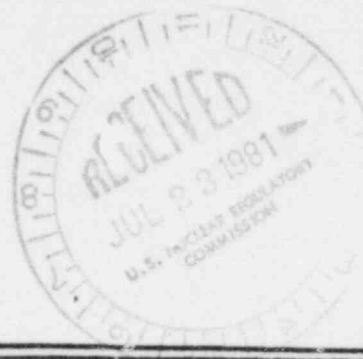


NUCLEAR REGULATORY COMMISSION

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DOCKET 50-320

In the Matter of: MEETING OF ADVISORY PANEL FOR THE
DECONTAMINATION OF THREE MILE ISLAND, 2

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NUCLEAR REGULATORY COMMISSION
MEETING OF ADVISORY PANEL FOR THE DECONTAMINATION
OF THREE MILE ISLAND 2

THURSDAY, JULY 9, 1981

Holiday Inn
23 South Second Street
Harrisburg, Pennsylvania

The meeting of the Advisory Panel for the
Decontamination of Three Mile Island Unit 2 convened, pursuant
to notice at 7:15 p.m.

PANEL MEMBERS PRESENT:

- JOHN MINNICH, Chairman
- JOEL ROTH
- ROBERT G. REID
- ARTHUR E. MORRIS
- ANNE TRUCK

DELEGATES REPRESENTING PANEL MEMBERS PRESENT:

- GEORGE K. TOKUHATA
- THOMAS M. GERUSKY

NRC LIAISON PRESENT:

- WILLIAM TRAVERS

P R O C E E D I N G S

1
2 CHAIRMAN MINNICH: Good evening, ladies and gentlemen.
3 Welcome to the meeting of the TMI advisory committee. Jim
4 Gormley would like to address the panel. Jim, if you would
5 identify yourself for the secretary.

6 MR. GORMLEY: I subscribe to this magazine called
7 Power magazine, and in it is one leading sentence in an article
8 on the interim progress of the cleanup of Three Mile Island and
9 in it it says, "despite the many delays imposed on engineers
10 responsible for the recovery of the Three Mile Island nuclear
11 station, most of them created by financial, regulatory and
12 political obstacles," and the operative word for me is obstacles,
13 "cleanup crews continue to make significant headway."

14 The reason that I asked for the opportunity to speak
15 is because people's concern and people's input into the cleanup
16 of Three Mile Island has been converted into the word obstacles
17 and citizens are seen as obstacles to a safe cleanup, and I think
18 that that has been in part due to the insufficiency of this
19 committee and this panel to provide effective citizen input into
20 the cleanup.

21 I would like to suggest two things to make this panel
22 more responsive. One is to allow periods like this for people to
23 express their concerns briefly before business is conducted by
24 the panel; and two, to allow citizens to make comments, suggestions
25 and changes to the panel's agenda for the evening in order that

1 their concerns could be addressed. That is essentially all that I
2 really have to say.

3 CHAIRMAN MINNICH: I will respond to your two points.
4 Number one, we have attempted to let folks address the panel. As
5 I pointed out to you, I do not quite agree that it is significant
6 whether that is at the beginning or at the end. As to the agenda,
7 we generally agree, we the panel agree, that we are going to zero
8 in on a certain issue or a certain topic, and we then ask for
9 people to come who can address those topics and to change that
10 agenda that evening would be extremely difficult. You know, I
11 have no problem with people addressing the panel, and we will
12 continue to try to do that.

13 I did mention to you that we may even have -- you mean
14 where we do nothing but have people address the panel. I think
15 that would be good, but when we do have certain issues as we have
16 had where we zeroed in on specific topics, we cannot spend the
17 whole evening in another direction.

18 MR. GROMLEY: The intent is to provide an opportunity
19 early on in your meeting so people's concerns can be brought
20 forward before business is initiated.

21 CHAIRMAN MINNICH: I understand.

22 MR. DAVIS: Mr. Minnich, Grant Davis is my name. I
23 would like to suggest that the committee consider calling some
24 expert witnesses on various phases of the cleanup and worker
25 safety, such as, just for instance, Mancuso, Ratford, or Carl

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1 Morgan, rather than relying strictly upon NRC, DOE and the company
2 itself.

3 CHAIRMAN MINNICH: Is there anyone else, know if your
4 time.

5 Would you identify yourself, please?

6 MR. SMITHGALL: Thomas Smithgall.

7 Again, I will ask the same question that I asked at the
8 last meeting, and that is has there been any motion towards
9 replacing the people that are vacant on the panel at this point?

10 I would like to kind of tag on what Jim has said, that
11 that is a good way to get citizen input.

12 CHAIRMAN MINNICH: That is right.

13 To my knowledge, there has not been, and of course, I
14 have received copies of your correspondence and other correspon-
15 dence that was sent to the NRC. I am just not in a position to
16 answer that.

17 Bill, are you aware?

18 MR. SMITHGALL: Maybe I can ask a question then,

19 Is it true that there are approximately three vacancies
20 on the panel at this point in time taking into consideration
21 that this state is one?

22 CHAIRMAN MINNICH: Counting the state as one, there
23 are three, yes.

24 MR. SMITHGALL: Maybe I can just ask a few questions
25 before Bill can comment.

1 Originally, how many were on the panel?

2 CHAIRMAN MINNICH: Twelve, I believe.

3 Bill, do you have any comments?

4 MR. TRAVERS: The Commission, as a matter of fact, is
5 actively pursuing replacement membership on the panel. I would
6 expect in the near future that there would be one in that same
7 type of area that would count as an original and one from
8 citizens, scientific, and local government.

9 MR. SMITHGALL: Is there any timeline on that at all,
10 do you know?

11 MR. TRAVERS: There is no deadline, if that is what you
12 mean.

13 MR. SMITHGALL: No, I was referring to a timeline, not
14 necessarily a deadline; are you planning next year, next week,
15 next month?

16 MR. TRAVERS: I would say that it would be within the
17 month, just guessing.

18 CHAIRMAN: Thank you. Tom.

19 MR. MORRIS: Mr. Chairman, for the record, could I just
20 mention that I think that it would have been highly inappropriate
21 to replace at least one of those individuals until recently. As
22 to Mr. Palodino, I guess that that has just recently come into
23 fruition. I do not think that there really has been a dragging
24 out. I think that now is the time to act, but I think that in the
25 past that there would have been some inappropriateness to replace

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1 at least one of those panel members.

2 CHAIRMAN MINNICH: You are right, and I have been, as
3 has the NRC, been in contact with the Governor about a decision
4 on the state. That I am sure will be forthcoming.

5 Is there anyone else; yes, sir, go ahead.

6 MR. ROACH: Donald Roach is my name, and I am a worker,
7 a steel worker, in Local 1688, and we have a couple of fears.
8 Not all of us, mind you, have these fears, but we are wondering
9 what happens to the nuclear waste. We melt steel down and it
10 has either been intimated or written that some radioactive waste
11 may be coming down through the mills at a future time judging
12 by avowed intentions of the nuclear people to get rid of this
13 waste.

14 Secondly, I would like to know if it is possible to get
15 the names of any of the workers who have already been contaminated
16 in TMI because we would like to talk to them, hear their fears
17 and see their attitudes, and see what they think of the longterm
18 health effects themselves. Because we right now in steel are
19 monitored for lead content and other things, not for radiation;
20 not all the workers, but the ones who are dealing with the
21 situation in steel making.

22 Also, we would like to know why Pennsylvanians are not
23 being made responsible for the waste from TMI, why are we shipping
24 it out of the state. I think that it is rather disloyal as a
25 state considering the laws.

1 CHAIRMAN MINNICH: Well, let me tell you, Donald, if you
2 have not been aware of what is happening in this state, you
3 certainly should be. We cannot even get people to agree on a
4 solid waste disposal area. Compound that by dealing with toxic
5 waste and with radioactive waste, and the question then arises
6 whose backyard are you going to put it in.

7 MR. ROACH: I should think that if we are so pro nuclear,
8 we meaning them, then in ours, we should go the whole way.

9 But is there any possibility of meeting any of these
10 unfortunate workers?

11 CHAIRMAN MINNICH: Explain what you mean by contaminated,
12 do you mean those who --

13 MR. ROACH: Exposed, whatever the word is that is used.
14 I am not a low level radiation fan myself.

15 CHAIRMAN MINNICH: Right.

16 MR. GERUSKY: Mr. Chairman.

17 CHAIRMAN MINNICH: Yes.

18 MR. GERUSKY: Mr. Chairman, there is a privacy problem
19 associated with this. If the workers are willing -- you can make
20 an announcement and ask any workers who have been exposed or
21 contaminated to come meet with you, and it is up to them. Under
22 our regulations and under NRC regulations, the company cannot
23 reveal the names for the exposures. That is a medical record and
24 that is private. So there is a problem in handing out to anyone
25 names of individuals unless they agree, and that is the problem.

1 Relating to the waste disposal situation, the Governor
2 in his presentation today announced that he as chairman of the
3 coalition of northeastern governors is working on an agreement
4 the northeastern states to have a compact for a low level
5 waster disposal site in the northeastern states. A subcommittee
6 of the environmental committee of the coalition of northeastern
7 governors is working on drafting legislation, standards, and
8 working with the Department of Energy and the other millions of
9 private and public agencies who are interested in this subject to
10 draft the proper regulations and standards for this compact.

11 There is a Federal requirement under a 1980 law that
12 says that the states are responsible for all the low level waste
13 generated within their state and it provides for compacts among
14 states for regional disposal sites and the compact can be
15 exclusive to those states in the compact after January 1, 1986.
16 So we in the northeast do not have a disposal site, but we must
17 have a disposal site by January 1, 1986 or there will be no place
18 to dispose of low level waste.

19 There are three locations in the country where
20 Pennsylvania waste is shipped; Nevada, South Carolina, and the
21 State of Washington. All three are working towards compacts and
22 will exclude, in my opinion, will exclude the non-compact states
23 from disposing in their sites on January 1, 1986. It is not very
24 far away, 1986 is pretty darn close.

25 MR. ROACH: Before the decision is going to be made on

1 TWI.

2 MR. GERUSKY: No, no.

3 MR. ROACH: It will be after that.

4 MR. GERUSKY: No, a decision on the location for a
5 waste disposal site in the northeast will have to be made in the
6 next year so that site will be ready for 1986. It is a long
7 process as far as impact statements, hearings, licensing, who is
8 going to regulate it; is the state going to regulate it, is the
9 Federal government going to regulate it, and so forth. There are
10 a lot of problems associated with the establishment of a low
11 level waste site in the northeast. Getting the states together
12 was a problem.

13 MR. ROACH: One of the things that people do not under-
14 stand is that eventually they are going to have to have their
15 waste near them in their own state. There are a lot of people who
16 believe that as long as it is being shipped out --

17 MR. GERUSKY: This is not radioactive, low level toxic
18 waste.

19 CHAIRMAN MINNICH: Toxic. other waste. It is the whole
20 ball of wax, and it is not going to be easy to solve.

21 MR. ROACH: It is going to come to this where we will be
22 locally held in the northeast.

23 CHAIRMAN MINNICH: We are very much aware of that, Mr.
24 Roach.

25 MR. GERUSKY: We have been working with the Department

1 of Energy and other agencies in looking at the methodologies for
2 low level waste disposal and we believe that the best approach in
3 the northeast is an engineered waste disposal site so that you
4 can design the site -- not just to dump stuff into the ground
5 because of the ground water problems and rain problems -- design
6 a site so that if there are problems the material can be removed
7 and could be accurately monitored for hundreds of years.

8 MR. ROACH: This is interesting, because this is the
9 first time that I have heard it definitely stated that we will
10 have to take care of our own waste.

11 MR. GERUSKY: All I am saying is that we must have a
12 site available to us by January 1, 1986, and we are trying to work
13 with the northeastern states to get a site. That is as far as I
14 go, who knows what is going to happen.

15 MR. ROACH: But we are responsible for it, because it
16 should be taken into the decision.

17 CHAIRMAN MINNICH: We were made aware of this in
18 January, that Congress had passed this legislation, and it was our
19 first meeting in January that we were advised of this legislation.

20 MR. ROACH: It has been overridden for a while to the
21 best of my knowledge, has it not; we can still send our waste to
22 Washington and North Carolina.

23 CHAIRMAN: MINNICH: Yes, because of a recent court action,
24 yes, but how long that will remain -- I am sure that they will
25 file an appeal.

1 MR. GERUSKY: You will notice that BP&L has announced
2 that they are requested to build a storage area for their low
3 level waste on site at the Berwick plant under the assumption
4 that there may not be a place to dispose of waste by that time.

5 CHAIRMAN MINNICH: Mr. Roach, that is why this panel
6 concentrated and felt that it should concentrate on the issue
7 of getting that low level waste off of the Island before the July
8 1st deadline, and we took a very strong position with the NRC who
9 in turn eventually agreed with our position, and because of
10 corroboration, etcetera, those 22 casks have been removed. Do not
11 get me wrong, there is still waste down there, but those 22 have
12 gone. We were faced with a deadline, the closing, and nowhere
13 else to go, and we did not want it sitting down there forever.
14 You know, that was one of the issues that we worked on very
15 strongly and very hard.

16 MR. ROACH: Thank you, very much.

17 CHAIRMAN MINNICH: Thank you.

18 Before you start, before I forget folks, they have extra
19 copies of the Governor's press release today. If you have not
20 seen it, it is available over here in the box, and any or all are
21 welcome to a copy. Thank you.

22 MR. GERUSKY: The Governor's office has stated that all
23 you have to do is write to them and they will send you a copy, if
24 you do not want to carry one home, or call them. I have copies.

25 MR. MANIK: Al Manik, Middletown.

1 CHAIRMAN MINNICH: Hello, Al.

2 MR. MANIK: Good evening, John, we are old friends.

3 What I want to talk about tonight, in tonight's paper
4 there was an article on embrittlement of, I presume, some steel
5 in a reactor someplace, I do not know exactly where. This begins
6 to disturb me. I presume that this deals with hydrogen embrittle-
7 ment, and the reason that I bring this up is the fact that on
8 sensitive aircraft in Warner Robbins, we set up a system whereby
9 we radiographed or X-rayed, if you want to term it that, aircraft,
10 the process we went through.

11 What I am interested in here is what the process was and
12 who determined it?

13 CHAIRMAN MINNICH: Al, that is what I mean, that is a
14 good point. All I saw in the paper was the headline, I did not
15 read the article, and perhaps when we get going here, as we get
16 an update, maybe we can have someone address that issue for you.

17 MR. MANIK: Okay, I would like to shortcut my statement
18 then to the fact that if we do not get to it or we cannot cover
19 this because of the timeframe, perhaps maybe your committee could
20 develop something and pick up the information. This disturbs
21 me. If we cannot talk about it tonight, maybe I could talk to
22 you.

23 CHAIRMAN MINNICH: We will try to talk about it tonight.

24 MR. MANIK: All right, thank you.

25 CHAIRMAN: MINNICH: Is there anyone else?

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1 MS. PICKERING: My name is Kay Pickering and I work in
2 the office at Three Mile Island Alert. It has come to our
3 attention that the publicity surrounding the advisory panel
4 meetings is light; maybe that is not the appropriate word to use.
5 We knew for about a week and an half of where it was to be held,
6 the time, and all that sort of stuff. We have notified our
7 membership, but we had to do it by first class mail which is very
8 expensive for a volunteer organization such as ours, and we made
9 the extra effort.

10 We have had calls at the beginning of the week from
11 people who received it or heard about it through their friends
12 saying where do we get the information. They had not seen it in
13 the paper, they had not heard about it on the radio, and they had
14 not heard about it on TV. Why are we so privy to the information
15 as to where or when the advisory panel is meeting, and it is not
16 open to the public?

17 What I am saying is that it is very, very important that
18 there be adequate publicity far enough ahead of the advisory panel
19 meetings, and we are also asking you that the agendas be printed
20 so that people know whether you are talking about waste, worker
21 safety, what types of expertise you are going to have, what issues
22 they can zero in on so that they can make appropriate comments at
23 these meetings.

24 We are also suggesting that there be paid publicity, not
25 just depend on PSA's that are to be sent out a week ahead. Our

1 additional concern is that the language of the ads that be placed
2 be appropriate for the general public. Many people have come to
3 us and said that the technology, the words that are used, are
4 just too far above me. I do not understand what is going on, I
5 do not understand technical terms. I want to be a part of this,
6 I want to have a give and take with the advisory panel, but I need
7 to know in every day layman's language what it is that they are
8 talking about and what is going on so I can understand and be part
9 of the process.

10 CHAIRMAN MINNICH: Kay, first of all, we did not know
11 until about the same time where we were going to meet. We knew
12 when we met in Lancaster that we had selected the date, but we
13 did not know at that time where it would be, in Harrisburg some-
14 where. As far as I know, the announcement on the meeting is a
15 very simple announcement that the advisory committee is meeting
16 at such and such a time and at such and such a location, that
17 is it. I do not understand the technical, above people's heads
18 kind of thing.

19 MS. PICKERING: The announcement we are suggesting in
20 addition to what you presently do is that there should be a paid
21 announcement that is put into local papers.

22 CHAIRMAN MINNICH: I understand that, but you are not
23 addressing my question. I do not understand the language that is
24 above someone's head. If I see something that I can agree with
25 you, I will agree with you, but to my knowledge, it is a very

1 announcement simply saying -- it comes out of the NRC, that the
2 panel is meeting at such and such a time and at such and such a
3 location. We do not put an agenda in it, true.

4 MS. PICKERING: We are asking for some sort of agenda.

5 CHAIRMAN MINNISH: I understand that.

6 For instance, tonight we do not have an agenda. We are
7 playing it by ear, okay. How would we print that, we are going to
8 play it by ear tonight.

9 MS. PICKERING: And you would not have any expert people
10 who would be addressing the panel, we think that that is
11 important. If there are experts who are coming, their names or
12 something about them be included, so people will know that ahead
13 of time. The language problem I think has to do more with
14 reporting and what actually goes on at the advisory panels
15 meetings.

16 CHAIRMAN MINNICH: But that is not in our province.

17 MS. PICKERING: For instance, there are quite a few
18 people here tonight. There may be items that come up tonight
19 that we would not understand or need clarifying. Can't there be
20 an effort so that we would understand what actually is the
21 bottom line in the issues, that they can be clarified or
22 reiterated in terms that we would all understand.

23 CHAIRMAN MINNICH: I am going to confess to you that
24 sometimes I am not sure what is going to be said either. All one
25 has to do is raise their hand and we would be glad to try to have

1 rephrase it in language that they understand. I do not see that
2 as any problem. I can only refer the request for the paid notice
3 to the NRC. I am not sure how it is handled exactly. I depend
4 on those folks, I have other things that I am tied up in. I do
5 not handle that, Bill takes care of it for us. As for the
6 agendas, you know, we really do not have a specific agenda. We
7 agree that we may want to discuss a specific area; for instance,
8 the last meeting was devoted to worker exposure.

9 It can cover a whole realm of things, and much of that,
10 quite frankly, I spent listening and not talking, and much of it
11 was beyond my realm and I have to depend on others to be able to
12 interpret.

13 MS. PICKERING: We have also asked for additional
14 experts to be brought in, and as you consider your agenda items
15 and who will be addressing the panel, maybe they could be
16 incorporated together.

17 CHAIRMAN MINNICH: Exactly, and in fact, I am circulating
18 a note on that right now.

19 MS. PICKERING: Thank you.

20 CHAIRMAN MINNICH: Is there anyone else?

21 MR. SINGER: My name is Dale Singer.

22 Are you encertaining questions on Thornberg's statement
23 in the paper tonight?

24 CHAIRMAN MINNICH: No, because for one thing -- I should
25 not be so presumptuous, I can only speak for myself, and then I

1 will look to the panel members. I have not even had a chance to
2 read it. I have been tied up in other things. I have glanced at
3 the headline and part of the front page, and that is it. I have
4 not read it. I do not know exactly what he has to say, and I do
5 not think that this is the time to address that, perhaps the next
6 meeting, but I would defer to the members. Apparently, they have
7 not read it either, and I think that it would be a little bit
8 early to comment on it. Perhaps we can get into that at the next
9 meeting.

10 MR. REID: Do you want to comment on it would be my
11 question?

12 MR. SINGER: Yes, but if you do not want to make any
13 comments in response.

14 MR. REID: I will try.

15 CHAIRMAN MINNICH: Where are you from?

16 MR. SINGER: Lancaster.

17 First of all, has the panel ever discussed whether you
18 believe the rate payers of the stockholders are responsible for
19 the cost?

20 CHAIRMAN MINNICH: No, we have not.

21 MR. SINGER: That kind of thing has not been discussed?

22 CHAIRMAN MINNICH: No, we have not.

23 MR. SINGER: According to this, it is implying that the
24 rate payers will be paying for this as opposed to the stockholders,
25 because he is saying that you know, when we set up these

1 insurance funds for utilities that will be paid by the rate payers,
2 etcetera; the whole thing is a list of what the rate payers would
3 pay as opposed to the stockholders. In fact, he even goes on to
4 say that after concerns about the cleanup come -- I guess what he
5 means by that is a list of concerns. After that happens,
6 discussions will be made as far as restoring stockholders'
7 investments which means that not only won't the stockholders be
8 liable but that the investment will be given back to them as
9 opposed to any other industry that you might invest in and you
10 would lose your money if the industry folded.

11 I just thought that that was incredibly unfair to the
12 rate payers to have the rate payers burden the whole cost and the
13 stockholders free and clear; that is what he is implying in the
14 article. I guess that I will defer to a later meeting for
15 discussion on that.

16 CHAIRMAN MINNICH: Fine.

17 Is there anyone else, quickly.

18 MR. PEFFLEY: Sir.

19 CHAIRMAN MINNICH: I am going to cut it off. We are
20 already past the 7:30 mark, and I want to move into some other
21 areas. If you do not mind then, when we finish we will come back
22 to the folks out here and pick up, but go ahead.

23 MR. PEFFLEY: Thank you, my name is Dan Peffley, and I
24 live within the ten mile area. I am a man, and what affects my
25 fellow man is a concern of mine. I see this article in the paper

1 here.

2 CHAIRMAN MINNICH: Which one, sir?

3 MR. PEFFLEY: The Harrisburg paper. It says here that,
4 "currently the nuclear reactors are stockpiling their spent
5 radioactive fuel on site, but many sites are expected to reach
6 their capacity in the next three years." Disposal of these
7 wastes is a prime concern of many people that I know. If it is
8 as stated that current reactors are stockpiling their spent
9 radioactive fuel and that many of the sites are expected to reach
10 their capacity in three years and that is before 1986, why is it
11 of prime importance to get TMI 1 going to generate more waste
12 when the economy and the economizing means are put into effect to
13 cut down on the consumption of the material?

14 I wish that you fellows when you consider these things
15 would consider just letting the thing status quo, don't worry
16 about running the things, and maybe by 1986 when the low level
17 waste that polluted the other reactors TMI will have come of age
18 and by that time they will know more about it and it will be a
19 safer operation for everybody.

20 CHAIRMAN MINNICH: Dan, this panel has not addressed
21 itself to whether 1 or 2 will restart. Our charge is to get the
22 unit cleaned up, and that has been what we have been concentrating
23 on. I might share with you that I have spent, along with some of
24 the panel members, a very frustrating time in Washington, D.C.
25 over the exact issue that you are talking about. There are many

1 in Congress who do not share our concern here for the disposal of
2 that high radioactive waste. I might comment that I think -- I
3 have a letter here from the Department of Energy where in order
4 to get the high radioactive waste off the Island, we have to play
5 semantics and games. DOE, and I thank them for taking it, is
6 going to take it for experimentation. That does not help the
7 problem of storage, adequate safe storage, but I do not blame that
8 on DOE.

9 I blame that to a great extent on the attitude of
10 Congress. The Congressional attitude -- I came away quite
11 disappointed with the outlook in Washington on the Hill toward
12 our problem at TMI, but included in that is the disposal of high
13 radioactive waste. To my knowledge at this moment, there is no
14 safe storage for the high radioactive waste, so the Department
15 of Energy has to take it for experimentation and testing in order
16 to get it off of that Island, and that is playing games really
17 in a way, because Congress will not deal with the issue.

18 MR. GERUSKY: Earlier, the subject that I was discussing
19 earlier, was low level radioactive waste, and there is a
20 significant difference between spent reactor fuel and the low
21 level waste that Congress has said is the responsibility of the
22 states. The high level waste, the spend reactor fuel, is the
23 responsibility of the Federal government, and there is a brand
24 new bill, the Udall sponsored bill, I think that it is 626, but
25 I am not sure. I have it on my desk, it just came in today.

1 That directs itself towards the high level waste issue
2 in that respect, and there are three or four pieces of legislation
3 in Congress now to handle the high level waste problem in the
4 Federal government. It is the Federal government's responsibility.
5 They have already made that decision. So there are two issues,
6 one is the low level waste, the contamination, the non-long
7 half life material, the non-fissionable material, plutoniums and
8 so forth. The shorter half life material and the low level
9 material compared to a reactor fuel element which is very, very
10 high level.

11 Probably one reactor fuel element contains the same
12 amount of radioactivity that all the waste sites, the low level
13 waste sites contains.

14 MR. PEFFLEY: I think that you guys are doing a
15 commendable job as far as fielding all the questions and every-
16 thing, but I think that you should, you know -- as far as my
17 family and I are concerned, and my friends and neighbors are
18 concerned, do not do us any favors, that as far as the involvement
19 that you have, to make it any easier for them to start the place.

20 CHAIRMAN MINNICH: Thank you.

21 I would like for the panel members so we know exactly
22 where we are with Unit 2, I am going to call on Gale to come
23 forward and brief the panel on exactly where they are at with
24 the cleanup and tell us if the system went into operation this
25 afternoon, etcetera, etcetera.

1 MR. HOVEY: Gale Hovey, Director of TMI 2.

2 We have made a number of accomplishments, Mr. Minnich,
3 over the last few months in terms of the cleanup, not nearly as
4 much as we would like to, but one of the more frustrating things
5 to the people at TMI 2 is the lack of the wherewithall to get on
6 with the job that has to be done expeditiously. To that end, we
7 applaud Governor Thornburg for his leadership in proposing at
8 least an outline of a solution for the funding problem.

9 I think that there are a few key areas that are of
10 interest. One is the matter of disposal of certain shippable
11 Epicore II liners. Back a few months ago, we had 72 liners on
12 site, and we have 49 at present. 22 of the lower level liners
13 were shipped to the disposal site in the State of Washington
14 prior to what we then saw as the June 30th closure date. It was
15 also a de facto closure time for shipping of that kind of
16 material because there are certain requirements for that kind of
17 material regarding solidification and such that went into effect
18 June 30th.

19 But we did get all 22 off, and they are gone and
20 disposed of. One was shipped to Battelle Columbus laboratories,
21 one of the higher level liners for examination. We are starting
22 to get some results back from that, and we will have a more
23 thorough briefing in Columbus next week on that from the people
24 who are doing the examination work. The remaining 49 are still
25 on site. We are engaged, or rather the Department of Energy is

1 engaged in a development program for a high integrity container
2 on those liners. Basically, it is taking those particular
3 containers and putting them inside a container that would last in
4 a disposal site for three hundred years at which time the
5 radioactivity basically would have decayed away.

6 That would be our current -- we have told the NRC that
7 that is our current proposal to dispose of or at least to put
8 those liners in a more safe condition than they are now. We do
9 not view that as being a threat at this time to the health and
10 safety of our public, and we do plan to put those remaining
11 liners in high integrity containers after the development program
12 is completed and we have a package that we can go out and
13 purchase a number of these. That, by the way, we hope will start
14 happening next year.

15 In terms of shipment of low specific activity waste,
16 again, we like a lot of other reactors in the country are facing
17 the specter that one of the three waste commercial shallow land
18 disposal sites closing down to out of the State of Washington
19 waste as of June 30th, so we like a lot of other people have been
20 on a campaign to reduce our backlog in inventory to the maximum
21 extent possible, and we were successful in that. On the tour
22 that some of you folks went on today, I pointed out the staging
23 area and noted that we did need that kind of staging area because
24 we like to ship in truckload lots, and we basically have very
25 close to less than a truckload lot of shippable low specific

1 activity waste, so we basically accomplished that objective.

2 As it turns out, Mr. Gerusky mentioned that the State of
3 Washington's disposal site is currently still open because of the
4 injunction issued by the Federal District Court judge, and I think
5 that not only is it likely, but it has been stated by the State
6 of Washington that they will appeal that decision, and I do not
7 know the timing of that and certainly, I do not know the outcome.
8 But of course, as you well know, that is the only shallow land
9 disposal site available to TMI 2 at : at particular point in time.
10 The other two are not for a variety of reasons.

11 In terms of the submerged mineralizer system, that
12 system which has been designed and constructed to decontaminate
13 the water in the reactor containment building and the reactor
14 cooling system, when I left we were on the verge of starting the
15 operation, people were in place, and if it has not already started,
16 we do expect to start operation of that system tonight. The initial
17 batch of water that will be processed will be some 100,000 gallons
18 of relatively low activity water.

19 We have not processed water for some time. This is low
20 activity water that has been accumulated as a result of our
21 continuing program of auxiliary building, decontamination, tank
22 flushing, line flushing, and the like. It is a fairly straight
23 forward process. The reason for it is fairly straight forward,
24 that we have to process that first, and we have to clear some
25 tankage free so we can go on to processing the reactor building,

1 sump water.

2 The processing of the 100,000 gallons approximately of
3 auxiliary building water will take on the order of a month or
4 so, so we hope and plan that sometime in August, hopefully by the
5 end of August, that we will be transferring water out of the
6 reactor containment building and starting the processing of that
7 water. That will take on the order of -- the sump water
8 processing will take on the order of six to eight months, hopefully
9 less. It depends on what our throughput on the system is.

10 I might mention that one of the advantages of processing
11 the lower activity water first is that we will get a good feel,
12 a good operational experience on the system with some lower
13 activity water before we start processing the more highly radio-
14 active water.

15 I think that those are the key things in terms of
16 progress. We continue to be at a greatly reduced level certainly
17 from where we were a year ago in terms of progress of Three Mile
18 Island and the basic reason for that is the financial situation.
19 We are making progress where we can as far as funds permit, trying
20 to put the money to those things which constitute the greatest --
21 in addressing those things that constitute the greatest near-
22 term threat to the health and safety of the public, and in our
23 view that of course if the processing of the radioactive water
24 which we are pursuing.

25 So those are kind of the key elements, and certainly, if

1 there are any questions that the panel may have, I would be happy
2 to address them.

3 MR. GERUSKY: I never did find out what was found out by
4 by the polar crane.

5 MR. HOVEY: Mr. Gerusky is referring to the -- I am not
6 sure, I was on vacation last week, and I am not sure if we are
7 calling the thirteenth entry or the second phase of the twelfth
8 entry, but there was one last week. The purpose of that was to
9 investigate the conditions of the polar crane which is large
10 crane inside the reactor building which must be in working order
11 to permit removal of things like the reactor pressure, the
12 pressure head, when the time comes to defuel. As we suspected,
13 Tom, there is rather extensive damage of various kinds to heat
14 primarily, we feel.

15 There will have to be a lot of refurbishment, but as has
16 been the case with all of our containment building entries, it
17 is a piece of information that we did learn that we did not know
18 before, and now we know in much greater detail what we have, and
19 we will be able to do the planning and procurement, and that sort
20 of thing that is necessary to refurbish it.

21 MR. REID: Gale, on the SDS, the question occurred to me
22 after we had finished seeing it today, is trying to understand the
23 timeframe involved from the water that is starting to be
24 processed to the time that it hits the storage tank. In other
25 words, say, on August 1st at 8:00 the water goes in, when will

1 that water hit storage where it can see, what type of radio-
2 activity, how clean it is, what type of time frame?

3 MR. HOVEY: Well, let me see, we figure on the average
4 of three gallons per minute processing rate. Say, about 4000,
5 give or take, gallons a day, so it would take -- and there are
6 fifty thousand gallon batches in our feed tank, so that would
7 take about two weeks to process a batch.

8 CHAIRMAN MINNICH: You say that it takes about a day to
9 process 4000 gallons?

10 MR. HOVEY: Yes, roughly.

11 So that water would go through the submerged
12 demineralizer system into one of our lead tanks which is a
13 shielded tank in the auxiliary building, and there that sump
14 water will be processed through Epicore II. If you figure about
15 the same net processing rate, that is another two weeks. So in
16 total time, it would be roughly a month from the time when the
17 first quart of water goes through until it ends up in our monitor
18 tanks at the end of Epicore II.

19 MR. REID: This will constantly monitored; in other
20 words, it will be an ongoing monitoring?

21 MR. HOVEY: Yes, at various stages along. We are
22 interested in the performance of the individual component. You
23 saw the sampling glove boxes today. They are connected to
24 various points in the system, and we have got limits. I might
25 say that once it goes through the SDS or even through the

1 Epicore II, it does not go immediately out to our processed water
2 storage tanks or immediately through Epicore II. In either case,
3 it does go a tank where it is sampled and analyzed, and there are
4 certain limits. We can recycle it if necessary, depending on where
5 it is in the system where we would recycle it to and process it
6 again.

7 MR. REID: One other question, I am sure that it is not
8 an easy question, and you have talked about it, and we have all
9 talked about it, that is the financial aspects. You are saying
10 that you are not where you would like to be, and we deep talking
11 about that. It just seems to me at this stage -- I am really
12 concerned as to how much can you do, how much money do you have
13 right now, and where will that take you?

14 In other words, when will that stop? If the four bills
15 to come up with a billion dollars, if nothing happens, where will
16 your decontamination have to stop; do you think that you will get
17 through SDS, do you think?

18 MR. HOVEY: There are two basic reasons why we have
19 reduced our level of effort, and one of them is the near term cash
20 flow problem that Metropolitan Edison has as fifty percent owner
21 of the plant, and that is the situation that says that you cannot
22 pay your bills. You cannot have the high level of effort if you
23 cannot borrow the money from the banks which is our only source of
24 funding right now for cash, short term borrowings. You just do
25 not have that. The banks have basically been disappointed in what

1 the PUC has done in the case of rate relief, and they have not been
2 exactly all that free with their money, the amount of credit that
3 is made available.

4 The other reason is with that problem aside, that there
5 is so much insurance money left that could be used given the
6 situation for cleanup. I guess a straight forward answer to your
7 question is that the current level of effort, level of spending,
8 fifty to sixty million dollars per year, if that is maintained,
9 the insurance money runs out in early 1983. Then we basically
10 would have to revert back to what we refer to what we refer to as
11 a cold iron situation where we are not doing much except the
12 base line necessary babysitting types of things, no net forward
13 progress in cleanup.

14 I might mention that there is another aspect to that.
15 There are a lot of things that we need to be doing now that we are
16 able to do some of but not as much as we would like in terms of
17 the engineering, procurement, those kinds of things that would
18 permit things to stay on schedule.

19 CHAIRMAN MINNICH: Gale, when we were down there today,
20 the area where the SDS system is, which was contaminated and has
21 been cleaned up at least enough to give general access, you told
22 me that you used, I do not remember the figure, x number of
23 people in there washing walls, etcetera. It follows that once
24 you get into the main containment building that same process has
25 to be followed.

1 MR. HOVEY: Yes, that is correct.

2 I said that at the peak of the effort that there were
3 perhaps 55 or 60 people involved generally on an around the clock
4 basis in decontamination. We have cut back considerably as I have
5 told you to basically eight people right now who are trying to
6 maintain making some small progress, quite a bit of progress really
7 considering the numbers of people. In answer to your question,
8 yes, in the containment building, the same general techniques will
9 be used for decontamination and there will be large numbers of
10 people involved, particularly when you get into some of the final
11 decontamination.

12 We have found incident to our entries in the testing
13 that we have done that what we call gross decontamination, getting
14 the worse stuff off, can be done with high pressure sprays with
15 water, and that improves the situation considerably. That can be
16 done with fairly small crews, but to do it most efficiently when
17 you are trying to get the final cleanup done, the best way to do
18 it is just to get a lot of people in there.

19 CHAIRMAN MINNICH: The only reason that I raise that is
20 to make somewhat of a point, I guess, just to try to show that in
21 that process that you are talking about a lot of employees, hands
22 on kind of thing, wiping walls, pipes, all of those nooks and
23 crannies where this stuff has accumulated, and it is not something
24 that you can do overnight.

25 MR. HOVEY: No, that is correct, and the decontamination

1 of the TMI 2 containment building down to pre-accident levels is
2 going to be a long process, much of that taking place after --
3 much if not most of that taking place after the fuel is removed.

4 CHAIRMAN MINNICH: Will the fuel rods be removed before
5 the general interior cleanup starts?

6 MR. HOVEY: Not all of the cleanup that will be
7 ultimately required will be done before the fuel is removed. The
8 current thinking, and I think that it makes sense, is that
9 basically you do the cleaning that is sufficient to allow you to
10 get at the fuel.

11 CHAIRMAN MINNICH: Are there any other questions folks?

12 MR. MORRIS: I would like you to go over again what you
13 had said before regarding the high level waste and how that would
14 be handled in special containers. I really did not follow that
15 very well.

16 MR. HOVEY: I was speaking of the high specific activity
17 waste that is represented in the Epicore II liners that remain on
18 site. These particular liners were the first of three in the
19 train for Epicore II, and are considerably higher in activity than
20 the ones that we shipped off. What I said was, that our current
21 plan for dealing with those is to place them in high integrity
22 containers. High integrity containers is a concept that has been
23 developed basically as an alternative to solidification of resins.

24 Solidification of resins is difficult. It is easier,
25 we feel, to go to an acceptable alternative approach which is

1 placing the material in its dewatered form into containers that
2 will last and keep their integrity for a time period that permits
3 the radioisotopes of concern to decay away, to basically decay
4 completely away. Those containers for this particular purpose are
5 being developed under a Department of Energy program. They would
6 not provide us with all of the containers, but they are developing
7 the prototype, if you will. They have a program to do that, and
8 they are supposed to have the first prototype container built by
9 next spring. That is their current schedule.

10 MR. MEYER: The containers would, once they are
11 developed, would be purchased by the operator?

12 MR. HOVEY: It would be purchased by us, and we would
13 place the Epicore filters in those containers, and then of course,
14 there would be a matter of disposal.

15 MR. MEYER: They are lead lined, are they not?

16 MR. HOVEY: Well, there are two approaches that you can
17 go. One approach is that you have a container that does not have
18 all that much shielding on it, but is a stout container. Picture
19 a thick stainless steel container, for instance. In that event,
20 the container would be shipped in a shipping cask to a disposal
21 site and then taken out by rather standard techniques, and if it
22 to go to shallow land disposal, and there is a question on that
23 at the current time, whether they could go to shallow land disposal,
24 or if any disposal site would be willing to take it, which is a
25 whole separate subject that we can talk about for a number of

1 hours.

2 The other approach, rather than that which needed a
3 shipping cask, is to design a container which was not only the
4 high integrity container good for three hundred years, but also
5 had enough shielding to be the shipping cask itself and also, and
6 more importantly, that it would be of such a design that it would
7 withstand the transportation accidents. These kind of shipments
8 are the kind that have quite a scenario that they have to with-
9 stand, the thirty foot drop, the one fire, this kind of thing.
10 Basically, the Department of Energy is looking at both approaches
11 in letting whatever contractor they select come up with, with
12 proposals as to which way that they go. Both ways are feasible,
13 but then it gets to cost tradeoffs and that kind of thing.

14 MR. MORRIS: Just to pursue this a little bit further,
15 you indicated that such container would be designed for a three
16 hundred year life?

17 MR. HOVEY: Yes.

18 MR. MORRIS: That would be basically the life where most
19 of the material would decay?

20 MR. HOVEY: Yes.

21 MR. MORRIS: How does this fit in with, and pardon me if
22 I am confusing things here, but with the feeling that DOE was
23 going to do R&D work, or hopefully if they get the funds to do
24 R&D work, for I thought Epicore II high level waste resins, also?

25 Are we talking about the same two things here or are they

1 different?

2 MR. HOVEY: No, the only R&D work apart from the
3 demonstration, if you will, of the high integrity container that
4 DOE has planned on Epicore II, is what is going on right now at
5 Battelle Columbus Laboratories. We have shipped an Epicore II pre-
6 filter as we call it to the Battelle Columbus Laboratories, and
7 they have, I believe, a two year program to extensively analyze
8 that, determine its condition, what things are like, and such.
9 But apart from that, they have no current plan for any R&D on
10 Epicore II.

11 What they do have, and perhaps this is a source of
12 confusion, is plans for an extensive R&D program on SDS ion
13 exchange media, zeolites, inorganic material, and as was stated
14 at the last meeting, I believe Dr. Snyder read and distributed
15 the letter from Mr. Kaufman from the DOE where they clearly stated
16 that they would be willing to take the high specific activity
17 SDS liners that would arise from the operation of the submerged
18 mineralizer system. So I think that maybe that was what you
19 were thinking of.

20 MR. MORRIS: That was what I was thinking of.

21 I am trying to picture what is going to happen with low
22 level waste, and then the high activity from Epicore II, and then
23 the waste that would come from the SDS system to make sure that
24 they are at least all being considered and that there is some kind
25 of solution for each one of them.

1 MR. HOVEY: Given the availability of disposal sites,
2 we feel that we have a logical place to send all of this except
3 for spent fuel which remains a problem. I do not consider spent
4 fuel waste, by the way, but that is a separate subject, too.

5 CHAIRMAN MINNICH: Is it not really true though, Gale,
6 that the cause is a lack, I will say it, of Congressional action
7 that we really do not have a place to put the high level waste
8 other than to turn it over to the Department of Energy for R&D,
9 and if they did not take it under that process, you would have to
10 hold it on a site?

11 MR. HOVEY: That is correct.

12 CHAIRMAN MINNICH: That is correct, and that I cannot
13 over stress to this panel.

14 MR. HOVEY: That which cannot go to shallow land disposal
15 or whatever it may be, high level wastes are in that category.

16 CHAIRMAN MINNICH: Is it also not true that you have to
17 prepare just in case; that you have to prepare to store this
18 material indefinitely just in case?

19 MR. HOVEY: Yes, that is true.

20 CHAIRMAN MINNICH: Bear that in mind, please.

21 MR. HOVEY: That is why I might say that it was a very
22 key milestone in our mind that the DOE did see it in their R&D
23 charter to take the SDS -- which by the way, you know, is going to
24 contain the vast majority in the containment building, the total
25 amount of radioactivity.

1 MR. MORRIS: But to go back to Epicore 71 again, the
2 waste that you are saying would be ultimately be placed in special
3 containers and possibly shipped to shallow land disposal, you say
4 possibly; in other words, what the Chairman has said here is that
5 there is a potential there that they would not be acceptable to
6 shallow land disposal and therefore, there is no solution at this
7 point if they would be refused or anybody else to take them, and
8 you would then be faced with storing them on site.

9 MR. HOVEY: It is an open question. For one basic
10 reason, first of all, the only site that is currently available
11 to us is the State of Washington. While the existing license for
12 the State of Washington would permit that kind of material to be
13 disposed of at the Hanford site, it does not permit at present
14 the use of these high integrity containers that I am talking about,
15 but the State of South Carolina's license does.

16 So that would have to be a license change, which if the
17 State of Washington were willing to do it, it could be
18 accomplished, and furthermore, at the time of the accident, there
19 were some informal agreements between GPU and then the Governor,
20 Governor Ray, regarding the kind of waste that would be shipped
21 to Hanford. Basically, Governor Ray's, and I do not know that the
22 current Governor's feelings are on it, but basically, Governor
23 Ray's feelings and statement was well, yes, she understood, and
24 as far as she was concerned, she would not prohibit the shipment
25 of waste from Three Mile Island to the Hanford site as long as it

1 was like "similar to normal reactor waste."

2 Much of our waste is like that, most of the volume of
3 the waste that we have is almost identical to, a slightly different
4 isotopic concentration, but in terms of total reactivity, it is
5 very much like normal reactor plant waste. Epicore II pre-
6 filters are not like normal reactor plant waste.

7 MR. MORRIS: Could I ask you one last question on this,
8 do you have anything where you would show each of the major items
9 of waste generated and what the ultimate disposal would be for
10 each one of those?

11 MR. HOVEY: Yes.

12 MR. MORRIS: I think that is what we are talking about,
13 and I feel that that would be very helpful, at least to me, so I
14 could follow that through and I would know that there is a
15 potential that either says acceptable shallow land burial or if
16 it is not, and if it is not that it would be stored on site, or
17 else it would be taken by DOE. I would like to see those options.

18 MR. HOVEY: I do not have it, maybe the NRC has it,
19 but we told a lot of this in letters.

20 MR. MORRIS: There seems to be four or five major ways.

21 MR. HOVEY: We have told them as far as what is going
22 to be disposed as waste, but to put it in a flow chart form, we
23 have not yet, but it could be developed and we will provide it to
24 you.

25 MR. MORRIS: Fine.

1 I do not want to say anything to Gale, but: a number of
2 letters that I have written to Congress, and to President Reagan,
3 and to President Carter when he was President, addressing the idea
4 of using Federal funds for the cleanup -- now Gale is sitting
5 there telling us that certain kinds of activities will have to
6 be cut out or reduced, and I think that all activity down there,
7 if it working towards the cleanup of the plant, is essential. You
8 are talking about cutting down the work force and types of
9 equipment because of money, then I think that the Congress of the
10 United States is really cheating the people living in this area.

11 I know that it is one thing living close to the plant
12 or being a Congressman from this District such as Alan Erder and
13 from the Sixteenth, Bob Walker. I think that they have a great
14 deal of concern but when you are a Congressman from the State of
15 Oregon or California, what do they care about us in this area?

16 CHAIRMAN MINNICH: You were with us down there and you
17 saw the kind of reaction.

18 MR. REID: If you look at the whole situation, nuclear
19 energy is the responsibility of the Congress of the United States,
20 and if you look at the Preamble, in the Preamble the purposes for
21 the Constitution, and one of the purposes is to promote the
22 general welfare, and that is the Federal government coming to the
23 aid of the people when the people cannot help themselves. I think
24 that we have just that type situation in this area.

25 When you talk to some of the Congressmen, the first

1 thing they talk about is bailing out GPU or Metropolitan Edison
2 Company. I think that you have to look at it from the standpoint
3 that you are not bailing out those people, but you are bailing out
4 the good citizens living in this area, living near the site.

5 (Applause)

6 This is a thing that I just cannot see, why members of
7 Congress just cannot understand what we are going through in this
8 area, because the plant is now doing something that it was not
9 designed to do, and that plant has to be cleaned up as quickly
10 and safely as possible. We are talking about funds. The first
11 thing that people want to say is bail out the stockholders, bail
12 out Met Ed, bail out GPU; no, bail us out.

13 CHAIRMAN MINNICH: Bob, we cannot even get our state
14 delegation together on this very issue.

15 MR. REID: That is true. Again, if you are from out
16 around Pittsburgh, what do you care about this area? This is
17 just something that I feel -- if this had been a flood, or a
18 hurricane, or a tornado, the government would have been in here
19 with Federal funds because they would be interested in the health
20 and the welfare of the people living in this area. I th: that
21 we have the same situation. Sure, it was man made and it was not
22 a natural disaster, but we are talking about health. We are
23 talking about the health and the welfare of the people living in
24 this area.

25 I just cannot see why the Congress of the United States

1 cannot recognize that fact and come in and say, look, we are done
2 talking about politics, we are going to deal with it from the
3 human standpoint, not as politicians, because politicians some-
4 times do -- well -- I think that you have to look at it from a
5 human aspect and come in here and say, look, you people living in
6 central Pennsylvania, we are here to help, and that is just not
7 being done. That is all that I have to say.

8 CHAIRMAN MINNICH: Anne.

9 MS. TRUCK: I pretty much agree with Mayor Reid. I was
10 in Washington a couple of weeks ago, and it is not really just
11 the Congressmen, it is the people there, too, who really do not
12 want to bail us out. They do not mind bailing General Motors or
13 Chrysler out, but when it comes to GPU that is a different story.

14 CHAIRMAN MINNICH: Tom, you had a question of Gale.

15 MR. SMITHGALL: I wanted to ask a question about what
16 Mr. Hovey was talking about, and to get a little more clarification
17 on the casks that you said were to be developed. I thought that
18 we ought to go back to what Mayor Morris was talking about. Along
19 with the potentiality that there will be no sites for the burial
20 of these wastes, there are also no casks to carry them or to
21 store them in.

22 Am I correct in that, high level waste, I am talking
23 about now?

24 MR. HOVEY: No, that is not true, there are casks
25 available to ship if we could ship the Epicore II pre-filters

1 someplace. In fact, we did ship one completely in compliance with
2 all of the regulations to Columbus, Ohio.

3 MR. SMITHGALL: Maybe I should ask the question rather
4 than making a statement.

5 The liners, or the shipping casks, or the storage casks,
6 I do not know which ones you are referring to, that were being
7 developed by DOE?

8 MR. HOVEY: Okay, what is not currently available is
9 this so-called high integrity container. For simplicity, if you
10 would think, if you will -- let us look at it this way, a shipping
11 cask is not necessarily something that would last for three
12 hundred years. It is merely a shielded container which an over-
13 pack normally, designed for the safe shipment of radioactive
14 material, not necessarily something to bury it in.

15 In the case of the high integrity containers, that is
16 an engineered vessel, if you will, or a container that is
17 specifically designed to last for three hundred years in a disposal
18 site underground before it would deteriorate.

19 CHAIRMAN MINNICH: And it is now being developed?
20

21 MR. HOVEY: It is now being developed.

22 CHAIRMAN MINNICH: To answer his question.

23 MR. HOVEY: It is now being developed, but that
24 particular piece of hardware for this particular application does
25 not exist today. There are these high integrity containers for

1 material of lower specific activity that have been developed or
2 about ready to go into commercial use.

3 MR. SMITHGALL: I think that the import of the whole
4 thing is the potentiality of not having appropriate means of
5 disposal and having waste sitting on that Island.

6 CHAIRMAN MINNICH: I think that we realize that, Tom,
7 but what are we going to do?

8 MR. SMITHGALL: I just wanted to make sure.

9 CHAIRMAN MINNICH: Yes, I am very much aware and
10 concerned, but this is a monster, there is no question about it.

11 Gale, would you address the question that Al Manik
12 raised about the embrittlement of the containment building. It
13 is in this evening's paper, I believe, can you address that?

14 MR. HOVEY: Not really. I did not see the paper tonight.
15 I did hear a very brief thing on the radio station that I was
16 listening to. I think that Lake is probably up on that, because
17 I think that he has some information from the NRC on it. I really
18 have not been following it, so if I can defer to Lake to tell you
19 what all of that is about.

20 CHAIRMAN MINNICH: Fine, let us get to that.

21 MR. BARRETT: I am Lake Barrett, I am Deputy Director
22 of Three Mile Island Program Office. The question on the
23 embrittlement, this is not hydrogen embrittlement. It has nothing
24 to do with hydrogen. The issue here is that as steel is
25 irradiated from neutrons that are produced during the fissioning

1 process in a reactor, metal starts to become less ductile, less
2 pliable, and it becomes more brittle. Like glass is very brittle,
3 it can crack as opposed to being plastic like. As metal becomes
4 more brittle, you have to be more careful when it becomes very
5 cold, colder -- you know, relative to reactor temperatures, like
6 room temperature, 50 degrees or something like that. It possibly
7 can crack if it gets pressure, surges, or stresses on it very
8 quickly.

9 An example might be that if cold water were to be
10 injected into reactor transient, that it does not make the vessel
11 walls very cold when at the same time it becomes pressurized with
12 high pressure pumps and can cause a failure in the reactor vessel.
13 The embrittlement of metal by neutron bombardment is fairly well
14 known and has been known since the very early days of nuclear
15 programs. Little metal samples are placed in all the commercial
16 reactors so that they can keep track that the embrittlement of
17 the vessel is proceeding as is expected.

18 It is designed into the design of the vessel. The
19 vessels are designed for forty years and this takes into
20 account the embrittlement of the metal as it becomes more brittle
21 as time goes on. What was done, there has always been questions
22 and scientific debate about exactly how much, what the rate is of
23 the embrittlement, and 43 reactors, I believe, were asked to
24 doublecheck by pulling out some of their coupons, actually to do
25 an analysis on that, to verify that the embrittlement was taking

1 place as all the scientific projections said that it would be.
2 TMI 1 was one of the 43 that were asked.

3 CHAIRMAN MINNICH: What was their response?

4 MR. BARRETT: I do not know the specifics on the TMI
5 coupon, but my understanding was that it was as expected, as most
6 of them were.

7 CHAIRMAN MINNICH: Okay, Al?

8 MR. MANIK: What you were speaking of were test
9 specimens, is that correct?

10 MR. BARRETT: That is correct.

11 MR. MANIK: I need some clarity. I understand what you
12 are talking about, and you understand what you are talking about,
13 but these people here I do not think that they understand what you
14 and I are talking about. There may be a small problem here.

15 These test specimens, how were the tests developed?
16 For instance, you are saying and I cannot quote you correctly,
17 and the newspapers say that the embrittlement was not as bad as
18 they anticipated. I can go a doctor and I am two thirds dead,
19 and the doctor says that he is in pretty good shape. What I am
20 trying to do here -- how was this program developed? This is
21 my interest.

22 Who has the knowledge of the tests; were these radio-
23 graphs, Rockwell tested, or what was the manner? There has to be
24 some specific test, because this is an old program, this is
25 nothing new to the industry. But this is what was asking, this is

1 what I want to know, how the program was developed. You can tell
2 me, well, not much. You can crack that glass and say, well, it
3 has a small crack. How was the program developed, that is what
4 I am interested in.

5 MR. BARRETT: The actual program is very complicated.
6 We have probably maybe a hundred pages in our regulations as to
7 how to do these tests, and we have on file, I do not personally
8 have it or remember the numbers, but all of the tests that were
9 done. They do metallurgical tests like Rockwell tests, the
10 embrittlement test. They break them in the lab to see that the
11 ductility is there. It is fairly complicated. If you are
12 interested, we can get you numbers. What I am saying is that no
13 cracks were detected, seen in the TMI vessel; that is, nothing
14 more than what is expected from the tests.

15 We can get the data for you if you would like to go
16 into it. It is very complicated, it is a very highly technical
17 subject. I do not think that we can go into it.

18 MR. MANIK: I do not intend to.

19 What I am asking you here, was this done by a commercial
20 contractor or was this by some government agency; the tests,
21 who performed them?

22 MR. BARRETT: Regarding TMI, one test, I believe that a
23 licensee did and maybe someone from GPU could say exactly what
24 TMI did. The NRC has done tests, research reactors, and things
25 like that. I do not think that we tested specifically the TMI

1 ones, but Doug, do you have some more information?

2 MR. BEDELL: I am Doug Bedell, the press spokesman for
3 Three Mile Island and I am not a technical person, but I was in
4 touch with our technical people yesterday on this question. One
5 of the things that we did do in terms of testing the metal in the
6 reactor vessel was to send samples of metal taken from the same
7 heat as when the reactor itself was cast and produced. Those
8 samples of that metal have been kept in the archives at BNW,
9 and BNW sent those samples to the Oakridge National Laboratory
10 where they received accelerated irradiation testing; that is, the
11 amount of radiation bombarded -- that that metal was accelerated
12 by x number of years to verify that the process was as slow as
13 expected and indicated.

14 That accelerated testing indeed indicated that. It
15 also indicated -- that testing plus other computer calculations
16 made based on the coupons in the reactor itself indicate that the
17 embrittlement process at Unit 1 is occurring slower than what was
18 anticipated. It is not expected to be any kind of a problem for
19 many years, and when it is a problem, there are things that can
20 be done about it; namely, the core can be removed, the metal can
21 be heated, and through a process known as annealing, its original
22 ductility restored. It is something that is planned for some
23 distance down the road.

24 MR. SMITH: What you guys are really talking about is
25 kind of a tracking. Under the natural conditions that exist in

1 that core, sometime down the road through a process of natural
2 electrolysis of the alpha and gamma radiation, it is going to
3 begin again.

4 CHAIRMAN MINNICH: You did not identify yourself.

5 MR. SMITH: My name is Andy Smith from Hersey,
6 Pennsylvania.

7 MR. SMITH: It is going to separate the hydrogen and
8 the oxygen.

9 CHAIRMAN MINNICH: Which core are you speaking of?

10 MR. SMITH: The actual --

11 CHAIRMAN MINNICH: Are you talking about Unit 1 or
12 Unit 2 or both?

13 MR. SMITH: Unit 2.

14 CHAIRMAN MINNICH: Unit 2.

15 You were addressing Unit 1, Doug?

16 MR. BEDELL: Yes, this is on Unit 1.

17 CHAIRMAN MINNICH: This is only on Unit 1.

18 MR. HOVEY: Can I clarify something. The problem of
19 embrittlement, and with an apology from me for not knowing about
20 it, I share the same Island with TMI, but we have a completely
21 different set of problems, and the problems of neutron bombardment
22 and embrittlement is not one that I have. On the other hand,
23 TMI 1 does not have to worry about the kinds of waste that I do.
24 Pardon my lack of knowledge on this particular problem which is
25 really an operating reactor problem.

1 But this is a problem in a reactor that is operating,
2 and not one that shuts down. Remember that TMI 2 only operated
3 approximately ninety equivalent full power days before the
4 accidents, so in terms of any embrittlement, it is virtually non-
5 existant because it did not operate that long.

6 CHAIRMAN MINNICH: Go ahead.

7 MR. SMITH: It will break down to --

8 CHAIRMAN MINNICH: You are still talking about Unit 2
9 now?

10 MR. SMITH: Yes, sir.

11 CHAIRMAN MINNICH: Go ahead.

12 MR. SMITH: It will break to the initial hydrogen and
13 oxygen gamma, and recreate a bubble, and blow up the same as the
14 one that did in Siberia, Russia and kill close to half a million
15 people.

16 CHAIRMAN MINNICH: I am not even going to respond to
17 that.

18 MR. BARRETT: To answer your question, you are right,
19 there is radiation in the core, and the radiation will dissociate
20 water into hydrogen and oxygen. That is a fact, that is right.
21 The way you prevent the buildup of oxygen and hydrogen in the
22 reactor system is the excess hydrogen is put into pressurized
23 water reactors to drive the reaction the other way, so if oxygen
24 is generated, it combines with hydrogen and goes back to water.
25 That is how all pressurized water reactors control the dissociation

1 water.

2 MR. SMITH: And you have a system that is still working
3 in there?

4 MR. BARRETT: That is right, there is extra hydrogen in
5 the Unit 2 reactor right now that drives that reaction to prevent
6 that from happening. It is just like Unit 1 or any of the other
7 pressurized water reactors.

8 MR. SMITH: You still have control of that?

9 MR. BARRETT: Yes.

10 CHAIRMAN MINNICH: Al?

11 MR. MANIK: I will get with Mr. Barrett in the office
12 and we will talk this over.

13 CHAIRMAN MINNICH: Fine.

14 MR. MANIK: We could be on this all night and accomplish
15 nothing.

16 CHAIRMAN MINNICH: Obviously, and I am just assuming,
17 it is rather technical, the tests and so on.

18 By the way, Frank Davis, do not leave, please, I would
19 like to talk to you after this is over for just a moment.

20 MR. PEFFLEY: John.

21 CHAIRMAN MINNICH: Yes.

22 MR. PEFFLEY: Can I ask a question?

23 CHAIRMAN MINNICH: Sure, Dan, go ahead.

24 MR. PEFFLEY: What is the anticipated rate increase that
25 you would have to have in order to get the funds to continue

1 your cleanup of TMI 2?

2 MR. HOVEY: I am not in the rate portion of the utility,
3 and I am trying to avoid your question. I would be happy to find
4 the answer out for you. It is available, but I just do not happen
5 to remember the numbers. What was requested was a rate increase
6 which included funds to clean up TMI 2. I do not remember that if
7 all of that happened, if the Public Utility Commission said, yes,
8 all of those rates will be allowed, I do not remember the
9 percentage rate increase.

10 Phil or Doug, do you remember what that was? I just do
11 not remember.

12 MR. BEDELL: If other forms of aid were not available
13 from Congress or from whatever source to the nuclear industry,
14 the bottom line increase would have been 23 percent.

15 MR. HOVEY: That rings a bell.

16 MR. PEFFLEY: How many years would you have to operate
17 at that 22 percent in order to recapture your cost of cleanup as
18 far as your operation of your TMI 1 is concerned; I mean that it
19 is easy to state 22 percent, but how long is it going to take?

20 One other question is this, I am concerned about the
21 critique as far as our Congressmen and legislators are concerned,
22 and I am concerned to the point that I wonder if Congress would
23 fund, and I as a taxpayer would help to fund to help clean up
24 TMI 2, what would be the response of Met Ed as far as the Federal
25 government going in there and assuming the responsibility in doing

1 it?

2 You know. I am also concerned about these casks to
3 transport this low level or this high level radiation. When you
4 are alternate routes to go, and there is plea bargaining, there is
5 a lot of manipulating and gerrymandering in the process, you are
6 going to wind up with the cheapest process as far as the money
7 manipulators are concered. If we are not going to have a safe
8 operation, then I think that what you fellows ought to do is to
9 overview this situation, and if there is a way to do it safe
10 let us do it one time.

11 I do not mind paying. I cannot afford it, but there are
12 a lot of things that I cannot afford, but I am going to have to
13 pay it. If the company is not in the position to do what they
14 have to do, then just get them out of the picture and just go
15 ahead to do the thing.

16 (Applause)

17 MR. HOVEY: I would like to respond to some of that.
18 There were a number of things there. First of all, I might say
19 that if the panel wishes to get into a discussion of rates, and
20 what is in the rate filing, and that sort of thing, I am just
21 not an expert at that.

22 CHAIRMAN MINNICH: It is outside of our jurisdiction
23 for the moment.

24 MR. HOVEY: But we can certainly arrange to have a
25 number of people here who could address that in great detail.

1 In terms of the Federal government taking over responsibility for
2 the cleanup of TMI 2, and I presume that you meant actually doing
3 work, I think that the most likely thing were for some reason
4 that that would happen, is that like it or not, most of the present
5 people who are there would have to do the job, because they are
6 the ones who know how to do the job. In terms of cutting corners
7 on the development of the high integrity container, which I think
8 the question was directed at, I do not think that there are going
9 to be any corners cut.

10 There is set of criteria for those that has been agreed
11 to by all concerned; the Department of Energy, the Nuclear
12 Regulatory Commission said those were proper criteria. You know,
13 it is building something that will do this, and if it will do
14 that, I think that that is what is important regardless of how
15 much it costs. You do not have to have something that will do a
16 given job and spend an awful lot of money.

17 MR. PEFFLEY: This is true, but if you are going to do
18 it, you might as well do it right the first time if you are
19 dealing with something like this.

20 MR. HOVEY: I believe that it is going to be done right
21 the first time.

22 MR. PEFFLEY: You know, it is just like this hullabaloo
23 that goes on -- I am talking out of turn -- but if the control
24 panel with the precipitator valves were located where your
25 operator could have seen it instead of on the backside of that

1 panel, a whole lot of these things that have transpired wouldn't
2 have transpired, and you know what I am talking about.

3 MR. HOVEY: Yes, I think that I am aware of what you
4 are talking about.

5 MR. PEFFLEY: In Unit 1, we do not have that, but here
6 you have something that was covered up. I mean, if we are going
7 to do the same thing from here on out, I do not feel safe. It
8 is a matter of credibility as far as I am concerned.

9 CHAIRMAN MINNICH: Yes.

10 MR. REID: A lot of people that you talk to, they have
11 dubbed T ree Mile Island as Three Mile Island University, and I
12 would like to know about the tuition that is being paid by
13 foreign governments who send people into this area to sit down
14 and study the accident at Three Mile Island and go to their own
15 country with the knowledge that they have gained just by being
16 over here.

17 What have they donated as far as the cleanup?

18 MR. HOVEY: We have had a number of foreign nationals at
19 TMI 2. I forget the exact number, but I think that it is on the
20 order of fifteen. They come from Holland, Italy, Germany,
21 Sweden, Japan, France, Spain. I think that what we have gained
22 from those people has been on balance a significant benefit. All
23 of them come at their own expense. We provide them office space,
24 period.

25 MR. REID. But they came here to deal with something

1 that they never witnessed in their country, or in fact, anywhere
2 in the world, and they went back with a great deal of knowledge
3 just in case that same thing would happen in their country.

4 MR. HOVEY: Yes.

5 MR. REID: If I were the head of a country and I was
6 dealing with nuclear energy, and I would send people to this
7 country to gain as much knowledge as they could because of an
8 accident, I would at least try to assist that country with some
9 kind of mutual contribution.

10 MR. HOVEY: There has been contributions, Mayor Reid,
11 in the form of these people. They do not just come here, sit,
12 study and look at things; they work, they work as engineers.

13 MR. REID: That is true, they work as engineers, but
14 they are gaining knowledge at our expense, so to speak.

15 CHAIRMAN MINNICH: Mayor, are you telling me that if I
16 asked you for assistance from Middletown Borough, that you would
17 give the county financial help?

18 MR. REID: No, I think that there is a different
19 situation here, Jack. It is a different situation.

20 MR. HOVEY: I think that there is an important point
21 here. We have had meetings with representatives of foreign
22 governments, and this subject of foreign assistance was broached.
23 Frankly, Mayor Reid, you get the same response basically from
24 them that you do from other utilities who were asked to
25 contribute, the analogy is there. In the case of the other

1 utilities, we would go up to utility executives, and the rest of
2 the utility industry said, yep, we will sign up for cleanup, but
3 what they say is, you know, it is very difficult for us to
4 contribute money. It will reduce our stockholder's profit or we
5 will put it in our own customers' rates. In the State of
6 Pennsylvania and the Public Utility Commissioner, at least this
7 was several weeks ago, there is not much movement there.

8 In the case of assistance from foreign governments,
9 even though they are vitally interested in TMI 2 and its progress,
10 it is very difficult to ask foreign governments for financial
11 assistance when we cannot even make a start at it ourselves, but
12 it is an extremely difficult thing to do.

13 MR. REID: When you cannot even get any help from your
14 own government, I understand that.

15 MR. HOVEY: I think that the same thing applies. I
16 think that if there is this consensus that develops, I think
17 that properly approached that there might be some foreign
18 assistance forthcoming. I think that we would have to put the
19 plant in place ourselves first. As an example, something like
20 what Governor Thornburg was talking about. It goes beyond that,
21 too. Like it or not, the accident happened, and I think that
22 there have been a number of lessons learned. I think that the
23 industry is better because of it, and I think that there is a lot
24 more to be learned. The nuclear industry is not only in this
25 county, it is worldwide.

1 CHAIRMAN MINNICH: Mayor, I understand what you are
2 getting at.

3 Last month when we met and discussed the worker
4 exposure, we sort of tentatively agreed that we would come back to
5 this meeting and try to decide what, if anything, that we wanted
6 to do with what was developed at that meeting. Unfortunately,
7 Tom who is the requestor of that topic is not here, and my
8 question to the panel is, do you want to discuss last month's
9 meeting tonight or do you want to hold it until Tom is here and
10 then make the decision?

11 MR. REID: Hold it until Tom is here.

12 CHAIRMAN MINNICH: All right.

13 MR. REID: There is another point on that, and that
14 would be to have these experts that I think that Frank and other
15 people have talked about to come in and discuss this. We sat
16 there listening to Tom, and I think that it was Mayor Morris who
17 said, can you please put it into numbers that we can understand,
18 speaking not for himself but all of us, I assume. I think that it
19 would really be helpful to have some other people come in besides
20 our panel member Tom to into it.

21 If I remember correctly, Tom's view was certainly
22 disputed by I think everybody there. That does not necessarily
23 make him wrong, but I think that it would be helpful if we could
24 hear from some other people on that subject. I think that the
25 subject is so important that we should have others come in on that.

1 CHAIRMAN MINNICH: All right.

2 I wonder if I could raise a question with Dan Peffley
3 and Dale Singer. You have raised an intriguing question in my
4 mind, and I do not want you to respond to this tonight, but I
5 wonder if perhaps at the next meeting that you might consider
6 sharing with this panel how you would approach the payment of the
7 cleanup, would you do that?

8 MR. SINGER: Yes, I would.

9 CHAIRMAN MINNICH: Dan?

10 MR. PEFFLEY: What I say is constructive criticism.
11 As individuals, you are not responsible -- you are just responsible
12 for your job. Your company is in dire need of financing. It
13 cannot clean up TMI 2 unless you have help, from what I gather,
14 am I right or am I wrong?

15 MR. HOVEY: That is correct.

16 MR. PEFFLEY: If that is correct, then I think that we
17 owe, as people here whoever we might represent, a letter to our
18 representatives, the news media and whoever they might represent,
19 a pitch as far as government aid for this company to clean up
20 TMI. I am not too concerned about what is happening -- I am
21 concerned about it, but I am damn concerned about the health and
22 welfare of the people, and if the government, as Mayor Reid said
23 and I believe -- you know, I once sat as a member of a governing
24 body and you are damned if you do and damned if you don't, but
25 that is beside the point.

1 I think that we owe it to ourselves and to the people
2 who we represent to get the funding to Met Ed to get the damn
3 thing cleaned up now and not six years from now. As the problem
4 here is discussed between these two gentlemen as far as that
5 hydrogen bubble, you know the potential again is concerning, and
6 it is a matter of just postponing this thing. I think that we are
7 all damn fools if we do not get with it and suggest and apply
8 pressure if necessary to get the funding for Met Ed or whoever is
9 going to do it or for the Federal government to step in and do
10 it know, because we now know that it is more important and it is
11 more critical than what we thought it was before.

12 CHAIRMAN MINNICH: Thank you, Dan.

13 If you would consider doing that, I would appreciate
14 hearing your viewpoints.

15 Is there anyone else in the audience who would care to
16 address that issue at the next meeting, I would be interested in
17 hearing that.

18 Does the panel have anything specific that they want
19 to discuss?

20 MR. TRAVERS: Mr. Chairman.

21 CHAIRMAN MINNICH: Yes.

22 MR. TRAVERS: Before you adjourn tonight, you have
23 already mentioned the successful completion of the second and
24 third stage Epicore waste. Dr. Schneider could not be here this
25 evening, and I think that his sentiments are reflected by the

1 Commissioners as well. They have asked me to express their
2 gratitude for what they consider a primary impetus on the part of
3 the panel. I just thought that I would take this opportunity to
4 give it at this time.

5 CHAIRMAN MINNICH: Fine.

6 Don't anyone beat their way to the door, because I am
7 not quite ready to adjourn.

8 Do any of the panel members have anything specifically
9 that they would care to discuss; if not, I will reopen the mike
10 to the floor and hear what you all have to say.

11 Go ahead, Al.

12 MR. MANIK: Al Manik, Middletown.

13 I am not an expert on this one, but I have a question.
14 In one of the local newspapers, hydrogen was found, a small amount
15 I presume, hydrogen in a container, and this came from the Paxton
16 Herald. This disturbs me, the fact that I do not know anything
17 about it. I do know where it originated, how it originated, but
18 I would like somebody to clear this up whether there was or was
19 not any hydrogen. It was found in one of the containers, that they
20 had to be careful with retooling.

21 CHAIRMAN MINNICH: In the storage containers?

22 MR. MANIK: Yes.

23 MR. MANIK: I do not know anything about it, and this is
24 what I am asking.

25 MR. HOVEY: One of the potential problems identified at

1 the time we were preparing to ship the Epicore pre-filter to
2 Battelle Columbus Laboratories was the possibility of hydrogen
3 inside the liner. We know that hydrogen is generated inside
4 those liners from the decomposition of the resins. It is a known
5 phenomena, and there is also some moisture in there. As a
6 precaution to make sure, since nobody could definitively say that
7 there was or was not, we did vent those containers prior to
8 shipment.

9 On some portable analysis that we had, yes, we did
10 detect that there was some hydrogen. We were not able to quantify
11 it, and we were not set up to do that. Subsequently, at Battelle
12 Columbus, they did quantify a measurement, and what that showed in
13 the particular sample that they took was a twelve percent
14 hydrogen mixture, and also I believe that there were some other
15 hydrocarbons in there, but a very low percentage, about .6
16 percent of oxygen.

17 That is what would be expected to be typical of other
18 pre-filters. What we had thought, and we still believe may be the
19 case in some of them, is that hydrogen being a very light gas, it
20 leaks past threaded fittings and is dissipated. So that is the
21 story. It is a potential problem, and we are looking at installing
22 venting mechanisms on the pre-filters, and we will be telling in
23 detail to the NRC in the not too distant future exactly what our
24 plans are in that regard.

25 They are being developed now. We do not view it as a

1 near-term threat. We have had hydrogen experts in to look at it.
2 They do not view it as a near-term threat. Yes, you have to be
3 careful with it. The total amount of energy there in any given
4 liner is not that great. We cannot view a credible detonation
5 mechanism, first of all, and should a liner for some reason --
6 should there be a detonation of it, it would not result in
7 anything significant, and frankly, we do not think that it is
8 going to happen, and we do have plans to vent them.

9 CHAIRMAN MINNICH: Gale, is this at eye level?

10 MR. HOVEY: The one that we found this in was one the
11 pre-filters, the high specific activity liner.

12 CHAIRMAN MINNICH: Is there anyone else; come to the
13 mike, please, and again identify yourself.

14 MR. SMITH: I am Andy Smith from Hershey.

15 What I do not quite understand, you say that you can
16 maintain this balance with the hydrogen.

17 CHAIRMAN MINNICH: You are probably talking about the
18 reactor now.

19 MR. SMITH: It seems to me that your cooling system
20 cannot be working at peak efficiency, there is no way. So each
21 time that that thing breaks down, a little bit more and a little
22 bit more, each time those atoms break apart and break apart, the
23 temperature has to be getting higher and higher, so each passing
24 day it is going to have to take more and more hydrogen to keep
25 that stable, to keep creating the water.

1 MR. BARRETT: It reaches equilibrium, the natural
2 equilibrium inside, and it stays at temperatures around 120
3 degrees, and the cooling mechanism is that the heat goes to the
4 atmosphere inside the building. The amount of heat generated is
5 about the same, about 40 or 50 toaster ovens or something like
6 that. It is very small, that is the bottom line, for the reactor.

7 MR. SMITH: How is that heat getting out?

8 MR. BARRETT: It is getting out through the pipes. The
9 building air is like -- well, now is summertime, it is probably
10 like 75 degrees, 80 degrees, and the water temperature is like
11 120 degrees and the heat is lost to the air. It is like a hot
12 water pipe in your house. The heat is lost out of the hot water
13 pipe to the air.

14 MR. SMITH: Heat is a radiation; so if one kind of
15 radiation is getting out to the air, all others must be, too.

16 MR. BARRETT: No, nuclear radiation is attenuated by
17 the water. That is where the heat originally came from. It is
18 the radiation which is heating up the water. The water shields
19 the radiation. It is under many feet of water. That is what is
20 in the reactor vessel. There are many feet of water around the
21 core. Radiation is not coming out of the core.

22 MR. SMITH: There is no potential risk, this thing is
23 not just building up on itself, that that could not happen?

24 MR. BARRETT: That is correct.

25 CHAIRMAN MINNICH: Yes, please.

1 MR. CHARLES: My name is Ed Charles and I am from
2 Mechanicsburg, and I brought this up to John Wayback.

3 What is the status of the evacuation plans? We have
4 heard that they had a very successful test and about forty percent
5 of the area was not involved in the test at all being in York
6 County. Since we do have two Mayors here and a Commissioner, I
7 wonder what their feeling is or what their view of the status
8 of evacuating schools in their own communities is, etcetera. How
9 did they view it? I could not get the William Penn FEMA
10 critique. Nobody seemed to have any summary of the evacuation.
11 I would like maybe some comments as to how you view it.

12 We are talking about this waste, but can we evacuate
13 now or can't we?

14 CHAIRMAN MINNICH: I believe, first of all, Ed, that
15 there are copies of that critique available somewhere.

16 MR. CHARLES: I contacted FEMA and your office, and
17 nothing came.

18 MR. GERUSKY: How long ago?

19 MR. CHARLES: One day after the critique.

20 MR. GERUSKY: We just got the critique in about a week
21 ago.

22 MR. CHARLES: It may be in the mail.

23 MR. GERUSKY: On a scale of five, from what I gather
24 at the hearings yesterday and today, we received a four. I do
25 not know what that means and they do not know what that means

1 either.

2 MR. CHARLES: I am asking you.

3 MR. GERUSKY: It was a good exercise. The York County
4 exercise is going to take place in late July or early August on a
5 Saturday. There will be funding available to some of the workers
6 who have to come in on that Saturday in York County. The state
7 participation will be minimal. All the agencies who would be
8 involved would be pre-programmed, and material will be sent out
9 to York County to see how they respond. They have not responded
10 yet, as far as I know, to verify that the date is okay with them,
11 because their representatives will have come in and observe York
12 County as they did Dauphin County and other counties, and us,
13 and all of the agencies of state government.

14 MR. CHARLES: As to your agency, what do you rate it?

15 MR. GERUSKY: Our agency, I think that we handled it
16 very well. All we did was make recommendations. We handled the
17 information flow from the reactor, and evaluated that flow with
18 the people at the reactor and NRC, supposedly, because they were
19 and were not playing. It was not a real emergency drill because
20 in a real event, NRC gets deeply involved as we found out two
21 years ago.

22 So without them being very involved, it worked very
23 well.

24 (General laughter)

25 CHAIRMAN MINNICH: Do you mean that the way that you

1 say it?

2 MR. GERUSKY: The scenario was good, it was very
3 complicated. We were on pins and needles trying to decide when
4 and if evacuation should occur. We knew that it was going to
5 from all of the pre-publicity, but we did not know anything about
6 the drill at all. There was one person in our office who worked
7 on the drill, and he would not tell us anything about it except
8 that it was going to happen on a certain date and we better be
9 available. So we knew nothing as to what was happening at the
10 reactor. It was planned to evacuate the reactor and we knew
11 that at some time that there was supposed to be an evacuation,
12 because of the counties who came in and all the rest had drills,
13 but when that evacuation took place depended on us making the
14 recommendation.

15 It was a good exercise. I was at our offices in direct
16 communication with the reactor and with our people in the field,
17 but apparently, it went pretty well there, also. We still have
18 some problems. We do not have emergency workers available to us
19 us yet or certain individuals in the public whom we are supposed
20 to get and maintain. There are some problems at the Federal
21 level. Evacuation, they think that it can take place, and take
22 place reasonably well within a six to eight hour timeframe.

23 MR. CHARLES: Could I ask the Mayor of Middletown what
24 his view is; did you go or not?

25 MR. REID: We took part in the exercise that we had last

1 last year, and as far as the administrative end of it, we got an
2 excellent rating. I was asked a question about the test this
3 year, and it is true that the administrative end of it might go
4 great such as a four out of a possible five, but my concern is
5 with the people, do they know what to do. Last year, I tried to
6 set up a mock evacuation. I had three hundred volunteers who
7 wanted to get involved, and we were going to move those three
8 hundred people by automobile and have different kinds of problems
9 presented, such as a five or six car accident at a very busy
10 intersection to see how the emergency people would function in
11 moving these people and have wrecked automobiles simulated.

12 To me, this is the best type of evacuation that you can
13 have. It is true, the administrative end of it goes great. I
14 am quite sure that Tom's department is like me. I think
15 constantly about evacuation. I work every night on evacuation
16 and emergency preparedness. I think that I know what to do, but
17 do the people. I think that that is what we should have, and I
18 have always said that we should try it in some community, and then
19 sit down and find out what the problems are, and try and work out
20 those problems before something happens.

21 We hope that nothing ever happens, but I would like to
22 have these problems worked out before anything, if anything,
23 should happen. I think that the Federal government should come
24 in and assist, sit down and talk about the problems. critique
25 the whole thing after it is finished, and come up with a

1 aolution. If they can spend \$500,000 testing the sex life of a
2 tse-tse fly, then I think that they should invest a few pennies
3 in some community in this area to carry out a mock evacuation,
4 working with the people and getting their reactions.

5 MR. CHARLES: Do you feel that this might be something
6 for your agenda that people who have these concerns -- I have yet
7 to see public input into evacuation type questions. It is hard
8 enough getting a copy of the plan, especially an updated copy.
9 Whether this might be something that we could have expert
10 witnesses and questions that I know that a lot of people, I being
11 a teacher, have a very great concern. Do I go with my classroom,
12 do I go with my students, or do I go home with my family. I
13 think that there are a lot of things that are not administrative
14 type questions that would be good for this type of thing.

15 It does deal with the cleanup, because we have to be
16 able to go, the danger is there. We have trucks going en route
17 with 60,000 curies in it. I do not know what a response time is
18 for a radiological -- I do not even know if the county has a
19 team. I know that Steve Reese said that he was working on it,
20 but I do not know if that has changed.

21 MR. GERUSKY: Before the Pennsylvania for TMI is
22 approved officially, there must be a public hearing by FEMA, done
23 by FEMA in the area. That is going to have to take place in the
24 next few months.

25 MR. CHARLES: Will there be a public notice?

1 MR. GERUSKY: It is a public hearing with public input.
2 I do not know if it has been done in any other state yet. It
3 should have been, but I do not know if it has been.

4 MR. CHARLES: South Carolia had a REACT team.

5 MR. GERUSKY: So did we. I am on 24 hour call, and so
6 is all of my staff. We are out on any emergency involving
7 radiation no matter where it is in the state. What we were
8 talking about was a plan for TMI which must be approved. They
9 do not look at it very much, highway accidents involving
10 radioactive material. We have a highway accident plan involving
11 radioactive material since about 1961, and we have responded to
12 accidents since about '66. There has not been an accident on the
13 highway involving exposure to the public, I believe, in
14 Pennsylvania, as far as I know.

15 There have been with a lot of toxic materials and
16 exposure materials, and one of the reasons for the Hazardous
17 Substances Transportation law being in existence in Pennsylvania
18 was an explosion of a dynamite truck in eastern Pennsylvania in
19 the middle '60's, and there are regulations covering all kinds
20 of transportation in response to the setup in Pennsylvania for
21 all kinds of transportation.

22 CHAIRMAN MINNICH: Mayor.

23 MR. REID: Mr. Chairman, I think that this is an
24 important subject, but I question whether or not before this
25 committee. Somebody already mentioned tonight that we have not

1 done enough or we have not looked into things enough already.
2 I do not necessarily agree with that comment, but we do have a
3 charge that has been put forward to us by the NRC, and it seems
4 to me that our charge is not to look at evacuation, that someone
5 else has significant responsibility in that area.

6 MR. CHARLES: It is the first requirement of any plan.

7 MR. REID: If I may finish, you had an ample opportunity
8 to comment, I think. We have a charge I think basically to try
9 to review the cleanup activities proposed both safety wise and
10 speed wise and comment on that. I do not honestly see, even though
11 it is a very important thing and in the City of Lancaster as Mayor
12 I consider it important and we have people involved in that, but
13 I do not think that that is the charge of this group. That is all
14 that I am saying.

15 CHAIRMAN MINNICH: All right.

16 Does anyone else want to comment; yes, sir.

17 MR. ROACH: Don Roach of United Steel Workers Local.

18 I would like to ask again about this worker safety
19 business. I am not of the opinion that the gods of plague are
20 going to cure plague since they have brought us this plague. Out
21 of sheer practical necessity, I do not trust their assessment of
22 the amount of radiation that their workers got, particularly at
23 the early point in the accident. Now, they may indeed be correct,
24 but I would like -- this gentlemen here told me that it was
25 private knowledge.

1 It is not fair that they should be screaming to the
2 public and to Congress to bail them out while protecting whatever
3 information that they have learned about radioactivity to workers.

4 CHAIRMAN MINNICH: Let me correct something, please,
5 because I have been down to Washington, too. I am not asking for
6 a bail out of Met Ed, nor is anyone on this panel. We are asking
7 for a bail out of the people of this area, for the health, safety,
8 and welfare of the people of this area. If you going to look at
9 it as a bail out of Met Ed, you will never get anything out of
10 Washington. You are then left with the question of who the devil
11 is going to clean it up.

12 You cannot leave it sit there, and you cannot stay on
13 dead center on this issue. You have got to get away from that it
14 is a bail out of Met Ed. It is a question of coming in here and
15 doing something for the people of this area. So let us drop that
16 area.

17 MR. ROACH: Accepting all of that, what I am interested
18 in is that I read reports saying that in the early days of the
19 March 28th incident that workers went in there and got over
20 certain levels of radiation, and at that time they did not have
21 proper equipment, that they used clothing that had not been
22 cleaned out properly. It is not done now, but I would like to
23 know who else besides Met Ed --

24 CHAIRMAN MINNICH: Excuse me, can someone address that.
25 I am not aware of that.

1 MR. GERUSKY: Can I as a question?

2 CHAIRMAN MINNICH: Yes.

3 MR. GERUSKY: I think that it might be important. I
4 do not know of a document, there may be one, but I have not seen
5 one which has evaluated the exposures to the workers up to this
6 point on an individual and group basis, what maximum, how many
7 have been exposed to so much radiation. I wonder if GPU or NRC,
8 if they have the data, could put together the data for this panel
9 so it could be discussed at the next meeting as part of what we
10 are going to do about it, because that is something that we have
11 not really seen, the kinds of exposures that have already occurred
12 to individuals working on the site during the early stages of the
13 accident and during cleanup.

14 CHAIRMAN MINNICH: Is that possible, Lake?

15 MR. BARRETT: Yes.

16 MR. GERUSKY: It gets around, but is all over the
17 place, and I do not think that there is one document that does
18 that.

19 MR. ROACH: I just think that there should be more
20 worker input to the thing rather than people speaking for the
21 worker.

22 MR. GERUSKY: What I was talking about was the
23 individual personal right to privacy, not the information on
24 exposures to an unnamed individual. There is information
25 available which is what I am asking for on individual A, B, C.

1 CHAIRMAN MINNICH: But you wanted names?

2 MR. ROACH: Not necessarily; no, I want verification of
3 the facts so that say, twenty years down the road if this person
4 happens to get leukemia or something, well, he has the records,
5 whether these records are verifiable.

6 CHAIRMAN MINNICH: Originally, you did ask for names,
7 you asked for workers' names.

8 MR. ROACH: But maybe I did not fully understand what I
9 wanted, because individuals do not really count again. Here we
10 are talking about money, you know.

11 MR. GERUSKY: Also there were an awful lot of people
12 who were not directly related with GPU including NRC people who
13 received exposures during the accident on which information is
14 not readily available. It is from all over the country, people
15 who came in to work on the accident at the request of various
16 agencies. A lot of different people were keeping track of
17 information.

18 I think that if we only ask for data concerning what
19 the people at Met Ed or GPU who were involved, it would be
20 helpful.

21 MR. ROACH: May I just mention though that in saying
22 that individuals do not count, that is not my belief, but that is
23 what I get.

24 MR. GERUSKY: I did not say that.

25 MR. ROACH: But the fact that I cannot get any

1 information.

2 MR. GERUSKY: I said that you cannot get the names of
3 individuals unless they want you to have those names. That is their
4 right, not yours.

5 MR. ROACH: I understand.

6 MR. MORRIS: Do you understand that we spent two and an
7 half hours when you say that we have discussed this information,
8 that we spent at least two and an half hours at the last meeting
9 getting deeply involved in this discussion with Dr. Cocheran,
10 and there is a transcript available that you can get to read waht
11 transpired.

12 MR. ROACH: I understand, but I just do not think that
13 there has been enough publicity being given to worker exposure.

14 MR. MORRIS: I do not know whether there is enough
15 publicity or not, but I can tell you that this panel spent a lot
16 of time involved in that issue at the last meeting.

17 MR. ROACH: But nobody has the figures of worker
18 exposure. That is how much publicity that you have given to it.

19 MR. MORRIS: There are many figures available for worker
20 exposure. It is a matter of what it is you are looking for.

21 MR. ROACH: Twenty years down the road we will use them.

22 CHAIRMAN MINNICH: Lake and Gale, is that possible to
23 comply with, his request for the next meeing?

24 MR. HOVEY: Yes.

25 CHAIRMAN MINNICH: All right.

1 Yes, Ma'am.

2 MS. ROTH: My name is Terry Roth and I am from
3 Harrisburg.

4 Mr. Minnich, I think that I share your concern that the
5 people of this area be bailed out, but I am somewhat confused.
6 It seems that the only options that we talk about when we talk
7 about paying for the cost of cleanup are rate payers paying or the
8 Federal government paying. Eseeentially, we pay again when the
9 Federal government pays. Why are we not talking about the
10 utilities paying for cleanup, that the utility pay until it no
11 longer can pay. We have bankruptcy laws which cover this
12 situation, assets are disposed of. It seems to me that it is
13 their accident, not ours, not the Federal government's.

14 Why do we limit ourselves to talking about only those
15 two options?

16 (Applause)

17 CHAIRMAN MINNICH: Terry, I am not trying to be
18 facetious, but if you had the money, if you were a person who was
19 interested in investments and you had the money to do it, and
20 Met Ed went bankrupt, would you buy that unit down there?

21 MS. ROTH: No, certainly not.

22 CHAIRMAN MINNICH: All right, so my point is what would
23 we gain by forcing Met Ed into bankruptcy, and then we have a
24 polarization. They are bankrupt and they are out, and the Feds
25 has said that is their problem, it is not our problem, and you

1 do not have a buyer, and there it sits. Now, who wins?

2 MS. ROTH: I think that you have a good point, but I
3 think that your point suggests that there are a lot of questions
4 that have not been answered. I know a little bit about bankruptcy
5 law and I know that you appoint a receiver who comes in and
6 administers. Nobody would want to touch this, I think that you
7 are right about that, but do we not need to have those questions
8 asked. Do we not for example need further research of the
9 question of public control. That is an option as far as I can
10 tell that has not really been explored.

11 CHAIRMAN MINNICH: If you recall, I asked two people
12 and I opened that up to anyone else who cares to address it,
13 to come back to the next meeting and tell us how they would pay
14 for it.

15 MS. ROTH: I appreciate that, but what I am saying is
16 to explore those kinds of alternatives to answer that question of
17 what would happen if Met Ed went into bankruptcy, I cannot speak
18 for anyone else in this room --

19 CHAIRMAN MINNICH: But again, you have to remember, as
20 the Mayor pointed out to the other gentlemen, that is not our
21 charge. Our charge is to get the place cleaned up. Bankruptcy,
22 whether they go bankrupt or whatever, that is not our charge,
23 although it is a concern.

24 MS. ROTH: And the question of who pays for that
25 cleanup is a part of your charge, I assume.

1 CHAIRMAN MINNICH: I suppose that you could make a case
2 for it, yes.

3 MS. ROTH: All that I am suggesting then is that
4 alternative be one that is considered along with the other
5 alternatives, and that some further work be done by people with
6 real experience in the area as to what the alternatives are,
7 what would happen if, what could happen if, etcetera.

8 CHAIRMAN MINNICH: All right.

9 MR. TRAVERS: Mr. Chairman.

10 CHAIRMAN MINNICH: Yes.

11 MR. TRAVERS: There is a rather large report which
12 addresses that very question and it is prepared by the Utility
13 Finances Branch of the NRC, and I would be happy to send it to
14 you. It investigates a whole slew of arguments, what ifs.

15 CHAIRMAN MINNICH: I think that I have read that, as
16 a matter of fact.

17 MR. MORRIS: Could we get a ruling from the NRC
18 concerning what is our charge. Are we supposed to be involved in
19 that, because if we are, fine, but I would like to know that so
20 we can address that. I think that we need direction on that, and
21 I think that we also need direction on the question that was asked
22 here on evacuation. I do not think that it is, but I would hate
23 to place this panel in that position. I think that we have to
24 have some kind of direction.

25 CHAIRMAN MINNICH: If I can hopefully express this to

1 the citizens in attendance, we are asked to look at an awful lot
2 of things, and no one means to put down anyone who proposes that
3 we look at this issue or we look at that issue, but you have to
4 realize that we as a panel have only so much time, and we do have
5 what appears to be a specific area of responsibility. In the
6 timeframe that we have in dealing with these things, we are not
7 going to be able to cover all of those areas that one perhaps
8 would like us to look at.

9 I believe that I am going to call it an evening.

10 MR. SMITHGALL: May I make one suggestion?

11 CHAIRMAN MINNICH: Yes.

12 MR. SMITHGALL: Maybe that document, that charge of
13 this panel, ought to be made public at the next meeting. Maybe
14 it is like what Mayor Morris said. I heard a question asked here
15 as to whether or not the financial liability was important,
16 whether or not that was your charge. You were saying yes, and
17 Mr. Gerusky is shaking his head no. It is not that I am trying
18 to be critical, but what I am trying to get at is that maybe it is
19 important, if we are going to have a liaison here.

20 CHAIRMAN MINNICH: I was saying maybe yes, but I do not
21 know.

22 MR. SMITHGALL: Are you saying that there is no
23 document stating your charge?

24 CHAIRMAN MINNICH: No, we are asking NRC to give us
25 that.

1 MR. TRAVERS: As a matter of fact, there is and it is
2 a public document and is on file. It is a rather broad statement
3 and I think that it puts the areas which the panel would like to
4 get into pretty much in their own hands as it relates to the
5 cleanup of Unit 2.

6 MR. SMITHGALL: Maybe what I am asking is that it might
7 be important --

8 MR. TRAVERS: Would you like me to bring up some copies
9 next time?

10 MR. SMITHGALL: I think that that is an excellent idea.

11 MR. REID: Maybe we can discuss it at the next meeting
12 as to what we are going to get into and what we are not. If
13 evacuation is something that we should decide, what time; and
14 if cost is something that we should decide what time. I think
15 that we should define where we are going with this, because we
16 could be spending a lot of time on things that are important to
17 many people, but that we will not be spending time on. We should
18 know that at each meeting, I think.

19 CHAIRMAN MINNICH: That is a good point.

20 When do we want to meet again; August is usually a bad
21 month, but I will defer to the panel if you want to set a date in
22 August.

23 MR. ROTH: It seems to me that it would be a good idea
24 if we could set a schedule; perhaps, every four to six weeks, so
25 that not only we would know, but the public would know, NRC would

1 know, the utility would know.

2 CHAIRMAN MINNICH: I would like to do that, Joel, but
3 unfortunately, I am involved in more than just here, and I regret
4 that. There are groups and citizens who expect me to be here,
5 there and everywhere, and I try to accomodate them. It is
6 literally impossible for me to schedule a series of four or five
7 meetings with assurance that that is going to fit.

8 MR. ROTH: I certainly understand that, and I would
9 also perhaps at this time say that we do not have a vice chair
10 who may be able to help on this who could chair in your place.
11 The burden has fallen on you, probably 99.9 percent which
12 probably is not fair. Perhaps we should deal with it ourselves
13 that way by having that, so we could be able to continue and
14 satisfy all.

15 CHAIRMAN MINNICH: Yes, Ma'am.

16 MS. CLEMENT: I am Marge Clement from Lemoyne.

17 In the government's statement today, one of the things
18 that he sais was "I believe the time has come for the catalyst of
19 public opinion to work its will on all of the relevant parties."
20 I look on the chief executive of our state as a relevant party
21 and I invite everybody to come to the Governor's mansion after
22 this meeting.

23 (Applause)

24 CHAIRMAN MINNICH: Is that for dinner?

25 MS. CLEMENT: Whatever.

1 CHAIRMAN MINNICH: Is there any specific date or dates
2 in mind. We will entertain that and deal with the vice chairman
3 at the next meeting. I think that perhaps that that is the way
4 to go.

5 (Discussion off the record)

6 CHAIRMAN MINNICH: August 27th, that is a Thursday.
7 I would suggest that we consider York. I think in keeping with
8 what we started, I would like to hold a meeting in York. In
9 that case, we would not know where. The NRC would attempt to
10 make arrangements someplace in York and then disseminate that
11 information. August 27th, it will be 7:00 with location to be
12 announced.

13 (Whereupon, at 9:23 p.m., the meeting was adjourned.)
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NUCLEAR REGULATORY COMMISSION

This is to certify that the attached proceedings before the

in the matter of: Meeting of Advisory Panel for the Decontamination
of TMI 2

Date of Proceeding: July 9, 1981

Docket Number: _____

Place of Proceeding: Harrisburg, Pennsylvania

were held as herein appears, and that this is the original transcript
thereof for the file of the Commission.

Rossie Sutton

Official Reporter (Typed)

Rossie Sutton

Official Reporter (Signature)