at 12:32 p.m., a recess was taken 2:30 p.m., the same day.)

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1 PRESIDENT'S COMMISSION ON THE ACCIDENT AT THREE MILE ISLAND

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5 PUBLIC HEARING

6 THURSDAY,
7 August 23, 1979

8 Hall of Nations
9 Edmund Walsh Building
10 Georgetown University
11 36th Street, N.W.
12 Washington, D.C.

13 The hearing was convened pursuant to notice at 2:07 a.m.

14 John G. Kemeny, Chairman, presiding.

15 PARTICIPANTS:

16 John G. Kemeny
17 President
18 Dartmouth College

19 Bruce Babbitt
20 Governor of Arizona

21 Carolyn Lewis
22 Associate Professor of Journalism
23 Graduate School of Journalism
24 Columbia University

25 Cora B. Marrett
Associate Professor of Sociology
University of Wisconsin

Harry McPherson
Attorney

Russell Peterson
President
Audubon Society

Thomas Pigford
Professor and Chairman
Department of Nuclear Engineering
University of California at Berkeley

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PARTICIPANTS: (continued)

Theodore Taylor
Professor of Aerospace and Mechanical Science
Princeton University

Anne Trunk
Resident of Middletown, Pennsylvania

Barbara Jorgenson

Stanley Gorinson

Stanley Helfman

Harold R. Denton
Director
Office of Nuclear Reactor Regulation, NRC

Victor Stello, Jr.
Director
Office of Inspection and Enforcement, NRC

Anthony Z. Roisman
Staff Attorney
Natural Resources Defense Council

Richard T. Kennedy
Commissioner, NRC

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C O N T E N T S

WITNESSES:

Harold R. Denton	See morning session
Director, Office of Nuclear Reactor Regulation	NRC
Victor Stello, Jr.	
Director, Office of Inspection and Enforcement	NRC 131
Richard T. Kennedy	
Commissioner, NRC	155
Anthony Z. Roisman	
Staff Attorney, Natural Resources Defense Council	232

EXHIBITS:

Follows page 294

- No. 1 - Note from S Varga, TRANSFER OF TMI-2 TO DOR
- No. 2 - Memo from R. Boyd, TRANSFER OF THREE MILE ISLAND NUCLEAR STATION, UNIT 2 (TMI-2) TO OPERATING REACTORS BRANCH NO. 4
- No. 3 - IE Bulletin 79-05A, NUCLEAR INCIDENT AT THREE MILE ISLAND - SUPPLEMENT

MISCELLANEOUS:

Included at end of exhibits

- Testimony of Anthony Z. Roisman
- Chairman's Press Conference

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CHAIRMAN KEMENY: Will the meeting please come to

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order? Would Mr. Denton please return to the stand? Mr.

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Denton, please?

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Mr. Denton, may I remind you pro forma that you're still under oath?

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I have been informed that you wish to make an additional statement to this Commission. Is that correct, sir?

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MR. DENTON: Yes, sir.

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CHAIRMAN KEMENY: Please do.

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MR. DENTON: In view of the policy issues that we've

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discussed this morning, I've decided to defer implementation of

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any actions on pending CPs and OLs until the NRC Commission has

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had an opportunity to consider this matter and whatever advice

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you might want to give them, and direct me accordingly. I

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would intend to proceed and implement, however, these recommen-

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dations on those plants that actually do today have operating

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licenses.

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CHAIRMAN KEMENY: Yes. I hope it was clear to you

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that we did not raise any questions about your plans concerning

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those plants that do now have operating licenses.

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Are there are commissioners who wish to ask Mr.

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Denton a question on this?

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Mr. Denton, we very much appreciate your making that

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statement.

25

It is my understanding that Commissioner Kennedy of

LA 2 1 the Nuclear Regulatory Commission is on his way and is expected
2 to arrive approximately at 2:30. Since we have -- I believe
3 that's correct, isn't it? And in order -- since we have two
4 other witnesses for today, it will our plan to call the next
5 witness, but to interrupt his questioning in courtesy to
6 Commissioner Kennedy when he arrives.

7 Would chief counsel please call the next witness?

8 MR. GORINSON: Mr. Stello.

9 CHAIRMAN KEMENY: Would you please swear in the wit-
10 ness?

11 Whereupon,

12 VICTOR STELLO, JR.

13 was called as a witness and, after being first duly sworn,
14 was examined and testified as follows:

15 CHAIRMAN KEMENY: Would you please state your full
16 name and current position for the record?

17 MR. STELLO: My name is Victor Stello, Jr. I am the
18 director of the Office of Inspection and Enforcement of the
19 Nuclear Regulatory Commission.

20 CHAIRMAN KEMENY: Thank you. We are waiting for one
21 commissioner who won't be able to be here later and wanted to
22 ask a certain number of questions, Mr. Stello, so we're going
23 to give him first chance to ask you questions.

24 Perhaps chief counsel could get through the back-
25 ground questions while we're waiting for Commissioner Pigford.

3 1 MR. GORINSON: Mr. Stello, just while we're waiting,
2 could you sketch for the commissioners your background, your
3 professional background, at the NRC and its predecessor agency?

4 MR. STELLO: I joined the Nuclear -- well, the then
5 Atomic Energy Commission, in 1966 and worked as a project
6 manager on several of the pending cases at that time. I
7 subsequently worked in various capacities through the years,
8 as a branch chief, boiling water reactor branch number one,
9 as a branch chief for the reactor systems branch, as the
10 assistant director for reactor safety, and, prior to my pre-
11 sent position, as the director of the Division of Operating
12 Reactors.

13 CHAIRMAN KEMENY: Thank you. As I mentioned,
14 Commissioner Pigford may have to leave later, may not be here
15 when we return to you. And therefore I recognize Commissioner
16 Pigford.

17 COMMISSIONER PIGFORD: Thank you, Mr. Chairman, Mr.
18 Stello.

19 I had some questions, Mr. Stello, concerning the
20 recent report, called New Reg. 0600. This is the investigation
21 of the Three Mile Island by the Office of Inspection and
22 Enforcement. Now, it's tempting to refer to this now as the
23 Stello report. But I can't find your name on it. Is that
24 all right, to call it the Stello report?

25 MR. STELLO: I think it probably ought to recognize

4 1 the people who put the time and the effort in it. And their
2 names are on the report. There were 50 investigators who
3 worked very hard. And I think they should get the credit, if
4 that's the case.

5 COMMISSIONER PIGFORD: Yes. Excuse me, I've done
6 you an injustice. It is indeed true that as the director of
7 the Office of Inspection and Enforcement you have put in the
8 transmittal of it. I guess this is a new job for you, isn't
9 it?

10 MR. STELLO: It is.

11 COMMISSIONER PIGFORD: How long have you been director
12 of the office?

13 MR. STELLO: Since June.

14 COMMISSIONER PIGFORD: As you know, Mr. Stello, the --
15 a lot of our questioning here has been concerned with the
16 issues on the operators and the operator training, the man-
17 machine interface, and things like that. And your report also
18 gets into that. And I was very much interested in what seems
19 to be an unequivocal conclusion in this report to the effect
20 that if the operators had followed the loss of coolant accident
21 procedures, there would be no accident at Three Mile Island.
22 Is that your conclusion?

23 MR. STELLO: Well, that's one statement that's made
24 in the forward. There are others. My view is that I stand
25 behind all of what is stated. I certainly stand behind the

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1 statement that you just read in its full context. And in the
2 context, I hope that you would add to the end of that statement
3 that in spite of the inadequacies listed above, I think is a
4 very important point that is being made, at the same time that
5 I did reach the conclusion that I thought that the accident
6 could have been prevented had the operators followed the
7 procedures.

8 COMMISSIONER PIGFORD: And I expect we're both get-
9 ting at the important point, where the operators began to
10 intrude on the controls and throttle the high pressure injec-
11 tion pumps. Aren't we both interested in that?

12 MR. STELLO: Well, I certainly was, but that was not
13 the only reason that I made that statement, however.

14 COMMISSIONER PIGFORD: Certainly. There are other
15 procedures that had some bearing on it.

16 MR. STELLO: To me, very important other procedures,
17 yes.

18 COMMISSIONER PIGFORD: Yes. And we've learned that
19 one of the problems faced by the operators was their confusion
20 by the rising pressurizer level and the falling pressure, and
21 where they seemed to overreact to the rising pressurizer level,
22 which evidently is what triggered them to throttle back on the
23 high pressure injection pumps. Is that correct?

24 MR. STELLO: I believe that that was a major reason
25 that they throttled back as they saw the pressurizer level rise.

6 1 COMMISSIONER PIGFORD: There are lots of different
2 procedures, I guess, at nuclear power plants, Mr. Stello, and
3 procedures are to tell them what to do and tell them how far
4 they can go. That's some of the functions of procedures, and
5 also to tell them what symptoms to recognize to know when to
6 use a certain procedure.

7 MR. STELLO: Yes.

8 COMMISSIONER PIGFORD: And that part of procedures
9 that says what you must never do or how far you can go, that's
10 a limiting part of a procedure, wouldn't you say?

11 MR. STELLO: In cases -- yes, that is true.

12 COMMISSIONER PIGFORD: Yes. Obviously I'm trying to
13 lead you into what I'm thinking. If you object, let me know.

14 In my limited experience, it seems to me that the
15 most important limits one finds placed on nuclear power plants
16 are specially identified and listed in what are called the
17 technical specifications. Would you agree to that?

18 MR. STELLO: I don't think completely. There are
19 procedures that are generated that are to be followed. And in
20 the case of having an accident, the technical specifications
21 ought not to be the document that one is interested in follow-
22 ing. One should follow his procedures that's dictated by the
23 particular event occurring in the plant. I view the technical
24 specifications as an envelope that's used to describe the cor-
25 rect frame in which to operate the reactor during normal

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1 operation.

2 COMMISSIONER PIGFORD: And there are some technical
3 specifications which specifically say that: in normal opera-
4 tion, this is the limit.

5 MR. STELLO: There are some that do.

6 COMMISSIONER PIGFORD: And isn't it illegal for the
7 operator in a plant to violate a technical specification?

8 MR. STELLO: Assuming that the conditions were appro-
9 priate, a violation of the technical specification is an item
10 of noncompliance and is prohibited, yes.

11 COMMISSIONER PIGFORD: Yes. That's a very special
12 interpretation, I gather, by NRC, that one must not -- that it
13 is illegal to violate a technical specification, within the
14 caveats that you've expressed.

15 MR. STELLO: Yes.

16 COMMISSIONER PIGFORD: Now, so it appears that in
17 operator training, they are told to -- one of the things they
18 are told is to learn the technical specs. and live with those,
19 very strictly, as well other procedures that are not in the --
20 as well as procedures beyond the technical specs.

21 MR. STELLO: That's a correct statement.

22 COMMISSIONER PIGFORD: Okay, now, we find the opera-
23 tor worrying about that pressurizer level. And that seems to
24 be the cause of the problem. And we find a technical specifi-
25 cation at Three Mile Island 2 -- Incidentally, have these

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1 technical specifications been reviewed by your group in coming
2 to this report?

3 MR. STELLO: The technical specifications were used
4 as one of the documents that the investigators used to decide
5 whether or not a license condition was violated, as you would
6 find in many references throughout the report. In that sense,
7 yes, reviewed from the point of view of deciding whether or not
8 the technical specifications were or were not adequate. They
9 did not do a de novo review of that document as part of the
10 investigation.

11 COMMISSIONER PIGFORD: But to determine if the opera-
12 tors had followed all of the written instructions, would they
13 avoid the accident. Surely they must have reviewed the appro-
14 priate written instructions, then.

15 MR. STELLO: They did, yes.

16 COMMISSIONER PIGFORD: We find in the -- excuse me.

17 MR. STELLO: I'm not sure that the written instruc-
18 tions are you encompassing again, in any special way, the
19 technical specifications. If you mean all of the written
20 instructions, the procedures, the technical specifications,
21 and all the license conditions, yes.

22 COMMISSIONER PIGFORD: Yes, of course, and that's
23 what I mean.

24 Now, with regard to technical specifications them-
25 selves, we find one that says when the -- this is in Three Mile

9 1 Island 2 -- the pressurizer level must be maintained at less
2 than 385 inches when the plant is in the hot shutdown condi-
3 tion, period. Is it reasonable for an operator to say the
4 plant was a hot shutdown condition a few minutes after the
5 accident began?

6 MR. STELLO: No.

7 COMMISSIONER PIGFORD: Why?

8 MR. STELLO: Because it was clearly in a transient
9 condition. A hot shutdown condition is one that I view as a
10 stable condition in a plant.

11 COMMISSIONER PIGFORD: Is there some word definition
12 of this within the manual that the operators learn?

13 MR. STELLO: The definition for a hot shutdown condi-
14 tion is included in the technical specification, if my memory
15 is correct, in Three Mile Island unit 2.

16 COMMISSIONER PIGFORD: It is.

17 MR. STELLO: The definition is in the document, as I
18 recall, yes.

19 COMMISSIONER PIGFORD: And can you tell me what the
20 definition is?

21 MR. STELLO: I don't recall the specific numbers, but
22 I believe it refers to the state of the reactor with respect
23 to temperature, pressure, and criticality.

24 COMMISSIONER PIGFORD: All right. Let's take criti-
25 cality. It's not critical.

1 MR. STELLO: It is not critical.

2 COMMISSIONER PIGFORD: All right. And at the time,
3 a few minutes after the accident began, Three Mile Island 2
4 was not critical.

5 MR. STELLO: That's correct.

6 COMMISSIONER PIGFORD: All right. Temperatures:
7 What temperatures are normally expected in hot shutdown condi-
8 tion?

9 MR. STELLO: I suspect that they would be temperatures
10 above boiling, in excess of 212 degrees. The exact number I
11 can't recall. I'd have to refer to the technical specification
12 for it.

13 COMMISSIONER PIGFORD: Let's take the case of about
14 90 minutes or so after the accident began. Would that tempera-
15 ture that was occurring be within the range normally considered
16 for hot shutdown condition?

17 MR. STELLO: I would think so.

18 COMMISSIONER PIGFORD: All right. Now, the other
19 parameter you gave was pressure. What pressures do you nor-
20 mally consider as being hot shutdown condition?

21 MR. STELLO: I would think that the intent is that
22 the reactor pressure is stable, that it is at some value being
23 held essentially constant.

24 COMMISSIONER PIGFORD: Is that stated in the defini-
25 tion?

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MR. STELLO: I don't recall. That's what I would attach to the meaning of the condition on both temperature and pressure, is that they were being controlled.

COMMISSIONER PIGFORD: Yes. Now, of course, I have no experience in just how they approach these words, so I just take them literally. The thing was hot and it was shut down, so this would be my reaction. But, of course, if you have a word definition that says something differently, I would certainly go along with that.

But I'm really asking what was told to the operators? Would they reasonably expect, then, it to be hot shutdown? And therefore they should never exceed 385 inches in the pressurizer.

MR. STELLO: In my professional judgement, a plant that is still undergoing an uncontrolled depressurization, where they are not able to control the pressure, in my view, that is not a condition that I would consider to be a plant in a hot shutdown condition.

COMMISSIONER PIGFORD: All right. Now, unfortunately, I don't come from the same place, and so I'm uncertain. I'm worried about the operators. Are they told really what it means? And we're not sure about that, are we?

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MR. STELLO: Based on my reading of the investigation and based on my knowledge of the accident and reviewing the interviews, I do not believe that the operators believed they

12 1 had the reactor in a hot shutdown condition.

2 COMMISSIONER PIGFORD: Perhaps so. So I can only
3 pose a hypothetical question. If they thought it was hot shut-
4 down, then this -- in the hot shutdown condition, then this
5 technical specification would be a real problem to them,
6 wouldn't it?

7 MR. STELLO: It would, at best, cause them to have
8 a great conflict in the procedure that they should have been
9 following for this condition, which was a procedure that dic-
10 tated the actions to be taken when there was a decreasing
11 reactor coolant pressure. In that specification, there's a
12 requirement that couples both pressurizer level, which indicates
13 that they ought to have it above some minimum level. In addi-
14 tion to having the reactor pressure above, again, some minimum
15 level, this would cause some concern because they would have
16 also been trying to deal with causing the pressurizer to be
17 now, because of this technical specification, less than some
18 other level. So I think it would have created an element of
19 confusion in their mind, if that's what -- if that indeed was
20 their thinking.

21 COMMISSIONER PIGFORD: Yes. But I think you're
22 appropriately saying they also should have known the emergency
23 procedures, which -- and should have followed those and should
24 have understood them. I think that's also the point of your
25 answer, isn't it?

LA 13 1 MR. STELLO: The point of my answer was that it
2 would have had some additional confusion --

3 COMMISSIONER PIGFORD: Yes.

4 MR. STELLO: To trying to deal with that emergency
5 procedure.

6 COMMISSIONER PIGFORD: Yes. And so then when you
7 came to the conclusion if they had followed these procedures,
8 these procedures, everything would have been okay, you mean,
9 then, and if they had known to depart from that technical spec.
10 limit, in this case. Surely that's what you have to conclude.

11 MR. STELLO: Well, as I understood your question,
12 you're back as to why I concluded that had they followed pro-
13 cedures, the accident would have been prevented. I had, as I
14 indicated earlier, other things in mind.

15 COMMISSIONER PIGFORD: Additional procedures.

16 MR. STELLO: Additional procedures, yes.

17 COMMISSIONER PIGFORD: Yes. But with regard to the
18 pressurizer level, I think, doesn't it mean that there are some
19 loss of coolant procedures that said worry about both pressure
20 and pressurizer level.

21 MR. STELLO: In Three Mile Island unit 2, that is
22 in fact the case. It's an end statement, as I recall, in the
23 procedure.

24 COMMISSIONER PIGFORD: Yes. And so it would be your
25 expectation on pressurizer level, they should have concentrated

A 14 1 on that and then no longer worried about this technical speci-
2 fication. Is that right?

3 MR. STELLO: That's what I believe they should have
4 done, yes.

5 COMMISSIONER PIGFORD: Yes. And if they had done
6 that, then they would not have throttled the HPR down.

7 MR. STELLO: At that point in time, they should have
8 been following the procedure, not trying to decide what the
9 technical specifications required. The procedures were written
10 to deal with the contingencies and accident conditions that
11 might occur in a plant. And they ought not to try to follow
12 technical specifications which for accidents clearly don't
13 apply.

14 COMMISSIONER PIGFORD: Yes. You're not saying that
15 all technical specifications should be departed from if you
16 get into an accident, are you?

17 MR. STELLO: Literally, yes.

18 COMMISSIONER PIGFORD: Really?

19 MR. STELLO: Yes.

20 COMMISSIONER PIGFORD: All technical specifications?

21 MR. STELLO: Literally, yes. Those technical speci-
22 fications that he should be following or those requirements
23 that he needs to adhere to should be embodied within the pro-
24 cedures that relate to the particular contingencies. So if
25 there are actions that are required by the technical

LA 15 1 specifications, they should be embodied in the procedures
2 themselves to govern the actions that he takes.

3 COMMISSIONER PIGFORD: Therefore we would say that
4 the operators, because they are trained first to follow tech-
5 nical specifications, or it's part of their training, then
6 there should be some training to them in the case of accident,
7 avoid all technical specifications and go to the procedures.

8 MR. STELLO: That's what I understand they are
9 trained to do.

10 COMMISSIONER PIGFORD: They are trained to do that.

11 MR. STELLO: To pull out the procedures and follow
12 the procedures in the event of an accident. That is my under-
13 standing.

14 COMMISSIONER PIGFORD: And to depart from the tech-
15 nical specifications. Is that right? They're trained to do
16 that.

17 MR. STELLO: That is not what I've said.

18 COMMISSIONER PIGFORD: I see.

19 MR. STELLO: I said that I don't believe that one
20 ought to use the technical specifications as the guidance to
21 what to do in the event you have an accident. You should
22 follow your procedures. To the extent that a procedure's needed
23 to contain a particular part of a technical specification, it
24 should be embodied in the procedure, and one ought not to try
25 to follow those portions of the technical specifications at

16 1 that time.

2 COMMISSIONER PIGFORD: Your assessment is certainly
3 a reasonable and professional one. But how about the operator?
4 Does he know he's supposed to not follow a technical specifica-
5 tion when he's also -- when he gets into an emergency that
6 requires an emergency procedure? Is he taught that?

7 MR. STELLO: In my view, he is. The technical speci-
8 fications themselves require that these procedures be developed
9 and adhered to. That is also a license condition. He is told
10 if you have accidents, you're to follow -- you are first to
11 have developed appropriate procedures and then you are directed
12 to follow those procedures.

13 COMMISSIONER PIGFORD: But if he's not taught that
14 he must depart from technical specifications in an accident,
15 then we have a legitimate source of confusion, don't we?

16 MR. STELLO: I believe that that is a real issue and
17 it is a concern for me.

18 COMMISSIONER PIGFORD: Yes.

19 MR. STELLO: During my stay up at Three Mile Island,
20 there were times that I thought that there was undue interest
21 in the technical specifications, rather than dealing -- what
22 were the safety issues that had to be dealt with. I think
23 that there is a need to have a clarification on what basis one
24 departs from these technical specifications and clearly
25 follows the procedures. I think it is something that needs

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1 work.

2 COMMISSIONER PIGFORD: Evidently, when this report
3 comes to the conclusion, if they had followed the procedures,
4 it would be okay, you meant literally the emergency procedures
5 and not the technical specifications.

6 MR. STELLO: The thought I had dealt with procedures,
7 not all of which I would classify as emergency procedures,
8 however.

9 COMMISSIONER PIGFORD: Yes, all right.

10 MR. STELLO: But the thought was procedures, not
11 technical specifications only.

12 COMMISSIONER PIGFORD: Thank you. Now, let's turn
13 to the procedure at Three Mile Island dealing with the emer-
14 gency of the loss of reactor coolant and reactor coolant system
15 pressure. Now, first, has your group evaluated that procedure?

16 MR. STELLO: They did.

17 COMMISSIONER PIGFORD: Have they also compared it
18 with the similar procedure for Three Mile Island 1?

19 MR. STELLO: I do not know.

20 COMMISSIONER PIGFORD: All right. Then the proce-
21 dure has two main parts. Part A is a leak, a rupture within
22 capability of the system. That implies a small break, wouldn't
23 you say?

24 MR. STELLO: My recollection of the procedure is
25 that it was divided into two parts. There was an A and a B

LA 18 1 part to it. And the B part of the procedure dealt with the
2 loss of coolant accident condition itself. And the A part
3 dealt with conditions where it was possible to keep up with
4 the amount of leakage.

5 COMMISSIONER PIGFORD: Yes, yes. Well, I wish I had
6 an extra copy, and I need mine. I'll tell you what it says.
7 The A part says it deals with a leak, a rupture within capa-
8 bility of system operation, and B deals with a leak, a rupture
9 of significant size such that the ECCS features are automati-
10 cally initiated. Does that ring any bells?

11 MR. STELLO: Yes. I don't know --

12 COMMISSIONER PIGFORD: That's why I said it seems to
13 me that the A part deals with a small break and B with a larger
14 break. Is that a reasonable characterization, if it says
15 that?

16 Mr. Jaffe is giving you a copy, so it's only fair,
17 when you can see exactly what I'm asking.

18 MR. STELLO: I think the B part would be correctly
19 characterized as a loss of coolant condition which was in
20 excess of the make-up capability -- or the capability of the
21 high pressure injection system.

22 COMMISSIONER PIGFORD: All right, good enough. And
23 it says further that loss of -- on page six, it says ECCS is
24 automatically initiated. Well, we're not at that stage on
25 Three Mile Island 2 accident within the first few hours, are

LA 19 1 we?

2 MR. STELLO: Oh, yes, you were.

3 COMMISSIONER PIGFORD: Oh, yes. ECCS means the
4 high pressure injection is automatically initiated.

5 MR. STELLO: Yes, indeed. And it was actuated, as I
6 recall, within the first few minutes following the accident.

7 COMMISSIONER PIGFORD: I see. Which one of these
8 procedures would you expect the operator to follow, then?

9 MR. STELLO: I would have expected him to have to
10 follow either one or the other.

11 COMMISSIONER PIGFORD: All right, good enough.

12 MR. STELLO: Depending on the mindset that he had.

13 COMMISSIONER PIGFORD: All right. And depending
14 upon what the procedures say, too.

15 MR. STELLO: Well, this is the only procedure that I
16 know of that deals with either a loss of coolant accident or
17 a decrease in reactor coolant system pressure. So I would
18 clearly expect that this is the procedure that he would have
19 followed through.

20 COMMISSIONER PIGFORD: Okay, we have the operator
21 now and he knows something's wrong. And so the procedure
22 starts out with symptoms to tell him where he is. Okay, let's
23 take the A part. Symptoms: Initial loss of coolant pressure
24 and decrease in pressurizer level. It sounds like we're not
25 at that one. Is that correct? That's item 1.1. Those symptoms

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1 did not occur at the time you'd expect him to pull out these
2 procedures. Decrease in pressurizer level.

3 MR. STELLC: Well, I believe you had an initial loss
4 of both pressure and level in the early time of the accident.
5 But I don't believe that the latter part of the procedure,
6 which says it became stable after a short period of time. I
7 do not believe it became stable.

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1 COMMISSIONER PIGFORD: It, also, says, "Decrease
2 in pressurizer level," and of course, I am interested at that
3 time because that was the confusing thing to him that we
4 have learned caused the later error. So, it sounds like this
5 procedure, the symptoms for this part did not occur at that
6 time, when the pressurizer level was going up and not down.
7 Would you agree?

8 MR. STELLO: I will need to refresh my memory, but
9 my recollection is that immediately following the transient
10 I thought there was an initial decrease in level.

11 I would need to go back to look at the data, but
12 that is --

13 COMMISSIONER PIGFORD: I accept even the
14 possibility, Mr. Stello, but I want to focus on that period
15 which the operator had trouble with, and we have learned
16 abundantly that they saw that level going up, and that is
17 what led them to throttle the HPI.

18 MR. STELLO: I clearly think that that is indeed the
19 case.

20 COMMISSIONER PIGFORD: And he would say that boy,
21 he is out of Part A, wouldn't you say, because Part A says,
22 "Decrease in pressurizer level"? It, also, says, "Becoming
23 stable," and it sure did not become stable, did it?

24 MR. STELLO: I cannot so quickly agree he is out of
25 Part A because on Page 3 of the procedure there is a caution,

1 and the cautions in the procedure, I think, are pretty
2 important and should have caught his attention, also.
3 And if I might read, the caution says, "Continued operation,
4 operation of the high-pressure injection system, depends upon
5 the capability to maintain pressurizer level and" and I want
6 to repeat that, to make sure that it is clear it is both,
7 the reactor coolant system pressure above the 1640 PSIG
8 safety injection actuation set point, and then it goes on
9 with two points under that caution. It says, "If the
10 pressurizer level can be maintained above the low level
11 alarm point, and" and again I emphasize and, "the reactor
12 coolant system pressure above the safety injection actuation
13 point, then proceed to Step 3.2.6," which would have caused
14 him to initiate the plant shutdown and cooldown.

15 If, and the second point is, pressurizer level
16 cannot be maintained above the low level alarm point and
17 the reactor coolant system pressure above the safety injection
18 actuation point, then the plant has suffered a major rupture,
19 and operations should continue according to Part B which is
20 the loss of coolant accident procedure.

21 So, with the understanding that this caution is
22 also in there, I would not be so quick to judge that one
23 ought to then conclude that he is to remove himself from
24 Part A of the procedure.

25 COMMISSIONER PIGFORD: We have learned earlier when

1 we got into the discussion of the tailpipe temperature at
2 our first hearing, I don't know if you heard that part of it,
3 operators, their main problem was to know when to use the
4 procedures, to know when to enter them, and they said that the
5 problem on the tailpipe temperature was they did not know they
6 had a leak; so how did they know to read those proce- -- pull
7 them out, and that is undoubtedly the purpose of the listing
8 of symptoms, to tell you when the procedure is applicable, and
9 that is why I have concentrated on the symptom here, but you
10 are certainly pointing out if one manages to get beyond that
11 point, then on the third page, there is indeed, a caution
12 that suggests that maybe he is in Part B.

13 CHAIRMAN KEMENY: Our next witness is here, but
14 I don't quite want to cut you off. I am dying to know the
15 other half of it.

16 Could you, perhaps, conclude by telling us what
17 if the operator concluded to go to Part B because the symptoms
18 did not apply, what would have happened?

19 COMMISSIONER PIGFORD: I am going to try to
20 summarize it, and I expect in fairness to Mr. Stello he may
21 want to then take an opportunity later of preparing some
22 clarification. How about that?

23 I will pose the question and then let you later
24 on because we are under time pressure. I am told by the
25 staff that there is something unique about the TMI-2 procedures

1 that they are quite different from TMI-1, that TMI-1
2 procedures are relatively clear. It says, "When this happens,
3 you do this."

4 Apparently on TMI-2 procedures which seem to have
5 evolved in a strange process in an answer to NRC on a question
6 of small break accident the answer was developed that the
7 particular accident was analyzed under the conditions that
8 there be a loss of off-site power, that failure of one or
9 more emergency diesel generators, these are all occurring
10 together and the break be at the discharge side of the main
11 coolant pump. Not only was that answer provided to NRC as an
12 analysis of what happens, but apparently it was incorporated
13 as the governing conditions for that procedure to apply,
14 namely, the operator must find that those three things occur,
15 loss of off-site power; that did not occur at Three Mile
16 Island, failure of one or emergency diesel generators; that
17 did not happen, and so forth, and so I am asking you to go
18 back and help us and look at those procedures and show us
19 that an operator reasonably, given his mind set and the
20 training and the training you would expect, even, would know
21 what procedure to use here, would be applicable to this
22 particular accident and that if he had followed it, it would
23 have gotten him out of it.

24 I am sorry to leave it in this kind of pejorative
25 state because maybe it is all just fine, but I expect me

1 confronting you with all of this right now would make it a
2 little difficult to give a short answer, wouldn't it?

3 MR. STELLO: I would be very happy, if it is
4 acceptable to the Commission, to examine the question that
5 is before me and provide a written answer, if that will help
6 with the time schedule.

7 CHAIRMAN KEMENY: Yes, I would feel that would be
8 much fairer to you, Mr. Stello, rather than ask you to come
9 up with a spur-of-the-moment answer which would be quite
10 unfair, I feel.

11 MR. STELLO: I did hope that sometime before today,
12 if there was a concern over why I made the statement I made
13 in the foreward with regard to the accident being preventable,
14 if there is a question as to all of what I had in mind; I
15 kind of have the impression that there might be, then I would
16 like certainly, an opportunity perhaps later to speak to the
17 point.

18 CHAIRMAN KEMENY: Certainly, Mr. Stel'lo.

19 COMMISSIONER PIGFORD: If I could add one more
20 little follow-up question on procedures, and I will be quite
21 brief. We learned a lot from the Todesco Report which told
22 us about the causes of the accident and one of the causes
23 listed was that the operator tripped the reactor coolant
24 pumps. Do you recall that being in the Todesco Report?

25 MR. STELLO: I do.

1 COMMISSIONER PIGFORD: And then we find in your
2 present report and, also, in the August 2 transcript of your
3 briefing of the Commissioners you are now concluding it was
4 a violation; it would have been a violation of procedure
5 not to have tripped those reactor coolant pumps, in fact,
6 you were considering some sort of action against the operators
7 for not having done it soon enough. It appears that you are
8 concluding that the procedure requires the tripping of the
9 reactor coolant pumps, even though Todesco concluded that
10 was one of the causes of the accident. Now, is that something
11 you would like to clear up briefly here or in a more
12 careful answer? I expect if the latter is the approach we
13 might prefer it.

14 MR. STELLO: Is that a request or a direction?

15 COMMISSIONER PIGFORD: I am not directing anything,
16 sir. I will let the Chairman decide.

17 CHAIRMAN KEMENY: Yes. Mr. Stello, may I make
18 a request that you respond to both lines of questioning by
19 Professor Pigford, in writing, after you have had ample time
20 to consider it, and we will make your written response
21 part of the permanent record of this Commission?

22 MR. STELLO: I would be very happy to do so.

23 Thank you. May I excuse, subject to recall,
24 Mr. Stello?

25 Would Chief Counsel please call the next witness?

1 MR. GORINSON: NRC Commissioner Kennedy?

2 Whereupon,

3 RICHARD T. KENNEDY

4 was called as a witness and, after being first duly sworn,
5 was examined and testified as follows:

6 CHAIRMAN KEMENY: Could I please ask you to state
7 your full name and your current position for our records?

8 MR. KENNEDY: I am Richard T. Kennedy, Commissioner
9 of the Nuclear Regulatory Commission, presently Acting
10 Chairman.

11 CHAIRMAN KEMENY: Thank you. We appreciate your
12 appearing this afternoon, Commissioner Kennedy. We would
13 not have called you, except for a serious concern of members
14 of this Commission.

15 Are you aware of a memorandum that was released,
16 made public yesterday, and we became aware of this
17 morning by Mr. Denton of August 20, 1979?

18 MR. KENNEDY: Yes, sir. I am aware of it. I have
19 a copy in front of me.

20 CHAIRMAN KEMENY: Thank you. May I ask you when
21 you first became aware of it?

22 MR. KENNEDY: I became aware of this, to my
23 recollection, late Monday afternoon, sir. My office was
24 called, I believe sometime earlier on in the day indicating
25 that a memorandum of this kind was on its way. I did not see

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1 the memorandum until late afternoon. Following this, I would
2 add, my understanding is that it was placed in the Public
3 Document Room yesterday at some point.

4 My impression had been, and let me offer my
5 personal apologies, my impression had been that the
6 memorandum had been provided in the normal course, as we
7 hope of providing everything that we have that would be in any
8 way relevant to your Commission in advance of that time.

9 My understanding is now that in fact it was
10 simultaneously made available to the Reading Room of the
11 Commission sometime yesterday.

12 CHAIRMAN KEMENY: Thank you. The concerns that
13 were expressed this morning, and I want to be precise on it,
14 since the document deals with two entirely different subject
15 matters, major portions of the document deal with added
16 safety considerations for currently operating nuclear plants,
17 and no concerns were expressed over those. I wanted to make
18 that very clear. I mean clearly Mr. Denton feels that there
19 are additional safety features that should be imposed on the
20 plant. We are not questioning those.

21 The issues over which concerns were expressed
22 this morning were the resumption of the licensing process,
23 and Mr. Denton indicated that he had made this decision on his
24 own, and while he indicated, and I hope I don't misquote him,
25 and I apologize if I do, but I will give you a chance to

1 correct me, if I am wrong, Mr. Denton, that this was his
2 decision, that it had not been made in consultation with
3 the Commissioners, and although he had had previous discussions
4 way back on the period of moratorium, and I do understand
5 that he said that he would consult the Commission before
6 any additional licenses would be issued. Have I roughly
7 gotten you right, Mr. Denton?

8 (Mr. Denton nods affirmatively.)

9 CHAIRMAN KEMENY: Thank you. I want to be very
10 sure I don't misquote him. I simply want to pinpoint our
11 concern. The concern was whether the very reactivation of
12 the licensing process may have highly negative effects.
13 It was a rare occasion. There were nine of our Commissioners
14 present, and every single one of them spoke up. The concerns
15 varied a great deal. They spoke to a number of issues in
16 terms of public perceptions, in terms of possibly prejudicing
17 the inquiry of this Commission and equally importantly the
18 self-examination of the Nuclear Regulatory Commission, and
19 concerns were expressed as to the possibility that the
20 decision may not even be in the best interests of the nuclear
21 industry. I am giving you a quick and inadequate summary
22 and we will furnish your Commission with copies of a transcript
23 of the remarks this morning, because I cannot do justice to
24 it in a few minutes.

25 May I ask you first, do you have any reaction to

1 this general subject?

2 MR. KENNEDY: First, again, let me reiterate, I
3 gather that the matter really came to your attention via our
4 local press, and I think that is unfortunate, indeed,
5 certainly not in keeping with the kind of relationship which
6 we have attempted to assure between the NRC and the
7 Commission.

8 Having said that, sir, I would like to be sure
9 that my own appreciation of Mr. Denton's memo is clear.
10 First, when we speak of resuming the licensing process,
11 there are many aspects of the licensing process, as I know
12 that you are well aware now, and we are not speaking of the
13 issuance of licenses, because as Mr. Denton clearly pointed
14 out, the Commission had expected that whatever reviews he
15 undertook, whatever conclusions the staff would reach before
16 a first license was issued under the staff's authority to
17 so issue, before any such issuance, the matter would be
18 brought to the Commission for its consideration.

19 Now, the Commission fully anticipated that there
20 would be a number of questions beyond the specific technical
21 ones which the staff might well consider and, indeed, even
22 including some of those and technical questions that might
23 be raised in other contexts, and it fully anticipated that
24 should that be the case that either it would refer those
25 matters to existing boards if they were still in session in

1 respect to a particular case or if not, the matter then being
2 before the Commission, the Commission itself would consider
3 them and determine what, in its judgment, their relevance
4 would be and what course should be followed.

5 So, when Mr. Denton suggests that the licensing
6 process would be resuming, it seems to me that at least from
7 my own perspective he was speaking in a relatively restrained
8 sense, that is that this was not a process which was
9 going to pell-mell result in the issuance of licenses.

10 Indeed, the cases involved were cases that had
11 been long in process, were nearing the completion of the
12 staff review process, many of which, indeed, had long and
13 protracted hearings. These matters would be brought to an
14 initial conclusion, that is the conclusion of the staff,
15 given their review of the situation to date and their
16 consideration of all of the technical questions that arose
17 from their review of the TMI incident, the large number of
18 lessons learned, if you will, the short-term actions, so-called.

19 Based upon that which would take some weeks for even
20 that case that would be the farthest advanced, based upon that,
21 the staff would reach a conclusion and then address the
22 Commission with that conclusion.

23 That is the perception with which I was viewing this,
24 not as any conclusory statement in any way.

25 CHAIRMAN KEMENY: I guess that our concern was raised

1 to higher levels by two factors, and the other Commissioners
2 will have to speak for themselves, because we spoke only
3 our individual minds. We clearly did not have time to prepare.
4 One, Mr. Denton had been quoted as some new licenses being
5 issued possibly in a month, and secondly, this document
6 spoke of describing the short-term lessons learned, that
7 these constituted both necessary and sufficient conditions
8 for continued safe operation, and I am not raising that
9 part but for the resumption of staff licensing activities,
10 and a number of Commissioners spoke to the prejudgment issue
11 that the conclusion that these preliminary, temporary
12 findings constitutes sufficient conditions here, particularly
13 for plants, which as we understand, those that are nearing
14 the completion process, were reviewed under procedures that
15 were pre-Three Mile Island.

16 MR. KENNEDY: I understand.

17 CHAIRMAN KEMENY: Would any other of our
18 Commissioners like to make any comments or questions?
19 Professor Taylor?

20 COMMISSIONER TAYLOR: I would like, very briefly,
21 to express one specific concern that I had, that may be a
22 matter of interpretation of words in the letter, but as I
23 mentioned this morning, I read the, what I took to be the
24 main statement in the memorandum to the Commission, to say
25 that there had been a review of what happened at TMI, and on

1 the basis of that review certain recommendations to achieve
2 safety of the operating reactors and by implication of similar
3 reactors now under the license review process which is
4 temporarily suspended, that in the light of this review and
5 these recommendations Mr. Denton was concluding that we
6 can now go ahead with the licensing review process, leading
7 me to believe that this meant that the fixes, the primary
8 fixes judged to be necessary and sufficient for safe
9 operations of pressurized water reactors had been achieved.

10 To me that was a prejudgment. I have read a major
11 part of the basis for the findings that I understand were
12 Mr. Denton's, also, a part of the basis for his findings
13 that led to this conclusion, and I don't conclude the same
14 result, that is that if one does the things that are outlined,
15 most of which are, I would call, technical fixes, not fixes
16 having to do with training, the quality of the people
17 operating the reactors, the character of the NRC review
18 process itself, the entire process that leads to the use of
19 these reactors.

20 So, as I said to Mr. Denton this morning, I was
21 astonished at that sentence which sounded to me as though he,
22 representing NRC, because that is the way the Washington
23 Post seemed to be taking it this morning, I don't mean the --
24 I mean representing the Nuclear Regulatory Commission, not the
25 Commissioners, but it was sort of played out, and here we

1 were deciding to go ahead.

2 Now, it seems to me that since there were two
3 examples of reactors that were, according to the report that
4 I saw in the Post, and I don't think this is incompatible
5 with Mr. Denton's testimony, there was the strong implication
6 that this meant that two reactors that are not now on line
7 would be going on line within a time around one month, subject
8 to this new set of conditions, so that I guess I want to
9 express two concerns.

10 One is that the character of the changes in the
11 procedures and in the hardware at the reactors that are
12 proposed in the memorandum in my own judgment are not
13 sufficient to assure with the level of assurance that I would
14 require, the continued safe operation, in a sense of sort of
15 closing the safety issues. So, I was alarmed to see that
16 said.

17 I was particularly alarmed in the context in which
18 it was said, that is in a major newspaper, as far as I can
19 tell, still reporting reasonably well what was in the
20 memorandum, the substance of it, and I presume a sort of
21 flash worldwide to the effect that the Nuclear Regulatory
22 Commission has decided to proceed with further construction
23 and operation of nuclear reactors.

24 I am saying that what this would sound like, the
25 signal sent to the world, the distinction between continuing

1 the licensing process and actually authorizing going ahead
2 to run reactors is a little bit fine.

3 I am very concerned about the signal going out
4 worldwide that the lessons from TMI have been learned; if we
5 do the following, we can continue then with the unrestricted
6 development of nuclear energy, based, at least, on the use
7 of PWR's, and I presume BWR's, too. That is a presumption
8 based on the character of the memorandum. So that was what
9 I was concerned about.

10 I think those signals, whatever signals are sent
11 by this country, in any official sense, to the rest of the
12 world about this country's reaction to Three Mile Island are
13 extremely important and are likely to be misinterpreted, if
14 they are not thoroughly explained are likely to be misinterpreted
15 if they are put in a context in which they come out before
16 the review by the Nuclear Regulatory Commission of its, the
17 thorough, the complete review of all aspects of the
18 regulatory process before the President's Commission has
19 completed its job.

20 I was very concerned about the foreign reaction
21 to this, as well as the public reaction in this country,
22 and I tried to express that concern this morning.

23 CHAIRMAN KEMENY: Commissioner McPherson?
24
25

1 COMMISSIONER MCPHERSON: Commissioner, you said you
2 became aware of the Denton memorandum on late Monday?

3 MR. KENNEDY: Yes, sir.

4 COMMISSIONER MCPHERSON: Were you asked to comment
5 on that?

6 MR. KENNEDY: No, I was not. Let me say, Mr. McPher-
7 son, I don't consider that extraordinary. Mr. Denton had been
8 given instructions by the Commission some weeks ago. He had
9 come to the Commission and explained that on his own motion he
10 intended to, for a variety of reasons, to slow down or essen-
11 tially stop the immediate licensing reviews until all of the
12 TMI immediate questions had been thoroughly examined, the
13 personnel that would be required in the normal course of
14 licensing review being needed to deal more pressingly with
15 questions directly related to and flowing out of the TMI expe-
16 rience.

17 He felt that it would be wholly appropriate to put
18 aside for a time the licensing review, to resume it only after
19 these personnel, to some extent, at least, could be released
20 again for their regular review purposes, and after concluding
21 the review of the Lessons Learned Task Force, so that all of
22 those questions could then be taken into account by reviews.

23 Having reached that stage, having had an ACRS review,
24 looked at the views which the ACRS expressed, factored those
25 again into the whole package, he concluded he had reached this

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1 point, I take it, and so his memorandum represents.

2 Let me point out that, again, he was saying only
3 that, from my perspective, as I understand his memorandum
4 and as I understand his intentions.

5 COMMISSIONER MCPHERSON: Let me see if I may inter-
6 rupt you just for a moment. He came some time ago, months ago,
7 I believe, and said that he was going to --

8 MR. KENNEDY: Several weeks.

9 COMMISSIONER MCPHERSON: Several weeks. Would slow
10 down the licensing --

11 MR. KENNEDY: As a practical matter, stop it on the
12 ongoing reviews that were done before --

13 COMMISSIONER MCPHERSON: Until he had the reports
14 of the Lessons Learned Task Force and until that personnel
15 involved in that was available to go back to the licensing job.

16 MR. KENNEDY: That is correct.

17 COMMISSIONER MCPHERSON: Did he discuss at that time
18 with the Commission the substantive lessons of TMI? Did he
19 discuss the material, in other words, that is in his memorandum
20 with the Commission?

21 MR. KENNEDY: No, no. That preceded the development
22 of the substance that is in this memorandum; that is, the
23 factors that were being developed by the Lessons Learned Task
24 Force.

25 COMMISSIONER MCPHERSON: Has he ever discussed with

1 the Commission the specific requirements that are listed in
2 his memorandum for applicants for operating licenses and for
3 existing plants?

4 MR. KENNEDY: He discussed with the Commission the
5 results of the Lessons Learned Task Force, most of which are
6 represented here in terms of the twenty-odd short term actions.

7 COMMISSIONER MCPHERSON: Did the Commission take any
8 action to inform Mr. Denton that he could go ahead with this
9 memorandum?

10 MR. KENNEDY: No, it did not.

11 COMMISSIONER MCPHERSON: Did it take any action to
12 tell him not to?

13 MR. KENNEDY: No, but this memorandum, which is the
14 August 20 memorandum, has not been considered by the Commission
15 as yet, as a practical matter, and the Commission has taken no
16 position in respect to this memorandum.

17 COMMISSIONER MCPHERSON: What positions, plural,
18 might the Commission take with respect to this memorandum?

19 MR. KENNEDY: Well --

20 COMMISSIONER MCPHERSON: I am not speaking of speci-
21 fic matters on the implementation table, but I am talking about
22 whether to commence the licensing program once or not to --

23 MR. KENNEDY: Presumably --

24 COMMISSIONER MCPHERSON: -- or to delay it for other
25 reasons.

1 MR. KENNEDY: The Commission obviously could follow
2 any of those courses, Mr. McPherson. It could, on its own
3 motion, instruct that no further action be taken for some given
4 period of time or until certain conditions are met. It could
5 presumably authorize that the reviews go forward, but then
6 take no action in respect to license issuance, or just let it
7 stand as it is, and as a matter of fact, those two are very
8 much the same because at the moment, as Mr. Denton points out,
9 he intends to present the results of the first such case to
10 the Commission and will await its conclusions in this regard
11 before taking any further action.

12 COMMISSIONER MCPHERSON: Have the commissioners
13 discussed collegially, either formally or informally, the evi-
14 dence that has been produced before this Commission with respect
15 to the treatment of the Davis-Besse accident by either Babcock
16 & Wilcox personnel or by the NRC staff itself?

17 MR. KENNEDY: No, sir. There have been, obviously,
18 conversations, staff notes and discussions and a considerable
19 interest in the Davis-Besse matter, but there has been no
20 formal or informal review by the Commission in this incident.

21 COMMISSIONER MCPHERSON: The question was whether
22 any of the evidence produced in these hearings has been formally
23 brought before or explicitly brought before the NRC commis-
24 sioners, meeting in collegial form.

25 MR. KENNEDY: No, not specifically evidence brought

1 before the President's Commission. A number of the issues,
2 the technical questions arising in the Davis-Besse matter,
3 have been the subject of discussions.

4 COMMISSIONER MCPHERSON: One of the principal dis-
5 closures, at least as far as I am concerned, Commissioner,
6 of that series of hearings on Davis-Besse, both about the
7 treatment of the so-called Dunn and Kelly memorandum at Babcock
8 & Wilcox and the treatment of the Creswell memoranda at NRC,
9 disclosed to me an absence of easy channels of communication,
10 an absence of decisionmaking in the full sense of the word,
11 an absence of what I think psychologists would call closure,
12 closing the circle, taking action, an absence of deadlines.

13 That seems to be endemic in both the supplier and
14 in the NRC staff, at least as far as these particular instances
15 would suggest, and it was that I hoped that the Commission
16 might have concerned itself with after the matter was disclosed
17 in these hearings.

18 MR. KENNEDY: I am confident that the Commission
19 indeed will, as it will all matters arising out of these hear-
20 ings and the other investigations, including our own, that are
21 ongoing.

22 COMMISSIONER MCPHERSON: Commissioner, is it likely
23 that the Commission will delay giving its okay to the reinsti-
24 tution of the licensing process until what we have been calling
25 here the non-hardware questions are resolved, and I am speaking

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1 not of the specific change in plants' equipment but of the
2 change in the oversight of training by NRC; change in evacua-
3 tion, if needed, as a result of TMI; changes in communication
4 between NRC and plants, which I am sure you would agree left
5 something to be desired in the period March 28 on; changes in
6 handling safety issues as they come up from lower levels and
7 from the plants. Is it likely that the Commission will hold
8 off on reinstating the licensing process until it has some
9 evidence that those changes have been effected or that there
10 has been a resolution of the outstanding questions involved?

11 MR. KENNEDY: Let me just address some of those
12 particular matters if I may.

13 First, as to the communications, there is already
14 hardwire communications between every control room of an operat-
15 ing plant and the NRC. That has already been installed.
16 Those are dedicated lines, uninterruptible -- uninterruptible
17 except by damage to the physical facilities, but they are not
18 interruptible by any communications activity.

19 Secondly, as to operator training, there is before
20 the Commission and an ongoing effort, a substantial upgrading
21 in the entire program of operator training and qualification.
22 All these efforts are ongoing, and efforts being made to
23 actually implement changes precisely as they are considered
24 to merit implementation in terms of the benefits that are
25 going to be achieved from them.

1 COMMISSIONER MCPHERSON: I will call your attention
2 in that regard, Commissioner, to testimony given by your Mr.
3 Collins yesterday. I hope you will have a chance to read it.

4 MR. KENNEDY: I will.

5 And thirdly, as to the -- and I am aware that there
6 are substantial improvements to be made, Mr. McPherson, in
7 operator training, and indeed, we are putting a great deal
8 of effort in finding out the best ways to go about that.

9 And then as to emergency planning, clearly, defi-
10 ciencies existed, deficiencies which ought not to have existed.
11 We fully understand that, and again, working directly with the
12 states, a major effort is underway, and I am sure that witnesses
13 have given you an appreciation of how far along that is, to
14 upgrade all of that effort and to bring into being approved
15 plans and plans that, in terms of their content, are much more
16 effective perhaps than those that we have seen in the past.

17 Then with that backdrop, is the Commission likely to
18 hold off any licensing until all those changes are being made?
19 It seems to me that when we have -- and I am speaking now for
20 myself; I don't wish here to imply that I am speaking for my
21 colleagues -- it seems to me that when we have satisfied our-
22 selves that a program is underway which in fact, in a given
23 period, can be assured to produce the kinds of results that
24 are deemed essential, that we ought to be able to go ahead
25 with the licensing process, recognizing that when a given piece

1 of hardware goes on line, that it ought to meet the stringent
2 safety requirements, whatever they may be, that have been
3 imposed.

4 COMMISSIONER MCPHERSON: I think the concern of this
5 Commission has been more with a given operator going on line
6 that it has with a particular piece of hardware.

7 MR. KENNEDY: I understand that. I meant when the
8 hardware is ready to go on line, all the safety requirements,
9 and that applies not just to the hardware itself but to all the
10 aspects surrounding its use when those systems have been deemed
11 to be improved or the improvement underway to guarantee the
12 result that we are talking about, when that has been achieved,
13 it seems to me the licensing process can and should go forward.

14 COMMISSIONER MCPHERSON: Commissioner, last question.
15 My guess is that the nuclear industry, particularly those with
16 plants in the stage of construction or having completed con-
17 struction, ready for fueling and operation, must have been
18 growing increasingly impatient with this moratorium that has
19 been going on, and my assumption is that they have spoken to
20 commissioners urging them to terminate the moratorium as soon
21 as possible. Would that be correct?

22 MR. KENNEDY: I have not been spoken to by anyone
23 urging that the moratorium be terminated. It is perfectly
24 clear that members of the industry are concerned and have ex-
25 pressed themselves publicly as well as to commissioners, but I

1 have not been urged to do anything about it. The expression
2 of concern has been made.

3 Let me add that the expressions of concern have not
4 been limited simply to the industry. The members of Congress
5 have also expressed concern in this regard, and indeed, we were
6 authorized an additional 100 people in this year's budget to
7 enable us to resume a licensing activity at a relatively
8 undiminished level, recognizing that we had to remove most of
9 the people who would normally be engaged in that practice to
10 do TMI-related activities.

11 Now, we did have a specific briefing some -- I can't
12 recall, but weeks ago -- by the utility which operates Salem,
13 the Salem plant in New Jersey, which is one of those which is
14 very close--I think the facility is considered to be all but
15 100 percent completed and theoretically, therefore, ready for
16 fuel loading. They came and expressed in a public meeting
17 their concern and their interest in the Commission's moving to
18 this effort as soon as it would be possible, recognizing their
19 concern for the need for power in that region.

20 The same was true of some comments made, but not
21 urging any specific action, but a concern only about the need
22 for power to me at a meeting when I was in New Orleans. The
23 Southern States Energy Board by the southern utilities was
24 concerned with a plant near New Orleans which was moving along,
25 and they were concerned that a long hold-up could cause problems

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1 for them on a need-for-power basis.

2 But no direct requests that the moratorium itself,
3 or whatever one wishes to call it, be lifted, only an expres-
4 sion of concern as a backdrop for whatever consideration we
5 wanted to give it.

6 CHAIRMAN KEMENY: Commissioner Marrett?

7 COMMISSIONER MARRETT: I wanted simply to clarify a
8 few of the things that I was attempting to get at this morning,
9 and I think it represents some of our larger concerns.

10 We have spent a great deal of time talking about our
11 concern with the fact that the plan talked a lot about the
12 hardware issues, and there are other sorts of issues. But even
13 if we focus on hardware, I think some of the issues we have
14 implications.

15 I turn, for example, to the NRC TMI investigation
16 that is ongoing, and one of the questions to be pursued is to
17 what extent are any identified design deficiencies attributed
18 to defects in NRC's basic philosophy of safety.

19 Another question, to what extent are any deficiencies
20 attributable to defects in NRC's licensing and review process?

21 Now, according to this inquiry*that is being under-
22 taken in NRC, these questions seem to suggest that what hap-
23 ened at TMI, although there are certainly the hardware ques-
24 tions, even the hardware problems might grow out of managerial,
25 organizational, administrative matters. What we are concerned

1 about is seeing that those kinds of things are taken care of
2 so we don't get the same -- we won't get the same deficiencies,
3 but there may be others that are missed as long as we don't
4 make these other alterations, and that, at least, is my con-
5 cern, that we don't proceed until, in fact, that kind of ques-
6 tion has been answered, and I believe it is the sort of ques-
7 tion that is being undertaken by your own inquiry right now.

8 That's all.

9 CHAIRMAN KEMENY: Commissioner Marrett, I wanted to
10 be sure I understood you. Were the questions you quoted ques-
11 tions being raised by NRC's own special inquiry?

12 COMMISSIONER MARRETT: They are.

13 CHAIRMAN KEMENY: Thank you very much.

14 Commissioner Lewis?

15 COMMISSIONER LEWIS: Commissioner Kennedy, I under-
16 stand that two days ago in Dubuque, President Carter said he
17 was expecting a report within a few days that would get the
18 nuclear power program moving again. Was Mr. Carter told that
19 Mr. Denton planned to resume work on licensing?

20 MR. KENNEDY: Not to my knowledge, Ms. Lewis.

21 COMMISSIONER LEWIS: Do you have any idea what
22 report he may have been referring to?

23 MR. KENNEDY: I have no idea. I do not know to what
24 he was referring.

25 COMMISSIONER LEWIS: All right, fine.

1 MR. KENNEDY: But so far as I know, it certainly was
2 not this, not so far as I know.

3 COMMISSIONER LEWIS: You are not aware that Mr.
4 Carter was informed that this report was about to be made pub-
5 lic?

6 MR. KENNEDY: No, ma'am.

7 COMMISSIONER LEWIS: All right. Thank you, Mr.
8 Kennedy.

9 A more general question. I wonder if --

10 MR. KENNEDY: Let me say that if he had, he learned
11 it before I did.

12 COMMISSIONER LEWIS: Oh. Better sources than the
13 CIA, at any rate. Okay.

14 I guess I want to reflect a concern that Commissioner
15 Taylor did that somehow the release of this report and the
16 headline, "The NRC Resumes Work on Applications," you are
17 aware of what that says to the public -- that it reflects per-
18 haps an insensitivity to public opinion at this time, and maybe
19 an effort to present us with a fait accompli, that you are
20 going to move ahead regardless.

21 One of the considerations we must make is whether or
22 not nuclear power can be made safe enough to continue, and you
23 are kind of jumping the gun. You are saying as far as you are
24 concerned it is safe enough to continue; we are going to start
25 processing licenses; we are going to move ahead. Can you

1 understand why we are angry and upset at this move at this
2 time?

3 Let me give you a second part of that question.
4 Wouldn't it have been more politick for you to delay at least
5 until October 25th, until the issuance of our report?

6 MR. KENNEDY: Well, not avoiding the last part of
7 the question, but let me go to the first part. Let me say that
8 first I -- now, having the sense of the Commission in hearing
9 some of the comments that have been made, I regret that I
10 wasn't here this morning. I would like to have had the oppor-
11 tunity to have heard them in the first blush of concern and
12 perhaps not deflected but at least perhaps mitigated some of
13 the concern.

14 Let me say that I can understand how one taking this
15 perspective could see this as an insensitive approach. It
16 certainly was not intended to be. It was not intended to fore-
17 close anything. I can assure you that my colleagues and I
18 take this whole question and surely take the views which the
19 President's Commission can be expected to put forward, whatever
20 they may be, with the greatest of seriousness. We look forward
21 to them.

22 It does not go to say that because we conclude today
23 that on the best judgment that we can make, on the best techni-
24 cal review that we can give, that we won't learn something
25 tomorrow. Indeed, the licensing process, I would note, takes

1 that very view. There is nothing which is irrevocable in it.
2 However much the people in the industry would like, they know
3 that we change our views from time to time. As new information
4 and as new systems and techniques are developed, as new safety
5 requirements are discerned, they are imposed.

6 That does not go to say that everything in the past
7 was wrong. What it does go to say is that what goes forward
8 from that point is better. I think that is the basic notion
9 from which all of the activity has been proceeding, as the
10 technology itself has developed.

11 So just let me say that whatever the perception and
12 whatever one might have discerned from this newspaper article,
13 I can assure you that nothing is foreclosed. We would not
14 allow it to be.

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1 COMMISSIONER LEWIS: Even if a construction license
2 is issued, you don't feel that it would make it more difficult
3 later on to revoke that license?

4 MR. KENNEDY: No, absolutely not. It happens all
5 the time. During the construction process and, indeed, right
6 up to the operating license, and after the operating license
7 itself has been issued, changes are required. The industry
8 refers to it as "ratcheting," and indeed, I suppose that is
9 what it is. And the complaint has always been that we have
10 ratcheted them up, and indeed that is the fact.

11 COMMISSIONER LEWIS: So you are saying that the
12 public should not read this as a commitment, an irrevocable
13 commitment by the NRC to forge ahead, regardless of the delibera-
14 tions of this Commission or anything else?

15 MR. KENNEDY: Absolutely not. It is not an irrevoca-
16 ble commitment to anything. It was a recognition on the part
17 of the staff that up to this point, based upon the information
18 available to it, its own technical review and study, that its
19 conclusions would allow it to move forward with the addition of
20 a number of specific safety steps, and they would include, if
21 the staff didn't do it directly, but they would, but if they
22 didn't, the Commission would, the things that Mr. McPherson
23 was referring to, Marrett was referring to, broader questions
24 of systems safety. These would be taken into account, and only
25 then would a license be issued.

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1 But if one were to hypothesize a decision of a differ-
2 ent order, that is, nuclear power itself is unwise or unsafe,
3 were to be made, that is not the kind of -- let me say that
4 that is not the kind of question which we would treat lightly,
5 of course. And let me say that whether nuclear power is to be
6 used is not our choice. It is not proper for the Commission
7 to conclude that. It is proper only for the Commission to
8 conclude that if it is to be used, it is used and can be used
9 safely. That is our mission.

10 So that broader question is something that we would
11 be guided upon as a matter of national policy.

12 COMMISSIONER LEWIS: Just one more question, Mr.
13 Kennedy, and this is a little broader; it goes to our future
14 deliberations which are upon us very soon. How do you make a
15 large bureaucracy like the NRC grow lean and vigilant and
16 concerned, without it having to be prodded by a highly publicized
17 accident like the Three Mile Island? In other words, what
18 guarantee would we have that once the furor dies down, it will
19 not be business as usual in a bureaucracy like yours?

20 MR. KENNEDY: Well, one would hope that business as
21 usual in a bureaucracy like ours would be the highest order of
22 safety concern. That is the objective, to make that business
23 as usual.

24 COMMISSIONER LEWIS: We have not found it so, sir.

25 MR. KENNEDY: I note your comment. Let me say that

1 how you do this, I think, is a matter of straightforward,
2 hard-hitting motivation. And there is always the danger of
3 complacency arising in any kind of an enterprise if you are
4 successful. And one of the things I think one has to do is
5 assure a -- in my own organization, and again let me add here,
6 I am speaking as an individual, I am not speaking for my
7 colleagues, one of my own views of this -- one of the things
8 one does, I think, is make sure that there is a rotation of
9 personnel so that they move from one part of an agency to
10 another. They may even go to other agencies.

11 But people in the field should come to work in the
12 headquarters. People in the headquarters should go to the
13 field. People who are working in inspection should work in
14 license review, and vice versa, so that everybody understands
15 what everybody else's responsibilities are, and not only under-
16 stands it in a sense of reading it, but understands it from the
17 point of view of actually having to do it and bear that respon-
18 sibility. Now, that is one thing you do, and I realize that
19 is a fairly mundane kind of step, but I think it is something
20 that we need to do a great deal more, and I am hopeful that
21 indeed we will.

22 We have been doing more of that in the last couple
23 of years than we did in the beginning, and that was only
24 natural, because in the beginning we had an organization that
25 had only essentially two pieces. It had to create all the rest

1 of it. It didn't exist when we came into being in 1975.

2 That is not in mitigation; it is simply a fact.

3 Well, there is one other thing, and I think that is,
4 there has to be a constant motivation. Let me only say one
5 other thing; that motivation has to begin at the top, it has
6 to be reinforced continuously. There have to be open lines of
7 communication, the kinds of communication which Mr. McPherson
8 was talking about.

9 I would confess to having the view that -- and it
10 obviously is not the case -- but I think all of us believe that
11 that communication, that open line of communication, did exist.
12 It is clear that it did not to the extent that we had hoped
13 and indeed made great efforts to try to get it open, and there
14 will be a lot of attention -- there is already a lot of atten-
15 tion put on that.

16 But let me just add about the safety question and
17 how you get a bureaucracy to work. Even if you do, even if
18 we had that most perfect of all institutions, absolutely
19 perfectly motivated in every case, absolutely effective and
20 efficient in every way, lean, tough, and all the rest, that is
21 not the place where safety in nuclear power or, indeed, anything
22 else begins or ends.

23 You cannot regulate safety. Safety is a condition
24 which begins with the fellow who conceives, the fellow who
25 builds, designs, and the fellow who operates the plants. If

1 we have to rely entirely upon regulators for safety, then I
2 don't think we are going to do the job that needs to be done
3 in this field or in any other in this country. The motivation
4 has to go back to the people that are building these things
5 and operating them, and they cannot rely upon us for that.

6 Just clubs in the hands of regulators won't get you
7 safety. The people who build the plants and operate them have
8 to be dedicated to that.

9 COMMISSIONER LEWIS: How do we change their mind-set,
10 Mr. Kennedy? We have not found that commitment to safety in
11 our investigations, and that is what we are up against. We
12 can't wave a magic wand and say, "You will believe in safety,"
13 and yet it is an urgent matter. Do you have any ideas on that?

14 MR. KENNEDY: Well, I am surprised that you have not
15 seen -- well, I shouldn't say that because I don't know precisely
16 with whom you have been speaking -- but I can tell you that
17 people, some people at least, at the top of this industry with
18 whom I have spoken in the last three months are deeply shaken,
19 truly concerned, and recognize that the burden of proof, in a
20 sense, lies with them; that if the industry is to succeed or
21 even survive, the burden of proof rests with them.

22 Now, if that isn't the case, then I submit it probably
23 won't survive.

24 COMMISSIONER LEWIS: Let me just -- Commissioner
25 Marrett has just given me a followup question. I didn't mean

1 to go on, but I think this is extremely useful to us. The
2 NRC needs to issue licenses only to those who have a commitment
3 to safety. How will the NRC use its licensing process to that
4 effect? In other words, can't you eliminate from the industry
5 those who obviously do not have sufficient commitment? You
6 really have --

7 MR. KENNEDY: I believe we can.

8 COMMISSIONER LEWIS: Are you willing to use the club
9 that you do have to at least keep those people out or to remove
10 licenses?

11 MR. KENNEDY: Let me say, if we see someone who we
12 do not believe -- let me add here another personal view, and
13 again I don't want to commit my colleagues to things -- let me
14 say that quality control is the beginning of safety in a sense --
15 well, design is, but quality control is what makes design an
16 effective mechanism. And if you don't have it, you can design
17 the most magnificent machine in the world, it isn't going to
18 work, and it is probably going to be -- you may have some
19 catastrophic results along the way.

20 Our job is to find that out, call it to their atten-
21 tion, but their job is to make sure it is done right. And
22 there is a very important consideration. If somebody finds
23 out he has put a couple of hundred million dollars of concrete
24 and steel up, only to find that he doesn't have a very good
25 piece of concrete and steel and it isn't something that is going

1 to stand up, it isn't going to get by.

2 We have got to put more people out there to do that,
3 and when the message gets across that that is exactly what we
4 are doing, then I think they will see it, and if they don't, I
5 suspect their stockholders and public utilities commissions
6 may well. You are going to be talking about an awful lot of
7 money, and there used to be a system in this country, I don't
8 know whether it is still true or not, I think it is, that
9 company managements survived only when they did first-rate jobs.
10 You couldn't cause a 30 or 40 percent cost overrun and get away
11 with it all that easily.

12 We have got a new ethic, I guess, in many places, that
13 a cost overrun, you just don't worry about that, just add it
14 on and somebody will pay for it. I suspect that that may be
15 changing; I hope it is. In any event, quality control has got
16 to be done. We are turning our attention much more to this
17 end, and I think that is warranted.

18 How do you motivate these managements? My own view
19 is that they are getting motivated because they suddenly see
20 it in their own interest.

21 COMMISSIONER LEWIS: Are you willing to fine them?
22 I mean you really --

23 MR. KENNEDY: We do.

24 COMMISSIONER LEWIS: Very, very low fines. Really,
25 the history of the NRC in this has been pretty --

1 MR. KENNEDY: Well, the low fines are those permitted
2 by law. We have requested of the Congress a substantial increase
3 in the level of those fines.

4 But again, you know, fineing ought to be the last
5 resort. You ought not to have -- what I am trying to say is,
6 if we have to rely upon that, then we are saying whatever
7 success we have will be dependent upon how much we can catch.
8 And that is just not the basic ethic that ought to generate
9 this industry or any other, in my view. It ought to be the
10 other way around. It ought to be the very, very extraordinary
11 exception that we have to catch.

12 CHAIRMAN KEMENY: Commissioner Lewis, perhaps we
13 are getting into details here. I think we should return to
14 our central concern. I will assure you, Commissioner Kennedy,
15 that you and your fellow commissioners will get copies of the
16 transcript of this morning in detail when we have it, so that
17 you have a chance to see what the concerns were.

18 I wanted to try just one concern that was voiced
19 this morning, and then come to where we might go from here.
20 Mr. Denton was equally eloquent to yourself in assuring us
21 that once a license is issued, it can still be revoked, and
22 that is not a final action.

23 The concerns that were then expressed, and they were
24 not mine but I will try to paraphrase it, about it is possible
25 that you issue a license and ten years later, a totally

1 unexpected fact turns up and you are forced to revoke the
2 license. No one can fault you on that.

3 But the question is, if there are two major inquiries
4 going on, your own special inquiry and this one, plus there
5 are a number of congressional oversight inquiries, et cetera,
6 which in the very short term might come out with recommendations
7 that force you to revoke a license -- I believe Governor
8 Babbitt asked -- he isn't here, he had to leave -- that is
9 why I am trying to speak for him -- he asked, would you be
10 prepared the day after you issued the license to revoke it?
11 And Mr. Denton said if there is sufficient reason, yes.

12 But the question I want to ask you, is that kind of
13 procedure in the interests of the nuclear industry?

14 MR. KENNEDY: Well, Mr. Chairman, I would have to try
15 to put myself in their shoes, and I would argue no, that -- as
16 they do, I think -- that no, as a matter of fact, licensing and
17 the entire process ought to be predictable. One ought to be
18 able to go forward once he has a license, if he meets the
19 requirements, be permitted to continue to operate.

20 In principle, that makes sense. But on the other hand,
21 if there is -- and let me say that we do it all the time --
22 it is not a question of revoking licenses, it is a question of
23 laying requirements on, which if not met will cause the license
24 to be withdrawn -- the requirements are met, if in fact it is
25 determined, as Mr. Denton put it, that the safety consideration

1 is significant enough to require that change.

2 Now, it may be a change which is so significant as
3 to require an immediate shutdown of the plant. We just did that,
4 as you will recall, with a number of plants on seismic ques-
5 tions, the piping problem. We did it when the Commission
6 itself was only a matter of two or three months old, when we
7 shut down a score of plants because of concerns over pipe
8 cracks. We just ordered them shut down until the entire ques-
9 tion could be looked into and its significance determined.
10 They were down for some considerable period of time.

11 Those shut down for seismic reasons have been down
12 and are just -- they are just now coming back up. They were
13 down for months. It is not a question that we are unwilling
14 to do this. We are willing to do it, we will do it, and if it
15 is appropriate it must be done.

16 Now, of course, that is in the interest of the
17 industry. One could argue, I suppose, that if there is any
18 chance that a change will come up of some great significance
19 over the next six months, one ought not to do anything until
20 that is resolved. That depends -- that is a sort of cost-
21 benefit question. If it is believed that the change itself is
22 so significant as to be the kind which would never have allowed
23 the plant to begin operation in the first place, then I suppose
24 I would say -- I think I would say -- that is a matter that
25 ought to be considered before the plant is allowed to go ahead.

1 On the other hand, if it is something that is important
2 that ought to be done, but not an absolutely vital something,
3 something that would prohibit the plant from operating, that
4 is a different question, I think. Then it could go ahead; as
5 soon as it is discerned what it is, orders issued to backfit
6 it, as we do regularly, in the industry's terms "all too often,"
7 but nonetheless we do it because we believe the safety require-
8 ment is such as to demand it. We just do it.

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1 CHAIRMAN KEMENY: I believe that, Commissioner
2 Kennedy, but that is not our specific dilemma today. We have
3 been ordered by the President of the United States to
4 investigate the Nuclear Regulatory Commission's procedures,
5 and one of the specific charges within that is the licensing
6 process.

7 I do not know exactly with what recommendations
8 this Commission will come out, but from the testimony we have
9 already learned and the evidence we have gathered, I would
10 be extremely surprised if this Commission did not recommend
11 some significant changes in the licensing process, and that
12 is the issue before us.

13 Perhaps I could advance --

14 MR. KENNEDY: Could I --

15 CHAIRMAN KEMENY: Yes, if you wish to respond,
16 absolutely.

17 MR. KENNEDY: Just to note here, sir that it is
18 one thing for the process, but the licensing decision and
19 the safety decisions that are inherent in it, of course, is
20 the product, and the question is whether the change in the
21 process would be likely to significantly change that product
22 in the current circumstances, and I have no way to know that.

23 CHAIRMAN KEMENY: Yes. I think you stated that
24 dilemma well because neither you nor I know the answer to
25 that question.

1 I think we could advance things, before I call on
2 the next Commissioner, I want to be sure we are fair.

3 Mr. Denton, I would appreciate it if you could
4 repeat the statement you made to us at the beginning of the
5 afternoon session. I want to be sure I do not misquote you
6 on that. I want to be sure Commissioner Kennedy hears it
7 from you.

8 MR. DENTON: I spoke to Commissioner Kennedy when
9 he came in and informed him that I had told you I had
10 decided to defer the proposed actions on the pending CP's
11 and OL's until the Commissioners had an opportunity to assess
12 the situation and review any comments or advice you might
13 like to make.

14 CHAIRMAN KEMENY: Thank you. Commissioner Kennedy,
15 I believe you are at the moment Acting Chairman of the
16 Commission.

17 MR. KENNEDY: Yes, sir.

18 CHAIRMAN KEMENY: Would it be your intention to
19 call for such a review?

20 MR. KENNEDY: Indeed, sir.

21 CHAIRMAN KEMENY: Thank you. I recognize
22 Governor Peterson.

23 COMMISSIONER PETERSON: Mr. Chairman, there is no
24 point in my belaboring our concern about many aspects of the
25 nuclear energy industry. The fact we have invited here

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1 this afternoon the participation of so many of your key
2 people in our hearing undoubtedly has driven home to you
3 our concern about many things about design, about operation,
4 about training, about management, about sensitivity and so
5 on, and undoubtedly that is going to lead to many important
6 recommendations from us, the nature of which I am not sure,
7 but I am confident that there are going to be things there
8 which will be of great importance to the people of the
9 country and to the Nuclear Regulatory Commission, and so
10 I think it would be very helpful to you as you make decisions
11 to go in the future to have the benefit of that, and I fully
12 recognize that we don't have any authority to tell the
13 Nuclear Regulatory Commission what to do, but hopefully the
14 Nuclear Regulatory Commission would be responsive to our
15 concerns, and in that spirit, Commissioner Kennedy, I move,
16 Mr. Chairman, that we request the Nuclear Regulatory
17 Commissioners to review any plans of their organization to
18 resume licensing activities, and in so doing to take into
19 explicit consideration the views expressed here this morning
20 by individual members of this Commission, as well as testimony
21 from previous hearings of this Commission which gave rise
22 to those views.

23 COMMISSIONER MC PHERSON: I second the motion.

24 CHAIRMAN KEMENY: A motion has been made by

25 Governor Peterson and seconded by Commissioner McPherson.

1 Would any other Commissioners like to comment on
2 that motion?

3 If not, the Chair will put it to a vote.

4 Will all those in favor of Governor Peterson's
5 motion please raise your hands?

6 (There was a show of hands.)

7 CHAIRMAN KEMENY: Thank you. I join that. That
8 vote is unanimous, and although Governor Babbitt had to leave,
9 he had urged us to take action that if anything would go
10 beyond this, I am certain he is in favor of this.

11 May I, therefore, Commissioner Kennedy, now officially
12 make this a request from this Commission to the Nuclear
13 Regulatory Commission?

14 MR. KENNEDY: Mr. Chairman, I understand the
15 request, and I will convey it to my colleagues, and I can
16 assure you it will be considered most seriously, indeed, and
17 let me add, Governor, I do appreciate the concerns which
18 you expressed, and I can assure you that, as I said earlier,
19 my colleagues and I take most seriously, indeed, everything
20 that is going on in respect to the entire question of Three
21 Mile Island and all the ramifications which it calls up, and
22 we are, as we have been, devoted to the proposition that
23 nuclear power, if it is to be a portion of our energy mix,
24 must be operated safely.

25 CHAIRMAN KEMENY: Thank you very much,

1 Commissioner Kennedy, for appearing here.

2 I hope you appreciate, in view of the grave
3 concerns we had, we thought rather than writing you a long
4 letter we should say this face-to-face to you.

5 MR. KENNEDY: Mr. Chairman, I appreciate the
6 opportunity to come before you, and as I say, I regret only
7 that I was not here this morning when the matter first arose,
8 but I appreciate the opportunity to be here, and I appreciate
9 the comments which each of the members of the Commission
10 have made. I understand fully their concerns and we will
11 take them fully into account.

12 CHAIRMAN KEMENY: Thank you very much, Commissioner,
13 and you are excused.

14 The Commission will take a five-minute, and I mean
15 five-minute recess.

16 (Brief recess.)

17 CHAIRMAN KEMENY: May I ask the Commission to come
18 back into session, please?

19 Thank you.

20 Mr. Stello, may I simply remind you that you are
21 still under oath, and I am sure you understand why we
22 interrupted at that point in deference to Commissioner Kennedy,
23 and Chief Counsel, would you like to go on with questioning
24 the witness?

25 MR. GORINSON: Thank you, Mr. Chairman.

1 Mr. Stello, from 1975 to 1979, you were Director
2 of the Division of Operating Reactors in NRR, is that correct?

3 MR. STELLO: That is correct.

4 MR. GORINSON: And DOR, Division of Operating
5 Reactors, one of its functions is to review design and
6 operational changes in operating reactors. Is that right?

7 MR. STELLO: Yes.

8 MR. GORINSON: It, also, analyzes and responds
9 to operating experiences as they develop. Is that right?

10 MR. STELLO: Yes, but I think there is probably
11 a need to add a comment. The analysis of the operating
12 experience was not a dedicated function assigned to a
13 particular group. It wasn't in the context of the experience
14 and understanding on the individual reactors rather than
15 any systematic analysis of all of this experience. There
16 was no group assigned that specific task.

17 MR. GORINSON: So that is on specific reactors.
18 Is that what you are saying?

19 MR. STELLO: There was no separate group assigned
20 the responsibility to systematically analyze all of the
21 experience on all of the reactors. The analysis of the
22 experience was on individual reactors, rather than a
23 comprehensive and systematic analysis of all of the experience
24 on all reactors.

25 MR. GORINSON: Nobody took it and put it all

1 together. Isn't that what you are saying?

2 MR. STELLO: There was no group assigned that
3 responsibility. There were individuals that from time to
4 time looked experience and did tie it all together on a
5 particular issue.

6 MR. GORINSON: And it, also, assures the
7 current experience is factored into new licensing actions.
8 Isn't that a function of DOR?

9 MR. STELLO: Yes, we had a system by which we would
10 take that experience on our reactors and a series of
11 memoranda that fed back that experience into the licensing
12 process.

13 MR. GORINSON: So that fairly describes the functions
14 of the Division of Operating Reactors?

15 MR. STELLO: There were some additional functions.
16 I don't know if they are important for your purposes beyond
17 those that you have described.

18 MR. GORINSON: The reason I am asking is, I just
19 repeated to you what appears in New Reg 0325, US Nuclear
20 Regulatory Commission Functional Organization Charts as of
21 January 1, 1979, and that is a description for the Division
22 of Operating Reactors, Director Victor Stello.

23 MR. STELLO: Well, I would need to see the charts.
24 I would assume that there was, also, identified an item where
25 the questions of industrial security for all reactors was a

1 responsibility of the Division of Operating Reactors. That
2 was for both plants that were under construction permit
3 review and for plants which were under operating license
4 reviews, as distinguished from those plants for which
5 operating licenses had been issued.

6 There was, also, responsibility of the Division
7 of Operating Reactors for the non-power reactors to license
8 those reactors for operation, as well as construction.

9 In addition, there was a specific group assigned
10 to that Division that had the responsibility for developing
11 standard technical specifications and issuing the technical
12 specifications for plants at the time they were licensed.

13 Those are additional functions assigned to the
14 Division, and if you would allow me to read the document
15 you are reading, I would see if they are fairly described
16 in there. I don't know.

17 MR. GORINSON: That is Page 35 of that publication.
18 All I wanted to do was establish that that is the function
19 of DOR.

20 MR. STELLO: Yes, I believe I recognize from a
21 quick reading that the functions I have described are on that
22 document.

23 CHAIRMAN KEMENY: Counsel, this could be a very
24 long afternoon if we have trouble even establishing what the
25 main charge of Mr. Stello's Division is.

1 MR. GORINSON: Now, Division of Operating Reactors
2 takes jurisdiction of a plant at some point, doesn't it?

3 MR. STELLO: Yes, it does.

4 MR. GORINSON: And when is that?

5 MR. STELLO: It varies. After the plant is issued
6 its operating license, and if there is a great deal of
7 activity still pending on that license, a number of issues
8 that need to be resolved, then the responsibility for that
9 particular plant can remain with the Division of Project
10 Management for some time or such time until most of those
11 issues or a significant number of them were resolved.

12 MR. GORINSON: I see.

13 MR. STELLO: This is done to assure that the
14 review process of those outstanding issues are done as
15 efficiently as possible with the individuals that are assigned
16 that project from project management, as well as from various
17 branches within the Division of Systems Safety.

18 Some of these reactors were not assigned to my
19 Division for as long as one year after they were licensed.

20 MR. GORINSON: Okay, so, some as long as one year,
21 they would still be with DPM. Is that correct?

22 MR. STELLO: That is correct.

23 MR. GORINSON: Okay. Now, you testified in your
24 deposition that in September 1977, Davis Bessie-1 might still
25 have been assigned to the Division of Project Management.

1 Is that correct?

2 MR. STELLO: That was my recollection. I have not
3 gone back to verify if that is true or not.

4 MR. GORINSON: You have not?

5 MR. STELLO: I have not.

6 MR. GORINSON: All right. At the time of the
7 Davis Bessie transient then in September 1977, even though
8 it was an operating reactor and at 9 percent power,
9 jurisdiction of it was still with the Division of Project
10 Management?

11 MR. STELLO: I just indicated that that was my best
12 recollection at the time of the deposition. I have not gone
13 back to verify it, and I am basing my answer on my best
14 recollection.

15 MR. GORINSON: All right. Did the Division of
16 Operating Reactors immediately take jurisdiction of TMI-2
17 when it was licensed in 1978?

18 MR. STELLO: I would have to go back and check the
19 records to assure how long after is. I recall when I was
20 up at the site that that reactor, prior to going up there
21 had not yet been assigned to the Division of Operating
22 Reactors.

23 MR. GORINSON: It had not yet been assigned?

24 MR. STELLO: That is my best recollection. Again,
25 I would indicate I would have to check the records to assure --

1 MR. GORINSON: Yes, but as --

2 CHAIRMAN KEMENY: Mr. Stello, could I just ask a
3 question on that? I did not quite hear something, and only
4 according to the best of your recollection, by which date
5 had it not been assigned?

6 MR. STELLO: At the time I was up at the site,
7 which was following the accident on March 28, I arrived
8 there on the 30th, and at that time it was my recollection
9 it had not yet been assigned to my Division.

10 CHAIRMAN KEMENY: Thank you, because I made the
11 statement to that effect yesterday, and someone questioned
12 me on that. I simply wanted to verify at least according
13 to the best of your -- not from NRC but someone questioned
14 it that that was, also, your recollection.

15 MR. STELLO: It is.

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EMANN 1 MR. GORINSON: So that was about 13-1/2 months after
3 2 it was licensed, it was still with the Division of Project
e 15 3 Management?

4 MR. STELLO: Well, I don't remember its original
5 licensing date, whatever the difference between those two times
6 would be.

7 MR. GORINSON: February, 1978.

8 MR. STELLO: If that is correct, then that is approx-
9 imately 13-1/2 months.

10 MR. GORINSON: Okay. Did the Division of Project
11 Management ever try to transfer TMI-2 to the Division of
12 Operating Reactors during that 13-month period?

13 MR. STELLO: I can't recall whether there was a draft
14 of the memorandum to transfer it over or not. I normally saw
15 such memoranda when they were complete and ready for the
16 transfer to my division. It may have been, I just can't recall.

17 MR. GORINSON: Well, let me see if I can show you a
18 document that might help you. Have you got that September 19,
19 1978 document? This is a document that is marked September 19,
20 1978, and it includes a memorandum from a fellow named S. Varga
21 to an attached list which also appears on a page of the memoran-
22 dum on transfer of TMI-2 to DOR. And that memo says, "Attached
23 is a draft of a memo transferring TMI-2 to DOR."

24 On the next page is a memorandum for V. Stello,
25 Director, Division of Operating Reactors, from R. Boyd, Director,

1 Division of Project Management. And it says, "Effective on the
2 date of this memorandum, the project management responsibility
3 for TMI-2 is transferred." That memo is undated.

4 Did you ever see that memorandum, Mr. Stello?

5 MR. STELLO: The distribution list indicates that I
6 did in fact receive a copy. I would assume that it probably
7 was sent to me. However, I pay very little attention to them
8 until my staff had an opportunity to look at the memorandum,
9 look at the outstanding issues, and assure that there was
10 sufficient personnel available within the Division to work
11 on the issues before we would effect that transfer.

12 I don't recall reading the memorandum, having glanced
13 at it, and it doesn't surprise me. But as I do recall, on the
14 date of -- as I indicated earlier -- at the time of the
15 accident, it still had not been --

16 MR. GORINSON: It still had not been transferred.

17 MR. STELLO: That is my understanding.

18 MR. GORINSON: And the reason for that would be the
19 number of open items. Is that a possibility?

20 MR. STELLO: Generally, the reason that there was a
21 longer time required before they were transferred was because
22 of the number of issues that were outstanding and the need for
23 the personnel assigned to them to continue to work on them.

24 MR. GORINSON: So the answer to my question is yes.

25 MR. STELLO: I said that was the general picture.

1 What the specifics were in this case, I would not be waiting to
2 testify to without the opportunity to go back and seek some
3 answers to some questions. I cannot say that with certainty.
4 As a general matter, I have answered it and I would --

5 MR. GORINSON: Fine.

6 MR. STELLO: -- not have reason to believe it was
7 not the case in this issue.

8 MR. GORINSON: With the Chairman's permission, I
9 would like to request that Mr. Stello do go back, please go
10 back and look at your records, and you can give the Commission
11 an answer in writing.

12 If you look at page 4 of this document of September 19,
13 1978, item 11 says "small break loca." And that is an item
14 requiring further staff action. Is there anything -- do you
15 remember having ever reviewed that particular subject?

16 MR. STELLO: The issue of small --

17 MR. GORINSON: With respect to TMI-2.

18 (Pause.)

19 MR. STELLO: I cannot recall. It was an issue on
20 B&W plants, and it would have been applicable to Three Mile
21 Island-1 as well. It was a generic issue that was raised for
22 all B&W plants, the small break question that is referred to
23 in here. So that I can't say that I specifically recall seeing
24 it on Three Mile Island-2, but I have seen results of analyses
25 for other B&W plants.

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1 MR. GORINSON: So I take it, then, the answer is
2 that you don't remember having seen it with respect to this
3 plant. Yes or no?

4 MR. STELLO: I do not recall seeing it with respect
5 to Three Mile Island unit 2.

6 MR. GORINSON: Fine.

7 Now, prior to TMI, the TMI accident, did Division of
8 Operating Reactors ever respond to or analyze the Davis Besse
9 1 transient of September 24, 1977?

10 MR. STELLO: My best recollection is that the plant
11 was still assigned to Project Management. Analyses would have
12 been done within the Division of Project Management and the
13 Division of Systems Safety. I have no specific recollection
14 of any involvement on the September, 1977 transient at Davis
15 Besse.

16 MR. GORINSON: I see. And in fact, in your deposi-
17 tion, you said, "I cannot recall at this distance that in fact
18 was an issue of discussion in my office." You then went on to
19 say several lines later, "I don't have any special recollection
20 back in 1977, however, that leads me to conclude that this was
21 an item of considerable interest or discussion within my
22 Division."

23 Does that sound right?

24 MR. STELLO: Could you please tell me what page you
25 are reading?

1 MR. GORINSON: Page 20, lines 12 to 13 and lines 19
2 to 22.

3 (Pause.)

4 MR. STELLO: Yes.

5 MR. GORINSON: So there was no considerable interest
6 in it, even though it was an operating reactor. Your Division
7 didn't know about it, or you didn't know about it?

8 MR. STELLO: To speak for me personally, I do not
9 have the recollection. Whether other individuals within my
10 Division may have followed it, I cannot speak for all of those
11 individuals.

12 MR. GORINSON: And that is even though your Division
13 is charged with responding to operating experiences as they
14 develop?

15 MR. STELLO: Yes. I am not sure of the thrust of
16 the question. We clearly have that responsibility --

17 MR. GORINSON: Well, the thrust of the question is,
18 your Division, according to this organization chart, is charged
19 with analyzing and responding to operating experiences as they
20 develop. The Davis Besse transient of September 24, 1977 was
21 an operating experience, was it not?

22 MR. STELLO: Yes, but I would not normally have con-
23 cluded that I had the responsibility for following the events
24 on reactors not assigned to my Division although they were
25 operating reactors such as those assigned to DPM, including

1 Fort St. Vrane(?), and all other reactors that they were respon-
2 sible for.

3 MR. GORINSON: But you also had the responsibility
4 for taking current experience and factoring it into the
5 licensing process.

6 MR. STELLO: For those reactors assigned to my Division.

7 MR. GORINSON: So you only looked at reactors assigned
8 to your Division?

9 MR. STELLO: That is for which I felt the charge.
10 Any other experience on any other reactor, foreign reactor,
11 or reactor anywhere that came to our attention would certainly
12 be an issue that would be considered, reactors in this country
13 or anywhere else, which indeed was the case. If we learned of
14 experience in another country, we in fact incorporated it and
15 took action accordingly.

16 MR. GORINSON: But not Davis Besse 1?

17 MR. STELLO: With respect to whether or not I knew
18 about it, I already indicated I cannot recall having any dis-
19 cussion. Had it been an issue raised in my Division, then yes,
20 to the extent that people were aware of it.

21 MR. GORINSON: As Director of the Division of
22 Operating Reactors, do you have the power to grant a licensee
23 an exemption from Commission regulations?

24 MR. STELLO: Yes.

25 MR. GORINSON: Under what circumstances?

1 MR. STELLO: When the bases for the exemption are
2 justified.

3 MR. GORINSON: When they are justified. Well, let's
4 take a particular one. In the Federal Register on March 30,
5 1979, there appeared a modification of conditions of exemption
6 for Metropolitan Edison Three Mile Island Nuclear Station, unit
7 No. 1, and that was signed by Victor Stello, Junior, on May 16,
8 1979. Do you remember that modification of conditions of
9 exemption?

10 MR. STELLO: If you will give me a moment to look
11 at the issue.

12 MR. GORINSON: Sure.

13 (Pause.)

14 It is Tab 32 in the commissioners' books.

15 MR. STELLO: Yes, I am familiar with it.

16 MR. GORINSON: Okay. And what subject matter does
17 this concern?

18 MR. STELLO: This concerned an error that was found
19 in the analyses of the B&W small break model with respect to
20 the requirements of Appendix K of paragraph 5046 of the regula-
21 tion. As I recall, the issue was where B&W had not analyzed
22 the correct break location within the piping systems, as to
23 which would be the most limiting break.

24 MR. GORINSON: According to this notice, the word
25 "defect" is used in the ECCS. Do you see that?

1 MR. STELLO: Could you draw my attention --

2 MR. GORINSON: Sure. At the bottom of page 19080.

3 To this extent -- the bottom of the page -- the original defect
4 still remains until modifications are made to eliminate the
5 reliance on prompt operator actions.

6 And in the second paragraph, it outlines some equip-
7 ment modifications that Metropolitan Edison will have to under-
8 take.

9 MR. STELLO: Yes.

10 MR. GORINSON: Now, as I understand it, there is a
11 defect in the ECCS, the emergency core cooling system, according
12 to this notice. That is the word you use, not I. Is that
13 correct?

14 MR. STELLO: That is what it does say.

15 MR. GORINSON: And there will have to be some equip-
16 ment changes made at TMI-1.

17 MR. STELLO: That is correct.

18 MR. GORINSON: But in the meantime, until the defect
19 is repaired, you are permitting TMI-1 to use operator procedures
20 to compensate for the defect.

21 MR. STELLO: That is correct, that there were pro-
22 cedures developed which could assure that adequate ECCS would
23 still be available by having the operator take actions for which
24 we evaluated it and concluded there was adequate time and
25 understanding of what had gone on, that he could in fact take

1 those actions.

2 MR. GORINSON: And that would be a procedure to use
3 in the event of a small break loca?

4 MR. STELLO: Yes.

5 MR. GORINSON: Would that procedure appear in the
6 emergency procedures for TMI-2?

7 MR. STELLO: I am not sure --

8 MR. GORINSON: Or TMI-1?

9 MR. STELLO: In this instance it is TMI-1. They
10 would have to appear in the procedures. I am not sure whether
11 they would be properly cataloged as emergency procedures. They
12 were actions that the operator had to take in conjunction with
13 it, so I would assume it would be appended to it normally. But
14 I do not know personally.

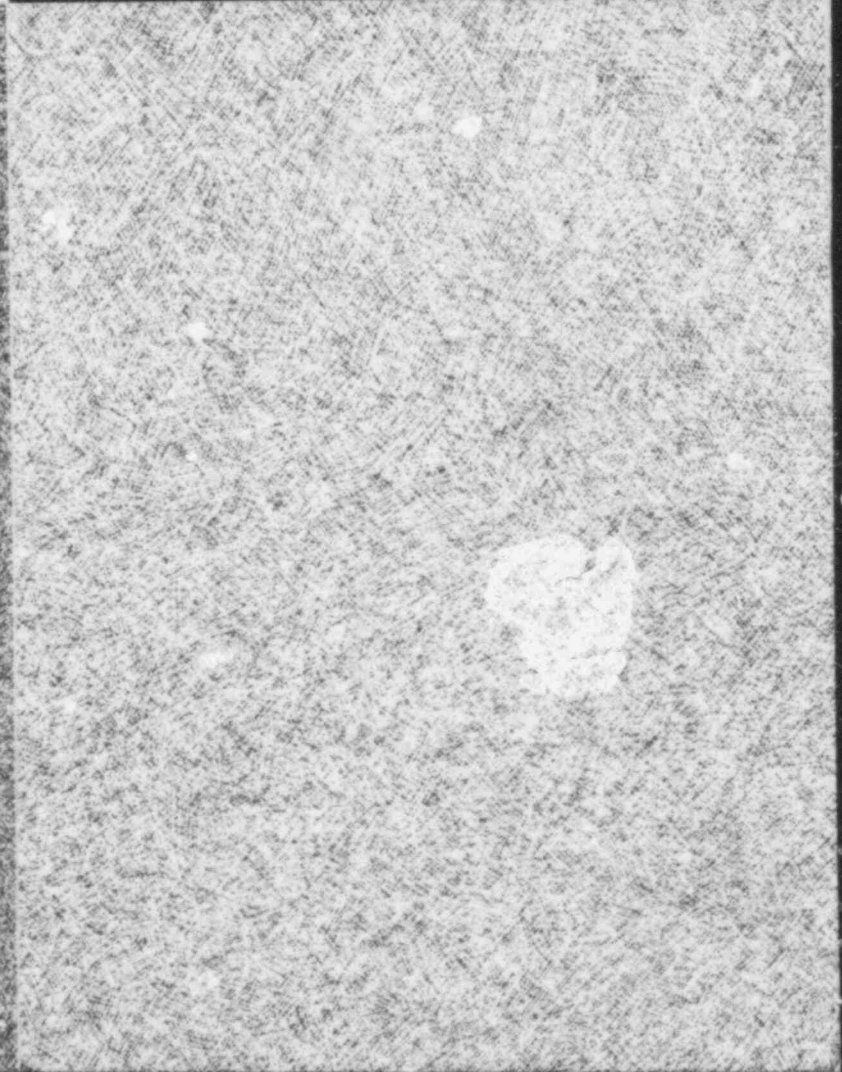
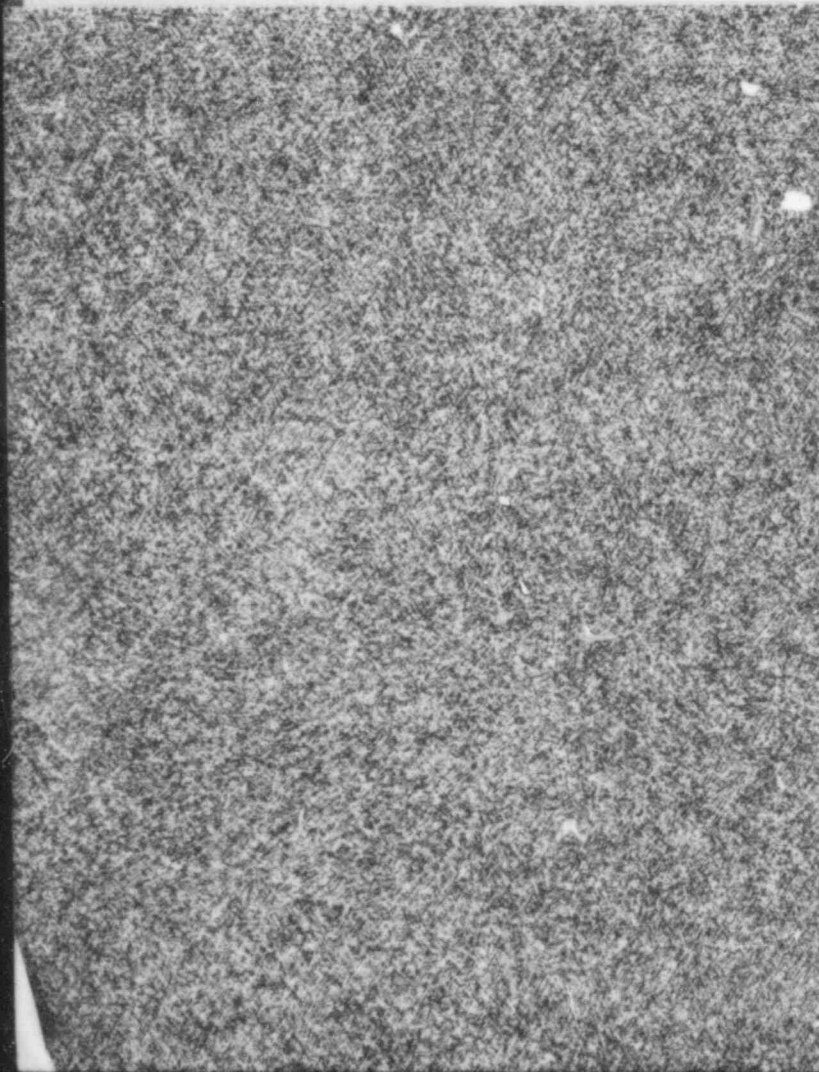
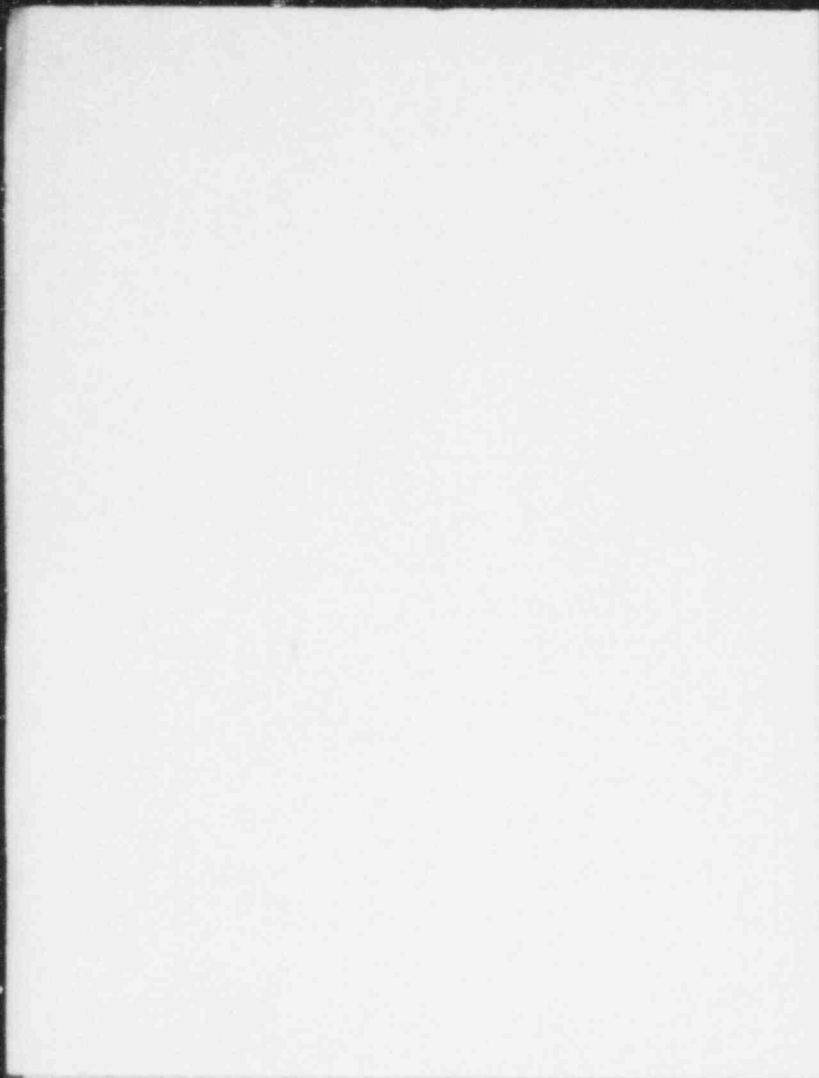
15 MR. GORINSON: How often are exemptions from regula-
16 tory requirements of this type granted, Mr. Stello?

17 MR. STELLO: This particular exemption was an exemption
18 that I recall being applied to -- I think it was all of the
19 B&W plants.

20 MR. GORINSON: If the exemption hadn't been granted,
21 the plant would have had to shut down, would it not?

22 (Pause.)

23 MR. STELLO: Yes. They would not be in conformance
24 with the regulations and unless granted an exemption thereto,
25 they would have had to shut down until they could in fact



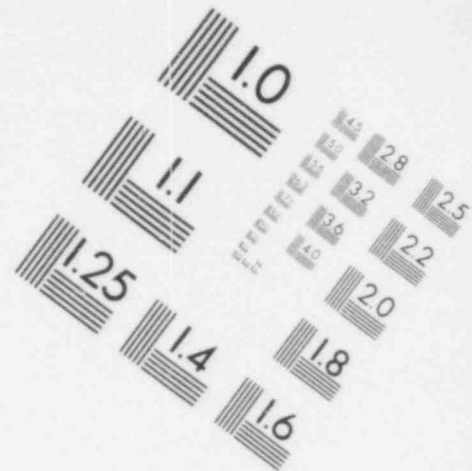
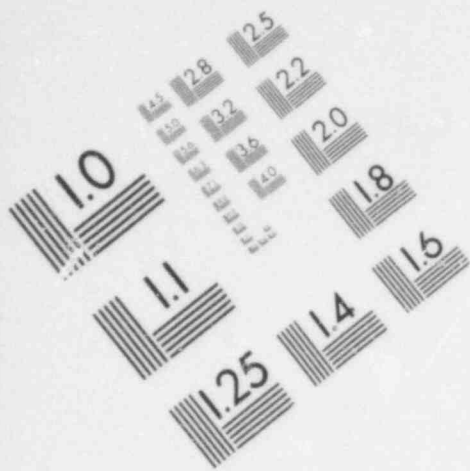
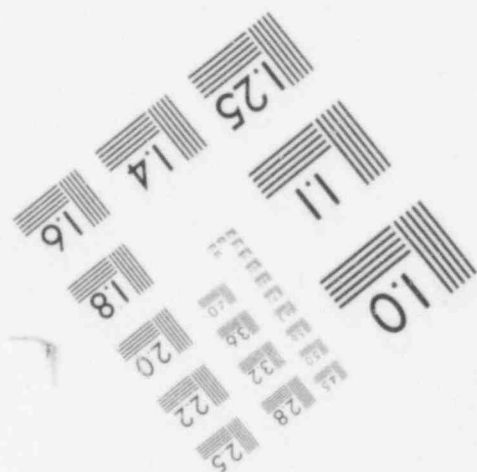
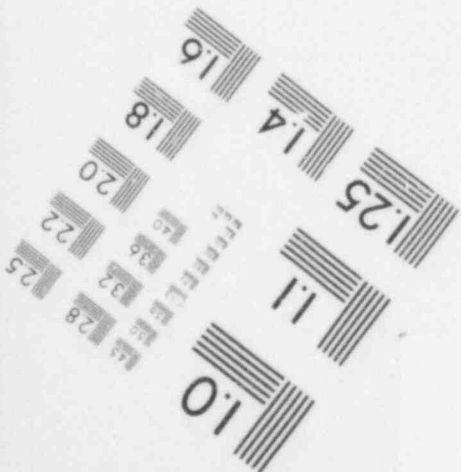
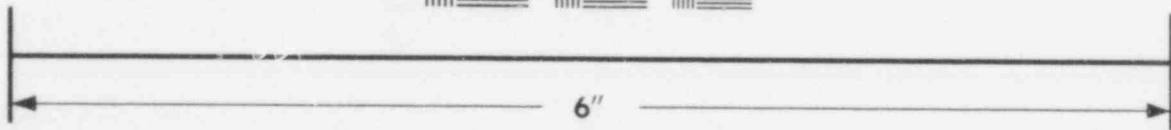
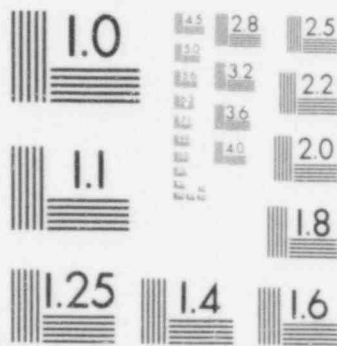
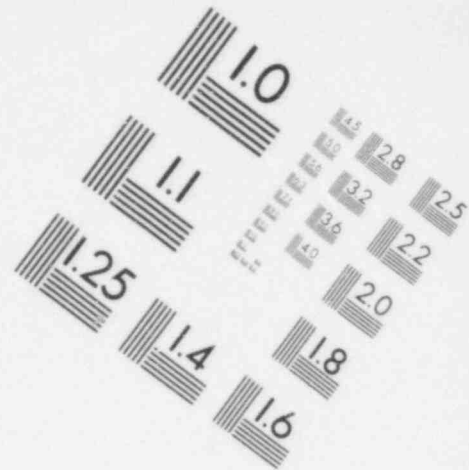
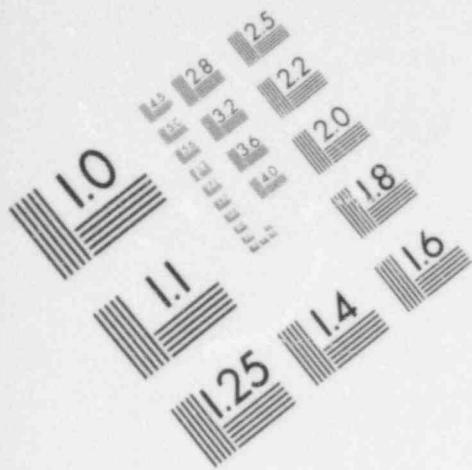
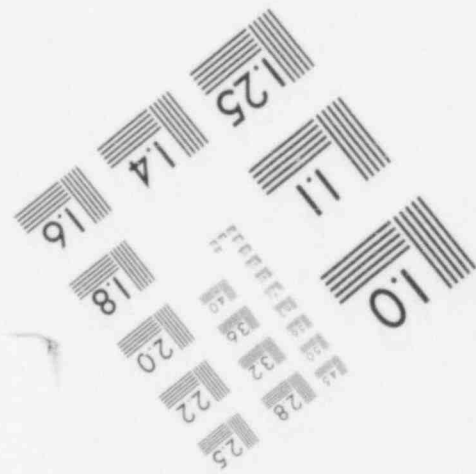
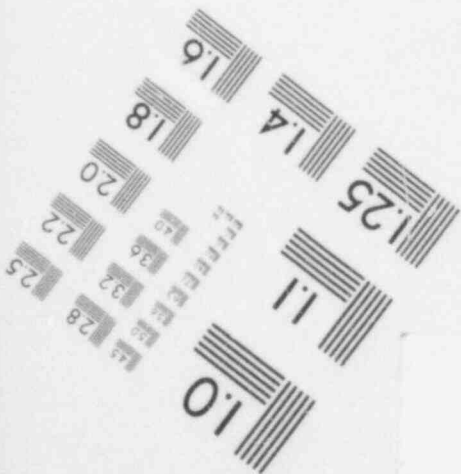
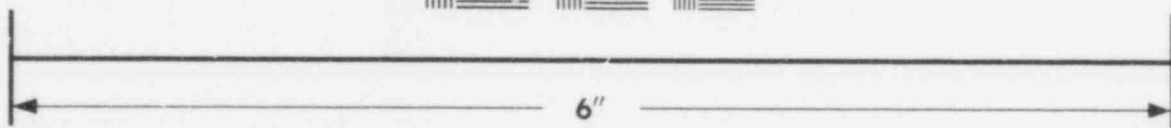
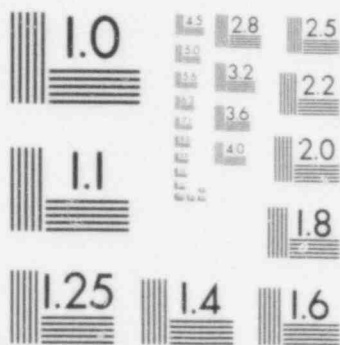


IMAGE EVALUATION
TEST TARGET (MT-3)





**IMAGE EVALUATION
TEST TARGET (MT-3)**



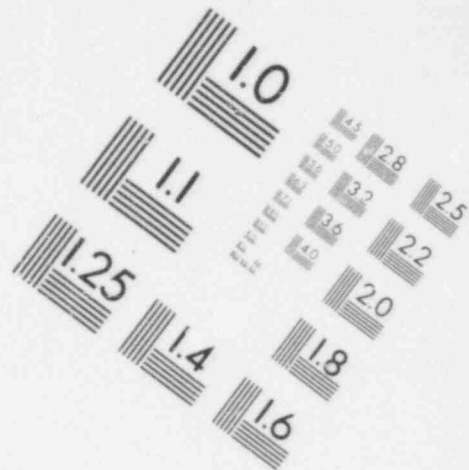
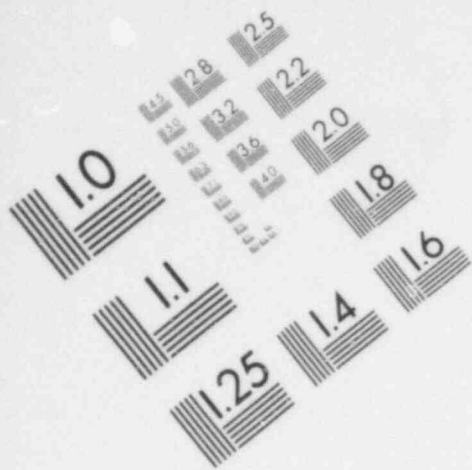
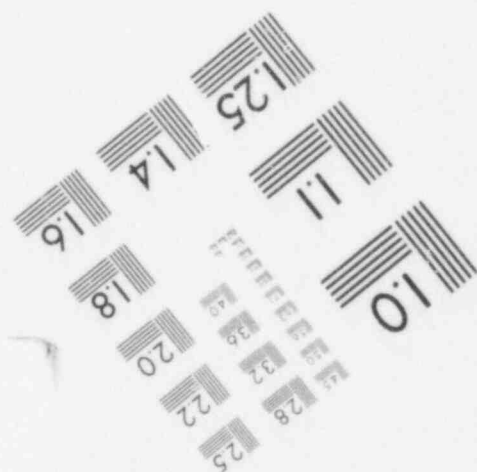
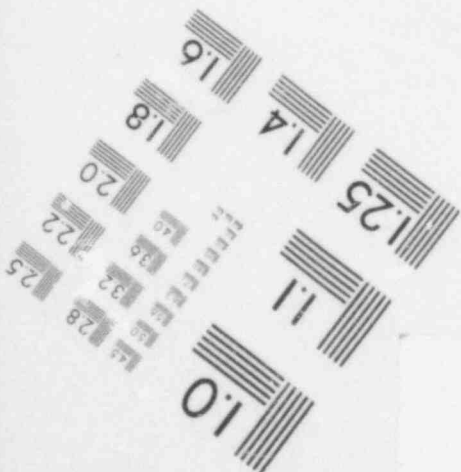
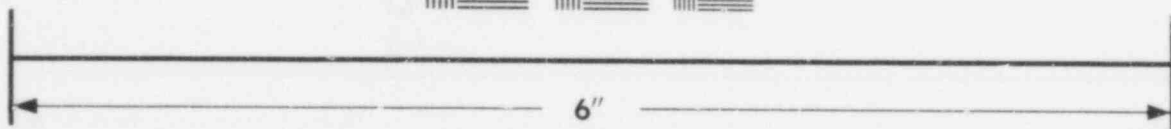
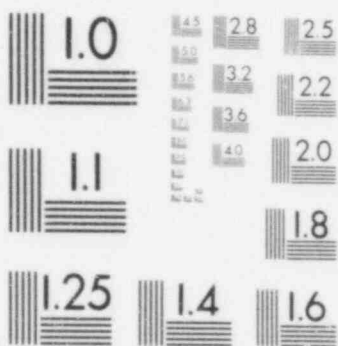


IMAGE EVALUATION
TEST TARGET (MT-3)



1 conform to such regulations.

2 MR. GORINSON: For how long would they have had to
3 shut down?

4 MR. STELLO: That is a difficult question to answer.
5 I really don't know. The best I would do is probably guess
6 at how long it would have taken for them to make the modifica-
7 tions.

8 MR. GORINSON: I see. According to your exemption
9 statement here, it says the reason you did not require a shut-
10 down was that the loss of this large block of generating capacity
11 could adversely affect electric system reliability. That is
12 in the last column on page 19080, the last paragraph before
13 Roman numeral III. How did you reach that conclusion?

14 MR. STELLO: Normally, that information is information
15 that is provided by the licensee as to what their needs are
16 for power.

17 MR. GORINSON: I see. But that will be always true
18 when you require a shutdown, will it not?

19 MR. STELLO: I think in general that is a true state-
20 ment. Anytime a plant is shut down, and depending on the size
21 of the plant, there would be clearly a large generating capacity
22 lost from the system.

23 MR. GORINSON: I see. You also found that delaying
24 the modifications of the ECCS would not endanger life or property.
25 That is in the second column, about the middle of the page.

1 Do you see that?

2 MR. STELLO: Yes.

3 MR. GORINSON: How did you determine that a defective
4 emergency core cooling system would not endanger life or
5 property?

6 MR. STELLO: Because there was an adequate means to
7 compensate for that defect.

8 MR. GORINSON: And what was that?

9 MR. STELLO: Having procedures where the operator
10 could take the action necessary to supply the water to open
11 the correct valves and assure an adequate supply of water.

12 MR. GORINSON: So you were going to rely on the opera-
13 tor and his training to compensate for the defect in the
14 emergency core cooling system?

15 MR. STELLO: That is correct.

16 MR. GORINSON: In light of the operator actions
17 during the TMI accident, do you think that reliance on the
18 operator was justified?

19 MR. STELLO: Yes.

20 MR. GORINSON: Would you explain that for us?

21 MR. STELLO: The specific actions that the operator
22 would have to take in this instance were clearly understood,
23 identified, and spelled out as to what it was he had to do,
24 the specific actions. The problems during the accident at
25 Three Mile Island-2 are already a matter of record, and I

1 don't think there is a need for me to go into those again,
2 unless you wish.

3 MR. GORINSON: Okay. Before approving that exemption,
4 you reviewed the procedure?

5 MR. STELLO: The office that I now represent, the
6 Office of Inspection and Enforcement, did go out and check to
7 assure that those procedures were in place, and that those
8 actions could in fact be taken.

9 MR. GORINSON: Well, are those procedures in NRC's
10 files appended to this exemption, so that if somebody wanted
11 to look at it, they could see what procedure it is we were
12 talking about?

13 MR. STELLO: I cannot recall whether we had the
14 license submit the procedures or not. I don't know.

15 MR. GORINSON: So there is a possibility that we would
16 not be able to tell what precise procedure it is we were talking
17 about?

18 MR. STELLO: Who do you mean by "we"? We here?

19 MR. GORINSON: We here, by looking at the NRC's files,
20 or asking the NRC to produce the procedure that was the subject
21 of this exemption, would NRC be able to produce for us that
22 procedure?

23 MR. STELLO: I thought I already indicated that I
24 cannot recall whether or not the procedure was submitted. I
25 don't know.

1 MR. GORINSON: Did the NRC commissioners approve
2 this exemption?

3 MR. STELLO: No.

4 MR. GORINSON: Do they review the proposed exemption?

5 MR. STELLO: As a matter of course, before I issued
6 or signed an exemption such as this, I would either get in
7 touch with one of the commissioners' assistants, in some in-
8 stances the commissioners themselves, and inform them of the
9 action that I was taking and why. It was for their understanding
10 and information. I did not feel that they were in any sense
11 approving. I believed I had the authority to take the action,
12 but did make those contacts, as I have described, before I took
13 the action.

14 MR. GORINSON: I see. Let's switch to a different
15 subject. In June, you became the Director of Inspection and
16 Enforcement.

17 CHAIRMAN KEMENY: Chief Counsel, I just need one
18 additional piece of information. I am not very familiar with
19 these procedures. This gets published in the Federal Register.
20 About how much in advance do you have to submit that to get
21 it into the Federal Register?

22 MR. STELLO: I don't recall. That is spelled out in
23 the regulations. I don't really --

24 CHAIRMAN KEMENY: No, but I mean is it a week in
25 advance or more, or something?

1 MR. STELLO: I don't know.

2 CHAIRMAN KEMENY: Is there someone in the room who
3 could answer that question for you? I am just trying to get
4 a rough feeling. I mean you don't submit it the date it
5 appears do you?

6 MR. STELLO: I don't see anyone volunteering. I
7 would be happy to supply it for the record.

8 COMMISSIONER MC PHERSON: It would take anywhere
9 from a day to a week.

10 CHAIRMAN KEMENY: Anywhere from a day to a week.
11 Would you mind reading the date on the bottom of this page?

12 MR. STELLO: Friday, March 30, 1979.

13 CHAIRMAN KEMENY: In other words, this exemption
14 was submitted to the Federal Register either during the accident
15 at Three Mile Island-2 or the previous week. Don't you find
16 something ironic in granting an exemption to the emergency
17 core cooling? I assume it was probably before the accident.

18 COMMISSIONER MC PHERSON: Mr. Chairman, it is dated
19 the 16th of March, 1979.

20 CHAIRMAN: Oh, the 16th is when he signed it? Okay.
21 Very good. It is signed the 16th of March. That means that
22 less than two weeks before Three Mile Island accident, you are
23 granting an exception to a sister plant, to the full compliance
24 with emergency core cooling system, relying on the training of
25 operators, which, we have had ample testimony on, was inadequate

1 for handling and knowing how to use emergency core cooling
2 system in an accident. Do you find something ironic about that?

3 MR. STELLO: May I comment?

4 CHAIRMAN KEMENY: Absolutely.

5 MR. STELLO: The specific issues that relate to this
6 exemption were particular actions that would be taken in response
7 to specific actions in the plant. They were very narrow and
8 very specific. I don't believe it is reasonable to draw the
9 analogy between the actions that had to be taken for this
10 particular issue with respect to the actions, or perhaps lack
11 of action, that was taken at Three Mile Island on March 28th.

12 COMMISSIONER MC PHERSON: Point of clarification,
13 Mr. Chairman. Mr. Stello, you said you would show this, as a
14 matter of practice, to either a commissioner or one of -- or a
15 commissioner's assistant?

16 MR. STELLO: As a matter of practice, I called either
17 a commissioner or his assistant. And in all cases, I think I
18 either contacted the commissioner or his assistant, and that
19 was all of them.

20 COMMISSIONER MC PHERSON: All five commissioners?

21 MR. STELLO: All five.

22 COMMISSIONER MC PHERSON: So that the entire Commission,
23 all five commissioners, could be said to have signed off on
24 such an exemption as this.

25 MR. STELLO: I certainly wouldn't conclude that. I

1 feel it was my responsibility.

2 COMMISSIONER MC PHERSON: No, I understand. But
3 nobody, to your knowledge, protested this. Nobody said, "Don't
4 do it, Stello."

5 MR. STELLO: I don't recall anyone objecting to it.

6 COMMISSIONER MC PHERSON: Has anybody ever done that?
7 Any commissioner ever said, to your knowledge, don't issue an
8 exemption from one of the NRC's requirements -- prior to
9 March 29?

10 MR. STELLO: I can't recall any specific instance
11 where they objected to issuing the particular exemption, but
12 there were times, when I had briefed an assistant, where a
13 commissioner would want to have more information, or would
14 want to be briefed more fully before we took the action.

15 COMMISSIONER MC PHERSON: But the answer to the question
16 is, nobody ever objected, to your recollection, and stopped
17 one.

18 MR. STELLO: That is my recollection.

19 COMMISSIONER MC PHERSON: Could I ask another question
20 or two? What are the parameters of exemptions? Or, to put
21 it the other way, are there requirements of the Nuclear Regula-
22 tory Commission that cannot be exempted, from which an
23 exemption cannot be granted -- to be more syntactical.

24 MR. STELLO: Well, there is one particular regulation
25 for which the authority to issue the exemptions was reserved

1 for the Commission itself.

2 COMMISSIONER MC PHERSON: Which one is that?

3 MR. STELLO: It was right after this original rule
4 came out, paragraph 5046, and any exemptions thereto had to go
5 to the Commission itself, and there were some instances where
6 that indeed was the case.

7 COMMISSIONER MC PHERSON: What was that about again?

8 MR. STELLO: I believe they were in Dresden unit 1
9 and Big Rock -- were the two particular facilities for which
10 that applied.

11 COMMISSIONER MC PHERSON: Applied to the whole plant?
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1 COMMISSIONER MC PHERSON: Applied to the whole plant,
2 you mean they could have --

3 MR. STELLO: No, to a specific part of a regulation.

4 COMMISSIONER MC PHERSON: Referring to what?

5 MR. STELLO: To paragraph 5946, which is --

6 COMMISSIONER MC PHERSON: But you'll have to help me
7 with that.

8 MR. STELLO: Emergency core cooling system perfor-
9 mance.

10 COMMISSIONER MC PHERSON: I see.

11 MR. STELLO: There were two plants. And the two that
12 I recall, I think, are Drist(?) and unit one in Pig Rock Point.
13 The other regulations, as I understand it, they can be -- they
14 can issue exemptions from them, aside from that particular
15 issue. And the basis for issuing that exemption is that there
16 is a compensating mechanism that can be put into place that
17 one can still conclude that the plant is safe, having taken
18 these additional actions, in this case, such as the operator
19 procedures or adding another operator to take certain specific
20 actions, whatever the particular issue might involve.

21 COMMISSIONER MC PHERSON: So as a generality, it
22 would be fair to say that with a couple of limited exceptions,
23 that exemptions may be granted to licensees by the -- on the
24 authority of the director of the Division of Operating Reactors
25 and that such exemptions may be to any requirements of the NRC

2 1 and that they, in the past, such exemptions have not been held
2 up or denied by action of the Commission itself.

3 MR. STELLO: Okay, your question is very precise, and
4 I think it has many legal overtones and I think it probably
5 needs a legal answer as to whether there really are any regula-
6 tions for which an exemption cannot be granted. That's a legal
7 question. I don't want to lead you to believe that I'm giving
8 you the answer from that framework. I'm giving you the answer
9 from my understanding.

10 COMMISSIONER MC PHERSON: From your understanding,
11 I understand.

12 MR. STELLO: And I don't know of any specific one
13 other than the regulation that I mentioned. There have not
14 been a large number of exemptions issued. I think that proba-
15 bly, since I can recall, for all plants, I would say they are
16 on the order of 50, perhaps, total exemptions. There are not
17 very many of them.

18 COMMISSIONER MC PHERSON: Since the beginning of the
19 NRC or the AEC?

20 MR. STELLO: Since my involvement, my specific
21 recollection.

22 COMMISSIONER MC PHERSON: In your specific recollec-
23 tion, going back over what period of time?

24 MR. STELLO: '75 through '79.

25 COMMISSIONER MC PHERSON: So in four years, there

LA 3

1 have been 50.

2 MR. STELLO: On that order, would be, yes.

3 CHAIRMAN KEMENY: Chief counsel?

4 MR. GORINSON: Mr. Stello, I'd like to request, on
5 behalf of the Commission, that you supply to us a copy of the
6 procedure that this modification goes to, if it is in the NRC
7 files, or at least identify for us what the procedure is at
8 TMI 1, so that we can obtain a copy of it.

9 MR. STELLO: I will look for whatever procedure we
10 have. If it's Three Mile Island 1 or any other plant, I'll
11 get it for you. If not, I will get it from the Three Mile
12 Island 1 plant.

13 CHAIRMAN KEMENY: That will be satisfactory.

14 MR. GORINSON: Fine.

15 COMMISSIONER MC PHERSON: Excuse me, Mr. Gorinson.
16 Mr. Stello, could you also supply us -- would you ask the
17 Office of Legal Counsel in the NRC to supply us with a descrip-
18 tion of any regulatory requirements of the NRC which may not
19 be waived?

20 MR. STELLO: I'd be happy to do so.

21 COMMISSIONER MC PHERSON: If there are any.

22 MR. STELLO: I'd be happy to do so.

23 MR. GORINSON: In June you became director of the
24 Office of Inspection and Enforcement. Is that correct?

25 MR. STELLO: Yes, sir.

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A 5 1 inspector following up on a licensee event report involving an
2 equipment malfunction, whether he's required to physically
3 inspect the equipment to see if it was repaired, or can he
4 check the utility's records? Is that sufficient?

5 MR. STELLO: I think it would be acceptable to do
6 both, check the records -- either, I should say, check the
7 records or the equipment, depending on the particular issue.
8 I would hope that if it is not so -- if it is not so, I intend
9 to make it so, that whenever it is possible, that the inspec-
10 tions will go to the equipment itself. In most instances that
11 I am aware of, that is the case.

12 MR. GORINSON: I see. There is a procedure number in
13 the inspection and enforcement manual known as 92700 B. The
14 issue date of that was January 1, 1979. And it says, "Inspec-
15 tion requirements: For events selected for follow-up, conduct
16 record review, direct observation, or discussion with licensee
17 personnel to the extent necessary to complete the applicable
18 inspection requirements."

19 As written, it appears to be ambiguous, that the
20 inspector can do one of three things -- inspect the records,
21 inspect the equipment, or discuss matters with the utilities
22 personnel.

23 MR. STELLO: I have not read the document and would
24 not want to comment on what you said it said without the oppor-
25 tunity to do so.

LA 6 1 MR. GORINSON: Okay. Are you aware that an inspec-
2 tion concerning a licensee event report follow-up at TMI 2
3 shortly before the accident consisted solely of a review of the
4 plant records and discussions with plant employees, rather than
5 a physical examination of the equipment itself?

6 MR. STELLO: No, I am not aware of it.

7 MR. GORINSON: Okay. Have you made any changes in
8 inspection and enforcement procedures since you became director
9 of that office?

10 MR. STELLO: We are now in the process of looking at
11 what changes ought to be made with respect to the inspection
12 program. The particular areas where these changes are being
13 planned now deal with the resident inspection program. They
14 will probably not be going into place for some time, and the
15 influence I am having is in the planning of that activity for
16 a future change. Thus far, I would not look to anything that
17 I have done to have any change in the policy for inspection --
18 the inspection process as a general matter, nor do I intend to
19 try to attempt to do very much of that until a group that I
20 have assigned to look at what we have learned from the Three
21 Mile Island accident and how that understanding of the accident
22 ought to tell us how to change the way in which we do our
23 inspections. That will not be complete for at least another
24 month. And I don't want to start any changes until I have at
25 least had the benefit of the understanding from this group.

7 1 MR. GORINSON: Okay. Let's turn to another subject,
2 and that's your report, New Reg. 0600. At page 1-2-19 of that
3 report.

4 MR. STELLO: Yes, sir.

5 MR. GORINSON: The middle paragraph, it says "the
6 failure to follow procedures," and then references the proce-
7 dures you were talking about with Professor Pigford before.
8 "And trip the reactor coolant pumps at 1200 psig, as required,
9 is under consideration as a potential item of noncompliance,
10 pursuant to technical specification 6.8.1.a." Do you see that?

11 MR. STELLO: Yes, I do.

12 MR. GORINSON: Are you aware that in April 1979, I&E
13 bulletin 79-05A was issued? April 5th, 1979, is the date. And
14 that one says, "Review the actions directed by the operating
15 procedures in training instructions to ensure that (c) opera-
16 ting procedures currently or are revised to specify that in
17 the event of HPI initiation with reactor coolant pumps opera-
18 ting, at least one reactor coolant pump per loop shall remain
19 operating."

20 How do you reconcile what Inspection and Enforcement
21 said on April 5th, 1979, with what Inspection and Enforcement
22 is saying on August 2nd, 1979?

23 MR. STELLO: Well, I think, very simply, by indica-
24 ting that that is identified as a potential item of noncom-
25 pliance. During my first review of the report, it was probably

Bores Reporting Company

LA 8 1 this particular item that caused me to conclude that we would
2 not spend the time in trying to deal with these issues as to
3 whether they ought to be cited as items of noncompliance, since
4 this is an example of where I think there clearly is a great
5 deal of ambiguity as to whether the licensee should have been
6 cited, because of not following his procedure, in light of the
7 fact that we had issued a bulletin which required the pump to
8 continue to operate.

9 I decided after my review that all of the items that
10 the investigators had found which were suggested as items of
11 noncompliance, that we would retitle them with that review as
12 potential items of noncompliance to not hold up the presenta-
13 tion of this report to all of the people who could have the
14 benefit of it.

15 I believed it was important to get it out early and
16 I am still considering the issue of whether or not this really
17 is an item of noncompliance, and I have not yet reached any
18 such decision.

19 MR. GORINSON: In short, there is a conflict between
20 the two.

21 MR. STELLO: Clearly.

22 MR. GORINSON: Thank you. At page 1-127 of the New
23 Reg. 0600, there is a section called 1.4.1.6, training on
24 significant events, and included in that paragraph is the fact
25 that an NRC publication, called Current Events Power Reactors,

9 1 for September 1, '77, through October 31, '77, was distributed
2 to Met. Ed. sometime in 1977. Do you see that?

3 MR. STELLO: I do.

4 MR. GORINSON: And that that should have been factored
5 into the training process. Your last two sentences, "However,
6 the training staff member responsible for this area stated
7 that this report had not been made available to the training
8 department."

9 So I take it the implication is that this report
10 should have made its way to the training people.

11 MR. STELLO: That is the thrust of what that para-
12 graph says, in my view.

13 MR. GORINSON: I see. Have you ever reviewed that
14 particular document yourself?

15 MR. STELLO: The one entitled Current Events?

16 MR. GORINSON: Yeah.

17 MR. STELLO: Yes.

18 MR. GORINSON: Yes. Which office puts that out?

19 MR. STELLO: I think it is the office under Mr.
20 Haller, MPA, or planning and accounting.

21 MR. GORINSON: Okay. That's not in Inspection and
22 Enforcement, that puts this out.

23 R. STELLO: My recollection is it is not.

24 MR. GORINSON: Okay.

25 MR. STELLO: It is under Mr. Haller's --

LA 10 1 MR. GORINSON: All right. We have not had a copy
2 for the commissioners so far, and I think we have copies for
3 them now.

4 This report on Davis-Besse is listed under valve
5 malfunctions. And we'll give a copy to Mr. Stello so he can
6 look at it.

7 Where in that description of the Davis-Besse event
8 that's being put out by the United States Nuclear Regulatory
9 Commission that is mentioned in your report as should have gone
10 to the training department, where does it mention that the
11 operator terminated the high pressure injection at Davis-Besse
12 on September 24, 1977?

13 MR. STELLO: I don't know if it does. I'd have to
14 read it to decide that. If you want me to take the time to
15 do so, I will.

16 MR. GORINSON: Well, I've looked through it and I
17 can't find it. Did your investigators, when they went through
18 that report, did they raise any questions about the fact that
19 it didn't mention operator termination of high pressure injection?
20

21 MR. STELLO: Excuse me, I was trying to read the
22 document. May I do that first?

23 MR. GORINSON: Well, you take it subject to check,
24 if you wish. We've been through it and we can't find it.
25 And you'll notice it isn't under the section called operator

11 1 error, which is the first section in that report.

2 That being the case, why is it significant, subject
3 to check, Mr. Stello? We'll assume for the moment it isn't
4 there, and I'll stand corrected if you find it. But assuming
5 it isn't there, why is it significant that this report didn't
6 get to the training department?

7 MR. STELLO: I think it's significant in the sense
8 that it was an occurrence in a plant, it had described in it
9 what had happened and what happens to the plant as a result of
10 that particular transient. I think it's important for the
11 operators to have that understanding. If, as you suggest, it
12 doesn't have the fact that the high pressure injection was in
13 fact turned off, I would hope, as the training people would
14 have started to review this particular transient, that, should
15 there be a need to obtain more information, that they would
16 have had the energy and the interest, just as we should have
17 had the energy and the interest to pursue it further, and
18 hopefully they would have found it.

19 CHAIRMAN KEMENY: Mr. Stello, the middle of page four,
20 just before number two -- I haven't seen this document before,
21 but I'm struck by the sentence, "With the exception of the
22 above noted malfunctions, the plant functioned as designed,"
23 and so on, "and there was no threat to the health and safety
24 of the general public."

25 Since several analyses have shown that the most

12 1 dangerous thing that happened there was the operator's
2 throttling back the high pressure injection system, does that
3 seem to indicate a mindset that the plant functioning correct
4 refers only to equipment, and the operators are not considered
5 part of whether the plant functions correctly?

6 MR. STELLO: I think the whole concep. of inadequate
7 attention to the human element, to the man-machine interface,
8 has not had the attention that it should have had in the past.
9 The whole question of operator training and their response, I
10 think is a problem that has not been adequate. And I think
11 that, yes, you probably have described it very well, that it
12 is a probably a condition that did result in a mindset, where
13 that added factor -- there wasn't enough sensitivity to pick
14 it up.

15 CHAIRMAN KEMENY: Because I just very quickly glanced
16 through this. I think it's probably a very thorough and care-
17 ful analysis of the equipment problems, which I agree with
18 you, that people should know about. But the omission of men-
19 tioning that there was also major operator error --

20 MR. STELLO: It clearly is a mindset where there was
21 too much focus on the equipment performance, rather than on
22 the human performance.

1 MR. GORINSON: Mr. Chairman, I have no further ques-
2 tions. I would just like to have the documents we have been
3 discussing today made part of the record.

4 CHAIRMAN KEMENY: So ordered, and we will straighten
5 out --

6 MR. GORINSON: The exhibit numbers, yes.

7 CHAIRMAN KEMENY: -- the exhibit numbers as we
8 proceed.

9 (Whereupon, the documents
10 referred to were marked for
11 identification as Exhibits
1 through 4, and admitted in
evidence.)

12 CHAIRMAN KEMENY: I wonder, because of the lateness
13 of the hour, perhaps it is not worth pursuing the questioning
14 of Mr. Stello. I don't know how my fellow commissioners go.

15 I have a request to make. I promised Commissioner
16 Kennedy copies of this morning's transcript. I think, in
17 view of all we learned yesterday and today, Ms. Jorgenson, I
18 instruct you to provide the five members of the Nuclear
19 Regulatory Commission to receive full copies of the transcripts,
20 both of yesterday and of today.

21 Yes, Mr. Stello, do you wish to say something?

22 MR. STELLO: Well, there was an earlier question as
23 to whether or not I was familiar with the Creswell documents,
24 and I had studied them, and I had some, I guess, comments or
25 observations as a result of the study, and based on the

1 testimony he gave yesterday, I think I am coming to a conclu-
2 sion that that needs to be followed up some more, but I did --
3 I wonder if the Commission wishes -- I think there is something
4 that I sense, whether it is too many things that are going to-
5 gether with respect to the Creswell issue, and maybe it would
6 be useful for me to give you my impression, since my study of
7 the documents has been recent, as to what I see the concerns
8 were and how that was working and where it was not working.
9 But it is --

10 CHAIRMAN KEMENY: Did you wish to do that now?

11 MR. STELLO: If you choose.

12 CHAIRMAN KEMENY: Well, perhaps -- I am also concerned
13 because most commissioners thought we would be through by 1:00
14 o'clock today that we only have a fraction of the Commission
15 here. Mr. Stello, we would be very grateful if you put that
16 in writing, and we promise to make that a part of the permanent
17 record of this Commission.

18 MR. STELLO: I'll learn not to volunteer.

19 CHAIRMAN KEMENY: Thank you. You are excused.

20 (Witness excused.)

21 Would Chief Counsel please call our final witness?

22 MR. GORINSON: Mr. Roisman.
23
24
25

1 Whereupon,

2 ANTHONY Z. ROISMAN

3 was called as a witness and, after having first been duly
4 sworn by Chief Counsel Gorinson, was examined and testified as
5 follows:

6 CHAIRMAN KEMENY: Would you please state for our
7 record your full name and your current position.

8 MR. ROISMAN: My full name is Anthony Zell Roisman.
9 I am a staff attorney with the Natural Resources Defense
10 Council, which is a nonprofit environmental law organization
11 with approximately 45,000 members.

12 CHAIRMAN KEMENY: Mr. Roisman, I understand that
13 since we did not have a chance to depose you, we had promised
14 to give you an opportunity to make a full statement and then
15 give us a chance to cross examine you.

16 In view of the lateness of the hour, for reasons I
17 think you know, would it be acceptable to you if your full
18 statement were made part of the record of this meeting and
19 ask you to make abbreviated statements?

20 MR. ROISMAN: Yes, that is just fine, Mr. Chairman,
21 and I have no problem with that.

22 CHAIRMAN KEMENY: And I hereby order that your full
23 statement be made part of the record of this meeting, Mr.
24 Roisman.

25 MR. ROISMAN: Thank you. Let me begin by a

1 disclaimer. Contrary to the witnesses which you have heard
2 today, I am not an expert. Probably the only training that I
3 have had which could have prepared me in any way for the tech-
4 nical issues that you have is Chairman Kemeny's course in
5 symbolic logic at Dartmouth, which taught me the importance
6 of using the words "necessary" and "sufficient" in an appropri-
7 ate way. Other than that, my training is as a lawyer, and I
8 am here to talk about the process.

9 I think today you saw, perhaps much better than I
10 could ever explain to you, how the nuclear licensing process
11 functions. You had before you a staff review consisting of a
12 document which was prepared by Mr. Denton and his staff. The
13 review, even under a cursory look, indicated that certain por-
14 tions of it could not have been well thought out. Words were
15 not chosen with great care.

16 There also were certain presumptions that underlay
17 the document. One of them was that nuclear plants that have
18 been licensed and nuclear plants that are well into the licens-
19 ing process -- that is, that have been constructed and are
20 essentially ready for operation -- are basically safe until
21 they are proven to be unsafe.

22 You will remember Mr. Denton said, "Well, what I
23 know today is enough to say they are safe, but I recognize I
24 may learn something tomorrow that may make me think differ-
25 ently, and that is a fundamental dispute that is involved in the

1 question of nuclear power that I trust this Commission is
2 looking at: Do you know enough today to say that the plants
3 are safe, and if you did think that before Three Mile Island,
4 can you still think it afterwards? Clearly, Mr. Denton says
5 yes.

6 And what he has basically said, the underlying
7 premise of the document, was what I don't know won't hurt you,
8 and that is a premise which I think needs to be examined, and
9 it is not unusual to hear it. It is a staff philosophy. It
10 exists in most staff documents.

11 The second thing about the document is that it con-
12 tained a lot of conclusions rather than a lot of analysis.
13 Those of you who are academically inclined will recognize the
14 important difference between seeing a lot of bottom lines and
15 seeing a lot of analysis which allows the reader to reach their
16 own conclusions about the bottom lines. That, too, is typical
17 of staff documents.

18 So in some sense, the staff document which Mr. Denton
19 was examined on today is like a staff safety evaluation report
20 or a staff environmental review.

21 The second part, which I admit is like the licensing
22 process, although more like it is idealized, is intensified
23 questions by experts and lawyers who find the flaws in the
24 document. That was undertaken by all of you today, with the
25 help of your General Counsel.

1 What you discovered was two things, or at least I
2 hope you discovered. One is that the staff frequently misleads
3 it questioners. You were told that Mr. Denton that the staff
4 does not utilize economic considerations in deciding whether
5 or not to apply a written regulation to a plant. Now, Mr.
6 Gorinson, in cross examining Mr. Stello, went into some detail
7 to an exemption that was granted at Three Mile Island number 1
8 on the 16th of March of this year in which one of the factors
9 that was considered by the staff in deciding whether to grant
10 the exemption was how important Three Mile Island was to the
11 need for power and what it might do to the region if that power
12 were not provided by the Three Mile Island number 1 plant.

13 I submit that Mr. Denton, being very charitable,
14 misled you. That is a common practice in the agency. It is
15 done all the time. It is a standard practice to look at,
16 particularly where plants are already operating, whether or
17 not an imposition of an existing regulation might or might
18 not cause some discomfort to the applicant and to their cus-
19 tomers.

20 Secondly, you were told in no uncertain terms, both
21 by Mr. Denton and by Commissioner Kennedy, that no matter what
22 happened in the issuance of a license for a plant, the Commis-
23 sion can, and Mr. Kennedy, as I remember, implied that it does
24 almost on a daily basis, revoke licenses. Let me assure you
25 nothing happens like that on a daily basis. In fact, the only

1 thing that happens on a daily basis at the Commission is the
2 granting of licenses.

3 The Commission has a general procedure that it uti-
4 lizes in deciding when to apply a safety standard to a plant
5 if a new safety standard comes up, and there is a clear demar-
6 cation between a plant that is already operating and one that
7 is yet to be operated. Any examination that you would make
8 of the actual practice of the Commission would discover that
9 operating plants are frequently grandfathered and ones that
10 are not operating are not, and there is no discernible differ-
11 ence between the two, except one is licensed and the other is
12 not.

13 Now, what that means is that if Mr. Denton had pro-
14 ceeded with his proposal to license Salem II and North Anna II
15 and this Commission had subsequently found certain defects in
16 the Commission's rules and regulations, changes might have been
17 ordered, but it would be more likely that the changes would
18 have been applied to the plants that were not yet operating
19 than that they would have been applied to the plants that were
20 already operating.

21 In fact, you discovered it yourselves and, to some
22 extent, were applying the same principles. You, in your own
23 minds, treat the 70 operating plants as different than those
24 that are still under construction and yet to be operated.
25 From the health and safety standpoint, there is no difference.

1 It is true that in a purely logical sense, the probabilities
2 are different for a plant that is not yet operating and is
3 then allowed to operate for 2 months, versus one that is not
4 yet operating and is allowed to operate for 40 years, but by
5 the same token, it is equally true that those probabilities,
6 at any given moment, are equally likely to occur; that is, the
7 accident at Three Mile Island had some, if Rasmussen's report
8 was still reliable, some very high probability or very high
9 number of the chance that it would actually occur at any given
10 time. In fact, it occurred at the particular time, March 28,
11 1979, and it is not necessarily comforting to be told, as Mr.
12 Denton told you, that the plants will be allowed to operate
13 even though the necessary conditions to make them safe have
14 not been applied, for a period of time, because he feels that
15 it is safe to let that happen.

16 In fact, if you probed him a little further, he would
17 have conceded to you that he doesn't know what the number of
18 months are that it can remain operating and still be safe, nor
19 how many plants he would be willing to put in that condition.

20 What the standard is in the agency is the number of
21 plants that have to be allowed to operate is the number that it
22 is safe to allow to operate, and that standard has been applied
23 since the first plant was licensed and will be applied until
24 the last plant is licensed, or until all the safety problems
25 are resolved.

1 So you saw the tendency of the staff to mislead you,
2 to misdirect you, to use words in ways that lead you to con-
3 clusions which are not accurate.

4 The other thing that you saw is that when the staff
5 really gets pushed against the wall, it changes it minds. So
6 you saw Mr. Denton, who was convinced as of Monday that the
7 right thing to do was to allow these two plants to go into the
8 licensing process, tell you today that he is not convinced any
9 more, and that is also standard practice.

10 Well, having seen a sort of microcosmic view of the
11 licensing process, what are the lessons learned from the TMI
12 inquiry? I submit they are two. One, if you want to have a
13 process that is likely to uncover the dangers with a nuclear
14 plant before the accident, then you need vigorous and well-
15 funded opposition. The statement by Commissioner Kennedy that
16 the industry can police itself and that the Commission can't
17 do the job is bunk. The industry is not about to police itself,
18 not because they want to operate unsafe plants but because, in
19 their heart, they don't believe they are unsafe. In fact, they
20 believe the plants they are running are already safer than they
21 ought to be, and they fight the Commission tooth and nail on
22 all of the regulatory requirements imposed.

23 This is a classic example of the need for good
24 funded opposition. I would invite any one of you -- much less,
25 all of you -- to join in any intervention against any nuclear

Bowers Reporting Company

1 plant, but please, bring with you the time and resources that
2 you have in this Commission, because without them, without the
3 backup of your technical staff, the time you have to spend,
4 you will not be able to uncover the problems. You have been
5 looking at only one small piece of one small problem of one
6 very big plant which is only part of a very, very big industry,
7 but you are beginning to appreciate the difficulty that is
8 faced by groups like the Natural Resources Defense Council or
9 the actual intervenors in the Three Mile Island number 2 plant
10 who essentially were two individuals with no funding, attempt-
11 ing to find the flaws.

12 But nobody will want to find the flaws more than some-
13 one who thinks the plant shouldn't be run. For a fraction of
14 the cost of a post-TMI accident analysis, you could have funded
15 the TMI 2 intervenors, and I submit if they had been funded,
16 they would have found the Davis-Besse report, they would have
17 prevented the plant from being licensed with the procedures
18 that you are now examining, and the accident never would have
19 occurred. And all it would have taken was a relative pittance
20 of money in order to do that.

21 The second lesson learned is that the regulatory
22 staff in the Nuclear Regulatory Commission ought not to be
23 allowed to be an advocate. They are an advocate. You heard
24 them advocate today in defense of themselves. They advocated
25 licensing proceedings in defense of the applicant's position.

1 Applicants are perfectly capable of defending them-
2 selves. They have the resources, they have the technical exper-
3 tise, they do not need another advocate. The regulatory staff's
4 role should be markedly changed, and it should take the
5 responsibility of deciding not who is right and who is wrong
6 in the proceeding but whether the record is complete. Make
7 sure all the data is there. Make Mr. Stello have as one of
8 his principal responsibilities finding all the licensee inci-
9 dent reports that are relevant to any individual licensing
10 proceeding and making sure that the board knows of them before
11 it makes a decision.

12 In conclusion, as a lawyer, it is not surprising that
13 I put a great deal of faith in process, but I submit to you
14 who are not lawyers that process is really the only protection
15 that the public has. They do not know and are never going to
16 be able to know whether the nuclear plants are or are not safe.

17 Mrs. Trunk, today you said, "How do I know that I
18 can trust you?" to the commissioners and to their staff, and
19 the answer is, you can't know on your own personal knowledge,
20 any more than I can. I don't know whether Mr. Stello is right
21 or wrong. All I can do is subject him to a process that I
22 think has a high probability of finding the flaws in what he
23 does, and if he can make it through that process and a fairly
24 independent body of people can conclude, after hearing the
25 best that I can say against his position and the best that can

1 be said for it by the utility, that the plant should be
2 licensed to operate, we may not be sure that there will never
3 be another Three Mile Island, but we will at least be more
4 comforted by knowing that the plants are running, having gone
5 through that process.

6 That is the best we can do. The current process
7 doesn't even remotely approach doing that, and there are few
8 people who have much confidence in this process, and yet it
9 is all we've got to go on. Thank you.

10 CHAIRMAN KEMENY: Chief Counsel?

11 MR. GORINSON: Mr. Helfman?

12 MR. HELFMAN: Thank you, Mr. Gorinson. My question-
13 ing will be brief.

14 For the record, could you please describe how you
15 became familiar with the intervenor process. Have you been
16 an actual intervenor?

17 MR. ROISMAN: I have been an act l attorney for an
18 intervenor. I have never been an intervenor myself, and I
19 started that late in 1970 when, after filing a lawsuit against
20 the then Atomic Energy Commission, it became known to people
21 who were anti-nuclear that there was another lawyer whom they
22 might go to, so they came to me and I did the operating license
23 proceedings for Indian Point Number 2 on safety issues and for
24 Vermont Yankee on safety and environmental issues, and later
25 the construction permit proceedings for Seabrook, the aborted

1 construction permit proceedings for the Clinch River Breeder
2 Reactor, and a whole gaggle of rulemakings and other individual
3 actions, longer than I suspect you would like me to list, but
4 that has been going on for 9 years.

5 MR. HELFMAN: You indicated in your opening statement
6 that the most effective intervenor might be the individual who
7 doesn't believe the plant should be there at all. Do you
8 believe that if some changes were made in the licensing pro-
9 cedure that is used by the NRC that nuclear reactors should
10 continue to be licensed and remain a part of the nation's
11 nuclear energy resource?

12 MR. ROISMAN: I hate to give you a lawyer's answer
13 to that question because it is not really a lawyer's question,
14 but I honestly believe that I have no basis to know the answer
15 to that, nor does anybody else. We have never tested a nuclear
16 reactor in a process that would be likely to be able to give
17 us a reasonable result on that. It has never gone through a
18 process that was so questioning that any independent person
19 asked to make that judgment, who had the ability to examine
20 the record, could do it.

21 So I am very skeptical that the ones that are now
22 operating are proven to be safe, and I begin with the proper
23 premise: they are unsafe until proven safe, and that is in
24 the Administrative Procedure Act. I am certainly not at all
25 willing to see more of them allowed to be operated until this

1 process is made fairer, and I think that once it is made fair
2 -- and that means, in very real terms, to put money in the
3 hands of the opponents so that they can get their fair crack,
4 and not every opponent, but those who are making a valuable
5 contribution, and it is easy to tell -- we won't know the
6 answer to your question.

7 MR. HELFMAN: Assuming that it were possible to make
8 the system fairer, would you then conclude that nuclear reac-
9 tors ought to remain -- and I am asking for your opinion --
10 are to remain part of the nation's energy resource?

11 MR. ROISMAN: If the system were made fairer, I think
12 nuclear reactors ought to be considered, and in my own personal
13 judgment, I think that if I or several other lawyers that I
14 know, armed with the money and the technical expertise that
15 is available, there would never be another one licensed in the
16 country, and the ones that are now operating would slowly be
17 shut down.

18 MR. HELFMAN: Is it your belief that it is necessary
19 for this country to rely on a nuclear energy source for any
20 given period of time, if not on a permanent basis?

21 MR. ROISMAN: I believe that there are regions of
22 the country now where, if we turned off the nuclear reactors,
23 we would experience substantial disruptions of our energy
24 supply. Whether we need it or not is a sort of cost-benefit
25 question. If you asked those people who live near Three Mile

1 Island whether they would rather hang their clothes outside
2 to dry or use their electric dryers, and the choice is between
3 letting Three Mile Island number 1 turn on or not, you would
4 get a different answer than you would if you asked somebody in
5 Chicago who hasn't experienced a Three Mile Island. It is
6 not a question that is easy to answer.

7 I live in a region here, in Washington, D. C., that
8 does not draw any of its power from a nuclear power plant.
9 It is easier for me to talk about what I would do without
10 nuclear power than it is for someone in Chicago who has a lot
11 more of it.

12 In a second sense, even independent of the power
13 disruption questions, which can be minimized and dealt with to
14 a large extent, there is the economic question. Somebody will
15 have to pay for all the nuclear plants that have already been
16 built or are under construction. That economic cost is going
17 to fall on bondholders or on shareholders or on ratepayers or
18 on taxpayers. Somebody pays, some place along the line. The
19 cost is enormous. It is in the multi-billions of dollars.

1 We have not addressed that question. We have not attempted to
2 say -- that is we, this nation -- are we prepared to pay that
3 price? Would we be willing to swallow that additional cost?

4 We have indicated that we are willing to swallow the
5 additional cost to bail out a Lockheed Aircraft, to swallow
6 the additional cost to subsidize a synthetic fuels program, and
7 those are amounts of monies that are at least in the ballpark
8 of what you are talking about with nuclear plants.

9 MR. HELFMAN: Excuse me. Are you talking about a
10 sudden shutdown of all plants, or are you talking about some
11 type of a phase-out of nuclear reactors?

12 MR. ROISMAN: Whether you phase them out or shut them
13 down immediately, if you don't let them run their useful life,
14 then you don't allow the capital that was invested in the plant
15 to be recovered in return for a service rendered to the rate
16 payer. And that means you end up with a plant that has maybe
17 another billion dollars worth of capital to recover and no
18 electricity to provide in exchange for it.

19 So the problem gets worse as you shut them off
20 earlier, but it is still the same problem. You either let them
21 run out, or you don't. And that is an economic question, and
22 it is different than the power supply question.

23 MR. HELFMAN: Well, the reason why I am asking this
24 question, I have heard that either you or the National Resource
25 Defense Council has the opinion that reactors perhaps could be

1 licensed for an additional ten years or so, and then there would
2 be a phase-out by the turn of the century, where reliance
3 could be made on solar energy, which could be brought on line
4 by that time. Does that sound like a familiar approach? Is
5 that a rough --

6 MR. ROISMAN: No, that sounds like a familiar mis-
7 quote. I find that the transcripts of proceedings are so
8 much more reliable than the transcripts of reporters. What I
9 said at the time in the article that appeared, I think, in the
10 New York Times, was that it seemed to me that if we were to
11 take into account our need for energy, that we could go without
12 any new nuclear plants being committed to, beyond the ones that
13 are in the pipeline -- that is about 135 gigawatts roughly,
14 roughly 135 plants -- and that we wouldn't have to build any
15 more, and that we could, over a period of time between now and
16 the year 2000, phase out that 135, depending upon how vigorously
17 we pursued energy efficiency and how vigorously we implemented
18 solar and alternative technologies, excluding from that the
19 implementation of coal plants to displace nuclear plants.

20 What I was presenting was what I consider to be a
21 politically viable way of getting out of the nuclear problem.
22 I do not think that it is politically viable, although it may
23 be from a health and safety standpoint essential nonetheless
24 to simply cut the industry off right now.

25 MR. HELFMAN: When you talk about the plants that

1 would be phased out by the year 2000 or by the turn of the
2 century, are you including only plants that are already
3 operating, or are you also including plants that are in the
4 licensing process at some stage and would come on line perhaps
5 in five or ten years?

6 MR. ROISMAN: No, that is right. I am including the
7 whole gaggle of them. I am saying that it seems to me we can,
8 by the year 2000, get the monkey off our back and not be hooked
9 on nuclear anymore. Right now we are hooked, to a certain extent.
10 We are going to have to pay money or discomfort, or both, to
11 get off.

12 That is a high price to pay. As I said before, I
13 might be willing to make that choice, but for me in Washington,
14 D. C., I don't have to pay as much. In Chicago, they will have
15 to pay a lot more.

16 MR. HELFMAN: Well, it strikes me that such a proposal
17 could be interpreted as a plan which would terminate the
18 licensing process at this stage. If a utility were to be in
19 the process of constructing a plant that would come on line,
20 say, in 1985, they would be looking forward to only 15 years
21 of plant life. Wouldn't you expect that they would cease the
22 licensing process or the construction of such a plant right now,
23 if that were the reality?

24 MR. ROISMAN: I guess the answer to that might
25 depend upon how their public utility commission would respond.

1 If the public utility commission would give them a 15-year
2 lifetime of the plant and allow them to recover their capital
3 with their six or eight or ten percent guaranteed profit in
4 15 years, most utilities I know would be perfectly happy to do
5 it that way.

6 It would --

7 MR. HELFMAN: Well, these returns of capital are
8 computed on a period of 40 to 50 years, are they not?

9 MR. ROISMAN: Well, they are computed on the lifetime
10 of the plant, taking into account its capacity factors and so
11 forth. I think the number is more like 30 years now. The
12 actual capacity factors of the plant make it more realistic that
13 they should be 21 years, and we don't have any plants that have
14 run even the full 30 years. Some of the oldest plants in the
15 country are now already shut down, like Indian Point No. 2, so
16 we don't know whether anybody will ever reach that.

17 But yes, that is right, the rates would be much
18 higher. But, you see, that is a way of the marketplace making
19 a judgment, to the extent you want to rely on the marketplace.
20 The public can decide whether they would rather have -- if the
21 question really is a tradeoff between energy absence and a
22 discomfort versus money, -- do you want to pay 10 or 12 or 15
23 cents a kilowatt hour for a nuclear plant that will give you
24 a 15-year transition to your solar future? You have got that
25 option. If you don't want to pay that much for it, then you can

5
1 be less energy-intensive. And those are --

2 MR. HELFMAN: The point I was attempting to make is
3 that the impact of such a scenario would be immediate, rather
4 than in the future. I imagine you would agree with that.

5 MR. ROISMAN: You mean if there were no --

6 MR. HELFMAN: Phased out by the turn of the century.

7 MR. ROISMAN: The impact would only be immediate if
8 there were plants that were, quote, needed -- whatever that
9 means -- and they were not built. And what I am saying to you
10 is, I don't know that it is a correct assumption that that
11 would happen. That would depend upon the economics, and that
12 would depend upon the public utility commission that set the
13 rates for the utility.

14 MR. HELFMAN: Well, turning to another subject, would
15 you agree that as a result of the accident at Three Mile
16 Island this year, it has been learned that the vendors and the
17 utilities and the NRC generally fail to consider operator
18 procedures or operating procedures in their review, in their
19 design review, during the licensing process, due to perhaps
20 a mind-set which was prevalent in the nuclear industry? Would
21 you agree with that?

22 MR. ROISMAN: With the qualification that I am hardly
23 expert to have an opinion on that, I would agree with that.

24 MR. HELFMAN: All right. I raised that point for a
25 reason. In the 20-page statement which you have submitted for

1 inclusion in the record, you refer to the intervention pro-
2 ceedings with respect to Three Mile Island unit 2, and you refer
3 to two of the points that were raised by the interveners -- the
4 inadequate radiation monitoring devices and inadequate evacuation
5 plans. And I have had an opportunity to review the petition
6 for intervention, and it raises a total of 13 points, including
7 the two that you mentioned in your statement, and they include
8 such things as the effect of the expulsion of heat from the
9 plant on climate, the impact of construction of the plant on
10 biologic species in the area, poorly-designed cooling towers
11 which would not withstand earthquakes and tornadoes, faulty
12 cost-benefit analysis, and the failure to consider the alterna-
13 tive of coal, containment building insufficiently designed to
14 handle aircraft impacts, inadequate radiation monitors -- one
15 of the two that you mentioned in your statement -- inadequate
16 diking system to protect against flood damage, the evacuation
17 plan inadequacy which you mentioned, inadequate protection
18 against radioactive gas releases, accident analysis which fails
19 to take into account pressure vessel failure, undue discharge
20 of chemicals into the river, and finally, a cost-benefit
21 analysis which fails to take into account insurance costs and
22 the costs of generating enriched uranium and the failure to
23 take into account the impact of the cooling towers on gaseous
24 radioactive iodine releases.

25 And it struck me that nowhere in this petition was

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1 there any attention paid to review or consideration of operator
 2 procedures in discussing the various design deficiencies that
 3 were noted.

4 Would it be accurate to say that, in addition to
 5 the NRC and the vendors and the utilities, that the interveners
 6 also had a mind-set as a result of which they failed to consider
 7 operating procedures in their petition for intervention?

8 MR. ROISMAN: Absolutely not. If those interveners
 9 had had enough money to hire the four nuclear engineers that
 10 I know of in the country who have worked on the side of inter-
 11 veners, which they did not have, any one of them would have
 12 raised operator error. It is the fact that the two interveners --
 13 one has a Ph.D. in geograph and the other in chemistry -- if
 14 you take a look at the contentions, you will see that they had
 15 to be somewhat limited either to subjects that you needed no
 16 specialized expertise for, or subjects that required those
 17 particular areas.

18 That is the nature of intervention under the statu-
 19 quo, and you cannot draw any conclusions about intervener
 20 mind-set from the basis of the contentions they raise. We
 21 raise what we think we can make some case on.

22 MR. HELFMAN: Well, there is another example I would
 23 like to call to your attention. It appears that another lesson
 24 learned from the Three Mile Island accident is that licensing
 25 reviews were not normally based on a systematic review of

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1 operating experience at other plants. Would you agree with
2 that?

3 MR. ROISMAN: Yes, I think that is correct.

4 MR. HELFMAN: And in the petition for intervention,
5 there was no reliance on operating experience at other plants
6 in attacking the licensing application. Would you agree that
7 that might have been also the result of a similar mind-set?

8 MR. ROISMAN: No. It is the result of the absence of
9 the ability to assemble the -- do you know what you -- let me
10 just put it into context for you. The two interveners in that
11 case, two individuals, live in State College, Pennsylvania.
12 The public document room that would contain the licensee event
13 reports that one would have to read is in Washington, D. C.
14 You would have to sit in the public document room -- I don't
15 know if you have tried to use the NRC's public document room --
16 but I think it would be instructive for you to do it on almost
17 any plant. Forget about Three Mile Island because it is sui
18 generis; it may have gotten so complicated that it wouldn't be
19 a fair example. Pick any other and try to find a document. It
20 is very, very difficult.

21 Those interveners would have to come down there; the
22 licensee event reports don't always get into the docket as
23 quickly as they should. A recent experience that I had, I asked
24 under the Freedom of Information Act for a group of documents.
25 I filed my request on the 2nd of July. It was responded to,

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1 according to the documents, on the 19th of July. They have hired
2 some contractor to take care of physically moving the documents
3 from Bethesda down to the public document room. On the 4th
4 of August, I could not find them yet in the public document
5 room, because the contractor hadn't moved them yet.

6 The process of getting information requires resources.
7 Interveners cannot look at all the licensee event reports, much
8 less evaluate their significance, on the basis of their training
9 in chemistry and geography. And those happen to be the more
10 highly qualified interveners. More of them are trained in
11 cooking, cleaning, sewing, accountants, and a whole bunch of
12 other professions that have nothing to do with nuclear engineering

13 MR. HELFMAN: I have just two more questions before
14 I conclude. The first is that in your statement, you indicated
15 a concern that it was business as usual with operating plants
16 following the TMI-2 accident. Is it your view, in view of the
17 many generic concerns that have been raised in the course of
18 the evaluation of the TMI-2 accident, that it is improper for
19 the operating reactors to continue to operate?

20 MR. ROISMAN: It is my view that it is not proper for
21 them to continue to operate until somebody has taken each one
22 of the generic safety problems and explained, in terms that
23 you and I can understand, as well as the technical people can
24 understand, how one plant that is not yet operating is not safe
25 to start, and another one that looks almost exactly like it is

1 safe to continue to run.

2 And I didn't hear anybody today give you an explanation
3 to that, and I have never seen one written. I think people
4 are entitled to that.

5 MR. HELFMAN: Okay. My final question is this: You
6 have indicated today that the intervention process could be made
7 more effective with greater funding. It is my impression that
8 you also have expressed the belief that the intervention process
9 would be made more effective if the interveners were allowed to
10 intervene earlier in the process. Is that accurate?

11 MR. ROISMAN: Yes. "Allowed to intervene earlier" is
12 a difficult concept. And let me just briefly explain. Some
13 work is done by the licensee, the applicant, with the regulatory
14 staff before an application is filed, not a great deal though.
15 Once the application is formally filed, it is noticed in the
16 Federal Register, and a notice triggers the opportunity for the
17 public to intervene in the process.

18 From that point on, they are entitled to receive all
19 the documents exchanged between the applicant and the staff,
20 and they are entitled to attend all the meetings.

21 It is difficult to attend those meetings, because
22 frequently they are not held near the site where the person
23 who is intervening lives. It is difficult to attend them even
24 if they are, because they are held during the day, and most of
25 these interveners are people who work someplace else during the

1 day.

2 It is difficult to do anything with the information
3 they get, because most of the interveners don't understand
4 what they hear. So when I talk about getting in earlier in
5 the process, I mean having the resources so you can start
6 when everybody else starts at that time. That is part number
7 one.

8 Part number two is that the vendors, of course, don't
9 go through licensing at all, and they are there every day
10 talking to the regulatory staff. Most interveners don't even
11 know about those meetings, much less have an opportunity to
12 attend them or to review the records or the documents, or to
13 interject their opposition to things that the vendors and the
14 staff work out in advance of any formal application being filed,
15 or during the course of an application being under review. That
16 is a whole separate area, and that is a place in which you
17 should -- with money, you could open that process up. It is not
18 so much a legal impediment; it is that if I filed the suit to
19 force them to make those meetings public, I would then be
20 embarrassed with the fact that nobody had the money to go to
21 the meetings. So we haven't filed the suit.

22 So that is the second part of it.

23 A third part that goes even further back is, why do
24 the utilities get to sit in their board rooms and decide to
25 build nuclear plants, and then announce to the public they have

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1 made the decision, and then the public for the first time gets
2 in the process, and the utility immediately begins to scream
3 "Delay."

4 Why don't we have on the date of conception of the
5 idea in the mind of the utility, open up the process, make the
6 utility at that point say, "We are thinking about building
7 something, somewhere, of some type, and we would like everybody
8 who thinks we might do something wrong here to jump in and
9 participate with us."

10 MR. HELPMAN: Thank you. That is the point I was
11 getting at.

12 I have no further questions.
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CHAIRMAN KEMENY: Thank you.

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3 Mr. Roisman, clearly the licensing process is
4 very much on the mind of all of us, and we would like to have
5 some good proposals for improving the licensing process.
6 However, I would hate to see the present process replaced by
7 one that was even worse, and I have read your full statement.
8 Is it a fair summary of your major recommendation that
9 anyone who wishes to intervene should be furnished with
10 sufficient funds to be able to intervene and to obtain all
11 the technical assistance that that person needs?

12 MR. ROISMAN: No. My --

13 CHAIRMAN KEMENY: That is the impression your
14 document leaves. So, I would like to have your clarifi- --

15 MR. ROISMAN: I understand, and I want you to
16 understand that as you just stated what you are concerned
17 with, you are really asking me to do much more than I felt
18 I had the time to do for the purposes of this hearing.

19 I have testified 15, 20 times before Congress on
20 the question of reforming the Nuclear Regulatory Commission's
21 licensing process. I have worked in conjunction with lots
22 of people on drafting alternative forms of legislation to
23 do that. I have sitting in my office a new version of a
24 licensing reform bill that was worked on by a law student
25 at Yale University Law School. There is an enormous amount
that should be done to reform the process.

1 Funding is an important part. Even there I was not
2 able to fully explain and did not fully explain to you,
3 although I thought I had, but I was obviously too cryptic,
4 what I had in mind.

5 CHAIRMAN KEMENY: I would be happy to settle, if
6 you explain to us at this moment what your proposal is on
7 the funding of interveners?

8 MR. ROISMAN: Number one, the fund should be
9 provided to someone who is going to provide a valuable
10 contribution to the record, that is they are going to add
11 something that is not redundant and that is relevant and
12 important to making a decision.

13 There are two ways to decide that funding, one,
14 in advance, two, after the fact. The way it would be done,
15 my own feelings are that it should primarily be done after
16 the fact, that after the hearing is over a party who had
17 been previously identified as qualified to get funding, that
18 is they had appropriate standing and met, if there were an
19 economic test, they met whatever the economic test was;
20 then after the hearing is over they would submit that the
21 cost of their presentation had been so much, break it out
22 into various segments, and the licensing board that heard
23 this evidence and heard the arguments of their counsel would
24 evaluate whether or not they should be reimbursed for those
25 costs. That would be one way of doing it. It is the way

1 that it is now done in court cases where there is a
2 contingency fee arrangement. Lawyers are paid at the end
3 of the process. So are their experts.

4 The alternative is that if you want to do it in
5 advance, you spell out in great detail. You say, "I am
6 bringing in this expert. His specialty is seismology. Here
7 are his qualifications. Here are the things he proposes to
8 testify on. Here is why they are relevant to the proceeding.
9 Here is how much it will cost. Give me the money." That
10 is the way the Federal Trade Commission now operates its
11 process of funding citizens.

12 Under no circumstances do I think that we need a
13 process which simply funds anybody who wants to say something.
14 It is not that I am not in favor of democracy, but the
15 purpose here is not to democratize the process: it is to
16 get the record complete, to make sure that all the right
17 questions are asked and all the important analyses are done.

18 So, it depends upon the quality of the presentation,
19 and that would be the standard, the critical standard. It is
20 embodied in legislation that Senator Kennedy has proposed.
21 It is embodied in legislation that Congressman Rodino has
22 proposed and a number of other Senators and Congressmen have
23 backed comparable proposals. It has never gone anywhere.

24 CHAIRMAN KEMENY: I have occasionally been known
25 to question even Congressional proposals, Mr. Roisman.

1 MR. ROISMAN: I did not mean to suggest that it was,
2 because it was proposed that way it was good, but that if you
3 wish to follow up on the actual wording of it, it was a place
4 to go and see what the safeguards were.

5 CHAIRMAN KEMENY: I understand. I am only trying
6 to get your views. Who would make the decision as to
7 whether -- suppose it is done after the fact. Who would make
8 a decision on whether the contribution had been valuable?

9 MR. ROISMAN: I believe it should be the licensing
10 board that heard the evidence.

11 CHAIRMAN KEMENY: You feel enough confidence in
12 the licensing board that they would make a fair judgment
13 on that?

14 MR. ROISMAN: There are some lousy licensing board
15 members, but there are, also, some lousy judges and lousy
16 commission members and lousy people all over the world. We
17 have to live with them. Yes, I have enough confidence
18 because they have the best grasp of the record. They heard
19 the testimony. They understood the hearing, and I am willing
20 to take my chances with them.

21 CHAIRMAN KEMENY: How about if it occurs beforehand,
22 who would decide in advance as to whether testimony somebody
23 wished to develop is going to be valuable or not?

24 MR. ROISMAN: Again, I think the licensing board,
25 which as a necessity has to familiarize itself with the

1 particular case. I am trying to get the decision in the hands
2 of the persons with the best knowledge.

3 CHAIRMAN KEMENY: Let us take an actual example
4 because I am really having very serious difficulty understanding
5 your proposal. Suppose a new client is about to be licensed,
6 and an individual comes up and says, "I wish to look into
7 the question of small break LOCA," just to take a purely
8 random example, and in order to do that, since the entire
9 history of the NRC this has not been studied to the
10 satisfaction of individuals, we have had testimony to that
11 effect, I need \$10 million to conduct the scientific studies
12 that would be able for me to intercede in this case in order
13 to come up with a really thorough analysis of small break
14 LOCA. How would the licensing board decide whether that is
15 worth while and whether that individual is the one who
16 should carry that out?

17 MR. ROISMAN: If the presentation made were just
18 as you described it, they would reject it and properly so.
19 There would be no basis to make the decision. The burden
20 would be on the party seeking the \$10 million to demonstrate
21 in some great detail precisely what areas of small break
22 LOCA's they felt were not adequately covered and why, what
23 kind of experts they had available to do that work, why they
24 were the right person. Often, you must understand, an
25 intervener themselves might merely say, "All I am is the

1 person who stands to die if the plant does not function right,
2 and I have gone out, and I have asked the following 15 experts
3 to come and testify for me, and they have all said that they
4 would, and this is what they have said they would like to
5 address, and these are the questions." The other parties
6 to the proceeding might argue, "Wait, that issue has already
7 been covered," and they would present whatever they thought
8 they knew that showed the issue was already covered. On the
9 basis of those counter presentations, the licensing board,
10 which, as I am sure you are familiar, contains not only a
11 lawyer, but also, a nuclear engineer qualified person and
12 an environmentally qualified person; it is a three-person
13 board, would make a judgment how much of this information
14 do we think is needed, and are these the right people to
15 provide it to us? Now, they might decide, and you must
16 understand, my premise is it is much harder to make your
17 argument in advance of the hearing. They might decide at
18 that point, it looks to us like only half of this is really
19 needed. The intervener and their experts might decide to
20 take a chance and make the full presentation and try to get
21 the remainder of the funding after the fact.

22 Once you hear the witness, see the testimony, see
23 how it interrelates into the safety of the plant, you might
24 come up with a different decision.

25 CHAIRMAN KEMENY: But I have a dilemma with either

1 alternative. If it is done in advance, of course, the
 2 individual would have to have sufficient funds to get the
 3 experts, and the experts may not be in a position to be able
 4 to make the case that this is an important one without
 5 expanding significant expenditures.

6 It seems to me the dilemma is even worse if it is
 7 done afterwards. Suppose my hypothetical case is right
 8 that a really thorough analysis of small break LOCA costs
 9 \$10 million. Somebody would have to borrow \$10 million or
 10 go on spec into the hole for that amount on the hope that
 11 after the testimony occurs the licensing board will decide
 12 to reimburse them for that \$10 million.

13 MR. ROISMAN: Maybe this is the inherent difference
 14 between lawyers and scientists. Lawyers often work on
 15 contingency, and it never seemed to me to be unduly burdensome
 16 to ask a scientist who felt that he had something valuable
 17 to contribute to take the risk that his contribution would
 18 later not be judged to be worthy of reimbursement. In a
 19 contingency fee case with lawyers it happens all the time,
 20 and while the dollar numbers you are using are even high
 21 for the legal profession to talk about for an individual
 22 case, it is certainly not at all unusual for a lawyer to
 23 risk 100 or 200 thousand dollars worth of legal time on the
 24 possibility that a case will be successful, with the
 25 understanding that if it is not successful or if they are not

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1 well regarded by the judge after the case is over they might
2 not get the money, but insofar as the front end money is
3 concerned I think it is a risk. I am not offering you a
4 perfect solution to a problem. A perfect solution to the
5 problem was found in one of the earliest nuclear licensing
6 cases which was the Malibu Nuclear Plant which incidentally
7 was never built. It was never built because it was proposed
8 to be built very close to the home of Bob Hope.

9 If we could try to build nuclear plants close to the
10 homes of people who have a great deal of money, the money
11 needed to make interventions possible would not have to come
12 from a third source. Mr. Hope brought a whole gaggle of
13 seismologists to the hearing, and ultimately persuaded the
14 Commission to impose such stringent seismic standards that
15 the utility in question never built the plant.

16 We cannot get Bob Hope to build homes near proposed
17 nuclear plant sites, and therefore we are left with
18 intervener funding. It is an imperfect answer to a very
19 difficult problem.

20 CHAIRMAN KEMENY: Mr. Roisman, yes, I am quite
21 sure that there are a number of very good solutions of how
22 to change the licensing process, if one's purpose is to make
23 sure that no plans get licensed. I have not yet crossed that
24 line. Therefore, I am trying so far to explore whether
25 there are licensing procedures that would achieve your

1 objectives, as you have stated them and yet make it possible
2 to license plants, if they deserve to be licensed.

3 MR. ROISMAN: Nothing in my proposal would keep
4 a plant from being licensed inherently, that is --

5 CHAIRMAN KEMENY: No, I was just responding to the
6 Bob Hope suggestion.

7 MR. ROISMAN: But all I was suggesting is that
8 Bob Hope had the money to prove he was right.

9 COMMISSIONER MC PHERSON: Could I ask for a
10 clarification?

11 CHAIRMAN KEMENY: Yes.

12 COMMISSIONER MC PHERSON: Did you say earlier
13 that if interveners were really adequately funded that you
14 believe there would be no future licensing?

15 MR. ROISMAN: That is correct.

16 COMMISSIONER MC PHERSON: Well, then the answer
17 to Dr. Kemeny's question is that that would prevent any
18 licensing, but in your view --

19 MR. ROISMAN: That is correct, but not because --
20 that is because I think we can win on the merits.

21 In other words, I am stating a confidence in the
22 correctness of our position, not a confidence that even
23 though we are wrong, if you give us enough money we can beat
24 the plant anyway, and I want to make that distinction clear,
25 and I thought when I used the term "inherently" before with

1 him that I was drawing that distinction. If not, let me
2 clarify it. Funded interveners cannot stop a plant that
3 ought to be built. It is just my judgment that if we had
4 the funds, we would be able to demonstrate that it ought not
to be built.

6 CHAIRMAN KEMENY: Let me pursue again, you said that
7 it would be easier to do it after the fact, to judge the
8 worthwhileness of the intervention. What if 1000 interveners
9 on spec intervened?

10 MR. ROISMAN: One of the provisions of the
11 Commission's regulations is to require interveners with
12 common interests to be consolidated. That is a provision
13 which is in the authority of the licensing boards, and they
14 exercise it all the time.

15 You would never anticipate that 1000 interveners
16 would intervene on all the same points and all be on spec.
17 I would anticipate that as a practical matter what would
18 happen, and this is based upon my own experience, with
19 multiple intervener cases, is that the interveners intervene
20 multiply when they have no money, but as soon as one of them
21 emerges with any amount of resources at all, everybody
22 consolidates with the one that is making the best case.

23 Interveners are surprisingly and maybe not to you,
24 but to the industry, it may seem surprising, not evil people
25 who are out to make a mockery out of the licensing process.

1 They are out to try to have an honest hearing, and 1000
2 interveners coming in in a case, all trying to say the same
3 thing is simply absurd. It does not happen in the real world,
4 and it would not with money available.

5 CHAIRMAN KEMENY: But we have used the phrase
6 pre-Three Mile Island and post-Three Mile Island. Let me,
7 therefore, use the phrase pre-Roisman and post-Roisman.
8 I believe your statement is correct.

9 MR. ROISMAN: Do you consider that a comparable
10 incident?

11 CHAIRMAN KEMENY: I am trying to make a judgment
12 on that. I believe your statement is correct, as far as I
13 know, pre-Roisman, but post-Roisman, the financial incentive
14 for multiple interveners to get together would not exist,
15 and are you quite certain that there would not be 1000 individuals
16 who can all think of a worth while issue to be raised, and
17 they could even, perhaps, through collusion phrase it in such
18 a way that it appears to be 1000 different issues?

19 MR. ROISMAN: Let me say this. I have an unabiding
20 faith in the judgment of good hearing boards. You cannot
21 phrase a contention to look like two when it is really one
22 and get away with it, if the hearing board has any smarts at
23 all. Number two, I don't see that it is very likely that
24 the interveners are going to want to proliferate just for the
25 sake of proliferation, if we assume the other aspect of

1 interveners which is commonly assumed, and that is that
2 their real objective is to stop the nuclear plant.

3 I think that what you might well find is that you
4 could get 1000 issues, each one of which is separate from the
5 other and each one of which would have to be tried, but I
6 thought I quoted in my testimony on Page 16 the statement
7 made by the Atomic Safety and Licensing Board in the Vermont
8 Yankee case back in 1973, in which they said, "Delay in the
9 issuance of an operating licensing attributable to an
10 intervener's ability to present to a licensing board
11 legitimate contentions, based on serious safety problems
12 uncovered by the staff would establish not that the licensing
13 system is being frustrated, but that it is working properly.
14 Any delay in such a situation would be fairly attributable,
15 not to the interveners, but to the non-readiness of the
16 facility for operation. Delay in the issuance of the license
17 is entirely appropriate, indeed, mandated in that circumstance."

18 So, if I understand the reasonable reach of your
19 hypothetical, 1000 real contentions, if it is going to take
20 a long time to license the plant, and they are real, that
21 just shows you how unready nuclear plants are to be licensed,
22 and I don't think it is unreasonable to think you could get
23 a large number. I don't want to stick with 1000, but a large,
24 certainly more than the 13 that Mr. Helthman identified had
25 been raised in Three Mile Island No. 2, and yes, I think that

1 some of those hearings could go on for a long time. I think
2 that is quite possible, but I don't think that should be a
3 concern of anybody if what our ultimate goal is, is to make
4 sure that only safe plants are licensed.

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1 CHAIRMAN KEMENY: My last question is, just to follow
2 up the previous one, and again a hypothetical question, suppose
3 there were a controversial nuclear plant being built, say, in
4 the State of New Hampshire, isn't it conceivable that there
5 is a source from which a thousand highly ingenious intervenors
6 could come?

7 MR. ROISMAN: I'm sorry.

8 CHAIRMAN KEMENY: Isn't it conceivable that there is
9 a source from which a thousand ingenious intervenors could
10 come, all of whom could think up a somewhat different objec-
11 tion?

12 MR. ROISMAN: Well, we come back to the same ques-
13 tion again, Mr. Chairman. If the objection is legitimate,
14 let's forget about the ingenuity of the party raising it. And
15 if it's not legitimate, let's assume that the process will
16 weed it out, the same way we assume the process will figure
17 out whether the plant is safe. I don't think the hypothetical
18 is presenting me with any kind of a Hobson's choice.

19 CHAIRMAN KEMENY: Very good, then let me ask really
20 my last question. If the same standards were applied to
21 automobiles, to airplanes, to coal plants, to oil plants, to
22 oil tankers, would you believe that we would even build an
23 automobile, an airplane, a coal plant, an oil refinery, or
24 oil tankers, because I believe -- not believe that under that
25 process any of those would ever get out? And they have their

LA 2 1 own dangers.

2 MR. ROISMAN: Well, you and I obviously have such a
3 markedly different set of assumptions in our head, it's very
4 difficult for me to answer your question, but I'll answer it as
5 best I can. I do not believe that a process which fairly allows
6 the opposition to make its best case and also fairly allows the
7 proponents to make their best case inherently prevents a good
8 idea from being implemented.

9 COMMISSIONER MC PHERSON: Could I interrupt you
10 there? Don't you believe that nuclear plants are inherently
11 unsafe, that there is no such thing as a safe nuclear plant?

12 MR. ROISMAN: Are you asking me?

13 COMMISSIONER MC PHERSON: Yes.

14 MR. ROISMAN: I haven't the foggiest idea.

15 COMMISSIONER MC PHERSON: But I thought -- I thought
16 you said that if funded, intervenors could block any further
17 licensing. And that would be on the basis of safety, wouldn't
18 it?

19 MR. ROISMAN: No, actually, not necessarily. The
20 question you asked me involves this big issue, how safe is
21 safe enough. If I had the funds to take on the next proposed
22 nuclear plant, I'd beat the hell out of it on alternatives. I
23 would prove that it should be used as the President of the
24 United States once said, as a last resort, and that I've got
25 energy efficiency, solar energy, and half a dozen other things

3 1 that I could do before I had to turn to it, and that at least
2 there's enough risk in the nuclear plant that we oughtn't to
3 take it unless we are forced back against the wall to take it.

4 So I would not expect to win that case on the safety
5 question.

6 As to whether they are inherently safe or unsafe, I
7 don't have the expertise to answer that question. And, as I
8 think I answered Mr. Helfman, I don't think anybody's put the
9 record together to answer that question intelligently. It may
10 very well be that a perfectly safe nuclear plant is capable of
11 being designed and operated, but I don't know how anybody would
12 find it out from the public record available on nuclear power
13 today.

14 COMMISSIONER MC PHERSON: And you draw that conclu-
15 sion not because of scientific expertise, which you and I
16 commonly lack, but because you think the process has never
17 elucidated the issues that are involved in any -- in the
18 construction of any plant.

19 MR. ROISMAN: Absolutely. That is precisely right,
20 yes.

21 COMMISSIONER MC PHERSON: I understand.

22 CHAIRMAN KEMENY: Professor Taylor.

23 COMMISSIONER TAYLOR: I was going to ask you a ques-
24 tion about your sense of the meaning of the word "safe," and
25 I decided not to on the basis of the comments you just made in

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1 response to a previous question.

2 But I am very interested in your observation about
3 how to deal with this question of how safe is safe enough. And
4 if I understand you correctly, you were saying you don't really
5 have to deal with that; you simply set forward evidently more
6 acceptable alternatives. Is that correct?

7 MR. ROISMAN: I'm saying that right now the founda-
8 tion for my belief that if we could fund intervenors for all
9 the rest of the -- and I'll focus on construction permits,
10 because it is this cost benefit balance gets markedly more
11 complicated when you've got \$2 billion sunk in a two-unit plant
12 and you're trying to compare alternatives -- but on construc-
13 tion permit proceedings, that right now you could make the case
14 on alternatives without having to prove that the plant's
15 inherently unsafe. I guess deep down inside, I think inheren-
16 tly unsafe is not a meaningful concept to me. I can visualize
17 in my mind, I can theorize, a situation in which a nuclear
18 plant, which had a one in 50 chance of having a Three Mile
19 Island 2 accident every five years, would still be licensable,
20 when someone could demonstrate that the consequences of a
21 Three Mile Island 2 accident, compared to the consequences of
22 not building the plant, came out in favor of letting the plant
23 be built. I mean, I can see that happening.

24 I don't know of any place where the real facts would
25 fit it, but I don't object, I'm not offended, by the prospect

5 1 or possibility of that occurring.

2 I think that the question about the ultimate level of
3 safety really involves a series of policy questions. And
4 without attempting to be definitive, let me list some of them.
5 Should you license nuclear plants to operate today, in the face
6 of 30 unresolved safety problems from the ACRS and 40 from the
7 NRC and whatever you guys come up with -- ladies and guys come
8 up with out of this Commission and the other commissions.
9 That's a policy question.

10 Second, should you license nuclear plants to operate
11 in the face of the fact that we don't have in hand a solution
12 to the nuclear waste problem and we're not sure precisely what
13 that solution will be or where the wastes are going to go?

14 Third, should you license them to operate in the face
15 of the inherent proliferation risk? The more reactors that
16 are around, the more nuclear fuel that's around, the more
17 opportunities for countries like Pakistan to get enrichment
18 facilities and all of the difficulties, even forgetting about
19 breeders and plutonium.

20 Four, given what we don't know about the possible
21 effects of low level radiation, should you allow nuclear plants
22 to be licensed.

23 Those are policy questions. I think the Nuclear
24 Regulatory Commission has been forced by circumstances to try
25 to address those questions. I believe they are inherently

LA 6 1 incapable of doing so, because they are -- they belong in the
2 political arena. If I were the dictator of the Nuclear Regula-
3 tory Commission, the one head of this agency, I would issue an
4 order that would say that in one year from the date of the
5 order, all the nuclear plants in the country would be shut down,
6 unless the Congress of the United States, within that year,
7 directed my agency to continue to license them, by answering
8 these political questions favorably towards their continued
9 licensing and told me what standards I should apply. How much
10 should I have to know about waste disposal before I could say
11 that's a nonproblem for further licensing? How many of the
12 generic safety problems could I -- remain unresolved and still
13 license? How much of the low level waste -- of the low level
14 radiation problem could remain uncertain and still go ahead?
15 What standards should I be setting?

16 And the put the ball where it belongs, in the poli-
17 tical arena. Congress has been ducking it and the Nuclear
18 Regulatory Commission, who I'm no great lover of, has, I think,
19 had an unfair knock against it. It doesn't know how to answer
20 those questions.

21 COMMISSIONER TAYLOR: Let me -- let me, since you
22 brought it up, get into this set of questions. You raised a
23 lot of questions, specifically about under what conditions
24 licenses should be offered, should be granted for nuclear
25 power plants. I'm sure you're aware, because I'm sure that

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NRDC has become involved in this question, that there is a very long set of questions connected with whether or not a new coal-burning power plant should be licensed to operate. Are you telling us that you're only focusing on nuclear energy and don't want to consider these other questions, or are you telling us that, having also looked at these other questions, these questions about other alternatives, that you formed the opinion that the risks inherent in the unanswered questions concerning long term disposal of wastes, for example, are -- of nuclear wastes, are more severe than the unresolved questions about the long term disposal of carbon dioxide?

MR. ROISMAN: No, absolutely not. You are all asking questions that go far beyond what I thought was the scope, but which I'm more than happy to address. The Natural Resources Defense Council does not believe that any energy technology ought to be licensed blindly without regard to its risks. There are enormous risks with coal. And we really start at the other side. Okay? We begin by saying we haven't found a safety risk in energy efficiency, so we're for that, number one. Number two, we haven't found one with most of the solar energy that we've looked at, except maybe high tech power towers, and we're not in favor of high tech power towers, but most of the other solars. So we're for that, number two.

With regard to almost everything else that remains, we think that they should not have what is now a very unequal

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LA 8 1 process. And we do not support the process that puts nuclear,
2 as bad as the process is, through many more hoops than it puts
3 coal or oil or hydro projects, all of which have some potential
4 impacts. Some be greater, some may be less than others. And
5 we would much rather see a rational energy process, which truly
6 weighed those various different options against some standards
7 of health and safety and environmental concern and made some
8 rational choices.

9 The real world is a series of rational choices.
10 We're not making them now. And we've supported and proposed
11 legislation that would attempt to deal with the problem just
12 that way. Put all the energy options into a hat, subject them
13 all to the same kind of scrutiny and pick out the best ones
14 for each situation as needed.

15 COMMISSIONER TAYLOR: Now, are you saying that you
16 would like to rely, as a major, if not the primary, mechanism
17 for applying this scrutiny to use an intervenor process, well-
18 funded, along the lines that you suggested with respect to the
19 nuclear licensing process.

20 MR. ROISMAN: Yes, except you --

21 COMMISSIONER TAYLOR: Would you use that as a kind of
22 a model for how to deal with coal and hydrocarbons and any
23 solar projects that one might suspect might have some reason
24 to be very concerned about?

25 MR. ROISMAN: I'm nervous about leaving the record

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incomplete. And I'm going to take a few moments to tell you, since you're now asking me about all the options.

Our proposal is and has been for some time that you go back, as I explained to Mr. Helfman, to the date on which you have to start thinking about your energy problem for a given period of time. We are now seeing utilities beginning to think about the 1990's. and that's appropriate. They are by nature planning organizations. What we should be doing is doing that planning in an open forum, in which we first make some judgements, probably using the regional reliability areas of the Federal Energy Regulatory Commission as a reasonable regional area, and decide within that region how much energy is this region going to need in what period of time and what kinds of energy. How much of it's going to have to be electric and how much of it's going to have to be this? And what sort of growth potential does this area have and want? And make some judgements about that in open public hearings, where the public and businesses and government agencies who have something to say on those subjects come in and get that issue resolved and put it aside, just as a utility now resolves it privately. They resolve it, of course, always in favor of electricity, because that's the product they provide. They don't resolve it in favor of efficiency, because they are not selling efficiency.

Then you move from that into the second question.

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1 All right, we know how much energy we think this region's going
 2 to need. How are we going to deliver it? And you look at all
 3 the different ways in which it might be delivered, cogeneration,
 4 hydro, low head hydro, solar energy, coal, oil, gas, nuclear.
 5 And you make some decisions. How much of that are we going
 6 to fill in these different ways?

7 Those decisions, I would think, would be made where
 8 these big policy questions that I talked about before were
 9 addressed. How much uncertainty would you be willing to allow
 10 to exist for an energy system to be given a green light, an
 11 orange light, or a red light?

12 Having made the decision as to what your mix is
 13 going to be, you then move to the question of where are you
 14 going to site these things, where are they going to physically
 15 be located. And in that discussion, the earlier issues would
 16 be precluded. They would have been resolved. Once you pick
 17 the site, you then make sure that the facilities that are built
 18 on the site meet the basic safety or health or environmental
 19 or whatever other standards you lay down back in your second
 20 set of regional hearings, that they are going to come up to
 21 that standard.

22 And that would, for a nuclear plant, be your construc-
 23 tion permit proceeding. And for a nuclear plant, you should
 24 not have an operating license proceeding, except to check on
 25 whether it was built according to specs. You should have all

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11 1 the safety issues resolved at the time that construction is
2 approved.

3 I assume you're all aware that nuclear plants now
4 are not built that way. They are built on the come. They are
5 built on the basis of raw general design at the construction
6 permit. But the final safety decisions are not made until
7 operation, when the money's already sunk.

8 In that kind of system, again, as I said in my testi-
9 mony, it can't guarantee you that every plant that ought to be
10 built will be built and that only the safe ones will be built
11 and the unsafe ones won't, any more than the engineer can
12 guarantee you that what he builds will be safe. But I think
13 it's a process that is more rational by far than anything that
14 we've now got. And it would allow the energy systems to com-
15 pete against each other fairly, on equal footing. And where
16 nuclear is needed, if it is, it will be used. And where it's
17 not, it won't. And where coal is not the right thing, it won't
18 be used. And where it is, it would be.

19 COMMISSIONER TAYLOR: Would you like to see the
20 society counting on strong advocates of each of the alternatives
21 to present the case, as opposed to people who have not yet made
22 up their minds, don't know which is going to look best to
23 emphasize in that area? What I'm trying to get at is are you
24 pressing for, as you seem to be in your testimony, in your
25 prepared statement, for the advocacy process, get the people

LA 12 1 who are absolutely anti-nuclear, against it, able to get into
2 the licensing process and fund them and have them have their
3 say, in order, I presume to be able to hold sway over the
4 advocates who are absolutely sure that the only possible thing
5 to do is to go nuclear.

6 Now, I have great trouble with that, frankly, because
7 it seems to me it's a little bit -- the reason I have trouble
8 is that I find that the committed advocates have a way of dis-
9 torting what they're doing, on both sides. And I think there's
10 evidence of that in connection with a lot of the intervenor
11 proceedings on the side of the utilities, on the side, in some
12 cases, of the regulatory agencies, certainly on the side of
13 the AEC in the old days, and on the side of the intervenors.
14 And I'm very troubled by that process, simply because, as far
15 as I'm concerned, the average of two opposing lines is not
16 necessarily the truth. And I think what we want is the truth.

17 I guess I'm trying to get a feeling for the extent
18 to which you're saying that the tuning, with the public welfare,
19 the public interest in mind always, the tuning of the licensing
20 process for coal plants or nuclear plants or whatever it is,
21 that it needs is a strong committed adversary process. Is that
22 what you're saying?

23 MR. ROISMAN: Okay, well, you are articulating very
24 well the fundamental difference between lawyers and scientists.
25 And you said it all in one word. You want the truth, and we

4 13 1 validity. In my judgement as a lawyer, the process works if it
2 is designed to be as likely to come up with the right answer
3 as any process that we can come up with, even though in fact
4 it comes up with the wrong answer. So that I would say, in the
5 grossest sense -- and I will take the worst example, for fear
6 that if I don't, the chairman will give it to me as a hypo-
7 thetical -- that a man who is innocent has due process of law
8 and is sentenced to prison, that that is a better system than
9 one who's innocent and in a non-due process of law situation,
10 by flip of a coin, for instance, is released.

11 Now, that's not truth; that's validity. Now, what
12 does that mean in the context of the adversary process? On
13 controversial issues, you are fulfilling two important func-
14 tions. One, you are trying to get as close to the truth as you
15 can. You want the process to be the one that works best.
16 That's why you abandon the rack. The rack didn't give us the
17 truth all the time. It always got us an answer, but we weren't
18 sure it was right. We went to something that seemed better
19 than the rack. Okay?

20 The second thing is that when you've got people who
21 believe strongly about something, you want them to resolve
22 their dispute short of going into the streets. Twenty-five
23 thousand people marched on Seabrook after I spent two and a
24 half years in the licensing hearing. And partly, I was very
25 saddened by that, because -- And partly, I was encouraged,

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1 because it meant that they saw the sham that the Seabrook
2 hearing really was.

3 But that's not the way to resolve the nuclear plant.
4 It's not their 25,000 against the other side's 5000, and who-
5 ever can yell the loudest wins. That's like the rack, and I
6 don't want to see the process that way. We must have a process
7 that people will be willing to accept the results of, or we
8 will not have a civilized society.

9 Now, issues like nuclear power, and I think growingly
10 so like coal and energy in general, are issues that demand
11 something that people will trust. I don't think anybody is
12 going to trust a group of beneficent neutrals sitting down
13 and deciding the safety of nuclear power or whether a parti-
14 cular nuclear plant should be built or what our energy policy
15 should be. I think we've gone beyond that, although I'd like
16 to see it be that way and even see, in this process, a way
17 to temper the tendency -- you're right, the two extremes do
18 tend to distort to try to win their position. That's why I
19 said as my second recommendation here that the staff be given
20 a role not as an advocate, but, to some extent, that they try
21 to be the beneficent neutral, that they step in when my
22 witness' testimony really misses the point and the applicant
23 doesn't find it and say, now, wait a second, he overstated it
24 there, or finish the cross-examination that some lawyer decides
25 to stop for strategic reasons, but that really should have been

1 finished to get the whole story out.

2 That's the role, the useful role, that the staff can
3 play. And in something as hot as the nuclear question and as
4 energy in general, you probably do need somebody to try to ful-
5 fill that function. But I can tell you, people will not
6 accept, will not accept the decisions on nuclear power if they
7 are not participants in it on either side. And you can see
8 that as a result of the Ford study on plutonium, which got
9 praise by the antinukes for the position on plutonium and
10 criticized for the position on lightwater reactors, and just
11 the reverse from the other side. And the principal reasons
12 were that neither of them had got to control the study.

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1 CHAIRMAN KEMENY: Mr. Roisman, you keep talking as
2 if there were two sides to this question. I understand the
3 adversary process. There are two clear-cut sides, and you
4 confront those two with each other.

5 It seems to be a very many-sided issue. You have
6 thrown into the discussion, in addition to nuclear power,
7 all the alternate sources. I mean, I don't understand why you
8 feel that the adversary process is the best to resolve that.
9 I mean, it seems to me the history of mankind still shows that
10 the scientific process is the best way to arrive at the truth.
11 I mean, why would you not have a really distinguished group
12 of scientists, engineers, and have some lawyers present if
13 you wished, truly examine all the alternatives and try to come
14 to a conclusion and do their best to explain it?

15 Why do you feel that two groups shouting at each
16 other is the best way to resolve this?

17 MR. ROISMAN: Well, let's see. First, shall I
18 deal with your assumption that the scientific community has
19 done such a good job; they brought us the atom bomb; they
20 brought us nuclear power; they brought us Three Mile Island;
21 they brought us biological warfare; they brought us all sorts
22 of disasters. I don't have a great deal of faith in scientists
23 alone.

24 Number two, it is not the case that the --

25 CHAIRMAN KEMENY: Mr. Roisman, sometimes I would like

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1 to have equal time to outline what lawyers have brought us.

2 MR. ROISMAN: Oh.

3 (Laughter.)

4 Listen, I will be glad to do that for you. Lawyers
5 have brought you Watergate, lawyers have brought you all sorts
6 of evil, and I don't mean to suggest that any one of us has
7 a lock on bringing evil, but I do want to say this one thing.
8 I think that it is not the case that a good adversary process
9 involves any shouting at all.

10 (Laughter.)

11 It is not necessary to do that. It is a bad adver-
12 sary process in which the shouting takes place. I would com-
13 mend you, as part of your thinking on all of this, through
14 those members of your panel -- I know Mr. McPherson is a lawyer;
15 I don't know if there are any others who are lawyers -- to bring
16 to you at least some examples of some very good and rational
17 adversary processes that did a pretty good job of getting as
18 close to the truth as you can do with a process that gives
19 both sides a fair chance to make their case.

20 One of the jobs of a good Nuclear Regulatory Commis-
21 sion, of course, is to make sure that the hearings are run well.
22 I can recommend to you some hearing board chairmen whose
23 hearings involve no shouting and whose hearings, I think, are
24 doing a good job, and I can give you others who I think are
25 doing a terrible job.

1 CHAIRMAN KEMENY: Professor Taylor?

2 COMMISSIONER TAYLOR: I just had to -- I couldn't
3 resist making the comment that the decisions that were made
4 with respect to whether or not to build and drop atomic bombs
5 -- I am not sure about TMI, but a number of things that you
6 mentioned, I am willing to bet, were made more by lawyers than
7 by scientists or engineers. By that I mean people who were in
8 a position to manage organizations like the Executive Branch
9 of the government of the United States. I had to get that out.

10 MR. ROISMAN: The discussion is so far off the point
11 and the hour is so late, maybe over a beer and a pizza some-
12 time we can discuss it further.

13 CHAIRMAN KEMENY: Let's see, I am going to limit it
14 to five more minutes. Commissioner McPherson?

15 COMMISSIONER MCPHERSON: Just one question or two,
16 Mr. Roisman. I found your defense of lawyers very worthwhile
17 and the rest of your testimony fascinating. A point of inquiry:
18 you said you thought, properly funded, that intervenors could
19 defeat licensing applications, not necessarily on the basis
20 of safety, though that might be so, but on the basis of alter-
21 natives. Is that presently a means of defeating nuclear plant
22 construction and operating license applications?

23 MR. ROISMAN: Yes, it is, although in practice at
24 operating license stage it would be a very hard argument but
25 to make. But at a construction permit proceeding, because of

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1 the application of the National Environmental Policy Act, it
2 is permissible to argue there is a preferable alternative.
3 In practice, the Commission has not done a really super job
4 of addressing that issue, but for purposes of my example, yes,
5 it could be done.

6 COMMISSIONER MCPHERSON: To your knowledge, has the
7 Commission ever turned down a nuclear plant construction appli-
8 cation on grounds that there was a better alternative, a dif-
9 ferent fuel?

10 MR. ROISMAN: Well, basically, the Commission as a
11 body has never turned down an application for a construction
12 permit at all, but like in the Bob Hope example, they have
13 laid down standards which an applicant decided it didn't choose
14 to meet. Palo Verde 4 and 5, two nuclear plants proposed for
15 Arizona, were recently withdrawn, in part because it wasn't
16 clear that the demand was going to be there, and some of the
17 reason the demand wasn't going to be there had to do with the
18 attitude in California about solar energy and energy efficiency,
19 that being a large part of the market. Part of it had to do
20 with California's -- I think it was called regulatory attitude,
21 which I think is a euphemism for meaning Governor Brown hates
22 nukes.

23 But irrespective of that, I mean there is an example
24 where the Commission never got its crack at it, never had a
25 chance to do it. They certainly have never gone so far, and

1 they have never decided in their own mind whether they -- what
2 they would do if they were faced with a case in which they
3 thought it was clear that an alternative which they could not
4 implement was better than the nuclear plant. Would they in
5 that case turn down the nuclear plant and depend upon somebody
6 else to implement the preferable alternative? It is a nice
7 question, not yet resolved.

8 COMMISSIONER MCPHERSON: The Commission has never
9 done that. Has the Licensing Board ever found that coal or
10 oil or something else was a preferred alternative?

11 MR. ROISMAN: No. There have been some Licensing
12 Board members who have found that they didn't see the need for
13 a plant to be built, and that in part reflected their judgment
14 about the implementation of energy efficiency and probably some
15 solar energy, but they were always dissenters, and never has
16 a majority of a licensing board found that.

17 COMMISSIONER MCPHERSON: One last question: How do
18 you answer the argument made by the nuclear industry and many,
19 many other people who are not associated with it but who have
20 observed it, that with all the lacuna that are present in
21 the licensing process, in the oversight process, with all the
22 small accidents -- small in their consequences to human life,
23 such as Brown's Ferry and Davis-Besse and TMI 2 -- with all
24 of those, there have been about 400 reactor years of commercial
25 reactor operation, and in the commercial field, the number of

1 Americans who have lost their lives or, so far as we know,
2 been injured or made sick by those reactor operations, compares
3 extremely well with any other form of energy that we have had
4 in terms -- measured by, say, kilowatt-hours produced.

5 That seems to me a very potent argument that one
6 would have to meet if one were determined to, as a licensing
7 board member, to turn down a nuclear plant because there was
8 a better alternative.

9 If these things have been, for all their complexity
10 and all their numinous dangers and psychological concerns that
11 they raise among people, have been safe over a long period of
12 time, it seems to me very hard -- would be very hard -- to
13 turn them down, turn down an application, on behalf of some-
14 thing that had produced black lung, carbon dioxide emissions.
15 terrific environmental and physical problems over the years.

16 MR. ROISMAN: Well, first let me eliminate from the
17 discussion the coal versus nuclear. I think that is legiti-
18 mately a close question. I think the CO₂ problem is in the
19 same ballpark of magnitude with the nuclear waste problems.
20 Nuclear carries some other burdens; the coal, different.

21 Let's go first to the premise on just how many people
22 have been hurt by nuclear power. There are two things to say
23 on that. As I think your Commission is discovering, we are
24 never going to know how many people got hurt from Three Mile
25 Island number 2 because the monitoring system was so lousy

1 that we are not quite sure who got what. It might be the
2 1 to 10 that finally the HEW suggested, or it might be some-
3 thing much bigger than that. We do have the memorandum that
4 I cited in part in my testimony about the 13 million curies
5 of xenon and that that far exceeded anything that had been
6 anticipated from the worst possible event at a plant.

7 So we have got that. We have the other parts of the
8 nuclear fuel cycle, the milltailing piles, the radiation that
9 is already coming off of them and continues to come off of
10 them. We have the inherent difficulty of tracing cancer back
11 to any given source. I mean, you are exposed to the radiation
12 in Grand Central Station and the x-rays in the natural back-
13 ground and all that other stuff, and nuclear power. It is a
14 hard case to prove in that respect.

15 In addition, nuclear power, some of its greatest
16 dangers are dangers that we see in the future, say, from
17 nuclear wastes not being properly handled. We have seen some
18 leakage. We don't know just how bad it is going to be.

19 And last, nuclear power's danger, I think the one
20 to which the public most quickly responds beyond the waste
21 question, is catastrophic accident. There is always that ques-
22 tion of whether or not you wait for the accident and bring in
23 the bodies or you anticipate the accident and don't allow it
24 to happen.

25 Process, if course, is one way that you can try to

1 deal with that. Have they really done a good job of reducing
2 the possibility of it happening? You can't get it down to
3 zero. No opponent of nuclear power is really arguing for
4 getting it down to zero.

5 So I think we are not comparing apples and apples
6 all the time. It is, I think, a question of priorities, of
7 rating, and that is why I suggested -- I would probably put
8 coal and nuclear down at the bottom of my list, and I would
9 like to have -- give me 20 years and the subsidies that nuclear
10 and coal have gotten, and give me a fair crack at energy
11 efficiency and solar energy. Then I will be 61 years old,
12 and you can come back to me and ask me the tough questions now
13 about whether we need any coal or nuclear at that point, my
14 having gotten all the efficiency in the solar energy up to
15 the maximum that it could get.

16 They are very, very tough questions. I don't have
17 any good answers. I am confident that I don't want to have
18 to go in front of the Three Mile Island number 3 Commission
19 to discuss a real catastrophic accident, and I don't ever want
20 to say "I told you so" about nuclear power. We need a better
21 system to answer questions where the potential is as great
22 as it is in a nuclear plant to kill as many people as there
23 are.

24 Maybe we have been lucky, and maybe it is really that
25 it is a very good technology, but I don't think any of you have

1 heard anything in your examinations over the last 4 months
2 that would persuade you that there is a rational basis to know
3 the answer to that question.

4 CHAIRMAN KEMENY: I am going to use my privilege as
5 Chairman to make the last remark.

6 Mr. Poisman, first of all, we very much appreciate
7 your thoughtful paper, though, speaking as only one commis-
8 sioner, you have not convinced me, but I do appreciate the
9 thought you put into it.

10 My concern is that I think you have the feeling that
11 the evil known is always better than the unknown. That is the
12 trouble with each new technology, that before you have explored
13 it and before it is thoroughly analyzed, it always looks great.

14 Let's consider what was the single greatest threat
15 to the survival of the human race within the last decade. It
16 was not atomic energy. It was not even atomic wars, the most
17 immediate threat. It was not coal power. It was underarm
18 deodorants in spray cans, and I am certainly very grateful, as
19 one individual, that that was not settled by an adversary
20 process, by some scientists doing some extremely difficult
21 research that alerted all of us to the fact that we could be
22 destroying the ozone layer, making the earth not livable.

23 MR. ROISMAN: But I hope you do remember that it
24 was lawyers who brought the fluorocarbon lawsuits that made
25 sure that the laws that those scientists found were not

1 providing adequate protection were adequately enforced.

2 CHAIRMAN KEMENY: But the first --

3 MR. ROISMAN: It requires both.

4 CHAIRMAN KEMENY: But the first step was a very
5 thorough, in-depth, scientific study, with scientists really
6 recognizing what the major danger is.

7 MR. ROISMAN: I would not object to us having the
8 study on nuclear power and then deciding whether to go ahead
9 with it. My problem is that we are going ahead with it and
10 trying to figure out how to have the study at the same time.

11 CHAIRMAN KEMENY: This rather extended meeting of
12 the Commission is hereby adjourned.

13 (Whereupon, at 6:22 p. m., the hearing was
14 concluded.)

SEP 19 1978

NOTE TO: T. Novak
F. Rosa
R. Bosnak
S. Pawlicki
W. Butler
R. Houston
S. Varga
D. Ross
R. Tedesco
J. Knight
R. Vollmer
D. Vassallo
~~D. Reid~~
B. Grimes
V. Stello
G. Lainas

Aug. 23, 1978
Stillo



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

SEP 19 1978

NOTE TO: See attached list
FROM: S. Varga
SUBJECT: TRANSFER OF TMI-2 TO DOR

Attached is a draft of a memo transferring TMI-2 to DOR and Enclosure 1 thereto, entitled "Items Requiring Further Staff Action." Other enclosures are in preparation and will be available shortly, but in the interest of efficiency, it is requested that all addressees review the attachments and indicate concurrence or comments by September 26, 1978.

When the transfer package is complete, it will be circulated for formal concurrence with any significant changes from the attached drafts identified.

A handwritten signature in cursive script, appearing to read "Steven A. Varga".

Steven A. Varga, Chief
Light Water Reactors Branch No. 4
Division of Project Management

cc: H. Silver

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

Docket No: 50-320

MEMORANDUM FOR: V. Stello, Director, Division of Operating Reactors
FROM: R. Boyd, Director, Division of Project Management
SUBJECT: TRANSFER OF THREE MILE ISLAND NUCLEAR STATION, UNIT 2
(TMI-2) TO OPERATING REACTORS BRANCH NO. 4

Effective on the date of this memorandum, the project management responsibility for TMI-2 is transferred from Light Water Branch No. 4, DPM, to Operating Reactors Branch No. 4, DOR.

The licensees, Metropolitan Edison Company (the operating licensee), Jersey Central Power and Light Company, and Pennsylvania Electric Company received Facility Operating License DPR-73 (the license) on February 8, 1978 which authorized full power operation, with certain conditions and restrictions required to be satisfied before proceeding to various operating modes and by stated points in time.

A chronology of the amendments to DPR-73 to date is tabulated below, followed by a brief description of each amendment

Chronology

<u>Amend. No.</u>	<u>Date</u>
1	March 3, 1978
2	March 10, 1978
3	March 24, 1978
4	May 19, 1978
5	June 5, 1978
6	August 17, 1978
7	September 5, 1978

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Amendment No. 1 adds to Attachment 2 of the license a waiver of Technical Specification 3.4.9.1 permitting hydrostatic testing of the Reactor Coolant System at certain pressures and temperatures prior to initial criticality only.

Amendment No. 2 revises Technical Specifications, deletes and modifies license conditions, and adds a requirement to Attachment 2, as follows:

- License condition 2.C.(3).b was deleted and Technical Specifications 4.8.1.1.2.1.3 modified to include load rejection information as required by the license condition.

- Various Technical Specifications were revised to correct typographical and editorial errors.
- License conditions 2.C.(3).1.1 and 2.C.(3).1.2 were deleted and 2.C.(3).1.3 modified to cover aspects of the fire protection design.

Amendment No. 3 deleted license conditions 2.C.(3).^c~~y~~, 2.C.(3).d, and 2.C.(3).e related to the reactor building emergency cooling booster pump capacity, the reactor building spray pump NPSH, and the containment response to a main steam line break, respectively. It also deleted the requirement from Attachment 2 that certain test procedures be performed prior to initial entry into Mode 2, added a requirement to perform a test procedure prior to use of the RC Waste Evaporator, revised Attachment 2 to clarify the details of operation involved in isolating the makeup tank after a LOCA, and corrected a typographical error.

Amendment No. 4 revised the Technical Specifications to avoid injection of NaOH into the RCS during inadvertent actuation of the ECCS and to accommodate a revised error analysis for quadrant tilt and axial imbalance.

Amendment No. 5 revised the Technical Specifications to require appropriate testing of the operability of the fuel handling bridge and its associated mast assemblies.

Amendment No. 6 revised the Technical Specifications to permit: (1) alternate method of containment air lock seal leak rate testing, (2) operation with increased ultimate heat sink temperature, (3) removal of orifice rod assemblies and installation of burnable poison rod retainers, and (4) replacement of the main steam safety valves.

Amendment No. 7 revises the environmental technical specifications to delete an unnecessary paragraph in the liquid effluents section, and deletes environmental conditions in the license requiring various detailed program descriptions which have been received and approved.

An order for Modification of License amending Facility Operating License DPR-73 was issued effective May 26, 1978. This order, dealing with the small break LOCA, requires submittal of a reevaluation of ECCS performance wholly in conformance with 10 CFR 50.46, restricts power level to 2568 MWt, and requires plant operation in accordance with procedures in licensee letters. Further discussion of this order may be found in Enclosure 1.

The current status of items requiring further staff action and the organizations responsible for completing these items are identified in Enclosure 1. Lists of generic problems and Regulatory Guides used during the licensing review with references to relevant information and/or evaluations are included in Enclosures 2 and 3 respectively.

POOR ORIGINAL

Enclosure 4 is a DSE memorandum summarizing the environmental status of this project and transferring environmental project responsibility from DSE to DOR. Enclosure 5 is the service list for this plant,

By copy of this memorandum, DSS, IE, ELD, ADM, Regulatory Files, Public Information and Public Proceedings are being notified of the following changes in safety personnel effective as the date of transfer. Enclosure 4 identifies the environmental personnel changes.

	<u>FROM</u>	<u>TO</u>
Project Manager	H. Silver	J. Zwetzig
Branch Chief	S. Varga	R. Reid
Assistant Director	D. Vassallo	B. Grimes
Licensing Assistant	M. Service	

Roger S. Boyd, Director
Division of Project Management
Office of Nuclear Reactor Regulation

Enclosures:
As stated

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Enclosure 1

ITEMS REQUIRING FURTHER STAFF ACTION

Three Mile Island Nuclear Station, Unit 2

Docket No. 50-320

Facility Operating License DPR-73

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1. Three Pump Operation

Paragraph 2.C.(3).a of the Facility Operating License permits operation in Modes 1 and 2 with three reactor coolant pumps. In our letter to the licensee of May 3, 1978 we requested additional documentation of margins available for longer term operation with three pumps. Metropolitan Edison responded in their letter of May 12, 1978 that since it did not anticipate any situation in which extended operation with three pumps would be required, it did not feel it necessary to respond to our request.

Further discussions with T. Novak of RSB confirmed that such information should be provided, that it has been provided for all other B&W plants authorized to operate with three pumps, and that if this information is not provided, three pump operation should be restricted as to duration and power level more severely than presently required by the Technical Specifications.

This position was transmitted verbally to Roy Harding of Met Ed on August 3, 1978, who indicated Met Ed would reconsider its position. No additional information has yet been received.

The Reactor Systems Branch (DSS) will retain primary review responsibility for this matter; the assigned reviewer is Scott Newberry. Management responsibility will be carried out by Operating Reactors Branch No. 4.

2. RPS and ESF Instrumentation Information

Paragraph 2.C.(3)f of the Facility Operating License requires/ submittal of RPS and ESF trip setpoint values by August 8, 1978. This information had been requested in our letter of March 24, 1977, and was furnished by Met Ed with their letter of August 7, 1978.

The Division of Operating Reactors will assume primary review responsibility for this matter. The Power Systems Branch (assigned reviewer Frank Ashe) and the Instrumentation and Control Systems Branch will be available for consultation. Management responsibility will be assumed by Operating Reactors Branch No. 4.

3. Degraded Grid Voltage

Section 3.2. of SSER No. 2 and Paragraph 2.C.(3).g of the Operating License require the licensee to implement various features designed to

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permit the plant to withstand degraded offsite voltage conditions. Implementation is required prior to startup following the first refueling outage. Pages S3-222-45 and 45a of Amendment 61 to the FSAR, dated 12-16-77, briefly describe the design of the planned changes.

The Power Systems Branch (DSS) will retain primary review responsibility of this matter. The assigned reviewer is Frank Ashe. Management responsibility will be assumed by Operating Reactors Branch No. 4.

4. Environmental Temperature Monitoring System

Section 7.8.2 of SSER No. 2, and Paragraph 2.C.(3).h of the Operating License require that, prior to startup following the first refueling outage, Met Ed install an acceptable temperature monitoring system to assure that the environment at the location of Class IE equipment in buildings outside containment is maintained within the temperature range for which the equipment is designed to operate. The planned system is briefly described on pages S3-222-47 and 47a of Amendment 61 to the FSAR, dated 12-16-77.

The Power Systems Branch (DSS) will retain primary review responsibility for this matter. The assigned reviewer is Frank Ashe. Management responsibility will be assumed by Operating Reactors Branch No. 4.

5. Secondary Systems Line Breaks

Section 15.2.2 of SSER No. 2 and Paragraph 2.C.(3).i of the operating license require submittal of analyses and modification of the main Steam and feedwater systems to conform with the staff position regarding equipment to be used to mitigate the consequences of a secondary system line break.

The conceptual design is described in Met Ed's letter of November 23, 1977, which also includes their action plan and schedule for completion of this effort. Implementation is scheduled during the first refueling outage. Some items of the schedule may be subject to change due to delays incurred in starting up the plant.

The Reactor Systems Branch will retain primary review responsibility for this matter. The assigned reviewer is James Watt. Management responsibility will be assumed by Operating Reactors Branch No. 4.

Has this been approved
when do we need to
is it
of course

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what is solution for submittal? How to handle the license?

6. Response Time Testing Program

Section 7.6.4 of the SER and Paragraph 2.C.(3).j of the operating license require submittal of a response time test program for the RPS and ESF systems, including sensors, prior to implementation during the first refueling outage.

The Power Systems Branch (DSS) will retain primary review responsibility for this matter. The assigned reviewer is Frank Ashe. Management responsibility will be assumed by Operating Reactors Branch No. 4.

7. RCS Overpressure Protection System

Section 5.2.2 of SSER No. 2 and Paragraph 2.C.(3).k of the Operating License require submittal of analyses and implementation of modifications to the RCS Overpressure Protection System meeting the criteria defined in the SSER. Implementation is required prior to startup following the first refueling outage.

The Reactor Systems Branch (DSS) will retain primary review responsibility for this matter. The assigned reviewer is James Watt. Management responsibility will be assumed by Operating Reactors Branch No. 4.

8. Fire Protection

Section 9.5 of SSER No. 2 and Paragraph 2.C.(3).l of the operating license require submittal of information and completion of modifications to improve the capability of the plant fire protection systems. Information required in the License by May 1, 1978 has been received but not yet reviewed. Information required after that date has not yet been received. Implementation of items in Paragraph 2.C.(3).l is required by startup following the first refueling shutdown.

The Division of Operating Reactors will retain primary review responsibility for these matters. Management responsibility will be assumed by Operating Reactors Branch No. 4.

9. ISI For Commercial Operation

Our letter of April 21, 1978 granted the licensee relief from the requirements of Section XI of the ASME Code for pump and valve testing for the period up to the start of commercial operation, and required performance of pump and valve testing for that period to be in accordance with the licensee's letter of January 3, 1978 and attachments thereto, with minor changes.

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Our April 21, 1978 letter further required submittal by the licensee of its proposed inservice inspection and pump and valve test programs for the period of commercial operation, including any request for relief pursuant to 10 CFR 50.55a(g)(6)(i). Met Ed's letter of July 18, 1978 transmitted its Inservice Inspection submittal in accordance with these requirements.

The Mechanical Engineering and Materials Engineering Branches (DSS) will retain review responsibility for this matter. The assigned reviewers are Dick Kiessel and Dave Sellars. (Mechanical Branch has recently noted that their planned effort for the next six months does not include review of this material.) Management responsibility will be carried out by Operating Reactors Branch No. 4. *Tom, Locking, ...*

10. Additional Environmental Qualification Information *Veronica -*

Our letter of May 8, 1978 required certain additional information to more completely document the analysis assuring that components inside containment will retain their functional capability in the steam line break environment. The licensee has indicated they will transmit the requested information prior to October 31, 1978.

The Containment Systems Branch (DSS) will retain primary review responsibility for this matter. The assigned reviewer is Farouk Eltawila. Management responsibility will be assumed by Operating Reactors Branch No. 4.

11. Small Break LOCA

On April 12, 1978, B&W informed NRC that in the event of a small break LOCA on the discharge side of a reactor coolant pump, HPI flow to the core could be reduced and in such a case the calculated peak clad temperature could exceed 2200°F. B&W prepared a summary entitled "Analysis of Small Breaks in the Reactor Coolant Pump Discharge Piping for the B&W Lowered-Loop 177 FA Plants," dated May 1, 1978 (the B&W Summary) which includes operator action to mitigate the postulated accident. By letter of May 5, 1978 (supplemented by letter of May 11), Met Ed submitted the B&W Summary for TMI-2 as justification for operation up to 2568 MW, and promised future analysis up to 2772 MW by June 1, 1978. Met Ed further committed to submit a proposal for a permanent solution to the question of operator action by August 5, 1978. By agreement, DCR evaluated the Met Ed submittal and concluded that although full compliance with 10 CFR Part 50.46 could not be determined, a very substantial margin exists on peak clad temperature below the limits of 10 CFR Part 50.46. It was further concluded that operating up to 2568 MW in accordance with appropriate

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operating procedures will ensure that the ECCS will conform to the performance criteria of 10 CFR Part 50.46, and that the peak clad temperature margins provides reasonable assurance that such operation will not endanger life or property of the common defense and security.

Accordingly, DPM issued an order for Modification of License on May 26, 1978 requiring operation in accordance with defined procedures at power levels not exceeding 2568 MW, and required a reevaluation wholly in conformance with 10 CFR Part 50.46.

On July 24, 1978, Met Ed submitted with separate cover letters both their proposed permanent solution (applicable to both Units 1 and 2) and their analysis for operation in accordance with procedures covered by the Order up to 2772 MW full power.

DOR retains the responsibility for review of the July 24 material and any subsequent information on the small break LOCA. For operational reasons, review of the full-power analysis is required as soon as possible to permit issuance of any required additional Order by the end of September. Management responsibility for issuance of such order will be retained by DPM, unless transfer of overall project management responsibility occurs before issuance of that order, in which case management responsibility for the order will revert to DOR. Subsequent management responsibility for this entire matter will be carried out by Operating Reactors Branch No. 4, as will all responsibility for the "permanent solution."

12. Containment Purge Valves

Our letter of August 4, 1978 required additional information to more completely document the operability of the containment purge valves in the event they are open at the time of a postulated LOCA. Met Ed's letter of August 14, 1978 committed to providing responses by October 14, 1978.

The Mechanical Engineering Branch (DSS) will retain primary review responsibility for this matter. The assigned reviewer is Dick Kiessel. Management responsibility will be assumed by Operating Reactors Branch No. 4.

13. Remanded Hearings

The issues of radon from mill tailings and aircraft crash into the plant are still before the ASLB and ASLAB respectively.

DSS, DSE, and DPM will retain responsibility for all required testimony on these matters. Management responsibility will be carried out by DPM.

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14. Auxiliary Transformer

In LER 78-35/IT dated May 9, 1978, Met Ed identified a potential problem involving the auxiliary transformers at TMI-2.

If one of the auxiliary transformers were to fail, all station loads would be automatically transferred to the remaining transformer. With the offsite grid voltage at the lower end of its normal operating range, if the full unit load was carried by a single Auxiliary Transformer, losses in the system would produce voltage levels low enough to blow control fuses on ES components if these components were called on to start (as, for example, in the event that a LOCA would occur).

At that time, Met Ed proposed several possible solutions to the problem, including a long term solution (i.e. selective Balance of Plant (BOP) load shedding).

Met Ed provided additional information with their letter of May 30, 1978 regarding both short term and long term fixes.

-- On August 29, 1978, we met with the licensee to discuss this situation. The staff expressed concern over conformance of the long term fix with GDC-17. ~~The~~ Met Ed submitted with their letter of August 31, 1978 their Auxiliary Transformer Report further discussing the problem. Review of this report and preparation of a staff position is expected during the week of 9-18-78 (DOR Concurrence was requested during the previous week) so that any required order could be issued prior to exceeding 40% power by the end of September.

The Power Systems Branch (DSS) will retain primary review responsibility for this matter. The assigned reviewer is Frank Ashe. Management responsibility up to and including issuance of any required order will be retained by DPM, unless transfer of the overall project management responsibility occurs before issuance of the order, in which case management responsibility for the order will revert to DOR. Subsequent management responsibility will be carried out by Operating Reactors Branch No. 4.

*Problem will be reviewed
prior to final.*

Red Bow

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NOTICES

July 23, 1979

[7553-01-M]

[7590-01-M]

INTEGRATED BASIC RESEARCH ADVISORY SUBCOMMITTEE OF THE ADVISORY COMMITTEE FOR APPLIED SCIENCE AND RESEARCH APPLICATIONS POLICY

Meeting

In accordance with the Federal Advisory Committee Act, Pub. L. 92-463, as amended, the National Science Foundation announces the following meeting:

Name: Integrated Basic Research (IBR) Advisory Subcommittee of the Advisory Committee for Applied Science and Research Applications Policy.

Date: April 17, 1979 9:00 am - April 18, 1979 9:30 am.

Place: National Science Foundation, 1300 G St., N.W., Room 340, Washington, D.C.

Type of meeting: Open.

Contact person: Ms. Selga-Viertel, Executive Secretary, Division of Integrated Basic Research, Room 1149, National Science Foundation, Washington, D.C. 20550, (202) 532-4032.

Summary of minutes: May be obtained from the Committee Management Coordinator, Division of Financial and Administrative Management, Room 248, National Science Foundation, Washington, D.C. 20550.

Purpose of meeting: To provide advice and recommendations on (a) program content and operations of the Division of Integrated Basic Research, Applied Sciences and Research Applications Directorate and (b) concepts to conduct interdisciplinary research programs.

Agenda: TUESDAY, APRIL 17, 1979

- 9:00 am Welcome.
9:30 am Status report.
10:15 am Discussion of concept options.
12:15 pm Lunch.
1:30 pm Subcommittee working session.
3:15 pm University/Industry research concept.
4:15 pm IBR support of topic areas.
5:15 pm Adjourn.

WEDNESDAY, APRIL 18, 1979

- 8:30 am Individual task group meetings.
9:45 am Report on topic areas.
10:30 am Development of program evaluation plans.
11:00 am Presentation of subcommittee report.
12:30 pm Adjourn.

Date: March 28, 1979.

M. REBECCA WYKEL, Committee Management Coordinator.

(FR Doc. 79-9708 Filed 3-23-79; 2:16 am)

NUCLEAR REGULATORY COMMISSION

(Docket No. 50-368)

ARKANSAS POWER & LIGHT CO., ARKANSAS NUCLEAR ONE, UNIT 2

Issuance of Amendment to Facility Operating License

The U.S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 9 to Facility Operating License No. NPF-6 to Arkansas Power and Light Company for operation of Arkansas Nuclear One, Unit 2 (the facility) located at the licensee's site in Pope County, Arkansas. The amended license is effective as of its date of issuance.

The amendment changes the Technical Specification 3.5.1.4 by reducing the minimum initial containment temperature and pressure to 50 degrees Fahrenheit and a negative 3.0 pounds per square inch gauge, respectively. This change allows greater flexibility in plant operations and is consistent with the Commission's conclusions regarding containment integrity, stated in Supplement No. 2 to the Safety Evaluation Report. Also, the steam generator low water level trip setpoint specified in Technical Specification Tables 2.3-1 and Table 3.3.4 is changed to a value of greater than or equal to 46.5 percent. The setpoint change is based on replacing the original instrument transmitters with new transmitters which have greater accuracy in measuring the low water level in the steam generators.

The Commission has made appropriate findings as required by the Atomic Energy Act of 1954, as amended (the Act), and the Commission's regulations in 10 CFR Chapter I, which are set forth in the amended license. We have concluded that because the amendment does not involve a significant increase in the probability or consequences of accidents previously considered and does not involve a significant decrease in a safety margin, the amendment does not involve a significant hazards consideration. The application for the amendment complies with the standards and requirements of the Act and the Commission's regulations.

The Commission has determined that the issuance of this amendment will not result in any significant environmental impact and that pursuant to 10 CFR Section 51.5(d)(4) an environmental impact statement, or negative declaration and environmental impact appraisal need not be prepared in connection with issuance of this amendment.

For further details with respect to this action, see (1) the application for amendment dated December 10, 1978,

Amendment by letters dated December 20, 1978, January 3, 1979, January 9, 1979 and February 2, 1979; (2) Amendment No. 9 to License NPF-6 and (3) the Commission's related Safety Evaluation Report supporting Amendment No. 9 to License NPF-6.

These items are available for public inspection at the Commission's Public Document Room at 1717 H Street, N.W., Washington, D.C. 20555 and at Arkansas Polytechnic College, Russellville, Arkansas 72801. A copy of item (2) and (3) may be obtained upon request addressed to the U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Director, Division of Project Management, Office of Nuclear Reactor Regulation.

Dated at Bethesda, Maryland the 19th day of March 1979.

JOHN F. STOLL, Chief, Light Water Reactors Branch, Division of Project Management.

(FR Doc. 79-9711 Filed 3-23-79; 2:45 am)

[7590-01-M]

(Docket Nos. 50-235; 50-304)

COMMONWEALTH Edison CO. (CON STATION, UNITS 1 AND 2)

Hearing on Amendment of Facility Operating License

On May 7, 1978, the U.S. Nuclear Regulatory Commission (the Commission) issued a notice of "Proposed Issuance of Amendment to Facility Operating License" relating to the above identified facility (43 FR 30933, July 13, 1978). The proposed amendment would permit an increase in the storage capacity of the spent fuel pool at the Con Station.

The State of Illinois filed a petition to intervene and requested a hearing in response to the referenced notice. By its Order Following Prehearing Conference, dated January 19, 1979, the Licensing Board granted the petition to intervene. Therefore, we are hereby issuing a Notice of Hearing in connection with the proposed amendment.

PLEASE TAKE NOTICE that a hearing on the proposed license amendments will be held at a time and place to be fixed by the Atomic Safety and Licensing Board. The members of the Board designated by the Commission to conduct the aforementioned hearing are Dr. Isaac W. Little, Dr. Forrest J. Reiman, and Mr. Edwin Luton.

Members of the public may request permission to make a limited appearance pursuant to 101.13(a) of the Commission's Rules of Practice, 10 CFR Part 2. Persons desiring to make limited appearances are requested to inform the Secretary of the Comm.

not, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555. A person making a limited appearance is not become a party but may state position on the issues and may raise relevant questions which he claims to have answered by the particular limited appearance will be resolved at the time of the evidentiary hearing at the discretion of the Board within such limits and on such conditions as may be directed by the Board.

It is so ordered.

For the Atomic Safety and Licensing Board
 Dated at Bethesda, Maryland this 13th day of March 1979.

Edward Luton,
 Chairman

CFR Doc 79-9712 Filed 3-29-79; 2:45 am

[7590-07-M]

(Docket Nos. 50-235 and 50-304)

COMMONWEALTH EDISON CO.

Issuance of Amendments to Facility Operating License

The U.S. Nuclear Regulatory Commission (the Commission) has issued Amendment Nos. 46 and 43 to Facility Operating License Nos. DPR-39 and DPR-43 issued to Commonwealth Edison Company (the licensee) which revised Technical Specifications for operation of the Zion Station, Unit 1 and 2, located in Zion, Illinois. The amendments are effective as of the date of issuance.

These amendments require operability and surveillance of shock suppressors (snubbers) used to protect the reactor coolant system and other safety related systems and components.

The applications for these amendments comply with the Standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations. The Commission has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR Chapter I, which are set forth in the license amendments. Prior public notice of these amendments was not required since the amendments do not involve a significant hazards consideration.

The Commission has determined that the issuance of these amendments will not result in any significant environmental impact and that pursuant to 10 CFR 51.50(x4) an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with issuance of these amendments.

For further details with respect to this action, see (1) the application for amendments dated January 10, 1978 as

modified on July 14 and December 9, 1977 and April 27, August 1 and 24, 1978; (2) Amendment Nos. 46 and 43 to License Nos. DPR-39 and DPR-43, and (3) The Commission's related Safety Evaluation. All of these items are available for public inspection at the Commission's Public Document Room, 1717 H Street, N.W., Washington, D.C. 20555 and at the Zion-Benton Public Library District, 2500 Summers Avenue, Zion, Illinois 60099. A copy of items (2) and (3) may be obtained upon request addressed to the U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Director, Division of Operating Reactors.

Dated at Bethesda, Maryland, this 17th day of March, 1979.

For the Nuclear Regulatory Commission,

A. Schwinger,
 Chief, Operating Reactors
 Branch No. 1, Division of Operating Reactors

CFR Doc 79-9713 Filed 3-29-79; 2:45 am

[7590-01-M]

(Docket No. 50-347)

CONSOLIDATED EDISON CO., OF NEW YORK, INC.

Issuance of Amendment To Facility Operating License

The U.S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 31 to Facility Operating License No. DPR-25, issued to Consolidated Edison Company of New York, Inc. (the licensee), which revised Technical Specifications for operation of the Indian Point Nuclear Generating Unit No. 2 (the facility) located in Buchanan, Westchester County, New York. The amendment is effective as of the date of issuance.

The amendment revises the Technical Specifications concerning an error in the allowable pressurizer heatup rate, definitions of hot shutdown, quadrant power tilt ratio, and surveillance intervals, steam generator tube in-service inspection reports, outage times for the boric acid transfer and storage system, in-service inspections and testing (IST/IST) requirements separately covered by the EP-3 In-service Inspection and Testing Program, station battery load test intervals, and a number of editorial matters.

The application for the amendment complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations. The Commission has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR Chapter I, which are set forth in the license amendment.

Prior public notice of this amendment was not required since the amendment does not involve a significant hazards consideration.

The Commission has determined that the issuance of this amendment will not result in any significant environmental impact and that pursuant to 10 CFR 51.50(x4) an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with issuance of this amendment.

For further details with respect to this action, see (1) the applications for amendment dated November 2, 1977 and January 5, 1978; (2) Amendment No. 31 to License No. DPR-25; and (3) the Commission's related Safety Evaluation. All of these items are available for public inspection at the Commission's Public Document Room, 1717 H Street, N.W., Washington, D.C. and at the White Plains Public Library, 100 Marine Avenue, White Plains, New York. A copy of items (2) and (3) may be obtained upon request addressed to the U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Director, Division of Operating Reactors.

Dated at Bethesda, Maryland this 19th day of March, 1979.

For the Nuclear Regulatory Commission,

A. Schwinger,
 Chief, Operating Reactors
 Branch No. 1, Division of Operating Reactors

CFR Doc 79-9714 Filed 3-29-79; 2:45 am

[7590-01-M]

(Docket No. 50-229)

METROPOLITAN EDISON CO. ET AL; THREE MILE ISLAND NUCLEAR STATION UNIT NO. 1

Modification of Conditions of Exemption

Metropolitan Edison Company, Jersey Central Power and Light Company, and the Pennsylvania Electric Company (Met Ed or the licensee), are the holders of Facility Operating License No. DPR-53 which authorizes the operation of the nuclear power reactor known as Three Mile Island Nuclear Station, Unit No. 1 (TMI-1 or the facility), at steady reactor power levels not in excess of 3535 megawatts thermal (net power). The facility consists of a Babcock & Wilcox (B&W) designed pressurized water reactor (PWR) located at the licensee's site in Dauphin County, Pennsylvania.

On April 27, 1978, the Commission granted the licensees of TMI-1 an exemption from the requirements of 10 CFR 50.46(a) that Emergency Core Cooling System (ECCS) performance be calculated in accordance with an acceptable calculational model which conforms to the provisions in Appendix K. This Exemption added license conditions requiring limitation of operating power level, adherence to certain operating procedures, and submission of additional analyses of ECCS performance.

Following submission of additional information by the licensees and review by the staff, the previously proposed license conditions were amended by Modification of Conditions of Exemption dated May 19, 1978. The license conditions as modified would: (1) require submission of a reevaluation of ECCS modeling performance wholly in accordance with 10 CFR 50.46, except for the credit for completion of operator action within 10 minutes after initiation of the event; (2) limit the maximum steady state reactor core power level to 2835 MWt and (3) require operation in accordance with procedures described in the licensee's letters of April 27, 1978, as supplemented by letter dated May 23, 1978 (except that the maximum time for completion of operator action was 10 minutes).

Since that time, B&W has provided in their letter of August 11, 1978 additional information concerning the simplified input used in the FOAM code portion of the ECCS performance analyses submitted May 3, 1978. The staff has reviewed this additional information and on the basis of this review has concluded that the small break LOCA analyses which used this simplified FOAM code input method are acceptably conservative and in conformance with the performance criteria of 10 CFR 50.46 and Appendix K to Part 50. As noted previously, however, these analyses assume completion of the local operator action as described in Met Ed's letters of April 27 and May 3, 1978, within 10 minutes following the initiation of the event.

The original concern in this matter derives from an unexpected but nevertheless inadequate assessment of a spectrum of break. This deviation from 10 CFR 50.46 has been ameliorated on a temporary basis by the actions discussed herein. However, continued reliance on prompt operator action to perform the required steps to assure plant safety over a period of years into the future is undesirable and should be remedied as promptly as possible. To this extent, the original defect still remains until modifications are made to eliminate the reliance on prompt operator actions. To remedy this

defect Met Ed submitted on July 24, 1978, a description of a proposed plant modification which would eliminate reliance on the prompt operator action noted above. Following discussion of the proposed modification with the staff, an improved alternate modification was proposed by Met Ed's letter of November 21, 1978. In the letter of November 21, 1978, Met Ed committed to complete implementation of this proposed modification at TMI-1 prior to operation following the 1980 refueling outage. Additional information on possible implementation schedules was provided in Met Ed's letter of December 29, 1978. Met Ed, by letter dated February 21, 1979, requested an extension of the exemption from the provisions of 10 CFR 50.46 until such modifications were implemented.

With respect to this request for an extension, we note that the conditions drawn in our Modification of Conditions of Exemption of May 19, 1978 remain valid and have been further supported by our subsequent conclusions regarding the acceptability of the simplified input used in the FOAM code. Accordingly, we conclude that operation of TMI-1 at power levels up to 2835 MWt in accordance with the referenced procedures for operator action until modifications are completed to achieve full compliance with 10 CFR 50.46 will not endanger life or property or the common defense and security.

We have reviewed the modification proposed by Met Ed to eliminate reliance on prompt operator action. This modification is designed to mitigate a small break LOCA, assuming a loss of off-site power and the failure of one engineered safeguard electrical bus, without requiring any operator action. The leg "A" EPI line will be connected to the "C" EPI line, and the "B" leg EPI line will be connected to the "D" EPI line. These cross connect lines will assure delivery to the RCS of the minimum required ECCS flow assuming the limiting single failure occurs simultaneously with a LOCA. Met Ed has also committed to verify the design characteristics of the modified EPI system with cross connect lines installed during preoperational testing using both permanently and temporarily installed flow instrumentation.

Therefore, based on our review of Met Ed's submittal we conclude that upon installation of the modifications, as proposed, and upon completion of testing to verify attainment of the flow split assumed in Met Ed's submittal of May 3, 1978, the ECCS will fully conform to the requirements of 10 CFR 50.46.

Thus, while the ECCS for TMI-1 does not fully comply with our requirements, appropriate actions have

been taken to remedy the defect in a timely manner and to mitigate the consequences of a small break LOCA, should such an accident occur prior to implementation of acceptable modifications. As a condition of continuing this exemption, adherence to prescribed operator actions and implementation of the proposed modifications at an appropriate outage during Cycle 5 or prior to operation in Cycle 6 are being made conditions of the facility operating license.

These conditions will remain in force only for the interval until the proposed modifications of the ECCS are completed. The public interest is served by issuing this exemption for TMI-1 in that in the absence of an exemption, shutdown of the facility would be required. Loss of this large block of generating capacity would adversely affect electric system reliability and thus possibly adversely affect the public interest.

Copies of the following documents are available for inspection at the Commission's Public Document Room at 1717 E Street, Washington, D.C. 20545, and are being placed in the Commission's local public document room at the State Library of Pennsylvania, Harrisburg, Pennsylvania:

- (1) the application for exemption dated February 20, 1979;
- (2) supplementary information contained in letter from J. G. Harbin (Met Ed) to R. W. Reid (NRC), dated May 3, July 24, November 21 and December 29, 1978;
- (3) letter from J. E. Taylor to S. A. Varga (NRC), dated August 11, 1978;
- (4) Modification of Conditions of Exemption in the matter of Metropolitan Edison Company, Jersey Central Power and Light Company, and Pennsylvania Electric Company, Three Mile Island Nuclear Station, Unit No. 1, dated May 19, 1978; and
- (5) this Exemption in the matter of Metropolitan Edison Company, Jersey Central Power and Light Company, and Pennsylvania Electric Company, Three Mile Island Nuclear Station, Unit No. 1.

17.

Therefore, in accordance with the Commission's regulations as set forth in 10 CFR Part 50, the conditions of the exemption from the requirements of 10 CFR 50.46(a) granted the licensees on April 27, 1978, as amended by Modification of Conditions of Exemption dated May 19, 1978, are further amended so that effective this date the exemption is conditioned as follows:

- (1) until implementation of the modifications listed in (2) below the facility shall be operated in accord-

With the procedures for operator training described in Mr. East's letter of April 27, 1978, as supplemented by the letter dated May 3, 1978, and the authorization to operate the facility in the absence of implementation of the modifications to eliminate reliance on prompt operator action, as authorized in the licensee's letter of November 21, 1978 is limited to the earlier of the following:

- (a) completion of operating Cycle 5; or
- (b) at such time after September 1, 1979 when it is determined on the basis of realistic estimates that an existing or projected reactor outage will last at least 30 days.

For The Nuclear Regulatory Commission.

Dated at Bethesda, Maryland, this 16th day of March 1979.

Victor Strillo, Jr.,
Director, Division of Operating Reactors, Office of Nuclear Reactor Regulation.

(FR Doc. 79-9713 Filed 3-29-79; 9:45 am)

[7590-01-M]

APPLICATIONS FOR LICENSES TO EXPORT NUCLEAR FACILITIES OR MATERIALS
Pursuant to 10 CFR 110.40, "Public Notice of Receipt of an Application."

Please take notice that the Nuclear Regulatory Commission has received the following applications for export licenses. A copy of each application is on file in the Nuclear Commission's Public Document Room located at 1717 H Street, N.W., Washington, D.C.

Dated this day March 22, 1979 at Bethesda, Maryland.

For The Nuclear Regulatory Commission.

Gerald C. Cylindger,
Assistant Director, Export/Import and International Programs, Office of International Programs.

Name of applicant, date of application, date received, application number	Material type	Material in kilograms		End-use	Country of destination
		Total element	Total isotope		
Embassy of Spain, 02/12/79, 02/13/ 79, ENMCO1477, ENMCO1477.	Enriched Uranium	50	10	Fuel for JEN-1 Reactor	Spain
Nuclear Corp., 03/08/79, 03/15/ 79, ENMCO1477.	22046 lbs. heavy water			Used as moderator in Purex Heavy Water Reactor.	Japan

CFR Doc. 79-9719 Filed 3-29-79; 9:45 am

[7590-01-M]

(Dockets Nos. 50-289, 50-270 and 50-287)

DUKE POWER CO.

Issuance of Amendments to Facility Operating Licenses

The U.S. Nuclear Regulatory Commission (the Commission) has issued Amendments Nos. 71, 71, and 68 to Facility Operating Licenses Nos. DPR-38, DPR-47 and DPR-35, respectively, issued to Duke Power Company for operation of the Oconee Nuclear Station, Units Nos. 1, 2 and 3, located in Oconee County, South Carolina. The amendments are effective as of the date of issuance.

These amendments revise the Technical Specifications to incorporate changes to the Oconee Unit No. 1 pressurization, heatup and cooldown limitations.

The application for the amendments complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations. The Commission has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR Chapter I, which are set forth in the license amendments.

Prior public notice of these amendments was not required since the amendments do not involve a significant hazards consideration.

The Commission has determined that the issuance of these amendments will not result in any significant environmental impact and that pursuant to 10 CFR 51.5(d)(4) an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of these amendments.

For further details with respect to this action, see (1) the application for amendments dated February 21, 1978, (2) Amendments Nos. 71, 71, and 68 to Licenses Nos. DPR-38, DPR-47 and DPR-35, respectively, and (3) the Commission's related Safety Evaluation. All of these items are available for public inspection at the Commission's Public Document Room, 1717 H Street, N.W., Washington, D.C. and at the Oconee County Library, 201 South Spring Street, Walhalla, South Carolina. A copy of items (2) and (3) may be obtained upon request addressed to the U.S. Nuclear Regulatory Commission, Washington, D.C. 20555. Attention: Director, Division of Operating Reactors.

Dated at Bethesda, Maryland, this 19th day of March 1979.

For the Nuclear Regulatory Commission.

Robert W. Rinn,
Chief, Operating Reactors Branch No. 4, Division of Operating Reactors.

CFR Doc. 79-9715 Filed 3-29-79; 9:45 am

[7590-01-M]

(Docket Nos. 50-250 and 50-251)

FLORIDA POWER AND LIGHT CO.

Issuance of Amendments to Facility Operating Licenses

The U.S. Nuclear Regulatory Commission (the Commission) has issued Amendment Nos. 45 and 37 to Facility Operating License Nos. DPR-31 and DPR-41, respectively, issued to Florida Power and Light Company which amended the licenses for operation of the Turkey Point Nuclear Generating Unit Nos. 3 and 4, located in Dade County, Florida. The amendments are effective as of the date of issuance.

The amendments add license conditions relating to the completion of facility modifications and the implementation of administrative controls resulting from our review of the Turkey Point fire protection program.

The application for the amendments complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations. The Commission has made appropriate findings as required by the Act and the Commission's rules and regula-

UNITED STATES
NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT
WASHINGTON, DC 20555

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Aug. 23, 1979
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APRIL 5, 1979

IE Bulletin 79-05A

NUCLEAR INCIDENT AT THREE MILE ISLAND - SUPPLEMENT

POOR ORIGINAL

Description of Circumstances:

Preliminary information received by the NRC since issuance of IE Bulletin 79-05 on April 1, 1979 has identified six potential human, design and mechanical failures which resulted in the core damage and radiation releases at the Three Mile Island Unit 2 nuclear plant. The information and actions in this supplement clarify and extend the original Bulletin and transmit a preliminary chronology of the TMI accident through the first 16 hours (Enclosure 1).

1. At the time of the initiating event, loss of feedwater, both of the auxiliary feedwater trains were valved out of service.
2. The pressurizer electromatic relief valve, which opened during the initial pressure surge, failed to close when the pressure decreased below the actuation level.
3. Following rapid depressurization of the pressurizer, the pressurizer level indication may have led to erroneous inferences of high level in the reactor coolant system. The pressurizer level indication apparently led the operators to prematurely terminate high pressure injection flow, even though substantial voids existed in the reactor coolant system.
4. Because the containment does not isolate on high pressure injection (HPI) initiation, the highly radioactive water from the relief valve discharge was pumped out of the containment by the automatic initiation of a transfer pump. This water entered the radioactive waste treatment system in the auxiliary building where some of it overflowed to the floor. Outgassing from this water and discharge through the auxiliary building ventilation system and filters was the principal source of the offsite release of radioactive noble gases.
5. Subsequently, the high pressure injection system was intermittently operated attempting to control primary coolant inventory losses through the electromatic relief valve, apparently based on pressurizer level indication. Due to the presence of steam and/or noncondensable voids elsewhere in the reactor coolant system, this led to a further reduction in primary coolant inventory.

6. Tripping of reactor coolant pumps during the course of the transient, to protect against pump damage due to pump vibration, led to fuel damage since voids in the reactor coolant system prevented natural circulation.

Actions To Be Taken by Licensees:

For all Babcock and Wilcox pressurized water reactor facilities with an operating license (the actions specified below replace those specified in IE Bulletin 79-05):

1. (This item clarifies and expands upon item 1. of IE Bulletin 79-05.)

In addition to the review of circumstances described in Enclosure 1 of IE Bulletin 79-05, review the enclosed preliminary chronology of the TMI-2 3/28/79 accident. This review should be directed toward understanding the sequence of events to ensure against such an accident at your facility(ies).

2. (This item clarifies and expands upon item 2. of IE Bulletin 79-05.)

Review any transients similar to the Davis Besse event (Enclosure 2 of IE Bulletin 79-05) and any others which contain similar elements from the enclosed chronology (Enclosure 1) which have occurred at your facility(ies). If any significant deviations from expected performance are identified in your review, provide details and an analysis of the safety significance together with a description of any corrective actions taken. Reference may be made to previous information provided to the NRC, if appropriate, in responding to this item.

3. (This item clarifies item 3. of IE Bulletin 79-05.)

Review the actions required by your operating procedures for coping with transients and accidents, with particular attention to:

- a. Recognition of the possibility of forming voids in the primary coolant system large enough to compromise the core cooling capability, especially natural circulation capability.
- b. Operator action required to prevent the formation of such voids.
- c. Operator action required to enhance core cooling in the event such voids are formed.

4. (This item clarifies and expands upon item 4. of IE Bulletin 79-05.)

Review the actions directed by the operating procedures and training instructions to ensure that:

- a. Operators do not override automatic actions of engineered safety features.
- b. Operating procedures currently, or are revised to, specify that if the high pressure injection (HPI) system has been automatically actuated because of low pressure condition, it must remain in operation until either:
 - (1) Both low pressure injection (LPI) pumps are in operation and flowing at a rate in excess of 1000 gpm each and the situation has been stable for 20 minutes, or
 - (2) The HPI system has been in operation for 20 minutes, and all hot and cold leg temperatures are at least 50 degrees below the saturation temperature for the existing RCS pressure. If 50 degree subcooling cannot be maintained after HPI cutoff, the HPI shall be reactivated.
- c. Operating procedures currently, or are revised to, specify that in the event of HPI initiation, with reactor coolant pumps (RCP) operating, at least one RCP per loop shall remain operating.
- d. Operators are provided additional information and instructions to not rely upon pressurizer level indication alone, but to also examine pressurizer pressure and other plant parameter indications in evaluating plant conditions, e.g., water inventory in the reactor primary system.

5. (This item revises item 5. of IE Bulletin 79-05.)

Verify that emergency feedwater valves are in the open position in accordance with item 8 below. Also, review all safety-related valve positions and positioning requirements to assure that valves are positioned (open or closed) in a manner to ensure the proper operation of engineered safety features. Also review related procedures, such as those for maintenance and testing, to ensure that such valves are returned to their correct positions following necessary manipulations.

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POOR ORIGINAL

6. Review the containment isolation initiation design and procedures, and prepare and implement all changes necessary to cause containment isolation of all lines whose isolation does not degrade core cooling capability upon automatic initiation of safety injection.
7. For manual valves or manually-operated motor-driven valves which could defeat or compromise the flow of auxiliary feedwater to the steam generators, prepare and implement procedures which:
 - a. require that such valves be locked in their correct position;
or
 - b. require other similar positive position controls.
8. Prepare and implement immediately procedures which assure that two independent steam generator auxiliary feedwater flow paths, each with 100% flow capacity, are operable at any time when heat removal from the primary system is through the steam generators. When two independent 100% capacity flow paths are not available, the capacity shall be restored within 72 hours or the plant shall be placed in a cooling mode which does not rely on steam generators for cooling within the next 12 hours.

When at least one 100% capacity flow path is not available, the reactor shall be made subcritical within one hour and the facility placed in a shutdown cooling mode which does not rely on steam generators for cooling within 12 hours or at the maximum safe shutdown rate.

9. (This item revises item 6 of IE Bulletin 79-05.)

Review your operating modes and procedures for all systems designed to transfer potentially radioactive gases and liquids out of the primary containment to assure that undesired pumping of radioactive liquids and gases will not occur inadvertently.

In particular, ensure that such an occurrence would not be caused by the resetting of engineered safety features instrumentation. List all such systems and indicate:

- a. Whether interlocks exist to prevent transfer when high radiation indication exists, and
- b. Whether such systems are isolated by the containment isolation signal.

10. Review and modify as necessary your maintenance and test procedures to ensure that they require:
 - a. Verification, by inspection, of the operability of redundant safety-related systems prior to the removal of any safety-related system from service.
 - b. Verification of the operability of all safety-related systems when they are returned to service following maintenance or testing.
 - c. A means of notifying involved reactor operating personnel whenever a safety-related system is removed from and returned to service.
11. All operating and maintenance personnel should be made aware of the extreme seriousness and consequences of the simultaneous blocking of both auxiliary feedwater trains at the Three Mile Island Unit 2 plant and other actions taken during the early phases of the accident.
12. Review your prompt reporting procedures for NRC notification to assure very early notification of serious events.

For Babcock and Wilcox pressurized water reactor facilities with an operating license, respond to Items 1, 2, 3, 4.a and 5 by April 11, 1979. Since these items are substantially the same as those specified in IE Bulletin 79-05, the required date for response has not been changed. Respond to Items 4.b through 4.d, and 6 through 12 by April 16, 1979.

Reports should be submitted to the Director of the appropriate NRC Regional Office and a copy should be forwarded to the NRC Office of Inspection and Enforcement, Division of Reactor Operations Inspection, Washington, DC 20555.

For all other reactors with an operating license or construction permit, this Bulletin is for information purposes and no written response is required.

Approved by GAO, B 180225 (R0072); clearance expires 7-31-80. Approval was given under a blanket clearance specifically for identified generic problems.

Enclosures:

1. Preliminary Chronology of TMI-2 3/38/79
Accident Until Core Cooling Restored.
2. List of IE Bulletins issued in last 12 months.

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PRELIMINARY

CHRONOLOGY OF TMI-2 3/28/79 ACCIDENT
UNTIL CORE COOLING RESTORED

TIME (Approximate)	EVENT
about 4 AM (t = 0)	Loss of Condensate Pump Loss of Feedwater Turbine Trip
t = 3-6 sec.	Electromatic relief valve opens (2255 psi) to relieve pressure in RCS
t = 9-12 sec.	Reactor trip on high RCS pressure (2355 psi)
t = 12-15 sec.	RCS pressure decays to 2205 psi (relief valve should have closed)
t = 15 sec.	RCS hot leg temperature peaks at 611 degrees F, 2147 psi (450 psi over saturation)
t = 30 sec.	All three auxiliary feedwater pumps running at pressure (Pumps 2A and 2B started at turbine trip). No flow was injected since discharge valves were closed.
t = 1 min.	Pressurizer level indication begins to rise rapidly
t = 1 min.	Steam Generators A and B secondary level very low - drying out over next couple of minutes.
t = 2 min.	ECCS initiation (HPI) at 1600 psi
t = 4 - 11 min.	Pressurizer level off scale - high - one HPI pump manually tripped at about 4 min. 30 sec. Second pump tripped at about 10 min. 30 sec.
t = 6 min.	RCS flashes as pressure bottoms out at 1350 psig (Hot leg temperature of 584 degrees F)
t = 7 min., 30 sec.	Reactor building sump pump came on.

TIME	EVENT
t = 8 min.	Auxiliary feedwater flow is initiated by opening closed valves
t = 8 min. 18 sec.	Steam Generator B pressure reached minimum
t = 8 min. 21 sec.	Steam Generator A pressure starts to recover
t = 11 min.	Pressurizer level indication comes back on scale and decreases
t = 11-12 min.	Makeup Pump (ECCS HPI flow) restarted by operators
t = 15 min.	RC Drain/Quench Tank rupture disk blows at 190 psig (setpoint 200 psig) due to continued discharge of electromatic relief valve
t = 20 - 60 min.	System parameters stabilized in saturated condition at about 1015 psig and about 550 degrees F.
t = 1 hour, 15 min.	Operator trips RC pumps in Loop B
t = 1 hour, 40 min.	Operator trips RC pumps in Loop A
t = 1-3/4 - 2 hours	CORE BEGINS HEAT UP TRANSIENT - Hot leg temperature begins to rise to 620 degrees F (off scale within 14 minutes) and cold leg temperature drops to 150 degrees F. (HPI water)
t = 2.3 hour	Electromatic relief valve isolated by operator after S.G.-B isolated to prevent leakage
t = 3 hours	RCS pressure increases to 2150 psi and electromatic relief valve opened
t = 3.25 hours	RC drain tank pressure spike of 5 psig
t = 3.8 hours	RC drain tank pressure spike of 11 psi - RCS pressure 1750; containment pressure increases from 1 to 3 psig
t = 5 hours	Peak containment pressure of 4.5 psig
t = 5 - 6 hours	RCS pressure increased from 1250 psi to 2100 psi

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TIME	EVENT
t = 7.5 hours	Operator opens electromatic relief valve to depressurize RCS to attempt initiation of RHR at 400 psi
t = 8 - 9 hours	RCS pressure decreases to about 500 psi Core Flood Tanks partially discharge
t = 10 hour	28 psig containment pressure spike, containment sprays initiated and stopped after 600 gal. of NaOH injected (about 2 minutes of operation)
t = 13.5 hours	Electromatic relief valve closed to repressurize RCS, collapse voids, and start RC pump
t = 13.5 - 16 hours	RCS pressure increased from 650 psi to 2300 psi
t = 16 hours	RC pump in Loop A started, hot leg temperature decreases to 560 degrees F, and cold leg temperature increases to 400 degrees F. indicating flow through steam generator
Thereafter	S/G "A" steaming to condenser Condenser vacuum re-established RCS cooled to about 280 degrees F., 1000 psi
Now (4/4)	High radiation in containment All core thermocouples less than 460 degrees F. Using pressurizer vent valve with small makeup flow Slow cooldown RB pressure negative

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LISTING OF IE BULLETINS
ISSUED IN LAST TWELVE MONTHS

Bulletin No.	Subject	Date Issued	Issued To
78-05	Malfunctioning of Circuit Breaker Auxiliary Contact Mechanism - General Electric Model CR105X	4/14/78	All Power Reactor Facilities with an Operating License (OL) or Construction Permit (CP)
78-06	Defective Cutler- Hammer, Type M Relays With DC Coils	5/31/78	All Power Reactor Facilities with an OL or CP
78-07	Protection afforded by Air-Line Respirators and Supplied-Air Hoods	6/12/78	All Power Reactor Facilities with an OL, all class E and F Research Reactors with an OL, all Fuel Cycle Facilities with an OL, and all Priority I Material Licensees
78-08	Radiation Levels from Fuel Element Transfer Tubes	6/12/78	All Power, Test and Research Reactor Facilities with an OL having Fuel Element Transfer Tubes
78-09	BWR Drywell Leakage Paths Associated with Inadequate Drywell Closures	6/14/78	All BWR Power Reactor Facilities with an OL (for action) or CP (for information)
78-10	Bergen-Paterson Hydraulic Shock Suppressor Accumulator Spring Coils	6/27/78	All BWR Power Reactor Facilities with an OL or CP

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LISTING OF IE BULLETINS
ISSUED IN LAST TWELVE MONTHS (CONTINUED)

Bulletin No.	Subject	Date Issued	Issued To
78-11	Examination of Mark I Containment Torus Welds	7/24/78	BWR Power Reactor Facilities with an OL for action: Peach Bottom 2 and 3, Quad Cities 1 and 2, Hatch 1, Monticello and Vermont Yankee. All other BWR Power Reactor Facilities with an OL for information
78-12	Atypical Weld Material in Reactor Pressure Vessel Welds	9/29/78	All Power Reactor Facilities with an OL or CP
78-12A	Atypical Weld Material in Reactor Pressure Vessel Welds	11/24/78	All Power Reactor Facilities with an OL or CP
78-12B	Atypical Weld Material in Reactor Pressure Vessel Welds	3/19/79	All Power Reactor Facilities with an OL or CP
78-13	Failures In Source Heads of Kay-Ray, Inc., Gauges Models 7050, 7050B, 7051, 7051B, 7060, 7060B, 7061 and 7061B	10/27/78	All General and Specific Licensees with the subject Kay-Ray, Inc. Gauges
78-14	Deterioration of Buna-N Components In ASCO Solenoids	12/19/78	All GE BWR Facilities with an OL (for action), and all other Power Reactor Facilities with an OL or CP (for information)

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LISTING OF IE BULLETINS
ISSUED IN LAST TWELVE MONTHS (CONTINUED)

Bulletin No.	Subject	Date Issued	Issued to
79-01	Environmental Qualification of Class IE Equipment	2/8/79	All Power Reactor Facilities with an OL, except the 11 Systematic Evaluation Program Plants (for action), and all other Power Reactor Facilities with an OL or CP (for information)
79-02	Pipe Support Base Plate Design Using Concrete Expansion Anchor Bolts	3/8/79	All Power Reactor Facilities with an OL or CP
79-03	Longitudinal Weld Defects in ASME SA-312 Type 304 Stainless Steel Pipe Spools Manufactured by Youngstown Welding and Engineering Company	3/12/79	All Power Reactor Facilities with an OL or CP
79-04	Incorrect Weights for Swing Check Valves Manufactured by Velan Engineering Corporation	3/30/79	All Power Reactor Facilities with an OL or CP
79-05	Nuclear Incident at Three Mile Island	4/1/79	All Babcock and Wilcox Power Reactor Facilities with an OL, Except Three Mile Island 1 and 2 (For Action), and All Other Power Reactor Facilities With an OL or CP (For Information)

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CURRENT EVENTS

POWER REACTORS

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Aug. 23, 1979
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UNITED STATES
NUCLEAR
REGULATORY
COMMISSION

THIS COMPILATION OF SELECTED EVENTS IS PREPARED TO DISSEMINATE INFORMATION ON OPERATING EXPERIENCE AT NUCLEAR POWER PLANTS IN A TIMELY MANNER AND AS OF A FIXED DATE. THESE EVENTS ARE SELECTED FROM PUBLIC INFORMATION SOURCES. NRC HAS, OR IS TAKING CONTINUOUS ACTION ON THESE ISSUES AS APPLICABLE, FROM AN INSPECTION AND ENFORCEMENT, LICENSING AND GENERIC REVIEW STANDPOINT.

1 SEPTEMBER - 31 OCTOBER 1977

(PUBLISHED DECEMBER 1977)

POOR ORIGINAL

OPERATOR ERROR

On January 11, 1977 while the Fort Calhoun Station Unit 1 was operating, water from the Refueling Water Storage Tank was pumped into the containment through the containment spray header due to an operator error.

During the performance of a quarterly test of the safety injection and containment spray pumps, the operator noticed an increase in the containment sump level approximately ten minutes after the low pressure safety injection pump had been started. Approximately 3300 gallons of water had been pumped to the containment. About one minute later the ventilation isolation actuation signal was received. At this time the operator realized he had failed to follow the surveillance procedures and had left the discharge valve of the low head safety injection pump open. He immediately secured the pump.

The Reactor Coolant System was checked for leakage and containment entry was made approximately one hour later. Inspection revealed that a discharge from the containment spray nozzles had occurred. A few minutes later power reduction was started. A second containment entry was made about an hour later, after containment air samples confirmed that a full face mask would provide adequate respiratory protection for the levels of radioactivity in the building. A detailed inspection revealed no serious deficiencies and no electrical grounds; the power reduction was terminated at a power level of 83%.

Although the operator had not followed the procedure and the discharge valve was open, the containment spray header isolation valve (HCV-345)

and the low pressure safety injection to containment spray header cross-connect valve (HCV-335) should have prevented the event. The electric/pneumatic converter on HCV-345 had failed and both red and green position indication lights were on, indicating the valve was partially open. Prior to the event the auxiliary Building Equipment Operator had taken local control of the valve in an attempt to completely close the valve. After about 1/2 inch of stem travel, the operator removed the valve pin and the valve went back to its previous position as demanded by the valve positioner. The third valve (HCV-335) in the incident had a leakage problem that had been previously identified but no corrective action had been taken.

The pneumatic relay on valve HCV-345 was replaced and valve HCV-335 repaired. Valve HCV-344 and HCV-345 are now required to be placed in the test mode prior to operating the low pressure safety injection pump or contain spray pump for testing. This mode along with verification of an annunciator will ensure that both of these valves are in the fully closed position prior to pump operation.¹

VALVE MALFUNCTIONS

1. Primary System Depressurization

On September 24, 1977, Davis Besse Nuclear Power Station Unit No. 1 experienced a depressurization when a pressurizer power relief valve failed in the open position. The Reactor Coolant System (RCS) pressure was reduced from 2255 psig to 875 psig in approximately twenty-one (21) minutes. At the beginning of this event, steam was being bypassed to the condenser and the reactor thermal power was at 263 MW, or 9.5%. Electricity was not being generated. The following systems malfunctioned during the transient:

- a. Steam and Feedwater Rupture Control System (SFRCS).
- b. Pressurizer Pilot Actuated Relief Valve.
- c. No. 2 Steam Generator Auxiliary Feed Pump Turbine Governor.

The event was initiated at 2134 hours, when a spurious "half-trip" occurred in the SFRCS, resulting in closure of the No. 2 Feedwater Startup Valve and loss of flow to No. 2 Steam Generator. Approximately one minute later, low level in the No. 2 Steam Generator caused a full SFRCS trip, closing the Main Steam Isolation Valves

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(MSIV). The loss of heat sink for the reactor caused the RCS temperature, pressure, and pressurizer level to rise.

The RCS pressure increased to the pilot actuated relief valve setpoint (2255 psig) and the valve cycled open and closed nine times in rapid succession, failing to close on the tenth opening. Meanwhile, the reactor operator observed the pressurizer level increase and manually tripped the reactor about one minute after MSIV closure (two minutes into the transient). At this point the RCS pressure was approximately 2000 psig and decreasing while the pressurizer level had reached its maximum initial rise of about 310 inches. The RCS pressure continued to decrease due to the open relief valve and upon reaching 1620 psig approximately three minutes into the transient, actuated Safety Features including high pressure (water) injection and containment isolation.

Approximately five minutes into the transient the rupture disc on the pressurizer quench tank, which was receiving the RCS blowdown, burst. Bursting of the rupture disc was aggravated by the actuation of containment isolation, which had isolated the quench tank cooling system, resulting in expedited pressurization of the quench tank.

The RCS continued to blow down through the open pressurizer power relief valve and the quench tank rupture disc opening until primary coolant saturation pressure was reached, about six minutes into the transient. The formation of steam in the RCS caused an insurge of water into the pressurizer. This insurge and the high pressure water injection then restored pressurizer level to about 310 inches after nine minutes into the transient.

Approximately thirteen minutes into the transient, the secondary side of the No. 2 Steam Generator went dry. About fourteen minutes into the transient, the operators noticed the low level condition and found that the auxiliary feed pump was operating at reduced speed. Manual control of the auxiliary feed pump was started and water level restored to the No. 2 Steam Generator.

At approximately 21 minutes into the transient, the operators discovered that the pressurizer power relief valve was stuck open. Blowdown via this valve was stopped by closing the block valve, thus terminating the reactor vessel depressurization. The RCS pressure recovered to normal and cooldown of the system followed.

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The reason for the spurious "half-trip" of the SFRCs has not yet been determined. An extensive investigation revealed several loose connections at terminal boards, but nothing conclusive.

Investigation into the failure of the pressurizer pilot actuated relief valve revealed that a "close" relay was missing from the control circuit. This missing relay would normally provide a "seal-in" circuit which would hold the valve open until the pressure dropped to 2205 psig. Without the relay the power relief valve cycled open and closed each time the pressure of the RCS went above or below 2255 psig. The rapid cycling of the valve caused a failure of the pilot valve stem, and this failure caused the power relief valve to remain open.

It was determined that the auxiliary feed pump did not go to full speed because of "binding" in the turbine governor.

The transient was analyzed by the NSSS vendor and determined to be within the design parameters analyzed for a rapid depressurization.

With exception of the above noted malfunctions, the plant functioned as designed and there was no threat to the health and safety of the general public.²⁻³

2. Feedwater Isolation Valves

On two occasions in July, at the Trojan nuclear plant, a hydraulic feedwater isolation valve failed to close upon receipt of a close signal. All other equipment required to operate, functioned normally.

The first failure, July 6, 1977, had been attributed to an improperly assembled solenoid in the hydraulic actuator. Investigation of the second failure indicated that both events were due to a lack of sufficient hydraulic pressure.

Failure of the valve to close was caused by the pressure regulator leaking and failing to close down to regulate the pressure. This caused the hydraulic system on the valve to be drained down to a point that the valve would not operate. Inspection of the regulator revealed that a locking screw on the regulator adjusting knob was loose and would allow the knob to vibrate to any position. With the regulator improperly set it would not close down to regulate pressure and would allow the hydraulic fluid to drain before the hydraulic operator could function. A similar problem was discovered on two other valves, although the maladjustment was not sufficient to prevent these valves from operating.

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Testimony of Anthony Z. Roisman,
Staff Attorney, Natural Resources Defense Council, Inc.,*
Before the
President's Commission on the Accident at
Three Mile Island
August 23, 1979

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* The Natural Resources Defense Council, Inc., is a national, nonprofit, tax-exempt environmental organization dedicated to the conservation and wise use of our natural resources. NRDC has approximately 45,000 members.

The environmental radioactivity monitoring program of the Applicants is inadequate to accurately measure the dose delivered to the public during normal and accident conditions.

The warning and evacuation plans of the Applicants and the Commonwealth of Pennsylvania are inadequate and unworkable. . . . No operating and evacuation plans are shown to be workable through live tests.

These statements were made with reference to Three Mile Island Unit 2. They were not made by the Nuclear Regulatory Commission or any other entity investigating the accident at Three Mile Island. They were not made after March 28, 1979. They were made in 1974 by the York Committee for a Safe Environment and Citizens for a Safe Environment, joint intervenors in the operating license proceeding for the TMI-2 reactor. Both contentions were rejected as unsupported. We now know how very wrong those conclusions were, but we do not know why. It should be the responsibility of this Commission to answer that question.

Every nuclear plant now licensed to operate has been subjected to an extensive review process consisting of a comprehensive safety review by the Advisory Committee on Reactor Safeguards, the NRC Regulatory Staff, the Atomic Safety and Licensing Board and the Atomic Safety and Licensing Appeal Board prior to issuance of a construction permit, and, in the case of a contested operating license proceeding such as TMI-2, all four of these entities conduct a second

review. This process is the heart of the regulation of nuclear power and provides the only assurance to the public that if a nuclear plant is built and operated there is reasonable assurance of adequate protection for the public health and safety. The TMI-2 accident is dramatic evidence that this process is a total failure. Not only were specific problems now recognized as real rejected as unsubstantiated challenges to the plant, but the principal design and operational defects in the reactor itself were totally ignored.

This failure of the regulatory process to detect and correct significant flaws in the design, construction and operation of nuclear plants is in no way limited to TMI-2. The same failures of process are equally applicable to all nuclear plants, as can be seen from the near disastrous fire at the Brown's Ferry nuclear plant, the absence of an Emergency Core Cooling System for plants such as Indian Point Unit 1 (265 Mwe), the inadequate earthquake design approved for the construction of the Diablo Canyon plant, the sloppy procedures to prevent worker exposures to radiation at the Kerr-McGee plutonium facility in Oklahoma, and the West Valley Reprocessing Plant; and the list could continue. A prime function of this Commission should be to uncover the reasons behind the regulatory inadequacies of the Nuclear Regulatory Commission. The regulatory history of TMI-2 provides some valuable clues.

First, we should focus on the two issues which were raised and rejected -- the inadequacy of radiological monitoring in the event of an accident and the inadequacy of emergency planning.

In addressing radiation monitoring, the intervenors focussed on the absence of active, real-time detectors to determine dose. The contention was rejected based on the testimony of witnesses offered by the Regulatory Staff and the Applicant with the ASLB making the following finding (Metropolitan Edison (Three Mile Island Unit 2) LBP-77-70, 6 NRC 1185, 1201-02 (December 19, 1977)):

With respect to off-normal conditions that might justify the evacuation of members of the public within the low population zone, testimony was offered to the effect that the environmental monitoring program is not intended for use in formulating nor in implementing evacuation plans. With respect to the ability of active, real-time detectors to aid in evacuation plans, such detectors would again be of little or no value. Instrumentation used to determine the severity of an accident, and the need for any offsite emergency action, is located on site and is monitored from the reactor control room. This instrumentation monitors area conditions and process variables such as the reactor coolant temperature and pressure and any abnormal release of radioactivity. In the event that accident conditions arose for which evacuation would be an effective protective measure, necessary measurements and corrective actions to mitigate the consequences, including notification of offsite emergency personnel, would be performed quickly, within 10-15 minutes of the incident. It would, therefore, be unlikely that any offsite active detectors would register any abnormal reading since no release from the containment would as yet have occurred. Only after some period

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of time (to allow the release and transport of radiation emitters) would the detectors be of any use, and even then they would add nothing to the information that the previously dispatched offsite survey teams would not already have gathered.

Significantly, the intervenors offered no extensive expert testimony on the issue. Equally significantly, the ASLB focussed its inquiry on the advantages of the additional monitoring equipment and not on the adequacy of the existing monitoring system. Not surprisingly, the adequacy of radiation monitoring was not adequately addressed because the only parties with resources sufficient to make their case were advocates of the issuance of the license and the ASLB limited the focus of its inquiry to those issues raised by a party and not corollaries to those issues.

In a post-TMI-2 accident analysis prepared by the Office of Inspection and Enforcement of the NRC (NUREG-0600), in contradiction to the findings of the ASLB, they found the following (Id., pp. 13, 14):

Less than half of the portable radiation survey instruments were operational. Several installed area radiation monitors and airborne radioactivity monitors, which were not essential for normal operations, but would have been useful during the emergency, were out of service for repair.

Subsequently, there were several radiation monitor alarms indicative of an emergency situation, but no emergency was declared.

It is no answer to the problem exemplified by TMI-2 to require that better and more reliable off-site monitoring be provided

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and to provide that public notification of an off-site emergency occur within 10-15 minutes of the initiating event. That is obviously closing the barn door after the horse has escaped.

Before attempting to draw any conclusions from this first example of the breakdown of the regulatory process, let us turn to the second rejected intervenor contention based on the inadequacy of emergency plans. Here the intervenor focussed on the need for real training for state and local officials and the public. In response the Applicant, the Regulatory Staff and the Commonwealth of Pennsylvania produced witnesses to prove that Pennsylvania in general and the Dauphin County Civil Defense in particular had responded promptly to non-radiological emergencies without real drills, that in combination with the Applicant all necessary monitoring and warning of the public would be accomplished in sufficient time to have an orderly evacuation without drills, and that the public would respond better to the evacuation order if they had not been drilled because, according to a Staff witness (Metropolitan Edison (Three Mile Island Unit 2), ALAB-486, 8 NRC 9, 17 (July 19, 1978)):

"the general population reacts more readily, fears more readily things which it knows nothing about" (Tr. 1832); and that, when confronted with such an event, a person "generally responds to people who tell him what to do to protect his health. . . . It is the fear of the unknown that makes [people] act" (ibid.).

In the face of this testimony, the ASLB concluded that (LBP-77-70, supra, 6 NRC at 1204, 1205-06):

We see no need to recite here -- as do the proposed findings of the Applicants, the Commonwealth, and the Staff -- those uncontradicted, descriptive characteristics of the Applicants' state of preparedness, nor that of the cooperating state and local agencies upon whom the success of the emergency plans depend. We find these to be adequate.

Examination by the Intervenor and the Board cast no doubt upon the adequacy of the communications equipment and the various modes of communication. The Board finds these matters to be satisfactory.

Furthermore, the Staff's witness observed that the Applicants' monitoring capability outside the LPZ would be more than adequate until such time as subsequent or supplemental monitoring teams would be available to the Commonwealth. Indeed, the NRC regional office itself could provide up to 20 additional inspectors, in addition to other teams from Brookhaven Laboratory and radiological teams from western Pennsylvania (Tr. 1806-1809).

The Commonwealth's civil defense witnesses saw no compromise of their own effectiveness of response because of their not having technical knowledge and training concerning radiological matters. Staff witnesses testified that the Commonwealth's BRH possessed the requisite radiological know-how needed to assist with protection of the public health and safety. The Board finds that the evidence adequately supports the conclusion that the effectiveness of state and local officials will not be hampered by not having had technical training in radiological matters.

More broadly, we find that the record supports the conclusion that Contention 3, in its entirety, is without merit, and that the Staff

has properly assessed the adequacy and workability of the emergency response. We also find the emergency and evacuation plans to be both adequate and workable.

These findings must be viewed in light of the following additional finding by the Board (LBP-77-70, supra, 6 NRC at 1203):

The joint Intervenor presented no prefiled testimony, . . .

It was not surprising that the record supported the rejection of the intervenors' contention when the only evidence offered was from those who opposed the contention.

When the evacuation planning issue was addressed by the Appeal Board, it confirmed the evidentiary deficiency in the intervenors' case and raised at least three additional roadblocks to a thorough exploration of the issue. First, it found that evidence newly discovered by the intervenors which might shake the credibility of Commonwealth witnesses was not admissible because it was based on a two-year-old publication and could have been explored in the hearing if the intervenor had pressed the issue further when a witness they sought from the Commonwealth initially refused to appear; second, it found that (ALAB-486, supra 3 NRC at 23):

existing Commission regulations do not require consideration in a licensing proceeding of "the feasibility of devising an emergency plan for the protection (in the event of an accident) of persons located outside of the low population zone[;]"

and, third, it found that (id.):

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the requirements for evacuation planning are rooted in 10 CFR Part 100, and that Part 100 assumes releases of radiation based upon a hypothetical major accident "that would result in potential hazards not exceeded by those from any accident considered credible." Thus, what accidents might conceivably occur at the particular plant in question is irrelevant to planning for emergency evacuation; that is based solely on the Part 100 hypothetical accident and the assumed releases of radioactivity resulting therefrom.

In its report, the Office of Inspection and Enforcement found (NUREG-0600 at pp. 5, 11-12, 13, 19, 20):

At approximately 2-1/2 hours into the accident, substantial fractions of the reactor core were uncovered and had experienced sustained high temperatures. This condition would be expected to result in fuel damage, substantial releases of core fission products, and hydrogen generation. The magnitude of these conditions were [sic] not recognized by the plant staff.

The provision of substantive technical support to the management team directing emergency actions on operational matters suffered primarily as a result of communication difficulties. This was evidenced in three ways:

- o Information (both data and plans) transmitted to offsite support, which had been hurriedly mobilized, suffered from time delays. Thus, the offsite groups were dealing with historical and limited data.
- o The individuals who had to provide data to offsite groups had concurrent duties pertaining to the management of the emergency. The emergency duties always took precedence as would be appropriate.
- o The physical communications facilities were inadequate to handle the volume of information requests and transmittals that this kind of accident required.

The investigation has concluded that these communication problems are related to the misconception that the envelope of the analyzed major accidents for this facility are the limiting events. The duration of these analyzed events are projected to occur in a relatively short time frame. The provision of the mechanisms needed to mobilize and communicate with substantial offsite technical support on a real-time basis as an accident progresses had, therefore, not been warranted as a part of emergency planning.

However, some workers who would comprise Emergency Repair Party Teams and Radiological Monitoring Teams had not received adequate training in use of emergency survey instrumentation and in radiation protection procedures. Routine retraining of radiation/chemistry technicians was not up to date. While radiation protection training of the plant staff had been sufficient to maintain personnel radiation exposures within limits during normal operations (when radiation levels were low), it had not prepared workers to cope with the high radiation levels that would soon exist inside the Unit 2 auxiliary and fuel handling buildings.

Prior to and during the emergency, the licensee performed his own onsite personnel dosimetry program. No one individual was assigned programmatic responsibility for this program. During the incident, some radiation/chemistry technicians processed their own TLD badges. Beginning March 29, one radiation/chemistry technician, who had not operated the system in over a year, worked without procedures for over 40 continuous hours.

In general, the licensee's onsite and offsite survey teams performed surveys in appropriate areas at appropriate times. However, during a five and one-half hour period from 1700 hrs to 2230 hrs on March 29 and a two-hour period from 0340 to 0540 on March 29, no offsite surveys were performed in the plume. Both of these periods of time were within the interval when the majority of the noble gases were released and when a plume was well defined because of sufficient wind speed and almost constant direction.

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A memorandum from D. F. Bunch, Director, Program Support Staff, NRR (May 9, 1979) concludes:

10 CFR Part 100 requires that the assumed fission product release used for site suitability calculations should be one "that would result in potential hazards not exceeded by those from accident considered credible." The TMI release of 13 million curies of Xe-133 is substantially greater than that which was estimated as the maximum credible release by the staff in its review of the OL for TMI-2 and is probably larger than that which would be predicted to occur in any of the site suitability analyses for plants reviewed by the staff in the last decade.

Before drawing any conclusions from these two rejected and subsequently verified intervenor contentions, we will turn to a second class of deficiencies in the regulatory process -- those issues which were not raised but which we now suspect were the root causes of the accident.

There is no comfort in the existence of a "Lessons Learned" task force for a technology which in the United States has over 70 operating reactors and nearly 70 more under construction or committed. Lessons learned are supposed to be the product of a testing program, not a commercialized technology. But of course there are those who will assert that all technologies are subject to errors being learned after they are commercialized -- e.g., the DC-10. But for nuclear power that argument won't work. First, the consequences of a mistake are too catastrophic: "We almost lost Pennsylvania." Second, today's reactors are being built and operated in the face of dozens of serious

unresolved safety problems identified by both the NRC Staff and the ACRS. Among the 30 generic safety items still listed as unresolved by the ACRS are the following which are relevant to the TMI-2 accident (ACRS letter to Joseph Hendrie, November 15, 1977, Status of Generic Items Relating to Light-Water Reactors: Report No. 6 (Attachment, Group II, items II-4, IIB-1, IIC-1)):

II-4 - Instruments To Detect (Severe) Fuel Failures

In the event of substantial fuel failure, including the possibility of fuel melt, large amounts of fission products could be rapidly released to the reactor coolant and possibly to the environment. Instrumentation capable of early warning and timely response may avert an incident becoming an accident.

Instrumentation related to such diagnostic purposes for limited fuel failure is being used on most power reactors. . . . Further work is required to establish criteria for similar instrumentation for severe fuel failures.

IIB-1 - Computer Reactor Protection Systems

The proposed systems would contain some types of components and subsystems not previously used for reactor protection. It is necessary that the required system reliability, both during normal operation and under postulated abnormal conditions, be established through an appropriate combination of tests and analyses. While the issue originated with the B&W Hybrid concept it is equally applicable to the proposed C3 and W computer reactor protection systems.

IIC-1 - Locking Out Of ECCS Power-Operated Valves

The physical locking out of electrical sources to specific motor-operated valves required in the engineered safety functions of ECCS has been required, based on the assumption that a spurious

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electrical signal at an inopportune time could activate the valves to the adverse position; e.g., closed rather than open, or open rather than closed. While such an event has a finite probability another probability exists that the valves might be adversely positioned due to operator error.

The ACRS believes the matter should be studied using a systems approach, and considering such items as: (1) the evaluation of the probability of a spurious signal; (2) time required to reactivate the valve operator; (3) status of signal lights when the circuit breaker is open; (4) the possibility of locking out in an improper position due to a faulty indicator; (5) other designs with improved reliability without lock-out; (6) the advantages and disadvantages of corrective action by an alert operator in case of incorrect positioning vis-a-vis a system with power locked out.

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The NRC Staff lists 41 unresolved safety problems which require priority attention because their resolution could "(1) provide a significant increase in assurance of the health and safety of the public, or (2) have a significant impact upon the reactor licensing process." NUREG-0371, Vol. 1, No. 1 (November 1977). One of the items identified by the Staff as requiring further analysis and research is "Instruments for Monitoring Radiation and Process Variables During Accidents."

To these lists of unresolved safety problems must be added all the new items which TMI-2 has uncovered. The ACRS and the NRC Staff have suddenly discovered problems never before anticipated. The ACRS lists these in its various interim reports to the Commission and the NRC Staff lists them in various documents including the "Lessons Learned"

report. But, as if driven by some uncontrollable addiction, all these new problems and their solutions are for "mañana," and, for the operating plants, it is business as usual.

An examination of the docket for TMI-2 does not disclose any serious attention having been given either to the problems previously listed as unresolved which were part of the accident or to problems which subsequently have been identified. Through eight separate reviews by four distinguished groups of experts, the bulk of the problems which lay at the root of the TMI-2 accident were not even discussed, much less resolved.

Finally, in the list of my examples of the failure of the process must be included the fact that the TMI-2 accident was not new. At least as of January 19, 1979, James G. Keppler, Director of the NRC Region III Office of Inspection and Enforcement, identified the accident in a Davis-Besse incident report, noted its relevance for TMI-2 among others, and observed that there was a regulatory requirement to notify the ASLB for the affected reactors. Now we have learned that similar experiences may have occurred with foreign reactors. Nonetheless the notification was not provided and the issue was not developed in the regulatory process.

What do I see as the lessons learned from all of this? They are, I believe, obvious from the preceding discussion:

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- I. A regulatory process in which those participants who have substantially all the financial resources are in support of licensing the plant does not adequately explore all relevant issues.
- II. The role of the NRC Regulatory Staff as an advocate for the licensing action is superfluous and wastes valuable talent which could be better used.
- III. The only effective regulatory process for a technology as inherently dangerous as nuclear power is one in which substantial sums of money are made available to competent persons who oppose the technology and who will then have both the resources and the inclination to force out into the decision-making process all the potential flaws of the technology.

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To implement these lessons requires, first, that funds be made available for the participation of competent nuclear opponents in the licensing process for every nuclear plant, in every rulemaking and in the daily business of the NRC. The cost of such participation, even if lavishly funded, would be only a fraction of the cost which TMI-2 has caused and will cause. Second, the NRC Regulatory Staff should be prohibited from playing the role of an advocate in the

licensing process but should instead have as its sole responsibility, in addition to reviewing applications, the supplementation of the licensing hearing record with additional relevant information, irrespective of the side which is favored by such evidence. The Staff expertise could be called upon by any party where no comparable expertise existed elsewhere, but, regardless of the ultimate Staff position on the merits of the application, the Staff witness would be directed to present the truth, the whole truth, and nothing but the truth, not to testify in support of Staff conclusions.

These reforms would not guarantee that only safe nuclear plants were built and operated nor that every safe nuclear plant, if any, was built and operated. Due process cannot guarantee perfect results any more than nuclear engineers can guarantee perfect reactors. But the process must be reformed to increase the likelihood that the results reached are correct. The present system, as exemplified by TMI-2, does not fulfill that function. Even issues raised by intervenors are not adequately addressed because the intervenors are nearly always forced to present their case without adequate technical expertise and without the assistance of competent lawyers. There are many experts who, with adequate remuneration could have assisted the TMI-2 intervenors to identify all of the crucial issues and to pursue those issues vigorously with a strong, affirmative case.

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If that had happened, I am confident that there would not have been a TMI-2 accident, if for no other reason than because a well-funded opponent would have been monitoring other B&W reactors, including Davis-Besse. Once the existence of a financially viable nuclear opposition is established, more experts will become available and even better opposition will evolve.

Critics of these funding proposals raise a plethora of objections, but repeatedly they return to the argument that funding opponents will delay the process, and delay is bad. The argument is spurious because, as the ASLAB observed many years ago (Vermont Yankee Nuclear Power Corporation, ALAB-124, 6 AEC 358, 365 (1973)):

. . . delay in the issuance of an operating licensing attributable to an intervenor's ability to present to a licensing board legitimate contentions based on serious safety problems uncovered by the staff would establish not that the licensing system is being frustrated, but that it is working properly. Any delay in such a situation would be fairly attributable not to the intervenors but to the non-readiness of the facility for operation. Delay in the issuance of the license is entirely appropriate -- indeed, mandated -- in that circumstance.

In fact, the ASLAB has been highly complimentary of the efforts of intervenors in the licensing process, a commendation which to the best of my knowledge has never been given to either the applicant or the Staff. Alan S. Rosenthal (Chairman of the ASLAP) in testimony before the Joint Committee on Atomic Energy, April 25, 1974, stated:

"The... as the... is... by... of... the... of... only... the... of... (In the... of... Company (River... of... 1 and 2),... (March 12, 1978, ... 11-12.)

"In... that... of... have... and... were... by an... (ibid., ... page 12).

"It... that, in several... of... has... the... of... or... to... a... reactor.

"Thus, while... little... to... the... to... license... When a... was... for... .

"It... that the... in... were... in... in which all... are... all... with... of... .

"In... the... of... at least... of... that... to... is... of... . For... of... can... the... which, on... , may... .

"I... of... the... is... to... of... . The... can... . However, of... which... in... , were... long... of the... .

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"In sum, I believe that adjudicatory-type hearings with a full opportunity for public participation are a decided asset in the ventilation of any safety or environmental questions which may be associated with the particular reactor under consideration. And I am equally convinced that there is no reason why the necessary effect of this approach to licensing adjudication should be wasteful delay."

Atomic Safety and Licensing Appeal Board, In the Matter of Consolidated Edison Company of New York, Inc. (Indian Point Station, Unit No. 2), 3 AEC 850 (November 20, 1974):

"We have in an earlier memorandum stated our opinion that the development of plant security requirements were influenced considerably by the probing questions of CCPE's [Citizens Committee for the Protection of the Environment] counsel (ALAB-177, RAI-74-2, 153, 154, February 26, 1974). We continue to adhere to that opinion. The responses of the applicant's witnesses to that counsel's examination at the November 13, 1974 hearing, together with their responses to our questions, are one of the foundations for our conclusion that the plan is adequate. This constructive participation on an important issue has, in our judgment, contributed to the improvement of the regulatory process, both as an aid to the adjudication of the security issues and in the development of the overall regulatory requirements in an evolving area."

Atomic Safety and Licensing Appeal Board, In the Matter of Florida Power & Light Company (St. Lucie Nuclear Power Plant, Unit No. 1), ALAB-435, October 7, 1977:

"There was need here for careful probing of the staff's efforts, and the intervenors helped initiate and conduct that probe. Thus, although they did not achieve the ultimate result they desired, the intervenors clearly assisted in the search for truth. The contribution they made should not pass unnoticed."

With a thorough and complete program to fund opponents, the opposition can and should be required to raise its objections in the early stages of Staff and ACRS reviews, where changes can be made at minimal cost. Today's hearing process is a culmination of a year or more of Staff/ACRS/Applicant interaction from which intervenors are essentially excluded

by their lack of resources. This, more than anything else, contributes to hearing delays as intervenors voice objections for the first time in the hearing process.

Today, the Staff is a vigorous advocate in the licensing process, yet the Staff almost invariably ends up supporting the position of the Applicant. Thus, the Applicant, which already has the benefit of involuntary payments by rate-payers to fund its case, is augmented by the Regulatory Staff with its costs paid by involuntary payments by taxpayers. As taxpayers, we can expect that the Staff will be more than merely an additional advocate for the Applicant in the process. It must perform a function which transcends any one side in the controversy and serves instead the interests of due process by assuring the existence of a complete and thorough record. This Staff function would reduce the actual time required at hearings by Staff witnesses and would assure that all parties could draw on the Staff expertise when needed to address an issue, if the expertise were not otherwise available.

We would all feel more confident in the Staff positions now being taken on TMI-2 were it not for the fact that it was the Staff who so vigorously supported the TMI-2 license. This Commission was appointed in part because the NRC Staff was thought to be too involved to be truly objective. Significantly the Staff pronouncements of mea culpa since TMI-2 have been limited and have not really examined the Staff or its functions in a broad sense. No one would expect

an advocate to be able to do such a searching reexamination of its own existence. The Staff role should be changed.

In conclusion, my message today, my lesson learned from TMI-2, is that this accident is by no means an isolated event to be examined and treated. It is the latest in a long line of accidents and blunders with nuclear power which are largely attributable to the over-abundance of nuclear proponents and the absence of competent, well-financed nuclear opponents in the regulatory process. If nuclear power is so good, it should welcome vigorous, competent, and funded opposition. If it cannot withstand such opposition, it should be abandoned -- immediately.

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TRANSCRIPT OF PROCEEDINGS

PRESIDENT'S COMMISSION ON THE ACCIDENT AT THREE MILE ISLAND

PRESS CONFERENCE

THURSDAY,
August 23, 1979

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PRESIDENT'S COMMISSION ON THE ACCIDENT AT THREE MILE ISLAND

PRESS CONFERENCE

THURSDAY,
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Hall of Nations
Edmund Walsh Building
Georgetown University
36th Street N.W.
Washington, D.C.

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P R O C E E D I N G S

12:42 P.M.

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2 CHAIRMAN KEMENY: I believe for the first time we
3 heard every single commissioner present question a certain
4 witness. It should be very obvious that the President's Com-
5 mission on the Accident at Three Mile Island is greatly dis-
6 turbed about the action taken by Mr. Denton, and I want to
7 be very precise. What we are disturbed about is not action
8 that he has taken on imposing new standards on currently
9 operating plants --clearly, that is not only his power but
10 his responsibility to do so -- but in reopening the licensing
11 process before either this Commission or NRC's own internal
12 investigation has even given any indications as to what recom-
13 mendations would come in.

14 As you heard, the Commission therefore unanimously
15 voted to have either Chairman Hendrie or other commissioners
16 appear before us so that we have an opportunity to question
17 them on this decision and to discuss the matter with them.

18 I will now be happy to respond to questions.

19 QUESTION: Dr. Kemeny, Commissioner Lewis, I believe
20 it was, said in the course of this morning's meeting that it
21 seemed to her that this was a case of the NRC thumbing its
22 nose at this Commission. Do you share that view, and also, do
23 you believe Mr. Denton when he said that he has had no contact
24 at all on this subject with any of the NRC Commission?

25 CHAIRMAN KEMENY: Let's see, let me answer both

1 halves of those questions. Commissioner Lewis, of course, used
2 a very strong phrase. Let me use a more moderate phrase, that
3 it is an action that does not make the work of either this
4 Commission or NRC's own self-investigation any easier.

5 On the second subject, I have to believe that when
6 a witness testifies under oath, he is telling the truth. I
7 am not going to accuse somebody of perjury. I must say I am
8 amazed that somebody would have taken that action without con-
9 sulting the commissioners who have got the ultimate legal
10 responsibility.

11 QUESTION: Chairman Kemeny, does that indicate to
12 you the NRC has not learned yet the true lesson of Three Mile
13 Island?

14 CHAIRMAN KEMENY: I believe there were a number of
15 our commissioners who tried to bring out very specific points
16 where it seemed to them that all the lessons have not been
17 learned.

18 QUESTION: Would you characterize the action as
19 high-handed, Mr. Chairman?

20 CHAIRMAN KEMENY: Could I use the word "unilateral"
21 instead?

22 (Laughter.)

23 QUESTION: Dr. Kemeny, do you think it is appropriate
24 for your Commission to be influencing the licensing process
25 prior to reaching your findings?

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1 CHAIRMAN KEMENY: No, it is not appropriate for us
2 to influence that, but since we are charged by the President
3 of the United States to determine whether the licensing process
4 of the Nuclear Regulatory Commission is or is not adequate,
5 and since NRC employees themselves have testified to inade-
6 quacies in that licensing process, and that licensing process
7 is reopened before this Commission can make its findings, we
8 have very great trouble in accepting that decision.

9 QUESTION: If Dr. Hendrie hears what the commis-
10 sioners here have to say this afternoon or some other of his
11 NRC members hear what you have to say and decide that they
12 still wish to reopen the licensing process, what happens at
13 that point?

14 CHAIRMAN KEMENY: At that point, clearly, we have
15 no power to overrule the decision of the NRC commissioners.
16 I would think, however, that that might influence this Commis-
17 sion in the kind of recommendations it will turn in to the
18 President of the United States, including, may I say, that when
19 the President set us up, he gave us a deadline. He also indi-
20 cated to us that if in the interim there were some recommenda-
21 tions that were sufficiently urgent, we could come to him with
22 interim recommendations before our report is concluded.

23 QUESTION: Would you consider going to the President
24 in the interim if the NRC does not heed your advice and recom-
25 mending some kind of executive order?

1 CHAIRMAN KEMENY: That is for the Commission as a
 2 whole to determine. It would be inappropriate for me to specu-
 3 late, but I thought I should point out that we have been told
 4 by the President of the United States that he would be willing
 5 to hear recommendations on an interim basis if they were suf-
 6 ficiently urgent.

7 QUESTION: Would you recommend that?

8 CHAIRMAN KEMENY: I think it would be inappropriate
 9 for me, as Chairman, to prejudge what this Commission does.
 10 I think if there is one thing -- if I may make a remark, I
 11 hope you see this as a very strong Commission with extremely
 12 able individuals, and I have enormous respect for every single
 13 member of that Commission. For me, as Chairman, to in effect
 14 close their actions unilaterally, before they have had a chance
 15 to debate it, would be inappropriate.

16 QUESTION: Dr. Kemeny, a few days ago in Dubuque,
 17 I think it was, President Carter was quoted as saying that he
 18 expected a report in a few days on nuclear safety. What re-
 19 port could he have been talking about?

20 CHAIRMAN KEMENY: I suspect it was -- that particular
 21 statement, I think he said before the end of the month. Since
 22 President Carter knows very well that our report is due on
 23 October 25, I suspect that was a slip of the tongue on his part.

24 QUESTION: He wasn't talking about the Denton memo-
 25 randum?

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1 CHAIRMAN KEMENY: No, it was coupled to this parti-
2 cular Commission. I looked at that statement, and I must say,
3 I have very often misspoken, as I read transcripts of our own
4 hearings. All of us find how we misspeak under the pressure.

5 QUESTION: When was the first time that you or any
6 of the Commission learned about Mr. Denton's directive to
7 reopen licensing?

8 CHAIRMAN KEMENY: I can testify only to when I heard
9 about it, and that was when I opened a certain Washington news-
10 paper this morning and, on page 2, found this particular story.

11 QUESTION: About what time was that?

12 CHAIRMAN KEMENY: About what time was that?, a
13 sequence of events question.

14 (Laughter.)

15 Let's see, what is the phrase I am supposed to use?
16 To the best -- per my memory, let's see --

17 QUESTION: Well, was it around 8:00 o'clock or some-
18 thing like that?

19 CHAIRMAN KEMENY: Yes, I am trying to think. It was
20 approximately 7:30 this morning, and no commissioner who is
21 here at this meeting heard about it prior to today.

22 QUESTION: And then what -- pardon me just a minute.
23 Let me follow up this. Then this -- contrary to your usual
24 practice, you were about 40 minutes late opening your hearing
25 this morning --

1 CHAIRMAN KEMENY: Yes.

2 QUESTION: So between 7:30 and about 9:40, in that
3 two-hour period, some things happened among you and the other
4 commissioners. Can you kind of tell us what that was?

5 CHAIRMAN KEMENY: Yes, I would be very happy to
6 answer that question. I, as Chairman, asked, in view of this
7 event -- and, incidentally, there were some commissioners who
8 were not even aware of it when they arrived at the meeting --
9 as to whether they wished to change the order of procedure,
10 and we understood that Mr. Denton had brought a full copy of
11 his statement with him, and therefore we asked for a copy of
12 it and had it duplicated, and we felt we should not come down
13 here until all of us had an opportunity to read that, and
14 furthermore, that we should focus our questioning on this
15 most recent action and, by implication, the entire licensing
16 process of NRC, and then we should see whether there was any
17 immediate action the Commission wished to take. That is what
18 occurred upstairs.

19 QUESTION: That preliminary meeting was held in this
20 building here, in some room?

21 CHAIRMAN KEMENY: Yes, that is correct, and it was
22 in the form of my asking the commissioners' advice, what do
23 you want to do.

24 QUESTION: Chairman Kemeny, can you personally see
25 any reason why the licensing procedure should be reopened now,

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1 why the great need? We are going through the August peak
2 period of electricity needs without requiring, let's say,
3 Salem II. Why the need to do anything before October 25th?

4 CHAIRMAN KEMENY: I have not examined all the impli-
5 cations of that, but let me say that I was totally amazed when
6 I read that story this morning. It was the last thing in the
7 world I expected would happen during the lifetime of this
8 particular Commission.

9 QUESTION: You can't see any reason on the surface
10 of why the licensing procedure should be reopened right now?

11 CHAIRMAN KEMENY: I have not heard a convincing
12 reason for that.

13 QUESTION: Dr. Kemeny, you declared yesterday that
14 this was going to be the final set of hearings, public hearings,
15 by this Commission prior to the October 25th deadline. In view
16 of this rather sudden change of events, turn of events, today,
17 do you think that you are going to have to alter that timetable
18 and perhaps conduct further hearings?

19 CHAIRMAN KEMENY: I don't know that. That is clearly
20 something that the Commission, as a commission, will have to
21 vote, and clearly, we were caught totally by surprise by this
22 particular event, so I hope you will understand why I am not
23 ready to answer that question at the moment.

24 QUESTION: You don't see, Mr. Chairman, as another
25 thought, the many cracks that we are hearing about in the NRC,

1 the failure to tell people about some things, the failure to
2 tell other people, meeting at water coolers, that this is just
3 another chain of events where they just forgot to tell the
4 President's Commission that they were submitting this proposal?

5 CHAIRMAN KEMENY: At the last press conference, one
6 of you asked me a question, since a major document of NRC was
7 released that morning, as to whether I thought that was purely
8 coincidental, and I said that I certainly believed it was
9 purely coincidental. On the other hand, I did point out to
10 you that there seemed to have been a strange coincidence of
11 some major NRC public release on the day, or just before the
12 day, of every public hearing of the Commission, and I did at
13 that time say if one more occurred I might get suspicious.

14 QUESTION: Are you suspicious --

15 QUESTION: Can you tell us what you think the effect
16 of that sort of repeated coincidence has had on the public's
17 reading about your Commission's hearings, for example. Why
18 has -- well, let's not play as if there was any lack of coin-
19 cidence. If you think it is coincidence, what has the effect
20 of that been?

21 CHAIRMAN KEMENY: Well, if it is coincidence, we have
22 not had a huge number of public hearings. Clearly, it has the
23 effect that the major news on nuclear power will be the NRC's
24 latest announcements rather than the actions of or the facts
25 found out by this Presidential Commission. There have been a

1 great number of instances where some of your own media here --
2 and I am not criticizing you for it -- found that the NRC's
3 timing was such that you treated that as the major story, and
4 therefore many important things we have found out here did not
5 necessarily make the media.

6 QUESTION: Are you saying that if there are other
7 things that would come out today, from your own other investi-
8 gations with Mr. Denton or with Mr. Stello later later on today,
9 that will be overshadowed now by this release of this --

10 CHAIRMAN KEMENY: I didn't mean that particularly for
11 this one. I am just saying that I believe that we found mat-
12 ters of major importance yesterday in our questioning of our
13 witnesses, and in this case, the only treatment I have seen
14 this morning was in one Washington newspaper, which very
15 fairly reported on our hearings yesterday.

16 So I am not being critical. I do want to point out
17 that Mr. Denton's one announcement commanded considerably more
18 space than our entire hearing yesterday.

19 QUESTION: In this instance, do you think that you
20 have succeeded in recapturing the spotlight?

21 CHAIRMAN KEMENY: I have no idea. That is not our
22 purpose, but the important thing is that it was an action to
23 which, because of the strong feelings of the Commission, we
24 had to respond.

25 QUESTION: Do you think the difference might be

1 accounted for by the fact that the NRC is not prepared for the
2 possibility that this Commission may find nuclear power simply
3 too unsafe to continue; that a number of commissioners on this
4 Commission are willing to consider the possibility that you
5 will indeed find that?

6 CHAIRMAN KEMENY: Certainly I believe anyone who has
7 agreed to serve on this Commission must be willing to consider
8 the possibility that nuclear power is unsafe. I am not saying
9 we will reach that conclusion.

10 But the issue we were dealing with today was not
11 primarily that issue. The issue we were dealing with today
12 was, is the licensing process sufficiently safe? That was
13 the main reason why we were planning to have Mr. Denton as
14 a witness, because he is a chief officer in the licensing pro-
15 cess.

16 As a matter of fact, may I point out, for example,
17 Commissioner Taylor's line of questioning near the end this
18 morning. He was arguing that the decision Mr. Denton made was
19 not good for the nuclear industry, and remember, he did not
20 anywhere speak of eventual abolition of nuclear power. But as
21 I heard him, he said that if this decision is made and, as a
22 result either of this Commission or of the NRC's own internal
23 investigation, they reverse it on a very short timetable, it
24 will create an even bigger credibility gap which he, as I
25 heard him say, felt could be very bad for the nuclear industry.

1 Yes, please?

2 QUESTION: What would Mr. Denton have testified
3 to today? You referred to the licensing process, but perhaps
4 in more detail, what was the line of questioning you were
5 going to pursue?

6 CHAIRMAN KEMENY: Well, we had hoped to ask him a
7 number of questions about the entire process of licensing
8 within NRC. You may remember that of the five investigatory
9 charges, one given to us by the President of the United States,
10 one deal entirely with the NRC, and point number one on that
11 is licensing. We have taken a number of depositions along
12 these lines, and we were planning to ask a number of questions
13 of Mr. Denton about the adequacy of the licensing process of
14 the NRC.

15 In effect, a number of those questions did come out
16 anyway, but they came out within a different context.

17 QUESTION: Dr. Kemeny, if you are not satisfied with
18 what the Chairman tells you this afternoon, are you prepared
19 to do something more, go beyond that, go over his head?

20 CHAIRMAN KEMENY: It will be up, again, to the Commis-
21 sion to decide what it is they wish to do as a follow-up to
22 that.

23 QUESTION: But will you continue the questioning you
24 never got around to today on the licensing issue?

25 CHAIRMAN KEMENY: I cannot answer that at the moment

1 because it will have to be a Commission decision.

2 QUESTION: You have two other witnesses scheduled
3 today that you have not heard yet.

4 CHAIRMAN KEMENY: Yes.

5 QUESTION: Are you going to hear them this afternoon,
6 or if not, what is going to happen to their testimony?

7 CHAIRMAN KEMENY: I do not know. Clearly, depending
8 on what happens otherwise this afternoon, the Commission will
9 have to decide whether to call them as witnesses, as we were
10 anxious to do, for both of them, or whether to go the deposi-
11 tion route and make it that way part of our public record.
12 Clearly, I have had no chance to consult with other commis-
13 sioners, and I don't wish to make a unilateral decision.

14 QUESTION: Dr. Kemeny, the point did not come out
15 during the hearing today, but is there anyone on your Commis-
16 sion or your staff who knows whether or not anyone at NRC had
17 at least informed the White House that Mr. Denton was going to
18 make that recommendation to resume processing of licenses?

19 CHAIRMAN KEMENY: I wish you had sat at this table
20 and had asked that question. Clearly, we slipped up on that
21 one and we forgot to ask that question.

22 QUESTION: You could ask Dr. Hendrie.

23 CHAIRMAN KEMENY: I don't believe anyone -- I don't
24 see how anyone on our staff could know that because we had no
25 information at all until this morning, is that not correct,

1 Chief Counsel?

2 QUESTION: Dr. Kemeny, it has been about a month
3 since the Nuclear Regulatory Commission released documents
4 talking about its lessons learned, and it contains some of the
5 same information that your Commission members, the same word-
6 ing, "necessary and sufficient changes," and one could infer
7 from those documents very easily that there was an imminent
8 decision on whether to begin licensing procedures again.

9 Why should not the Nuclear Regulatory Commission
10 have inferred from your long silence on this matter that you
11 had no objection to resuming licensing procedures?

12 CHAIRMAN KEMENY: Well, let me answer that in two
13 parts. Our Commission made it clear, it had been our hope
14 that we would issue one major comprehensive report on or before
15 October 25, that we would treat that as well as other relevant
16 matters. Secondly, as several commissioners brought out, we
17 have not had long silence on these issues because many of those
18 specific issues, as was brought out this morning, were addressed
19 in questioning by the Presidential Commission, but, unfortu-
20 nately, Mr. Denton had not been reading the transcripts of
21 those hearings.

22 QUESTION: May I ask Mr. Gorinson whether the staff
23 has been apprised yet as to whether Mr. Hendrie or any of the
24 other members are in town, or are they all away on vacation?

25 MR. GORINSON: I am in the process of finding that

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1 out right now. I understand at least one is out of town,
2 possibly more. So we are in the process of finding out from
3 the NRC who is available.

4 QUESTION: Dr. Kemeny, how has your view of the NRC
5 changed today after the events of the morning newspaper and
6 after listening to Mr. Denton in this hearing this morning?

7 CHAIRMAN KEMENY: I was asked the question yesterday
8 as to what the Commission's overall view was on the NRC, and
9 remember, I urged you yesterday to wait until today's press
10 conference so that we could give you a more balanced view of
11 it.

12 In spite of what happened, I am going to try to give
13 a balanced answer to that question. The reason I urged you to
14 wait until today was that some of the senior witnesses were
15 yet to be called, and there were a number of major areas.

16 I think by this time commissioners in their own
17 statements made it very clear that we feel that there are some
18 significant weaknesses in the Nuclear Regulatory Commission in
19 many, many different areas.

20 QUESTION: Can you amplify on that a bit more?

21 CHAIRMAN KEMENY: Well, I think going back to the
22 transcript of this morning's hearings would be better because
23 several of my colleagues on the Commission made such eloquent
24 statements to bring this out that I would hate to ruin it by
25 a less eloquent rendition of it.

1 QUESTION: Dr. Kemeny, does Dr. Denton's recommenda-
2 tion go right back to the economic problems that utilities
3 claim to be facing because of nuclear plant shutdowns or
4 freezes on operating licenses?

5 CHAIRMAN KEMENY: As I heard it, Mr. Denton testified
6 under oath that he is not allowed to take economic questions
7 into account in making a licensing decision. I think that was
8 the distinction he made. You also heard, I believe it was
9 Commissioner Pigford questioning him at very considerable
10 length on that particular subject, and I think I will let the
11 record stand on its own.

12 QUESTION: What rights do you as a Commission have,
13 legal or otherwise, to interfere in the NRC licensing process?

14 CHAIRMAN KEMENY: The only rights we have are to
15 investigate them and to make appropriate recommendations.
16 That is very, very clear. The purpose of this morning's ses-
17 sion was to discover, (a) how our ultimate recommendations
18 are affected and whether there should be some interim recom-
19 mendations by this Commission brought about by an unexpected
20 event.

21 Yes?

22 QUESTION: Is it possible, Dr. Kemeny, that what in
23 your view and the Commission's view is a premature resumption
24 of the licensing process could have adverse economic effects
25 on the public as well as the effects on health and safety, in

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1 the sense that if, indeed, a plant was granted a license and
2 allowed to open operations and then had to shut down, the
3 public would then be asked to pay for it?

4 CHAIRMAN KEMENY: Yes, I believe it was Governor
5 Babbitt who argued that very strongly, that just saying, well,
6 we can always issue, let's say, a construction permit and
7 revoke it a day or a month or two months later. First of all,
8 as I remember his line of questioning, questioned whether NRC
9 would really do that with the pressures that come, and secondly,
10 certainly part of that implication would be that if such action
11 is taken, somebody would have to pay a very, very substantial
12 cost on this.

13 Therefore, in this sense, that is another example
14 in Governor Babbitt's questioning similar to Commissioner
15 Taylor's, that it is not obvious that this decision is in the
16 interest of the nuclear industry. And certainly, to be respon-
17 sive to you, there are serious questions as to whether it is
18 in the public interest if a plant is started -- there are
19 millions of dollars, hundreds of millions of dollars, committed
20 -- and then Mr. Denton becomes convinced because of action of
21 this Commission or its own internal investigation or a congres-
22 sional investigation and has to revoke that license, enormous
23 sums of money are poured down the drain and the public, I think,
24 in the long run would have to pick up a major part of that
25 cost.

1 QUESTION: Dr. Kemeny?

2 CHAIRMAN KEMENY: Yes?

3 QUESTION: Obviously, your group is very disturbed
4 by this occurrence, and I am wondering, I want to make sure
5 now, what do you do, assuming that Mr. Hendrie comes in here
6 and says, well, I'm sorry and I understand that you disapprove,
7 but we are just going to have to go along with Mr. Denton's
8 recommendation? Do you go to the President? This is a blue
9 ribbon panel; that's the only power you've got, really. If
10 you strongly disagree, what do you do?

11 CHAIRMAN KEMENY: Well, of course, our first power,
12 we hope, if we can get Mr. Hendrie or other commissioners here,
13 is the power of persuasion because, as Mr. Denton said, the
14 NRC Commission has the right to overrule this. It certainly
15 would be preferable if that happened.

16 QUESTION: And if it doesn't?

17 CHAIRMAN KEMENY: If it doesn't happen, as you cor-
18 rectly pointed out, the only power we have is to make an
19 interim recommendation to the President of the United States,
20 and it will up to the Commission as a commission as to whether
21 we wish to go that route or not.

22 QUESTION: Dr. Kemeny, this is sort of precedent
23 setting. In your first day of public hearings, you had to
24 cancel your afternoon sessions because you could not get
25 subpoena power. Would you think about cancelling the rest of

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1 the witnesses for today until you got some action from one of
2 the commissioners?

3 CHAIRMAN KEMENY: That depends on how successful we
4 are in getting commissioners here. Clearly, we have two key
5 witnesses we very much wish to hear, and I suspect, depending
6 on how -- we would have to make that decision depending on how
7 the timing of having an NRC commissioner here as a witness
8 works out.

9 Yes, please?

10 QUESTION: Dr. Kemeny, do you happen to know if
11 Salem II is a GPU facility?

12 CHAIRMAN KEMENY: I do not myself know that.

13 Thank you.

14 (Whereupon, at 1:05 p. m., the press conference was
15 concluded.)

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