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UNITED STATES NUCLEAR REGULATORY COMMISSION

IN THE MATTER OF:

ADVISORY PANEL FOR THE
DECONTAMINATION OF
THREE MILE ISLAND

DOCKET NO:

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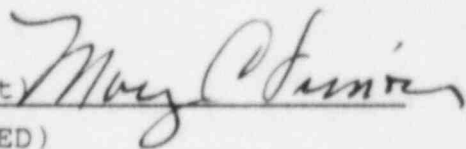
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MARY C. SIMONS

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1 CHAIRMAN MORRIS: Elizabeth.

2 MS. MARSHALL: Yes. I was just curious to
3 know, are these casks going to be reused? The canisters
4 will be what is buried and then the cask will be brought
5 back and reused?

6 MR. BIXBY: The canisters will be stored in
7 Idaho in a water pool for the 30-year life. The cask with
8 the seven holes in it will shuttle between here and Idaho
9 over 35 times. So each will make about 18 cross-country
10 trips.

11 MR. ROTH: Willis, you did mention I think in a
12 couple of meetings ago that there was the possibility that
13 we were considering doubling up at some time, or wasn't
14 that under consideration that two casks would be running
15 simultaneously rather than one up and one back?

16 MR. BIXBY: Well, you know, that really is a
17 function though of the number of canisters that may be in
18 the fuel pool. What the right mix is I guess is going to
19 be a function of what the actual inventory is in the pool.

20 Our first evaluation was that we would load one
21 here and then unload it in Idaho and then while we are
22 loading one out there load one here.

23 Of course that may change as we get into the
23 actual shipping operation. It may be that we may do both
25 of them here at one time if we catch up with the

1 defueling.

2 CHAIRMAN MORRIS: Any other questions from the
3 panel or from the public?

4 (No response.)

5 Thank you very much, Willis and Phil.'

6 I do want to say that it was a very impressive
7 presentation, and I found the film to be very, very
8 impressive and very helpful and thank you for that.

9 The last item on the agenda is a presentation
10 by Jane Lee on the health effects, and I do believe that
11 she is here. If she is, would she please come forward and
12 take a place.

13 MS. LEE: Jane Lee, 183 Valley Road, Etters,
14 Pennsylvania 17319.

15 Mr. Chairman and ladies and gentlemen of the
16 Panel, the request to speak before the Panel was generated
17 from the appearance of the Pennsylvania Secretary of
18 Health, Dr. Arnold Muller.

19 Although I admittedly lack academia background,
20 this does not preclude lack of knowledge on a subject of
21 radiation health effects or the ability to gather
22 information on health effects.

23 Clearly a door-to-door survey to establish
23 health effects and the number of people in each household
25 proves far more effective and accurate than the elusive

1 methods described thus far by the Pennsylvania Health
2 Department.

3 For instance, we know from our own door-to-door
4 surveys that many households are missing from the
5 Pennsylvania Health Department's survey.

6 Map 1. The two maps that you see before you,
7 Map 1 and Map 2, were the original maps composed by the
8 former Secretary of Health, Dr. Gordon MacLeod. I am
9 presenting these to the panel for a specific reason.

10 The first map you will note at the top is dated
11 June 28th, '78 through March 28th, '79 which reveals a
12 clustering of hyperthyroidism. The little black dots that
13 you see indicate all of the reactors in Pennsylvania at
14 that time.

15 Map No. 2 is more interesting in that it
16 displays on the lines counties. If you look closely, you
17 will see each county with a number which is different.
18 These numbers are indicative of the childhood cancers from
19 those children who are being presently treated at the
20 Hershey Medical Center.

21 Now we arrived at these figures, or got these
22 figures directly from the from the Ronald McDonald House,
23 which is a wayside house for parents who wish to remain
23 overnight and close to their children during cancer
25 treatment. This is in way tells you the total number of

1 cancers for children.

2 If you will notice, according to Dr. Gordon
3 MacLeod, and I will give you two separate reports from Dr.
4 Gordon MacLeod later on, hyperthyroidism in these areas
5 was 12 times higher than expected for those nine months.
6 Now we are talking about from March of '79 until December
7 of '79. Fifty percent of the hyperthyroidism cases were
8 determined to be genetic. The other 50 percent have never
9 been adequately addressed or explained.

10 The map, if you will look closely at your
11 county and Lancaster County you will see a clear high
12 level of cancers, and again this is just for children and
13 in no way does it give you the total numbers.

14 Because there are parents in the area of
15 Dauphin County, Cumberland County and Perry County who
16 live close enough to Hershey Medical that they would not
17 require the wayside house, you will see lower numbers in
18 those counties.

19 Please note the leap in cancers in Lancaster,
20 Lebanon and Berks Counties. Lancaster County is listed
21 with 38 childhood cancers. York County 36 and Berks
22 County 27.

23 There are five health effects in the TMI area
23 which concern me and many others. One is cancers, two is
25 hyperthyroidism, three is crib death, four is infant

1 mortality and five is congenital defects.

2 Ms. Osborn will now pass out to you a report by
3 Dr. Stewart who reveals a correlation between irradiation
4 of the fetus and crib death.

5 When Dr. Tokahata was queried about hospitals
6 who were still performing pelvic X-rays on pregnant women,
7 Dr. Tokahata fell back on his favorite dialogue, "That is
8 confidential information." That particular discussion
9 took place behind closed doors in the Health Department
10 among professional scientists.

11 The medical community apparently doesn't have
12 any problem in releasing the AIDS data on a national level
13 for both living and deceased persons. Yet we continue to
14 witness the Commonwealth of Pennsylvania withholding
15 health data and vital statistics for the past seven years.

16 Prior to 1978 vital statistics were released
17 every year. Ms. Osborn will be releasing to you
18 correspondence between myself and my attorney indicating
19 the secretive attitude that, in my opinion, does not bode
20 well for the credibility or the integrity of this
21 Commonwealth.

22 Indeed, withholding information merely lends
23 credence to the citizens who have been reporting more and
23 more health effects. The lifetime of a secret society in
25 the long run disintegrates by its very nature.

1 During our research at the State Public Library
2 in 1980, and we did this because the Public Health
3 Department refused to release any data on infant mortality
4 rates, we made an interesting discovery. We discovered 12
5 crib deaths that were listed in the obituaries, 20
6 stillborns and 47 other infant deaths that were listed
7 without cause.

8 This is a total of 79 infant deaths which we
9 can confirm conclusively from 1979 in Lancaster County.
10 This is by no means the total number of infant deaths.

11 If you will look at the following paper that
12 Mary is putting out of the Pediatric Cancer School Survey,
13 you will see a total of 66 childhood cancers listed for an
14 eight-year period, and the years are on there. I think it
15 is 1970 through 1978. That is in Lancaster County.

16 If we extrapolate these figures by including
17 private schools, we can be looking at approximately, and I
18 think that is maximum, of nine cancers per year for 1970
19 through 1978 for each year. That is a total of 72 cancers
20 for children over a period of eight years.

21 Looking at Map 2 again we see 38 cancers in
22 Lancaster County presently. This 38 figure is not the
23 entire childhood cancers of that County.

23 Parents have a constitutional and a moral right
25 to know what or who is killing their children. Common

1 sense dictates that we know what kind of future we are
2 preparing for all coming generations, and I seriously
3 doubt that parents would place the lives of their children
4 on the sacrificial alter of modern technology just to
5 perpetuate that technology for employment.

6 We know from the former Secretary of Health,
7 Dr. Gordon MacLeod, who reported that Dr. Tokahata of the
8 Pennsylvania Health Department omitted 88 infant deaths
9 from his data when he prepared and submitted the infant
10 mortality data to the Federal Vital Statistics Office for
11 1979.

12 If you look at MacLeod's Report B, and you will
13 see two reports here from MacLeod, one is A and one is B,
14 which were publicly presented. Report B on page 18 will
15 tell you about the omission of the 88 infant deaths, which
16 has since been corrected by Tokahata and explained as a
17 mere oversight.

18 This attempt to obscure pertinent data on a
19 public vital statistics deserves at the very least a
20 severe reprimand or a dismissal. Since neither was
21 forthcoming, we can only conclude that Dr. Tokahata was
22 acting with the advice and consent of the Commonwealth of
23 Pennsylvania. What other conclusions could we arrive at
23 after seven years of withholding public vital health
25 statistics.

1 This Panel will find Dr. MacLeod's reports very
2 interesting and he describes in detail what happened
3 during the accident and the behavior of the Pennsylvania
4 Health Department.

5 On page 85 of the Pennsylvania Vital Statistics
6 for 1979, on the back of that vital statistics that you
7 are looking at I think you will find a list, a study, a
8 survey sheet without identifying the individuals. There
9 are two sheets. One is area 3, which is Goldsboro, and
10 the other area 2 are the side streets where Dr. Tokahata
11 could find no cancers. Do you find that on the back of
12 your vital statistics?

13 CHAIRMAN MORRIS: What page, Jane?

14 MS. LEE: The attachment on the back there,
15 clear in the back, the last two pages.

16 MR. ROTH: What page number?

17 MS. LEE: There is no page number.

18 (Ms. Osborn hands out the papers.)

19 Do you have it?

20 CHAIRMAN MORRIS: No. She is going to hand it
21 out.

22 MS. LEE: All right. We can proceed until she
23 hands that out.

24 Let's go with the vital statistics. On page 85
25 of the Pennsylvania Vital Statistics for 1979 please note

1 the 22 leukemias listed for York County clear at the
2 bottom of the page. All the counties are alphabetized.

3 And on page 89 then please note the three cases
4 for diseases of the pancreas also for York County.

5 The surveys that Mary is now handing out to
6 you, area 3 in Goldsboro, and area 2 is the extension of
7 the citizen's survey. This extension of the citizen's
8 survey in area 2 does not include any of the Aamodt
9 cancers. That is very important. We found additional
10 cancers on those side streets where Dr. Muller couldn't
11 find a single one.

12 And, by the way, I did not find these cancers
13 by doing a door-to-door survey. I picked up the phone and
14 I called key people. Once I got the name of the
15 individual, I called the family, either a relative if the
16 person was deceased, or that person themselves who had
17 cancer and got confirmation of these cancers.

18 These two surveys show seven leukemia cases and
19 five cases of cancer of the pancreas. We are talking
20 about a very small population. We are talking about a
21 rural area. The only major industry in that rural area is
22 the York Haven Coal Fire Plant which began operating in
23 1902 and Three Mile Island.

23 Area 3, which is Goldsboro, has a total of 27
25 cancers since the accident, contrary to Dr. Muller's

1 report that these populations increased. Goldsboro's
2 population dropped from 714 in 1979 to 500 in 1985.

3 The following are the types of cancers we found
4 and the numbers.

5 Colon cancer, 4. Breast cancer, 5. Pancreas,
6 one. Leukemia, three. Lung, 2. Liver cancer, 2. Throat
7 cancer, one.

8 For Goldsboro that comes to a total of 18
9 cancers plus one ruptured colon. We were unable to
10 confirm the nature of the disease of that colon.

11 The double cancers in this same area follow as
12 breast/ovary, one; stomach/liver, one; colon/neck, one;
13 colon/breast, one; bladder/ovaries, one; uterine/bone,
14 one; colon/liver, one; kidney/stomach, one.

15 That comes to a total of double cancers of
16 eight. I don't know how many of you know it, but double
17 cancers are unusual according to some of the experts that
18 I speak to. The total number is 26 for Goldsboro.

19 In area 2 where Dr. Muller could find no
20 cancers and of which I had little difficulty in locating,
21 it is as follows:

22 Leukemias, four cases. Pancreas, four. Lung,
23 two. Colon, two. Breast, two. Brain, one. This
23 particular person had two brain tumors. Skin, one. Rib
25 cage, two. Uterus, one. Eye, one. Lymphoma, one. And

1 one double, stomach/esophagus, one, which is a total of
2 23.

3 If you take those numbers and you tally them,
4 17 for the Aamodt findings, 26 for Goldsboro and 23 for
5 those streets where Dr. Muller could find no cancers, and
6 it comes now to a total of 66 cancers in a rural area
7 where the homes are far apart, low population, no major
8 industry, except Three Mile Island and a coal fire plant.

9 This is by no means the total sum of the
10 cancers in these areas because I didn't do a door-to-door
11 survey. We have discovered in door-to-door surveys some
12 people who have cancers who have denied they had cancer
13 where the mate came back to me and said, not only does he
14 have cancer but so do I.

15 I did have additional names that were passed on
16 to me, but I was unable to confirm them and therefore I
17 didn't use them.

18 If this Panel will recall, the Secretary of
19 Health, Dr. Arnold Muller, appeared before you and
20 reported that he could find no cancers on those secondary
21 streets of the Citizen's survey. Dr. Muller accused us of
22 being biased or selective data gathering.

23 On page 65 of the Citizen's Advisory Panel
23 transcript Dr. Muller stated "We then looked at all of the
25 other data available to us, like the Registry, and were

1 not able to find cancer on those other streets."

2 Mrs. Rob responded "Not on those other
3 streets?"

4 Muller: "It does seem incredible, doesn't it?"

5 Indeed, it does.

6 Will this Panel require any more evidence about
7 the veracity of the Pennsylvania Health Department?

8 In addition to these concerns, we are looking
9 at 11 cases of leukemia reported by Dr. Samuel Mowery of
10 Fairview Township. We have observed the weekly reports
11 about radon emissions in Central Pennsylvania and that
12 something must be done, and I am quoting Mr. Gerusky.

13 Now I think that is a step in the right
14 direction, but I can't help wondering when we will see the
15 same concern and action taken about the daily emissions of
16 krypton, cesium, strontium, tritium, not to mention the
17 chemical contaminants emanating from Three Mile Island.

18 There was some mention made during Mr. Muller's
19 appearance about the BEIR report of which I would like to
20 address. The BEIR I, II and III reports do address the
21 latency periods. The BEIR reports were drafted and
22 written by the National Academy of Science. This
23 organization, guess what, folks, it is funded by the
23 Department of Energy, which is well known for its
25 promotion of nuclear power and the nuclear energy in

1 general.

2 One of the major differences of radiation
3 health effects is the latency periods among scientists.
4 The BEIR reports written by the National Academy of
5 Science reports 20 to 30 years as the latency period from
6 radiation exposure.

7 However, there are many scientists who are
8 constantly challenging the BEIR report, and among them is
9 Dr. Goffman, Dr. Tamplan, Dr. Rosely Pertel, and I could
10 name a few more.

11 Those who disagree report that radiation
12 exposure is cumulative, that is depresses the immune
13 system and that this damage will be passed on from
14 generation to generation.

15 How does the National Academy of Science
16 reconcile the past 70 years of radiation exposure from
17 uranium mining, processing, 35 years of nuclear bomb
18 tests, emissions from nuclear power plants, nuclear waste
19 shipments and spills, increased use of diagnostic and
20 dental X-rays and the installation of X-rays machines in
21 our shoe stores during the 40's and the 50's where our
22 children used the X-ray machines in those shoe stores as
23 toys and pressed the button over and over as fascination
23 to see the bones in their feet.

25 What type of cumulative values are we

1 experiencing and how will those cumulative values affect
2 latency periods?

3 Are we expected to believe that latency periods
4 remain rigid and that radiation exposure measurements
5 begin with the initial exposure of an individual who is
6 already born without weighing the consequences that this
7 is passed on genetically?

8 Why hasn't the BEIR report dealt with all past
9 radiation exposures and their cumulative values and its
10 impact on the latency periods?

11 It is unfortunate that the populace of the
12 United States, and around Three Mile Island in particular,
13 is unable to conform with the National Academy of
14 Science's criteria for cancer latency periods as they
15 would truly no doubt wish to do.

16 But the fact of the matter is that what we are
17 looking at cries out for the academia community to listen
18 and to do something worth while about what is happening.

19 A tragedy of enormous proportions is occurring
20 around Three Mile Island and nobody does anything and few
21 people listen.

22 That is the summation of my presentation, but I
23 would like to ask, Chairman Morris, did you receive my
23 scientific reports, or not my scientific reports, but the
25 scientific reports that I had passed on to Mr. Roth on

1 tritium?

2 CHAIRMAN MORRIS: That you passed on to who?

3 MS. LEE: I gave them to Mr. Roth.

4 Joe, did you give Mayor Morris those tritium
5 reports I had given you? It was a packet.

6 MR. ROTH: Now wait a minute. There were a
7 couple of packs.

8 MS. LEE: It is very important that Major
9 Morris see those reports, and the reason that it is
10 important, and if you did not get them ---

11 CHAIRMAN MORRIS: I did not.

12 MS. LEE: I will run copies and see that you do
13 get them because it is extremely important as Mayor of
14 Lancaster that you are aware of these scientific reports
15 on tritium because of the proposals that are now being
16 considered in disposing of the radioactive water on site.

17 And I would just like to say that tritium is an
18 isotope of hydrogen three. It cannot be separated from
19 the water, as Commissioner Bernthal of the NRC had
20 suggested. I find this rather appalling that somebody
21 that is a Commissioner doesn't know that.

22 CHAIRMAN MORRIS: I think we as a panel
23 understand that though at this ---

23 MS. LEE: I beg your pardon?

25 CHAIRMAN MORRIS: I think we as a panel

1 understand the point that you are making on that.

2 MS. LEE: Okay. But some people in the
3 audience do not. Tritium is released into the environment
4 via steam emissions and into our waterways. Tritium has
5 two neutrons and one proton. It can enter the body in
6 several ways, the drinking water, it can be absorbed
7 through the body pores during swimming and inhaled from
8 the moisture in the atmosphere. It gives whole-body dose
9 and easily crosses the placenta barrier and thereby
10 damaging the fetus.

11 Thank you.

12 CHAIRMAN MORRIS: Thank you very much, and I
13 would assume that -- are you going to get copies of those
14 reports so that I understand, Jane?

15 MS. LEE: The tritium reports?

16 CHAIRMAN MORRIS: Yes.

17 MS. LEE: I will make them again and see that
18 you get them.

19 CHAIRMAN MORRIS: Okay. Thank you very much.

20 Panel members, that concludes this evening's
21 agenda. We do need to talk about when the next meeting of
22 this Panel will be and what the agenda for that Panel
23 meeting should be. So if anybody has any suggestions, I
23 would like to start out by suggesting that we meet next in
25 April. That would normally be the second Thursday of the

1 month.

2 Mr. Roth has reminded that we are on
3 Wednesday's, but I read the transcript which said that for
4 this meeting Wednesday would be accepted and that we would
5 discuss Wednesday's in the future. I don't have a
6 problem, but I thought that Niel Wald indicated that he
7 may have problems with Wednesday's.

8 MR. WALD: Yes, I would have a problem with
9 Wednesday the 9th.

10 CHAIRMAN MORRIS: Do you want to try a
11 different date? How about the next Wednesday, April 16th.

12 MR. WALD: No. I am still lecturing. I think
13 Gordon also had a class running on Wednesday.

14 CHAIRMAN MORRIS: I am pretty sure that the
15 minutes indicated that several people had problems with
16 Wednesday, and Joel said well, give me Wednesday in
17 February and we will talk about it again.

18 It seems that the best day really is Thursday,
19 the second Thursday of the month unless other Panel
20 members indicate that is a problem for them. That would
21 be the 10th of April. The location I assume would be
22 here, Mike, and we will try to get this room.

23 Maybe we could ask them if we could have a
23 quieter partner or at least we could at least ask whether
25 we could join them if they are having that much fun.

1 How about agenda items? I know that I wrote
2 before coming tonight a couple of items that we needed to
3 get into if I can find them.

4 One was a review I think, or maybe we needed to
5 discuss the need to review the testing procedure in and
6 around the site.

7 MR. WALD: Would you consider the third
8 Thursday?

9 (Laughter.)

10 CHAIRMAN MORRIS: Okay. How about the third
11 Thursday which would be the 17th?

12 That is going to put Elizabeth Marshall in a
13 bind.

14 MR. WALD: Why don't you leave it where it is.

15 CHAIRMAN MORRIS: Well, if we know we are going
16 to have a problem right here on this Panel, I would assume
17 most of the Panel members have the second Thursday noted.
18 So unless we know we have a clean slate, I would just as
19 soon it on that date.

20 We will double check with the other Panel
21 members and make sure we don't have a problem with a
22 quorum because there are two already that can't make it.
23 I assume that Joel probably won't be here and Niel. Is
23 that right to assume that?

25 MR. ROTH: Never assume, Mr. Chairman.

1 MR. WALD: At this point it looks like
2 negative. I might be able to, but right now it looks like
3 I can't.

4 CHAIRMAN MORRIS: Okay. Well, we will just
5 have to make sure we check with the Panel members, Mike.

6 Okay. Agenda items. One of the things that
7 was suggested is at some point soon we have a review done
8 regarding the testing in and around the plant. At one
9 point there was a group that looked at it. Tom Gerusky
10 was one and Tom Cochran I think was another. Our friend,
11 Bill Kirk was another. I am looking for guidance on this
12 one because Tom Cochran is not going to be at meetings in
13 the future, Gerusky is not here and Bill Kirk was here
14 earlier, but ---

15 MR. ROTH: He is here.

16 MR. KIRK: I am absolutely foggy. I have no
17 recollection of what you are talking about.

18 MR. WALD: The environmental surveillance
19 program.

20 CHAIRMAN MORRIS: You might not know what I am
21 talking about.

22 MR. KIRK: In-plant testing is what I thought I
23 heard.

23 CHAIRMAN MORRIS: Excuse me, I am sorry. I
25 misstated it. That is only because Mike and I talked and

1 we thought it may be a good idea to take another look at
2 it, and we even discussed that at the time that it was
3 established. What I am saying is that it may be good to
4 take another look at it at this time.

5 MR. KIRK: It was in light of the restart of
6 Unit 1. At the time that the previous review had been
7 completed the suggestion was made that if and when Unit 1
8 restarts then perhaps there might be some realignment of
9 the program. And I think Ken Miller was also a member of
10 that committee, or one of the principal members I believe.

11 CHAIRMAN MORRIS: Okay. Well I would be happy
12 to entertain names of individuals that would serve on such
13 a group again between now and the next meeting, and maybe
14 I could send a letter out to them asking them to get
15 together and review it without any formal action by the
16 Panel because at this point I am not sure who we would be
17 asking in this area.

18 MR. MASNIK: We might be able to talk that over
19 with them.

20 CHAIRMAN MORRIS: Fine. Then that would be a
21 future agenda item, but probably not ready for the April
22 meeting.

23 Does anybody have any suggestions for agenda
23 items?

25 MR. ROTH: How about our friend, Ben Hayes,

1 since that has been brought up on a number of occasions,
2 from OI?

3 CHAIRMAN MORRIS: Is it possible to get him
4 here do you think?

5 MR. MASNIK: We can ask him.

6 CHAIRMAN MORRIS: Okay. Any other ones?

7 MR. MASNIK: In relation, Joel, to what
8 subject?

9 MR. ROTH: Well, who knows at that point.

10 CHAIRMAN MORRIS: Well, we can assume that
11 nothing will be resolved between now and then. So he can
12 report on all of the outstanding items.

13 MR. SMITHGALL: We are going to have someone
14 from the ACRS coming.

15 CHAIRMAN MORRIS: We at one point were going to
16 have somebody from the ACRS come here and speak to us. I
17 know that there has been a paper issue tonight regarding
18 the recriticality issue.

19 MR. TRAVERS: What the process is for ACRS
20 review of the recriticality issue is they will issue a
21 letter to the Commission and they will summarize their
22 findings on the issue. That will be based on the meeting
23 we had with the subcommittee as well as the meeting they
23 will have tomorrow with the full committee.

25 CHAIRMAN MORRIS: Could we get somebody at the

1 April meeting?

2 MR. TRAVERS: I can certainly try.

3 CHAIRMAN MORRIS: Any other items?

4 MR. WALD: The status of defueling.

5 CHAIRMAN MORRIS: The status of defueling,

6 okay.

7 How about any realignment due to TMI-1 restart,
8 did we ever get into that?

9 MR. MASNIK: That was the monitoring program
10 issue we were discussing.

11 CHAIRMAN MORRIS: Okay. I did not know. Have
12 we gotten into any discussion regarding staffing I guess
13 is more in line with what I was thinking regarding TMI-2,
14 staffing or any effects at all that TMI-1 restart has had
15 on that.

16 You are looking with blank expressions.

17 MR. TRAVERS: Essentially it hasn't changed as
18 a result of restart. I can tell you that now. The
19 organizations in place at TMI-1 and TMI-2 continue to be
20 separate.

21 CHAIRMAN MORRIS: And there is no cross-
22 fertilization of people at any time; is that what you are
23 saying?

23 MR. TRAVERS: There is one use of Unit 1 people
25 at Unit 2 and it has to do with the fact that they are

1 using some auxiliary operators in the defueling effort
2 intermingled in some shifts. That is something the NRC
3 has reviewed in the context of separate of units in
4 conjunction with restart hearing, and it was found to be
5 an acceptable practice.

6 CHAIRMAN MORRIS: Do you have a last
7 suggestion, Tom, before ---

8 MR. COCHRAN: I have a closing item after you
9 get through.

10 CHAIRMAN MORRIS: Okay. Any other agenda
11 items.

12 (No response.)

13 If I don't hear any and some come up between
14 now and when the agenda is established, we will just add
15 them.

16 At this point maybe to close, we would turn it
17 over to Tom Cochran for some kind of statement he would
18 like to make.

19 MR. SMITHGALL: You are not going to sing, are
20 you, Tom?

21 (Laughter.)

22 MR. COCHRAN: Well, first, I wanted to
23 apologize for being late. The flight was overbooked. So
23 I took the next flight which was at 7:30.

25 I just wanted to bid farewell to the citizens.

1 I think in the five years that I have been here there have
2 been some people, citizens who have shown up to at least
3 as many meetings as I have and I think they deserve a good
4 bit of recognition which they rarely get for serving as a
5 watchdog role on this cleanup activity and keeping the
6 pressure up to make it work as best it can.

7 And, finally, I think I owe them an explanation
8 of why I am resigning. I have in the course of my work
9 several activities that take me out of town at what is now
10 getting to be a rate of about close to once a week. I
11 have two small children and a wife and it puts a burden on
12 my family to leave that often to come up here. For a
13 three-hour meeting it requires on my part from Washington
14 leaving two hours before the meeting and then I can't
15 return until the next morning, and it is two hours the
16 next morning to get back.

17 So with some regrets I am retiring and
18 hopefully you will get somebody better. That is all I
19 have to say.

20 CHAIRMAN MORRIS: Well, Tom, on behalf of the
21 panel I want to thank you for all of the contribution that
22 you have made, and it has been a sizeable contribution,
23 even though from time to time we have had some
23 disagreements on how much time you should be allotted
25 because I think compared to any other Panel member you

1 have probably had more input into this whole process than
2 anybody else has had, and I think it has been very valued
3 and outstanding.

4 We are going to miss your involvement with the
5 Panel and I would only hope that we could find a
6 replacement that would come close to matching the kind of
7 background and the kind of assistance that you have
8 provided to us.

9 I want to thank you for everything you have
10 done and hope that maybe when we are in Washington you
11 will stop by to see us and give us a cheer.

12 MR. COCHRAN: I will come over for your next
13 Washington meeting.

14 CHAIRMAN MORRIS: I would hope so.

15 (Laughter.)

16 MR. TRAVERS: Mr. Chairman, Chairman Palladino
17 asked me to reiterate the kind of things that you just
18 said to Tom. Tom was an original member of the Advisory
19 Panel. I think he pointed out in his letter that he
20 served longer than a President of the United States
21 normally serves in his term of office.

22 And from both the Commission's viewpoint and
23 from the NRC staff's viewpoint, we certainly appreciate
23 all of Tom's efforts and wish him luck.

25 MR. COCHRAN: I did make one egregious error

1 and I wish you would pass on my apology to Nunzio. I
2 retired him before he really wanted to retire and ---

3 MR. TRAVERS: That is why I didn't say Chairman
4 Zech.

5 MR. COCHRAN: --- and put Zech in his place.
6 But maybe I didn't retire him before he wanted to retire,
7 but before he has actually retired.

8 MR. SMITHGALL: We didn't bring a gold watch,
9 sorry..

10 (Laughter.)

11 CHAIRMAN MORRIS: If there are no other items
12 to come before the Panel -- Randy.

13 MR. HALL: I know everyone wants to leave and I
14 will make this brief. There has been a change in the TMI
15 cleanup project directorate as far as the location of
16 personnel at headquarters, namely, Mike Masnik and myself,
17 and I just wanted to pass on our new phone number since
18 earlier a Panel member had expressed some difficulty in
19 contacting us.

20 Mike Masnik's new phone number is area code 301-
21 492-7743.

22 And my phone number, Randy Hall, is area code
23 301-492-4302.

23 In addition, our new mail stop is P-320. That
25 was formerly AR-5031.

1 MR. SMITHGALL: No 800 number. Has that been
2 Gramboed?

3 (Laughter.)

4 MR. MASNIK: You can still use the 800 number.

5 MR. SMITHGALL: It is still the old number and
6 it is 27743.

7 CHAIRMAN MORRIS: Is that it, Randy?

8 MR. HALL: That is all.

9 CHAIRMAN MORRIS: I think I heard a motion to
10 adjourn. So we stand adjourned and thank you very much
11 for your attendance tonight.

12 (Whereupon, at 10:10 p.m., the meeting of the
13 Advisory Panel for the Decontamination of Three Mile
14 Island Unit 2 concluded.)

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UNITED STATES NUCLEAR REGULATORY COMMISSION
ADVISORY PANEL FOR THE DECONTAMINATION OF
THREE MILE ISLAND UNIT 2

Agenda for the February 12, 1986
Meeting in Harrisburg, PA

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1 UNITED STATES OF AMERICA
2 NUCLEAR REGULATORY COMMISSION

3
4 ADVISORY PANEL FOR THE DECONTAMINATION OF
5 THREE MILE ISLAND UNIT 2
6 PUBLIC MEETING

7 Holiday Inn
8 23 South Second Street
9 Harrisburg, Pennsylvania

10 Wednesday, February 12, 1986

11 The meeting of the Advisory Panel for the
12 Decontamination of Three Mile Island Unit 2 convened,
13 pursuant to notice, at 7:05 p.m.

14 PANEL MEMBERS PRESENT:

15 ARTHUR MORRIS, Chairman
16 THOMAS COCHRAN
17 ELIZABETH MARSHALL
18 JOEL ROTH
19 THOMAS SMITHGALL
20 ANN TRUNK
NIEL WALD
JOSEPH DINUNNO
FREDERICK RICE

21 NRC AND INDUSTRY PARTICIPANTS PRESENT:

22 F. STANDERFEE
23 B. TRAVE
24 M. MASNIK
25 J. STUBBS AND
W. STUBBS
P. GRANT

1

AUDIENCE PARTICIPANTS:

2

D. DAVENPORT

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J. DOROSHOW

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J. CORRADI

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K. PICKERING

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J. LEE

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P R O C E E D I N G S

1
2 CHAIRMAN MORRIS: Good evening ladies and
3 gentlemen.

4 I would like to call the meeting of the
5 Advisory Panel to order.

6 I do have some brief announcements to make as
7 Chairman. I believe there are agendas available for those
8 of you that are interested, and I think they are going to
9 be placed at the door shortly.

10 I would like to announce, and I was going to
11 ask everybody to stand, but since we were late in
12 starting, I just want you to know that this is our 50th
13 meeting of the Advisory Panel, which is indeed a milestone
14 for those of us that have served since the inception
15 anyway.

16 I did receive calls from Ken Miller and Gordon
17 Robinson saying that they could not attend.

18 I would like to thank my friend, Joel Roth, for
19 filling in on a very interesting meeting, at least reading
20 the transcript it seemed like a very interesting meeting,
21 and I appreciate the job that Joel did for the Panel.

22 We do have a new appointment to the Panel. He
23 is here this evening. It is Fred Rice, who is Chairman of
23 the Dauphin County Commissioners. We welcome you tonight,
25 Fred, and wish you well along with the rest of the panel.

1 MR. RICE: Thank you.

2 CHAIRMAN MORRIS: I am sorry to announce
3 tonight that Tom Cochran, who I hope will join us, this
4 will be his last night on the panel. He has resigned
5 effective tomorrow. So we are going to be sorry to see
6 Tom leave us.

7 At some point on the agenda I hope that the NRC
8 will give us background information on the status of the
9 ACRS's review of the criticality issue.

10 We all received a copy of the transcript of the
11 Tuesday, January the 14th meeting of the NRC at which time
12 GPU did brief them on the TMI-2 cleanup and the TMI-1
13 operational experiences.

14 I believe, as I said, that all Panel members
15 received a copy of that transcript, and I would just like
16 to mention several items of interest.

17 One is that there is a projected \$5.5 million
18 reduction in DOE funding this year. I know that efforts
19 are being made to get the funding restored, and I would
20 ask GPU or DOE, and I believe DOE will do this, to advise
21 us as to the status of those efforts.

22 I would like to mention that I contacted
23 Congressman Walker asking for his help in seeing that some
23 of these monies could be restored and he provided me with
25 a copy of a letter that the entire Pennsylvania

1 Congressional Delegation sent on November 19th to the
2 Secretary of DOE.

3 I would like to at least mention or ask DOE is
4 they could when they come forward at least let us know why
5 they or GPU did not tell us earlier that there was a
6 problem because we learned of it in January and then found
7 out that the Pennsylvania Delegation had sent this letter
8 back in the middle of November. So we would have
9 appreciated hearing maybe a little bit earlier.

10 A second point I would like to make from that
11 transcript is that it is my understanding from the
12 transcript that a recommendation on the final deposition
13 of the water will be made in mid-'86 rather than January
14 1987.

15 And, thirdly, it is my understanding that a
16 recommendation regarding the end point estimate for
17 cleanup will be made in about six months.

18 At this point that concludes my opening
19 comments. I don't know if any Panel members have anything
20 they want to add at this point before we get going.

21 (No response.)

22 Okay. Moving right along, the next item on the
23 agenda is the defueling update by GPU, if they could come
23 forward. There is about 30 minutes allocated for this
25 presentation.

1 And as they are coming forward, let me just say
2 that on the agenda the item immediately preceding the
3 break tonight is the time for public comment. We have
4 been asked by the public in the past to try to move it
5 up. We have done that this evening. So that will happen
6 about an hour and 20 minutes into the agenda tonight.

7 MR. STANDERFER: I am Frank Standerfer,
8 Director of the TMI-2 cleanup at GPU.

9 I am glad that you got a chance to get the
10 transcript of our briefing of the NRC in January. I have
11 a video tape summarizing the defueling activities which we
12 used at that time. It has some footage that you have seen
13 before, but it also has footage that you haven't seen.

14 Fred Rice, who visited the Island last week got
15 a chance to see that tape. I would like to start off with
16 that, it is six minutes long, if that is satisfactory,
17 Mayor Morris.

18 CHAIRMAN MORRIS: Sure.

19 (Film presentation.)

20 MR. STANDERFER: I have to apologize a little
21 bit for the tape. When you see it on a monitor it is much
22 clearer than when it is projected to that large screen,
23 but it is a good summary of the defueling work that had
23 taken place up to the middle of January.

25 I have got a couple of viewgraphs I would like

1 to show now also.

2 CHAIRMAN MORRIS: If the audience would be
3 willing to clap from time to time so that we can compete
4 with next door, we would certainly appreciate it.

5 (Laughter.)

6 (Slide.)

7 MR. STANDERFER: This is a chart of defueling
8 hours actually spent on the work platform starting on the
9 30th of October and through November and December when we
10 were testing and proving out the defueling equipment. We
11 had to change the hydraulic oil. There was a break for
12 Thanksgiving and a break at Christmas time for the
13 inspection work. A number of systems didn't work they way
14 they were supposed to work, a number of tools had to be
15 remanufactured and so forth. And by the 1st of January we
16 were ready to really start into the defuel activity.

17 We have as of today 42 continuous days of
18 defueling in the containment, defueling seven days a
19 week. We moved two weeks ago to 14 hours a day and we had
20 a couple of days where we actually worked over 20 hours a
21 day.

22 We have had a number of problems we have had to
23 solve. A number of end fittings, they had been distorted
23 and wouldn't fit in the fuel cans. So we had to build
25 some new cans to hold those end fittings and get those

1 approved for use.

2 We have had to modify a number of the tools.
3 We have got some new tooling that will be delivered within
4 the next three weeks which will help considerably. We
5 have had problems with water clarity and we have some new
6 filters that we have installed.

7 We have also begun to have some problem with
8 microorganisms, organic material that likes this neutral
9 warm water with the lights in it that we have got to
10 treat. We haven't got a solution to that.

11 That has not impeded the defueling. We are
12 using cameras to watch what we are doing, but a better
13 water clarity would help in the defueling activity and we
14 are working on that.

15 (Slide.)

16 With the manipulation of quite a bit of this
17 debris and the cutting of material and the handling of end
18 fittings, we have done a lot of work but not loaded very
19 much material.

20 What is shown here is cumulative pounds of
21 rubble loaded versus the same kind of time scale. A lot
22 of work was done without loading very much material. And
23 in the last two weeks we have loaded over 8,000 pounds of
23 material. The last several points indicate the kind of
25 loading that we can do after we have prepared the bed and

1 the tooling is ready to go.

2 I hesitate to show you this next curve because
3 with very few points there it is hard to draw a line
4 through them. But what I have done is drawn a slope
5 through those last few points. That is a 4,000-pound-a-
6 week loading rate which if we can sustain the defueling
7 will last a year and a half which is our goal.

8 And of course with 10,000 pounds loaded and
9 290,000 pounds to go, I would rather have a couple of more
10 months of points there that I could draw it through. But
11 I am encouraged that we can sustain rates like that which
12 will allow the defueling to be completed at the end of the
13 second quarter next year.

14 That is basically my presentation, Mayor
15 Morris.

16 CHAIRMAN MORRIS: Could we have the lights
17 returned at this time. I would like to open this up to
18 the Panel members now to ask questions of Frank.

19 Tom.

20 MR. SMITHGALL: What is your packing density on
21 those canisters?

22 MR. STANDERFER: The heaviest loaded one has
23 about 1,800 pounds in it. Some have as low as 200
23 pounds. The first several canisters don't have the kind
25 of packing density we have to average. We expect to

1 average about 1,000 pounds per canister. Of course we do
2 have to achieve that kind of packing density or we will
3 have more canisters than we will want.

4 MR. SMITHGALL: If you remember my question in
5 December, it was about this.

6 MR. STANDERFER: Those last five canisters have
7 averaged about 1,000 pounds per can.

8 MR. STANDERFER: And that will keep you at the
9 280 number?

10 MR. STANDERFER: Yes, or less. The end fitting
11 cans, for example, with the 1015 end fittings, it only
12 weighs 200 pounds. So we will have a few like that.

13 MR. SMITHGALL: I guess again my question is
14 when you get into parts that don't fit neatly into your
15 canisters will we see the number of canisters increase?

16 MR. STANDERFER: We have a new tool that is due
17 the first week of March, which is a shredder, which will
18 allow some of this bulky material that is light to be
19 chopped up into small pieces and it will pack much better
20 and that will help us.

21 MR. SMITHGALL: What is the effectiveness now
22 of your manipulation of these long-handled tools?

23 MR. STANDERFER: Well, it is still awkward. I
23 saw a set of tools today that the fellows are working on
25 in the defueling test assembly which are improved versions

1 of the tools we have got.

2 MR. SMITHGALL: Are they standing up to the
3 stress or are they breaking?

4 MR. STANDERFER: Well, we do wear tools out.
5 You saw in there a tool used to cut rods. We have broken
6 several blades and we can replace those blades. We have
7 got a repair station in the containment to repair the
8 tools. We have a lot of duplicates and spare parts and so far
9 that has not been a problem.

10 MR. SMITHGALL: When these workers are standing
11 on that platform how are they actually viewing down into
12 the -- maybe you might just shortly describe how that is
13 done.

14 MR. STANDERFER: Well we would like the water
15 clear enough, and it has been several days, where you can
16 actually see the rubble pile and see the end of your tool.

17 MR. SMITHGALL: By looking straight down?

18 MR. STANDERFER: In looking down. The primary
19 method even then is to use TV cameras located near the
20 point of defueling and a TV monitor and lights to actually
21 see exactly what you are doing at that location.

22 I was in containment last week on Wednesday.
23 I spent a defueling shift observing the operations, and
23 that day we couldn't see at all through the water. But
25 with the cameras positioned we could see the defueling

1 position down in the rubble bed and actually see the
2 canisters where the material was being loaded.

3 So while the poor visibility right now is an
4 impediment, it has not precluded us from loading at the
5 rates that we have loaded. And with better visibility and
6 with the new filtration system and some method of killing
7 the algae material I fully expect to be able to get better
8 rates than we have demonstrated over the last week and a
9 half.

10 But we are still learning. We are at the early
11 learning stages of this. In fact, the NRC Commission told
12 my management don't get impatient. All of these kinds of
13 new operations require a certain learning phase at the
14 beginning.

15 MR. SMITHGALL: I can understand that. Just
16 one other question about that. Is the person that is
17 operating the tool viewing the camera?

18 MR. STANDERFER: Yes. The crew that I was in
19 on last Thursday was a four-member crew. Sometimes the
20 size is different, depending upon the particular tools
21 being used. We are using what is called a spade bucket,
22 which is like a shovel that has a part that -- a clam
23 shall that closes in on it. And we had a clam shell spade
23 bucket operator, we had a camera operator, we had a crane
25 operator and we had a health physicist in that four-member

1 crew.

2 Then a number of the positions are rotated.
3 During that three-hour shift three different members
4 rotated onto the spade bucket and operated it.

5 MR. SMITHGALL: Again, my only concern is that
6 we are made aware of the fact if you feel you are going to
7 exceed your 280 canisters if you see that start to really
8 get out of hand. That would be my only concern. I know
9 you don't know that at this point in time ---

10 MR. STANDERFER: That is right.

11 MR. SMITHGALL: --- but just so we are made
12 aware of it.

13 Thank you.

14 CHAIRMAN MORRIS: Any other questions?

15 Joe.

16 MR. DINUNNO: Frank, your 4,000 pounds per week
17 rate assumes a general level of difficulty in extracting
18 this material is roughly the same as you have experienced,
19 but yet as you get down into the core itself and you
20 encounter the the solidified material, from the material
21 presented to the Commission it would indicate that you may
22 have some additional difficulties in extracting that stuff
23 out. So could you comment on that a bit?

23 MR. STANDERFER: That may go slower. When we
25 pick up some of the fuel subassemblies that stand around

1 the end, in one shot we are picking up almost a thousand
2 pounds. So that might go faster.

3 The bottom of the vessel should vacuum a little
4 faster. But we do have to average that 4,000 pounds a
5 week over the next 75 weeks to finish by the end of the
6 second quarter next year and I would hope that we will be
7 able to do that.

8 But we won't know what that hard layer looks
9 like and what is immediately below it until after we use
10 the Department of Energy's core bore machine later on this
11 spring.

12 MR. DINUNNO: The other thing I think you might
13 comment on for the benefit of the members of the public
14 that may not have had an opportunity to read that
15 testimony, which I did, or that presentation, I think some
16 commentary on the exposure of the individuals who are
17 working there and your history of that I think would be of
18 interest in general to the public.

19 MR. STANDERFER: Yes. The exposure rate on the
20 defueling platform is the lowest exposure in the
21 building. It averages on the defueling platform itself
22 only two to three MR per hour. There are zones between
23 there and the doors to get in and out that are higher, and
23 the workers are averaging between 6 and 8 MR per hour
25 during their work period.

1 I was in containment last Wednesday for a
2 little over three hours and my exposure in that time
3 period was 21 MR. So we have exposures about half of what
4 we had projected last summer. We hope to get down to 15
5 MR per hour on an average, and we are running better than
6 half of that now.

7 MR. DINUNNO: I understand your total projected
8 exposure is expected to be well within those limits.

9 MR. STANDERFER: Oh, yes. For the entire
10 project, which includes this defueling, but also the
11 decontamination work, and the highest exposure levels were
12 projected to be in the decontamination area rather than
13 the defueling area, we are now expecting to come in
14 considerably under the estimates that were originally made
15 in the EIS for the project.

16 MR. DINUNNO: Thank you.

17 CHAIRMAN MORRIS: Any other questions from any
18 Panel member?

19 MR. RICE: Mr. Chairman, I have a question.

20 Frank, could you comment on the mockup
21 procedure that you used to practice the decontamination
22 and defueling?

23 MR. STANDERFER: Yes. We have a defueling
23 mockup assembly. It is a round tank that has water in
25 it. It has a defueling platform over it. It doesn't

1 rotate. But other than that, it looks just like the
2 platform in containment. It has the same kinds of slots
3 on it and it has duplicate cranes over it.

4 All of the tooling is tested out here before it
5 is taken in containment. All of the operators receive
6 their training in this facility and new techniques are
7 tested out here. So we do have that testing capability.

8 It is currently set to operate at the 25 to 30-
9 foot depth, but later on this summer we will be defueling
10 in the bottom of the vessel which is 35-feet deep, and
11 this spring we are going to put an extension on that test
12 assembly so that we will then have a 35-foot deep test
13 system and we will be trying to operate with tools at 35
14 feet to 40 feet and that again will be a little more
15 difficult.

16 MR. SMITHGALL: There goes your learning curve.

17 MR. STANDERFER: Yes. On the other hand, we
18 have done inspections with long-handled manipulators in
19 the bottom of the vessel last summer and again in December
20 at that depth and we believe we can do that.

21 MR. RICE: Thank you.

22 CHAIRMAN MORRIS: Okay, Frank. Thank you very
23 much.

23 The next item on the agenda is the status of
25 NRC actions. If we could, Bill, talk about any and all

1 actions that you have noted, including such things as the
2 Polar Crane and the Parks' allegations. And if you could
3 while you are there also take the time to brief us on the
4 ACRS's report on the criticality, and could you also let
5 us know where things stand as far as the schedule of
6 compliance. I know that there isn't one, but that the NRC
7 Commissioners asked the staff to review past delays and
8 report back to the Commission regarding whether you felt
9 they were items that should have been avoided or could not
10 be avoided.

11 MR. TRAVERS: Sure, I can start with that.

12 For the record, I am Bill Travers, and I am
13 Director of NRC's TMI-2 Cleanup Project Directorate.

14 I would like to update you on a few things, and
15 let me start with the items that Art mentioned.

16 A number of things have occurred as a result of
17 the Advisory Panel's meeting with the Commission in
18 November.

19 I am not sure if this is in chronological
20 order, but the first thing I will mention is that the
21 staff was asked by the Commission at the Panel's urging to
22 do an analysis of the schedule slip in beginning
23 defueling. We have provided that to the Commission, and I
23 think in the mail or this evening we have provided a copy
25 of that to the Panel. And I would be glad to answer any

1 questions you have on that once you get a chance to read
2 it.

3 The second thing that resulted from the panel's
4 meeting with the Commission is that the staff and the
5 licensee were asked to brief the Advisory Committee on
6 Reactor Safeguards on those measures that are being
7 employed to prevent against recriticality during
8 defueling.

9 There are meetings to address that before the
10 ACRS. The first one has already occurred, and that
11 occurred on the -- well, the second one occurs tomorrow.
12 The first one before the Subcommittee on Core Performance
13 occurred on the 29th of January and both the licensee and
14 the NRC staff presented some technical information on
15 those things that are being employed both during defueling
16 and during the storage and transportation of the fuel to
17 prevent against any recriticality events.

18 The third thing that has occurred as a result
19 of the Panel's meeting with the Commission is that DOE has
20 been asked and has accepted an invitation to brief the
21 Commission on its R&D program, and that meeting is now
22 scheduled to occur on March 11th down in Washington and
23 that meeting is at 10 a.m.

23 MR. SMITHGALL: Bill, can I take you back to
25 the staff analysis on the schedule slippage.

1 MR. TRAVERS: Sure.

2 MR. SMITHGALL: Since we just got that tonight
3 and there is a likelihood that we probably won't meet
4 again for another two months, is there anything that you
5 would like to brief us on now that is in that rather than
6 having us try to read through it very quickly here tonight
7 or waiting until the next time we meet?

8 MR. TRAVERS: Well, I would be glad to do that
9 or if you would prefer to put it on ---

10 MR. SMITHGALL: Does the Panel feel that is
11 helpful at all or anything like that?

12 CHAIRMAN MORRIS: Is there a way that you can
13 summarize it in a minute or so?

14 MR. TRAVERS: Sure.

15 CHAIRMAN MORRIS: And, if so, it would be nice
16 to hear it.

17 MR. TRAVERS: Let me try. Basically the
18 question was -- there was a scheduling for defueling, and
19 the schedule was clocked in terms of defueling I believe
20 beginning in July and defueling actually began in
21 October.

22 And the question that was put to the NRC staff
23 was what is the basis for the schedule slip and were the
23 licensee efforts reasonable or not in getting to a point
25 where they could actually begin defueling.

1 We went through a lot of detail in the paper,
2 but essentially we reviewed the progress that was made in
3 getting to a point where defueling could begin, and our
4 bottom line assessment was that we think that the progress
5 and the efforts that were made on the part of the licensee
6 were reasonable ones and that the schedule slip was really
7 founded in technical reasons. I think we particularly
8 pointed out procurement of certain pieces of equipment
9 that were essential to beginning that job very very
10 safely.

11 I think we concluded in the paper that it was
12 better to postpone actual initiation of defueling pending
13 receipt of all of that equipment and pending assurances,
14 quality assurance checks that demonstrated that that
15 equipment was safe equipment to use.

16 CHAIRMAN MORRIS: Okay. On that, if you recall
17 at the NRC meeting, somebody mentioned that that indeed
18 could be part of the problem and could have been the
19 entire problem.

20 Then I think the Chairman went on to ask you to
21 give consideration to whether or not that equipment was
22 ordered in a timely manner or whether there was delays in
23 ordering the equipment such that it did not get there on
23 time and therefore the work couldn't start safely and
25 would have to be delayed because the equipment wasn't

1 available.

2 Do you know if your review took into account
3 when certain equipment was determined to be necessary and
4 when it was ordered for delivery?

5 MR. TRAVERS: I am not sure we specifically
6 addressed that, to be honest. But let me tell you my
7 knowledge of the procurement history on the canisters and
8 that is really the issue.

9 The canisters were ordered in what I believe
10 was sufficient time to get them delivered and have
11 appropriate quality assurance measures applied to them.

12 One of the things that I think Frank Standerfer
13 pointed out that they learned in finally getting that
14 equipment and realizing that there were questions about
15 the quality assurance measures applied was that to assure
16 yourself that you are going the equipment that you need
17 you might consider placing an order with multi vendors as
18 opposed to just one where a holdup is really going to put
19 you in a bind.

20 I think that has been something that Dave
21 expressed I know to me and I think they may have pointed
22 out to the panel as well. I think that is a lesson that
23 is a good one to learn.

23 CHAIRMAN MORRIS: Okay. I only pursue this
25 last part because I do think it is something that should

1 be contained in any review, and that is that I think you
2 should speak to ordering of equipment of whether it was
3 timely or whether things could be improved if they were
4 not done totally properly the first time or could have
5 been done better.

6 MR. TRAVERS: Well, I know we have looked at
7 that. I am just not sure if we placed it in the paper or
8 not, and the answer to that is that I believe personally
9 that the lead time on order the equipment was reasonable.
10 There were a number of problems in the programmatic
11 quality assurance measures applied to that equipment.

12 There was one vendor at the time involved. As
13 a result of the need to reconfirm that the equipment was
14 satisfactory and only having one vendor, it placed them in
15 a schedule bind of some three months.

16 CHAIRMAN MORRIS: I am just saying it because I
17 think the Chairman, if we would check the transcript, did
18 ask that that be considered, and I would hope that any
19 future review you would do regarding delays and slippage
20 you would look at that item and include it in the report
21 so that it is complete.

22 MR. TRAVERS: That is a good point.

23 MR. SMITHGALL: So you feel that regardless of
23 the reason for the slippage, could it have been identified
25 earlier? I was just trying to scan it as you were

1 speaking about it and it does say that you believe that
2 this schedule slippage could have been identified earlier
3 even though it was due to technical considerations.

4 MR. TRAVERS: Yes, and that is one of the
5 things we did point out in the paper.

6 MR. SMITHGALL: Do you feel that?

7 MR. TRAVERS: Yes, I do, and we tried to make a
8 point of that in drafting up this paper.

9 Let me touch on a couple of other things before
10 I sit down.

11 Back in 1980 the NRC issued an amended set of
12 technical specifications for TMI-2. In doing so we
13 afforded anyone who was interested an opportunity to
14 intervene in the issuance, the final issuance of those
15 technical specifications.

16 As a result, we had a number of intervenors
17 express problems and concerns with the basis for our
18 technical specifications. The last intervenor has finally
19 been satisfied, and the technical specifications have
20 finally been issued in their formal state as of November
21 8th, 1985. Specifically that last intervenor was a group
22 called the Environmental Coalition on Nuclear Power.

23 I should point out that GPU came in and briefed
23 the Commission on the status of TMI-2 on the 14th of
25 January, and I believe we sent transcripts to the Advisory

1 Panel on that.

2 On enforcement actions I am afraid there is not
3 much new news. Let me touch on the two enforcement
4 actions that are outstanding.

5 The Parks harassment issue, the NRC staff
6 issued a proposed civil penalty for \$64,000 on that
7 issue. The licensee provided additional comments and
8 views on our proposed action and the staff I understand
9 has completed their review of that, although they have not
10 formally issued the final action in that matter. My
11 sources as of today tell me that is expected next week. I
12 wish it could have been yesterday.

13 CHAIRMAN MORRIS: So do we.

14 MR. TRAVERS: The second matter is the combined
15 enforcement action on the polar crane and the polar crane
16 hand release mechanism issues.

17 Recently the NRC staff, based on a submittal
18 from the licensee, has begun a re-evaluation of its
19 position on that and I think we have provided a letter
20 from Phil Clark to Jim Taylor in IE as of this evening.
21 So you can review what that information from the licensee
22 is. It is expected to hold things up like another two
23 months.

24 MR. ROTH: Can you just for the sake of some of
25 us go back to the Parks thing again.

1 MR. TRAVERS: Sure.

2 MR. ROTH: When was that first brought out?
3 What year?

4 MR. TRAVERS: When was it first brought out?

5 MR. ROTH: In other words, when was the "Parks
6 episode" first made public?

7 MR. TRAVERS: March of '83.

8 MR. ROTH: March of '83 and we are going into
9 March of '86 and this thing is still being bandied about.
10 You know, I just sometimes wonder if anybody really
11 remembers what that was all about in the first place three
12 years and that going on now. What type of time frame are
13 we working on would you say? When will that finally be
14 laid to rest, do you have any idea on that? I mean that
15 is if Mr. Stier doesn't write another report or something
16 like that.

17 MR. TRAVERS: Well, I have taken a risk in
18 giving you what my best information is as of today and
19 that is, as I noted, we issued a proposed \$64,000 civil
20 penalty I believe about two months ago, or it may be
21 three.

22 CHAIRMAN MORRIS: October the 12th.

23 MR. TRAVERS: Within 30 days, and I think they
23 got an extension for another 15 days. They submitted
25 their views on the subject and my understanding from

1 talking to the people on staff, Jane Axelrad's group, is
2 that they hope to get it out next week.

3 CHAIRMAN MORRIS: Let me just for the record
4 read what you said at the last meeting, and I
5 understanding the position you are in where you have to
6 estimate. But you said "The NRC issued a proposed notice
7 of violation on October the 12th, 1985, and the licensee
8 responded on October 21, 1985. The staff is currently
9 reviewing the licensee's response. We expect to complete
10 that review by Jane Axelrad's group by the 1st of the year
11 and send up to the Commission a recommendation on whether
12 or not to hold firm on the proposed penalty, reduce it or
13 negate it."

14 Which would have meant that if anything like
15 that schedule would have been met, we would have know the
16 answer today. It is just typical of what happens on these
17 enforcement issues. It is never something that moves
18 faster. It always moves slower by months.

19 MR. SMITHGALL: I want to ask if it is
20 typical. I want to know if it is typical on other civil
21 penalties that are issued to people you regulate.

22 MR. TRAVERS: I don't think it is.

23 MR. SMITHGALL: You do not think it is.

23 MR. TRAVERS: I don't think it is typical.

25 MR. SMITHGALL: So this kind of unusual that it

1 has lasted this long.

2 MR. TRAVERS: I think it has been unusually
3 long. There in the past have been issues that have taken
4 a long time and as a result concerns have been raised and
5 there has been a concerted effort to move up the schedule
6 in deciding these things. In this case lots of tortured
7 turns and twists and a lot of people to convince. There
8 is no question about it that it has taken a long time.

9 MR. ROTH: It has and it is good to admit.

10 MR. TRAVERS: And it may take a lot longer
11 because after we did something there could be a hearing.

12 MR. ROTH: The question seems to be has the
13 Commission or staff really voiced displeasure at the
14 slowness of this? I mean three years and we are still
15 going back and forth. I really if people really remember
16 who Richard Parks was and what he did and what he said and
17 all this type of thing?

18 I mean how can it just be allowed to go on and
19 on and on? You are in the hot seat and you are answering
20 questions.

21 MR. TRAVERS: Well, you have had an opportunity
22 to talk to the people directly who has responsibility for
23 this, and I think a couple of them have committed to come
23 back and talk to you about it, and you may want to
25 consider that for a future agenda item.

1 MR. SMITHGALL: Can we ask you that when the
2 Commission does make a decision on this that you notify us
3 through the normal mailing in a reasonable period of time
4 rather than waiting until our next meeting to let us know
5 about it, assuming that it will happen in the next week or
6 so?

7 MR. TRAVERS: That I control and that I will be
8 glad to do.

9 MR. SMITHGALL: Okay. A lot of times we get
10 things dated six months earlier.

11 CHAIRMAN MORRIS: Well, Bill, I think you have
12 fairly tried to answer things from your position. I just
13 wish I could remember who won the World Series back in
14 '83. It is pretty long ago.

15 Why don't you, if you would, go ahead. I think
16 you were talking about the polar crane item and then we
17 backtracked to the Parks issue.

18 MR. TRAVERS: I think I finished on that one
19 and I would be glad to answer any questions. Basically
20 that is under consideration as well. There is a letter
21 that you have a copy of that provides some information
22 that the licensee believes is relevant to the willfulness
23 issue.

24 OI has been asked to review it and determine if
25 they agree that it is relevant to where we are headed on

1 that.

2 CHAIRMAN MORRIS: Is it unusual for the staff
3 to review something and find a problem and turn it over to
4 the Office of Investigation, and then just apparently when
5 they are ready to make a determination, the individual, in
6 this case CPU, comes forward with their own investigation
7 and says we would like you to review what we have turned
8 up?

9 MR. TRAVERS: I don't have enough experience in
10 OI related issues to say if it is typical. I would
11 suspect it is not.

12 MR. ROTH: On the willfulness issue, is that
13 willfulness/safety related? In other words, is there an
14 intertwine there? The reason I ask is that I can remember
15 vividly the leak rate and Bernard Snyder making the
16 statement very strongly in the Lancaster Panel meeting
17 about how it was, you know, a very strong safety related
18 issue, and if nothing else, very strongly safety related.
19 And I am wondering is this a backing out now on the safety
20 related, joining that or putting willfulness into it and
21 now all of the sudden it becomes nothing major at all? I
22 mean is that a possibility that is going on at this point?

23 MR. TRAVERS: I am not sure I follow, but let
23 me just give you my own perspective.

25 Willfulness is an issue that the Commission has

1 to consider in determining the level of enforcement that
2 ought to be imposed, and it is a very important facet.
3 And to the extent that we get any information that could
4 be relevant, I think we have a responsibility to look at
5 it.

6 We recently did get some information which the
7 licensee, who has obviously a big stake in this believes
8 is relevant and that is what is going on right now. OI
9 has been asked to look at it because they are the agency
10 experts on making a determination of willfulness. So they
11 have been asked to review this information.

12 MR. ROTH: All right. Now I guess what I was
13 trying to say in a very backhanded way was the fact that
14 if it was a very strong safety related issue initially, or
15 is that ---

16 MR. TRAVERS: Well I think, if I can review the
17 history of it, I think initially when the staff looked at
18 it in the first instance particularly, we didn't find that
19 the results were very safety significant in and of
20 themselves. I think the way we characterized it was that
21 in sum if you operated a business like this you had a
22 potential for getting yourself into safety related
23 trouble.

24 If you operated such that you bypassed your own
25 procedures, even if in the case that you are looking at

1 you didn't have a problem, if you operate it in this MO
2 you could easily get yourself in trouble.

3 So I don't think the information, and I haven't
4 had a chance really to look at it in total, is an attempt
5 to side track away from a safety issue and focus on some
6 other event. I think it is just an attempt to provide
7 GPU's views on the issue of willfulness.

8 MR. ROTH: Now what difference does that make
9 in the end result? If they say non-willfulness what
10 happens to the polar crane episode? Is that just
11 forgotten?

12 MR. TRAVERS: If the staff makes a
13 determination based on a review of any information,
14 whether it comes from the licensee or their own records,
15 that willfulness wasn't involved, it obviously bring the
16 severity of that violation way down. Willfulness is a big
17 weight factor in trying to assess whether enforcement and
18 to what extent enforcement is warranted, and I think it
19 should be. It is pretty obvious.

20 CHAIRMAN MORRIS: Any other questions on these
21 particular matters?

22 MR. SMITHGALL: Yes, I have another one.

23 CHAIRMAN MORRIS: Tom.

23 MR. SMITHGALL: I had asked at previous
25 meetings two things, a list of exemptions that may have

1 pertained to this and Ben has provided these to me, but I
2 had a question on one of those. I just noted it here and
3 I wonder if it had anything to do with our previous
4 conversations here tonight, which is listed as No. 12 on
5 this list.

6 Do you have another one for ---

7 MR. TRAVERS: You can just read it. It is
8 probably pretty short.

9 MR. SMITHGALL: It says "FSAR updating
10 requirements relative to the QA program revisions."

11 MR. TRAVERS: I would have to review it. We
12 have got a copy of the package that sets the details on
13 that.

14 MR. SMITHGALL: What came out is the QA program
15 in relationship to our questions about schedule slippage
16 and procurement and all that.

17 MR. TRAVERS: That is an administrative
18 requirement we looked at and I don't know the details of
19 it, but I would suspect, since we look at the QA program
20 and approve it, that it probably doesn't bear much
21 relevance to the problems that resulted.

22 MR. SMITHGALL: Okay. Let's hear what Mike has
23 to say. He seems to be chomping at the bit here.

23 CHAIRMAN MORRIS: Let me say to Mike, because I
25 am glad he came forward, and to anybody else this evening

1 that has any questions or comments, I have been asked to
2 ask you to please come to the mike this evening and
3 identify yourself for the record so that we can get you in
4 the transcript. That really goes for government officials
5 and people from GPU or any just regular ordinary citizens
6 in the audience if you do that.

7 Mr. Masnik.

8 MR. MASNIK: There was a requirement that came
9 out of the accident that was universally applied to all
10 reactors, and that was whenever you made a change to the
11 plan that you update a document called the FSAR. And when
12 you do that you also had to do a quality assurance review.

13 Since the licensee in the case of GPU does not
14 maintain an FSAR, it was ridiculous, or we felt that it
15 was not necessary to do the quality assurance.

16 MR. SMITHGALL: What is the FSAR?

17 MR. MASNIK: Final safety analysis report.

18 MR. TRAVERS: But we have a lot of other things
19 that we review in real time that compensate for that.

20 MR. SMITHGALL: I understand.

21 The second thing that I asked for, Bill, that
22 you said you were going to get me, was your systematic
23 assessment of licensee performance.

23 MR. TRAVERS: Yes, and I will.

25 MR. SMITHGALL: You don't have it?

1 MR. TRAVERS: No. We are about to hold that ---

2 MR. SMITHGALL: I mean you just didn't get it
3 yesterday and didn't think to bring it along today or
4 anything like that?

5 MR. TRAVERS: It is in draft and we have having
6 a systematic assessment of licensee performance board
7 meeting, which is a meeting where NRC managers come
8 together to look at various categories of operations,
9 radiation protection and many issues. We look at the
10 licensee's performance and we discuss our own individual
11 views and how they are doing in these areas.

12 But when that is a final document, I will be
13 glad to provide it.

14 MR. SMITHGALL: When do you expect that?

15 MR. TRAVERS: At the end of ---

16 MR. SMITHGALL: Don't tell at the same time as
17 the enforcement actions are going to be resolved.

18 MR. TRAVERS: The SALP board meeting is the end
19 of February, and I would expect within two weeks after
20 that we will have a document prepared and I will be glad
21 to provide it.

22 CHAIRMAN MORRIS: Bill, do you have anything
23 else that you wanted to update us on at this time? We
23 are getting somewhat behind on the agenda.

25 MR. TRAVERS: Two quick ones, and you probably

1 have read about them in the paper, but let me just mention
2 them briefly. And that is that the President has
3 announced the selection of Lando Zech to succeed Chairman
4 Palladino in July, July 1st of this year. So he will
5 become Chairman at that time. The Chairman will retire.

6 The second is that after Bill Dircks, our
7 Executive Director for Operations retired, Vic Stello has
8 been named Acting Executive Director for Operations. He
9 is essentially the Staff Chief for the agency.

10 That is all I have.

11 CHAIRMAN MORRIS: Thank you very much, Bill.

12 The next item is the Sr-90 calibration error
13 and GPU I believe is going to cover this part of the
14 program.

15 MR. STANDERFER: Again, I am Frank Standerfer,
16 the Director of the TMI-2 cleanup. I have with me tonight
17 Dr. Ken Hofstetter, who heads our chemistry function.

18 Before I talk about the strontium 90 analytical
19 problem that we had last fall, Mayor Morris, I neglected
20 to mention one thing in answer to one of your questions.

21 In the defueling activity today I have
22 announced an organizational change which takes all of the
23 people who were supporting defueling from functional
23 organizations under me and put them in a dedicated
25 defueling project organization. So I have projectized the

1 50 to 60 people who are doing the defueling into a single
2 organization.

3 It does disrupt a little the other part of the
4 organization, but I had concluded that priorities weren't
5 clear, communications weren't clear and some of the
6 defueling support activities weren't being delivered as
7 efficiently as they should be. So we have made that
8 change today and it was mentioned in a press release, and
9 that should help also. It is not a major problem, but it
10 will help us be more efficient.

11 Then you asked a question about the DOE
12 funding. We receive DOE funding each year. The funding
13 assumptions for this year that were put out two years ago
14 assume more ---

15 (Pause due to disturbance from next conference
16 room.)

17 CHAIRMAN MORRIS: Let's wait and see if they
18 survive.

19 (Laughter.)

20 What don't we take a minute break and see what
21 happens here.

22 (Pause.)

23 MR. STANDERFER: The funding plan that was set
23 out in response to the Thornburgh plan two years ago made
25 an assumption of \$18 million from the Department of Energy

1 in 1986. At the present time we have made proposals and
2 had approved about \$12.5 million worth of funding.
3 Generally throughout the year additional funding comes
4 in. I don't know what the final number for 1986 will be
5 yet. I think the concern evidenced and maybe not picked
6 up by the newspapers was our concern that the Gram/Rudman
7 budget problems in the Federal Government may result in
8 the Federal Government's funding next year in 1987 to have
9 been zeroed out, and that was the principal concern.

10 I think the Department of Energy will talk a
11 little later with regard to what the present submission
12 has in it for TMI-2 in '87, but there is funding in the
13 present submission for TMI-2 in 1987, not as much as we
14 had planned, but much more than we had concern that it
15 might be.

16 (Pause due to noise from adjoining conference
17 room.)

18 CHAIRMAN MORRIS: Why don't we do this, if we
19 could. Let's take our 10-minute break right now and renew
20 the rest of this and see if we can do something to get
21 this group in order.

22 Thank you.

23 (Recess taken.)

23 CHAIRMAN MORRIS: I think maybe now we can get
25 back to normal since the group next door relocated to an

1 adjacent room, not adjacent to us, but adjacent to the
2 room they had already have.

3 So if we could assemble, we could get the
4 second part of the meeting under way.

5 Frank, could you begin at this point again back
6 on the record to where you were when we were so rudely
7 interrupted.

8 MR. STANDERFER: I am Frank Standerfer,
9 Director of the TMI-2 cleanup. I have with me Dr. Ken
10 Hofstetter, the head of our chemistry function.

11 I have been asked to talk about a problem that
12 we found last September with one of our analytical
13 procedures, and let me give you a little background and
14 describe what happened, and then I will ask Dr. Hofstetter
15 to describe the actions we have taken to correct the
16 problem.

17 (Slide.)

18 Strontium 90 analysis is particularly difficult
19 because strontium is a pure beta emitter. It does not
20 emit gamma radiation. So the normal unique way of
21 measuring a radioisotope by measuring its gamma emissions
22 cannot be used for strontium.

23 Basically the standard method for making
23 strontium analysis is to dissolve up the sample, make a
25 chemical separation of the strontium from all of the other

1 isotopes present and then count that for beta irradiation,
2 and depending upon the other isotopes of strontium that
3 are present, that dissolution takes a half a day or a day
4 and then the radiochemical analysis can take from 1 to 14
5 days. So the normal strontium analysis method has a built-
6 in time delay of a couple of days from the sample time to
7 the analytical time.

8 Now at TMI-2 we use this method for over 99
9 percent of the strontium samples that are used. It is the
10 standard method. But because we have beta activity in a
11 number of locations because of the accident, and that is
12 not normal in the industry, we needed a quick method of
13 determining strontium in smear samples and a number of
14 other samples which are hard to dissolve or which we want
15 a quick turnaround time on.

16 A non-standard method of measuring this
17 strontium in the one percent of the samples which require
18 it was developed by one of our contractors in 1980, and we
19 put that analytical procedure into place in 1981.

20 It depended upon the beta emission from yttrium
21 90. Strontium decays with a 29-year half-life to yttrium
22 90 which has a 64-hour half life which decays to zirconium
23 90 which is stable.

23 That beta particle from the yttrium 90 decay is
25 a particularly high energy beta, and the analytical

1 procedure that was used was based on a beta spectrometer,
2 which is a little bit unusual way of measuring strontium,
3 and that was the procedure developed for us. We put that
4 into place and use in the fall of 1981.

5 From the beginning of its use there was a
6 misunderstanding on how the calibration standard should be
7 made up. The procedure said the calibration standard was
8 supposed to be labeled with total strontium beta
9 activity. And what they meant was strontium plus yttrium,
10 because every time strontium decays you get two betas, one
11 from strontium and one from yttrium.

12 So the procedure for making up the standard
13 says total strontium activity. The National Bureau of
14 Standards' bottle was labeled "Total Strontium Activity."
15 What they meant was just the strontium portion.

16 So we started out with an error by a factor of
17 two in the makeup of that standard, and that persisted
18 from 1981 until one of our technicians was questioning
19 that step in making up the standards last September. And
20 sure enough, we discovered that there had been a
21 systematic error of two in the standard for this analysis
22 and the analytical results over the period of the fall of
23 '81 through 1985.

23 When we discovered that, we put into place
25 corrections for that. We notified the NRC, the NRC did

1 their analysis and they didn't conclude anything that we
2 hadn't already concluded. They endorsed the actions that
3 we had already put in place. They cited us with a level
4 four type citation which does not carry a fine principally
5 because we found it and we had already begun correcting
6 it.

7 When we have gone back and looked at the
8 hundreds of samples that are in this particular category,
9 we found that in only two cases over the years by doubling
10 the sample did we exceed any standards or any regulation.

11 And one drum of low-level waste in 1984 out of
12 600 drums, and one drum of low-level waste in 1985 out of
13 about 600 drums, both of which go to the Washington State
14 low-level waste disposal site, should have been labeled as
15 type B waste instead of type A waste.

16 In the vast majority of the other samples the
17 strontium was so low that by doubling the analysis we
18 didn't even come close to any standard. So the impact of
19 the systematic error of two was minimal, but it certainly
20 embarrassed us and embarrassed our chemists, and I would
21 like Dr. Hofstetter to describe the action we took at that
22 time to correct the problem.

23 Jim.

23 MR. HOFSTETTER: Immediately as a result of
25 discovering the calibration error in the beta spectrometer

1 we did a variety of things in order to clarify the wording
2 in the affected procedures, receiving and modifying all of
3 the calibration source documentation and we notified all
4 the technicians and supervisors of the error to make sure
5 that they were aware of it.

6 We of course notified our management, the NRC,
7 the State of Washington and the State of Pennsylvania of
8 this particular error.

9 We then began reviewing all the calculations
10 for all of our radioanalytical procedures and also the
11 computer programs that were used to do a lot of these
12 calculations. We began updating the data base so that we
13 could correct the data for the factor of two bias, and we
14 also began collecting a number of samples for destructive
15 analysis by independent offsite laboratories.

16 Shortly after we had discovered this, the NRC
17 came in with an audit team and they basically concurred
18 with our actions, that is to remove the ambiguity in the
19 procedures and to contract with an offsite laboratory to
20 do some analyses to confirm the results of the strontium
21 90 by beta spectrometer.

22 They also strongly recommended that we arrange
23 for an independent assessment of our radioanalytical
23 procedures analyses programs and the like.

25 They also asked us to assess the impact and

1 report the impact of that factor of two bias and the
2 results to the NRC, and Mr. Standerfer has explained what
3 that impact was.

4 They also then said that we should review our
5 quality assurance programs, analyses programs for all of
6 our radiochemical analyses, and also noted that we should
7 develop a documentable software program to make sure that
8 the software calculations are correct and any
9 modifications are documented accordingly.

10 In order to satisfy some of their
11 recommendations I immediately contacted some of our
12 colleagues in the area, the National Bureau of Standards,
13 Battelle Laboratories and the like, and began looking for
14 someone to conduct this independent review and assessment
15 of our radioanalytical program at TMI and arranged for Dr.
16 Joel Carter to be the task leader, and he is the Director
17 of Analytical Services at Oak Ridge National Laboratory,
18 to come in and perform this audit, this independent
19 assessment.

20 The results of the Oak Ridge audit were that
21 they found that we had adequate instrument operation and
22 calibration procedures, except for the beta spectrometry
23 procedure, that there were no systematic errors in any of
23 the other calculations or in our records system, that our
25 procedures were technically accurate using accepted

1 techniques that are accepted in the radioanalytical area
2 and that we had a strong technician training program.

3 On the down side they recommended improvements
4 to our written procedures to make sure that they are in
5 fact clear, and they also wanted us to include sections
6 specifically addressing interferences, accuracies,
7 precisions and limits.

8 They also recommended that we improve our
9 quality control program for our radiochemical analyses
10 and, finally, recommended that we send our supervisors to
11 technical training and make sure that technical training
12 is included in the supervisory training areas.

13 The longer-term actions then that we have taken
14 were that we did revise the procedures in accordance with
15 Oak Ridge's recommendations. We also implemented three
16 additional programs for quality assurance of the data from
17 our radioanalytical procedures which included round-robin
18 samples. That is the exchange of samples between our
19 various detectors.

20 Also, a second procedure was what we call our
21 intra-laboratory comparison procedures which involve
22 duplicate replicate samples, the analyses of spike samples
23 and also the analysis of blind standards.

23 And the third procedure involved inter-
25 laboratory comparisons, that is comparing our results for

1 all of our analyses with offsite laboratories at a
2 prescribed frequency.

3 We have since then implemented a software
4 documentation and control procedure so that our programs
5 are checked and adequately verified, and we are in the
6 process of sending supervisors to specialized technical
7 training schools, the most recent one being one run by the
8 National Bureau of Standards on in fact quality control in
9 analytical laboratories.

10 MR. STANDERFER: I might say that we have 30-
11 some-odd radiochemical analysis procedures. Most of them
12 are standard procedures. We have exchanged samples in the
13 past with other laboratories as a quality control check.
14 This procedure, which was a non-standard procedure not
15 used by other laboratories, was not exchanged because
16 there wasn't anybody else using the procedure. So we now
17 have hired some laboratories to make check analyses for
18 use using that procedure.

19 The other thing I would like to mention is that
20 this procedure again was used on strontium 90 samples
21 which comprise much less than one percent of our total
22 strontium that we normally deal with. So the error, while
23 changing those sample results by a factor of two, does not
23 change the total quantities of strontium which were
25 removed from water by the SDS system or the EPICOR systems

1 or the principal amount of strontium which we have
2 disposed of, which was analyzed using the other technique
3 which take the 1 to 14 days.

4 CHAIRMAN MORRIS: Are there any questions from
5 the panel?

6 Niel.

7 MR. WALD: I have a question which might be to
8 the NRC people. Is there a requirement for inter-
9 laboratory quality assurance samples, blind samples tested
10 in the laboratory at periodic intervals?

11 MR. TRAVERS: There is a requirement for a
12 quality assurance program and there is a reg. guide which
13 speaks to this being one of the acceptable ways of cross-
14 checking your results. I don't believe it is a strict
15 requirement, however, that you implement your quality
16 assurance program in this way.

17 MR. WALD: If there is a reg. guide, you have
18 to show that what you are doing is at least as good.

19 MR. STANDERFER: Basically, Niel, you are
20 correct. We had quality assurance procedures which were
21 used for most of our analytical procedures which are
22 standard procedures with complied with that reg. guide,
23 but this particular procedure, we did not comply with
23 those provisions in the reg. guide. Again, that was one
25 of the reasons we were cited as a violation, and we have

1 corrected that.

2 CHAIRMAN MORRIS: In other words, you are
3 supposed to have somebody double checking your work and
4 you did not.

5 MR. STANDERFER: Yes, you are supposed to have
6 somebody double check it.

7 MR. TRAVERS: That wasn't one of the bases.
8 Since we issued the citation, I will just note that that
9 wasn't one of the formal bases that the NRC used for
10 issuing a notice of violation. There were three formal
11 bases and they all dealt with the fact that when you ship
12 radioactive wastes you have to fairly accurately
13 demonstrate and identify what the waste is and the
14 classification scheme. There is a classification scheme
15 that is described in part of our regulations that requires
16 identification of waste by its quantity.

17 In this case the wastes were shipped, at least
18 in one case it was misclassified, and for a number of
19 years there was an under-reporting by half of the total
20 content of strontium in solid samples.

21 MR. WALD: Wasn't that sort of a back door way
22 to approach the basic problem, which was that the
23 laboratory quality control wasn't up to standards that are
23 required of almost any laboratory that handles anything?

25 MR. TRAVERS: Well, we regulate on a lot of

1 bases, and we suggest ways that you can meet the
2 requirements and we publish reg. guides that do that. We
3 are accused oftentimes of regulating in too much detail,
4 and maybe in this case we don't have enough detail. I
5 don't know. But the requirements are that you when you
6 ship you identify accurately what it is you are shipping.

7 MR. WALD: Bill, I am a little surprised
8 because in running any laboratory I know that our
9 radiochemical laboratory at the university has to have an
10 outside blind sampling program.

11 MR. TRAVERS: I think it is very typical that
12 utilities do that as a QA and our regulatory guide speaks
13 to that as a very well recognized way of assuring that you
14 have quality assurance and your analytical procedures.

15 MR. WALD: Of what use is the citation then?

16 MR. TRAVERS: Because it is a reg. guide.

17 CHAIRMAN MORRIS: I know that Joe wants in, and
18 since we are on this one topic, which way were you getting
19 quality assurance then if you were not getting it with the
20 double check method?

21 MR. TRAVERS: What we found in this case was
22 there wasn't very good quality assurance. Did we
23 recognize it in advance of the problem being identified?
23 No, we didn't.

25 CHAIRMAN MORRIS: Whose responsibility is it to

1 make sure that there is a properly ---

2 MR. TRAVERS: The licensee's.

3 MR. STANDERFER: It is our responsibility.

4 MR. TRAVERS: And we have a responsibility, a
5 regulatory responsibility for making sure that they comply
6 with our regulations.

7 CHAIRMAN MORRIS: Believe me, I appreciate ---

8 MR. TRAVERS: We do that on an audit basis,
9 however.

10 CHAIRMAN MORRIS: Excuse me. I appreciate what
11 the licensee did. They found the problem and they
12 remedied it, and they seemed like they went to a very
13 extensive way to correct it.

14 My problem is that there was not an adequate
15 quality assurance procedure in place. You are recognizing
16 that, and yet you are saying that one of the reasons for
17 your -- and I can only think of the word disciplining
18 them, but I can't -- a violation notice. It had nothing
19 to do with the quality assurance, but rather to do with
20 the end product which doesn't make sense.

21 MR. TRAVERS: I was being a little formal I
22 guess when I corrected Frank.

23 CHAIRMAN MORRIS: You were.

24 MR. TRAVERS: And I wanted to be formal because
25 we issued a notice of violation and we have to point out

1 specifically and formally what the violations were and
2 what the regulations say you have to do.

3 In this case the regulations speak to the fact
4 in three instances ---

5 CHAIRMAN MORRIS: Okay. You have already said
6 that. I understand that for the record, but let me ask it
7 more clearly.

8 In other words, the fact that they were not
9 meeting one of quality assurance requirements was not a
10 violation because the regulations aren't ---

11 MR. TRAVERS: Let me differentiate it for you
12 for a second. We have guidance and we publish guidance on
13 how you could meet our requirements. And one of the
14 regulatory guides speaks to inter-laboratory comparisons
15 as being a very well recognized way of doing it.

16 We don't, as best I know, require, and somebody
17 may correct me, but I believe it is true that we don't
18 require that you have to do this and we can't site you if
19 you don't.

20 CHAIRMAN MORRIS: For some reason you and I
21 aren't communicating because I understand that you don't
22 require this type of thing to assure that you have quality
23 assurance, but you do supposedly require them to set up a
23 quality assurance program which in this case was faulty,
25 and yet you are saying you did not cite them.

1 MR. TRAVERS: No. We did not identify that the
2 quality assurance -- they have a quality assurance
3 program. Did it work very well in this instance? Was it
4 set up very well? No. Did we recognize it in advance?
5 No, we didn't.

6 CHAIRMAN MORRIS: But once you found out there
7 was a problem and you looked back and found out the
8 quality assurance program wasn't adequate, why could you
9 not then cite them for a violation?

10 MR. TRAVERS: We cited them on what we believed
11 were the most directly citable items.

12 CHAIRMAN MORRIS: Joe, go ahead.

13 MR. DINUNNO: I had some questions on the same
14 point.

15 Frank, among the inter-comparisons that are
16 possible, I recall when I was managing a laboratory of my
17 own a number of years ago that the EPA had a reference
18 system as well operating out of Los Alamos I guess or Las
19 Vegas. But I just wondered whether you are also making
20 inter-comparisons through the Las Vegas system?

21 MR. STANDERFER: Let me ask Dr. Hofstetter to
22 talk about the program we had prior to finding this
23 incidence. We did have a quality assurance program and we
23 did have sample exchanges and the normal kinds of
25 procedures for our normal analyses.

1 This was an odd-ball type analysis that no one
2 else in the United States uses, and on that count it
3 didn't get fed into that procedure.

4 CHAIRMAN MORRIS: Frank, I am not sure we need
5 to do this. I think somebody here earlier said that the
6 quality assurance program was not adequate. Now I don't
7 know whether that was Bill Travers or you that said that.

8 MR. STANDERFER: I think we said that, and in
9 evaluating that we have upgraded our quality assurance
10 program. Yes, we have.

11 CHAIRMAN MORRIS: So we don't need an
12 explanation of what you were doing, but I appreciate your
13 willingness to do that. The fact is that somebody said it
14 wasn't adequate, and yet the NRC seems to be saying that
15 that was not a reason that they saw to site you. It is
16 just very confusing to me.

17 MR. DINUNNO: I am satisfied, and I think that
18 is the real point. I was trying to get at some of the
19 detail, but that is not very important in view of what
20 they have already presented.

21 MR. STANDERFER: I might say since the bulk of
22 these samples were so far away from limits and standards
23 and so forth, the fact that they were off by a factor of
23 two for this period of time didn't come into our
25 recognition because none of the samples were ever a

1 problem.

2 CHAIRMAN MORRIS: Nobody is questioning that.
3 There may not have been any problem in the end result.
4 The fact remains that there was a quality assurance
5 procedure you should have had apparently and it wasn't
6 adequate.

7 Fred.

8 MR. RICE: Does the NRC have a procedure to
9 determine whether your standards are -- I mean can they
10 check on you?

11 MR. HOFSTETTER: Yes, they can.

12 MR. RICE: I see. I thought that maybe that
13 was what you were asking, Art.

14 CHAIRMAN MORRIS: No. I just totally disagree
15 with what Bill Travers is saying. I am not an expert in
16 the area and I just have problems in understanding that
17 when they find out that somebody isn't complying with
18 whether it is a guideline or not that you don't take any
19 action or you don't even cite them for it even if it is a
20 level four or level five or whatever it is.

21 MR. TRAVERS: I am going to drop back and punt
22 here.

23 (Laughter.)

23 All of the things that Frank and Ken have been
25 talking about -- in fact, any time anything goes wrong you

1 can tie it to some failure of your quality assurance
2 program, and we recognized that in our inspection report.
3 We said, look, there is good news and there is bad news
4 and there is good news.

5 The good news, the first good news is that the
6 effect, the practical effect on public health and safety
7 was minimal. The second, or the bad news is that although
8 that is the case, this points out weaknesses in the
9 preparation and the verification of the detailed
10 procedures you used in making these analyses and also in
11 your quality assurance program, your quality control
12 program.

13 The good news that we found after that point
14 was that when we were notified of the problem, we were
15 also let in on all of this steps that were being made to
16 correct it, and we felt they were very aggressive steps.

17 In issuing our inspection report and our notice
18 of violation we pointed out that we felt this incident
19 demonstrated weak quality control.

20 When we cite them though, when we make a formal
21 notice of violation, we have to tie it to our
22 regulations. In that sense, it is the culmination of the
23 failure of the quality program which led to failure to
23 accurately describe what is being shipped.

25 So legally we have to do it in a way, but we

1 also recognize in our inspection and our inspection report
2 the weaknesses in the quality assurance program, and we
3 have also factored that into our inspections and the way
4 we track things that occur in this program.

5 So we didn't really failure to recognize it.
6 It is a good point. It is very confusing, but we have to
7 when we cite formally, we have to tie it to something very
8 specific.

9 CHAIRMAN MORRIS: I thought you made the
10 statement earlier that you did not recognize it and that
11 is what made me pursue it.

12 MR. TRAVERS: And I am sorry if I wasn't clear.

13 CHAIRMAN MORRIS: Does anybody else have any
14 questions or comments on this item?

15 (No response.)

16 Thank you very much.

17 A public comment. I have received from Tom
18 Smithgall that Debra Davenport would like to address the
19 panel. So I would say that she is first on if she would
20 like to be if she is here.

21 Are there any other people from the public that
22 would like to take advantage of this opportunity?

23 (Member of the audience raises hand.)

23 CHAIRMAN MORRIS: Okay. Then you would be
25 next.

1 MS. DAVENPORT: This may or may not be related
2 to this. There were requests for exemptions granted on
3 the reclassification of Class B wastes of EPICOR filter
4 lines with strontium on them from Class B to Class A back
5 in October.

6 And apparently that changed the requirements on
7 the packaging of the wastes that were to be shipped, the
8 filter liners, and also on the over-container they should
9 have been shipped in, and pre-processing, which I guess
10 ordinarily requires solidification. I am not certain on
11 that.

12 I am wondering if there is any risk to the
13 public in shipping these filters out as Class A waste
14 instead of Class B, is there any risk of release, and what
15 was the reason that the exemptions were granted?

16 And in addition to that I am wondering if this
17 strontium ---

18 CHAIRMAN MORRIS: Let's take that and have Bill
19 respond to that. Excuse me for jumping in there, but I
20 saw you going to another topic. Give them one at a time.

21 MR. ROTH: Is the appropriate one Bill or Frank
22 or both.

23 MR. TRAVERS: Well, we granted the exemption,
23 and I would be glad to very briefly touch on it, and if
25 you want to get into any detail -- I know Tom Cochran had

1 expressed an interest in getting into this.

2 CHAIRMAN MORRIS: Let's remember from a public
3 standpoint that when we ask for public comments you have
4 five minutes on the agenda. If you need more than five
5 minutes, remember you are supposed to write a letter
6 asking for time on our specific agenda. I am going to try
7 to hold everybody to that limit.

8 MR. TRAVERS: I can very briefly tell you the
9 principal basis for the exemption that we granted in this
10 case, and it is based on the fact that there is a
11 regulation that states that you have to classify wastes
12 according to a scheme, and that scheme says that when you
13 have greater than .04 microcuries per cc of strontium you
14 reach a certain classification. And that is also founded
15 on an evaluation, a safety evaluation that assumes that
16 when you bury material you bury it at a wet site and there
17 is certain migration potential associated with that kind
18 of site.

19 There is a built-in apparatus for a specific
20 licensee coming in with a justification that says, gee, we
21 are going package our waste so that it looks like this.
22 We are going to dispose of it in a site other than the
23 conservative wet or, you know, with ground water flowing
23 through a site that was assumed in the conservative
25 classification scheme used in the regulations, and that is

1 what GPU did in this case.

2 We also consulted with the State of Washington
3 where the waste was being disposed of. So the exemption
4 was granted recognizing the way the waste was being
5 packaged, the fact that it was going to be put in the
6 bottom of a trench so that it couldn't be intruded upon
7 and a number of other factors, but principally because of
8 the site that it was being buried at was a very dry and
9 geologically stable one rather than the more conservative
10 wet site that the regulation is based on.

11 MS. DAVENPORT: What was the reason the
12 exemption was granted though?

13 MR. TRAVERS: I have a copy of it if that is at
14 all helpful. It goes into in some detail and I would be
15 glad to share it with you.

16 MS. DAVENPORT: I would also ask is there any
17 risk or increased risk to the public when that would go
18 through communities because it was packaged differently
19 than it had been. It was Class A instead of Class B.

20 MR. TRAVERS: No. The classification scheme
21 really speaks to the final disposition of the waste.

22 MS. DAVENPORT: And not to safety and shipping
23 en route as far as ---

23 MR. TRAVERS: It does speak to that to a degree
25 as well, but I am not sure if that was addressed. I would

1 have to read it here, but the principal basis that I
2 recall was the basis that looked at the potential for
3 migration out of the disposal site itself. I would be
4 glad to go over it with you during or after the meeting.

5 MS. DAVENPORT: Also I am wondering if it would
6 be possible for the Panel to ask that we be provided with
7 the routes that the wastes are taking? Maybe that will
8 come up next on your agenda though, what routes do these
9 wastes follow, especially the EPICOR filter liners.

10 I also wanted to ask very briefly about the new
11 waste processing facility that is going to be built on the
12 Island. I am curious to know especially as far as
13 compaction what kind of compactor GPU plans to put in,
14 what the purpose of the building is going to be and what
15 what waste processing procedures you have there now, but
16 especially I want to know what size waste package is the
17 compactor going to turn out, are these radioactive wastes
18 and how will they be packaged?

19 CHAIRMAN MORRIS: Frank.

20 MR. STANDERFER: We currently have under
21 construction a waste packaging and handling facility. The
22 principal purpose of that facility is to sort our low-
23 level wastes. There is a lot of material that gets thrown
23 in low-level waste because it is suspected to be
25 radioactive and it really isn't. This facility will allow

1 us to take the low-level waste, to actually monitor it and
2 sort out the actual low-level radioactive waste from the
3 material that is not radioactive.

4 That will reduce the volume of low-level waste
5 by about 60 percent that we will have to send to a burial
6 site, and then we do use standard compaction techniques to
7 compact that waste in 55-gallon drums so that we minimize
8 the volume of material that we do send to the burial
9 ground.

10 But the new building is principally a sorting
11 and counting facility to separate non-radioactive material
12 from radioactive material, and the processes that we will
13 do in the building are the processes that we currently do
14 in several other selected locations on the Island. So
15 there is no new processes, but it is a consolidation of
16 our waste management activities.

17 CHAIRMAN MORRIS: Okay. Frank, could you talk
18 to Debra either after the meeting or during this meeting
19 about shipment of those?

20 MR. STANDERFER: Yes, I would be glad to.

21 CHAIRMAN MORRIS: She did raise a question on
22 transportation and thought maybe we were going to get into
23 that later on and we are not going to get into a
23 discussion of that particular waste transportation. So
25 you want to, Debra, talk to Frank concerning that issue.

1 MS. DAVENPORT: I did have just one more
2 question.

3 CHAIRMAN MORRIS: This will be it really
4 because I am going to try to stay fairly close to the
5 time.

6 MS. DAVENPORT: On the wastes that were
7 reclassified from B to A, did they include any of the
8 incorrectly classified strontium wastes that were
9 shipped? In other words, were categories that were
10 measured incorrectly now measured correctly because of the
11 reclassification?

12 MR. STANDERFER: The classification A is the
13 lowest level of activity. The classification was from A
14 to B. And the transportation and shipping in the
15 containers are identical for the two types, but the
16 difference is how the burial ground handles the material
17 and where they locate it in the burial trench. So it is a
18 different classification which is basically used by the
19 burial ground.

20 MS. DAVENPORT: No, I can understand that.
21 What I am thinking is that on the wastes that you just
22 discussed that were classified incorrectly, they didn't
23 have all the strontium measured. They apparently had been
23 a B waste, as you just said.

25 MR. STANDERFER: There were two drums out of

1 over 1200 that should have been B and they were classified
2 as A.

3 MS. DAVENPORT: If you had that situation again
4 though, this new reclassification of B to A, it wouldn't
5 exempt those two drums. In other words, this wasn't done
6 for that reason?

7 MR. STANDERFER: No. The exemption had to do
8 with high levels of strontium which couldn't have
9 previously been buried in a low-level burial ground, and
10 it allowed us to dispose of wastes which we wouldn't
11 otherwise be able to dispose of.

12 MS. DAVENPORT: Just quickly, when you measure
13 the containers or the packages ---

14 CHAIRMAN MORRIS: Excuse me. I am sorry, but
15 there are other people. Again, if you want on the agenda
16 at some point, if you want longer than five minutes, drop
17 us a note. We have allocated 25 minutes to somebody
18 tonight, and we will do that.

19 MR. STANDERFER: I will talk to you during the
20 break.

21 CHAIRMAN MORRIS: Joe.

22 MR. DINUNNO: I was just going to ask Mr.
23 Standerfer just to help clarify what I perceive the
23 question really to be. In terms of shipment, Frank, the
25 classification would have nothing to do with the radiation

1 levels that would be associated with that package, or
2 would they, because what she is worried about is is there
3 any public hazard associated with one package versus the
4 other?

5 MR. STANDERFER: Basically type A and type B
6 packages look the same. The type C waste, which is the
7 higher-level waste, has to be packaged differently.

8 MR. DINUNNO: I understand that, but if I had a
9 package of A or B would I have any radiation levels on the
10 outside of that that would be significantly different?

11 MR. STANDERFER: There are measurable levels,
12 but they are not significantly different.

13 MR. DINUNNO: I think that is what she is
14 really getting at here.

15 MR. STANDERFER: Strontium, since it has not
16 gamma radiation, you can't measure it anyway.

17 MR. DINUNNO: That is exactly what I was hoping
18 you would bring out because I think she is worrying about
19 the public exposure during shipment, and whether it is
20 class A or class B is not going to create an additional
21 public exposure problem.

22 MR. STANDERFER: You cannot determine strontium
23 from outside package measurements.

23 MR. DINUNNO: I hope maybe that will answer
25 Debra's concern, if that is her concern as I perceived it

1 in any case.

2 Thank you.

3 MS. DOROSHOW: Thank you. My name is Joanne
4 Doroshow, and I have a comment and a question.

5 My comment is really for the purpose of trying
6 to clarify the record regarding an earlier discussion
7 concerning the polar crane and the issue of willfulness
8 versus safety relatedness.

9 In September 1983 OI produced a fairly
10 extensive investigation of the polar crane issue in which
11 they found both that the company had wilfully disregarded
12 safety procedures and that the violations when taken as a
13 whole were very safety significant.

14 The staff at the time, and I believe it was
15 Bernie Snyder and Lake Barrett who were the onsite people,
16 who were probably the most directly responsible for the
17 violations as far as the NRC was concerned in not
18 exercising proper oversight over what was happening,
19 steadfastly maintained at that time that there was neither
20 willfulness nor any safety significance to these
21 violations.

22 OI was under considerable pressure from the
23 Commission at the time to modify its findings and they
23 maintained all along that there was both willfulness and
25 safety significance to these violations. And finally the

1 staff did reverse itself on I believe both of those
2 issues.

3 I think that if the staff now at this late
4 stage reverses itself again on either of those issues,
5 either the willfulness or the safety related issues, I
6 would suggest that there is something very fishy going on
7 at the agency.

8 Then I would direct the Panel's attention to
9 Attachment D to that September 1983 report, which was the
10 technical evaluation done by OI in which they support
11 their findings on both those issues very substantially,
12 and I would just direct the Panel's attention to that and
13 to compare whatever the staff is now coming up with with
14 those original OI findings.

15 Now my question is addressed to GPU and perhaps
16 somebody can respond. Basically I would like somebody to
17 state for the record that since defueling began, and I
18 guess that was October, but if someone could state what
19 worker injuries and/or exposures have occurred requiring
20 offsite medical attention, and specifically how those
21 injuries occurred and when they occurred.

22 MR. STANDERFER: There have no injuries of that
23 character to the defueling operators. There was one
23 construction worker about two weeks ago who felt faint in
25 containment. They were doing some activities that

1 supported defueling. He was removed from containment. He
2 was in a respirator. His respirator was taken off. So he
3 could breathe well. He was sick. He was taken to Hershey
4 Medical Center and either he had eaten something that had
5 bothered him or something of that character. He was
6 released as fine.

7 In the process of taking his respirator off so
8 he could breathe well, one of the co-workers touched the
9 back of his head and he had a slight skin contamination to
10 the back of his head, but that was incidental to taking
11 him out of containment.

12 That is the only instance I am aware of since
13 we have started defueling that any workers in containment
14 have received the kind of attention you are talking about.

15 MS. DOROSHOW: How about outside of
16 containment?

17 MR. STANDERFER: Well, outside of containment
18 we have a thousand workers and we record everything from
19 cuts to stumbles. We have a regular OSHA recordable type
20 incident program. I don't have those numbers with me, but
21 TMI-2 in the fourth quarter of 1985 received the award
22 within GPU as the most improved of the GPU sites.

23 MS. DOROSHOW: But were there injuries that
23 required offsite medical attention or ambulances brought
25 in?

1 MR. STANDERFER: Jim, can you answer that?

2 MR. HILDEBRAND: I am Jim Hildebrand, the
3 RadCon Director. To my knowledge, the answer is no. The
4 only problem we have had with any worker since defueling
5 started was that that Mr. Standerfer just mentioned, the
6 individual in the containment who became ill. We took him
7 out and got him to the Hershey Med. Center and, as Frank
8 indicated. That is the only one that I am aware of either
9 in containment or outside of containment.

10 MS. DOROSHOW: Okay. Thank you.

11 CHAIRMAN MORRIS: Is there anybody else? This
12 would be the last person at this time. If you take the
13 whole five minutes, then we would have to go on to the
14 next part of the agenda.

15 MS. PICKERING: My name is Kay Pickering.

16 A question on the quality assurance program
17 directed to GPU. Am I to understand that this is for Unit
18 2 only and that this does not apply to Unit 1. This is
19 not an overall program, but the quality assurance program
20 that is now in place as we have heard it here described to
21 us tonight?

22 MR. STANDERFER: That is correct. The Unit 1
23 reactor has its own chemistry laboratory, its own
23 chemistry personnel and its own procedures. We have ours
25 that are totally separate.

1 The problems that we were describing here
2 earlier were totally a problem at Unit 2 and there is no
3 connection between the two units in this area.

4 MS. PICKERING: So the whole calibration system
5 is a totally separate system?

6 MR. STANDERFER: They have their own system
7 which is separate from ours.

8 MS. PICKERING: Okay. The second question.

9 I guess I had expected the DOE presentation to
10 go before public comments.

11 CHAIRMAN MORRIS: You can't win, right?

12 (Laughter.)

13 MS. PICKERING: Yes, right.

14 CHAIRMAN MORRIS: If Jane Lee would like to
15 give up her time, we can do that, but I don't think she
16 will want to do that.

17 MS. PICKERING: Well, I hope that DOE will
18 answer this question in their presentation.

19 CHAIRMAN MORRIS: We will give an opportunity,
20 quite frankly, for public comment and questions during the
21 presentation. There is going to be about 20 minutes, as
22 the agenda says, for an explanation. There is going to be
23 40 minutes for questions and answers, and I will try to
23 make sure that there is some time of that 40 minutes for
25 the public to ask questions.

1 MS. PICKERING: Well, maybe they could answer
2 in their presentation will DOE continue to be involved in
3 shipping and receiving the radioactive waste from Unit 2
4 after 1987 and, if so, would they tell us where they would
5 be directing or placing the high-level wastes?

6 CHAIRMAN MORRIS: Okay. They are nodding their
7 head and saying yes, they will do that.

8 MR. BIXBY: We can do that.

9 CHAIRMAN MORRIS: We have two minutes left for
10 a public comment. I see a hand, and it will have to be
11 two minutes if you come up and raise a point. We are
12 running behind time and we do want to make sure that we
13 give ample time to the DOE shipment question.

14 MS. CORRADI: Thank you. My name is Joyce
15 Corradi. I am a member of the Concerned Mothers and
16 Women.

17 I have just a piece of information that I would
18 like to share with you all concerning the Parks problem.

19 We were approached approximately a month ago by
20 the NRC to give them information about meetings that we
21 had with Mr. Barrett when these allegations arose.

22 Now I find it unusual and strange that they
23 come and speak to us only a month ago concerning issues
23 that have risen almost three years ago.

25 The main point we wanted to inform these people

1 about was Mr. Barrett had told me both in a private
2 conversation and in a meeting of Concerned Mothers and
3 Women at his office that this was nothing but a turf
4 fight. Those are his exact words. We found that abrasive
5 then and we find it even more abrasive now three years
6 later not having any conclusion to the problem.

7 CHAIRMAN MORRIS: Who asked you the question?

8 MS. CORRADI: They were men from the Office of
9 Investigation.

10 CHAIRMAN MORRIS: For NRC?

11 MS. CORRADI: Yes.

12 CHAIRMAN MORRIS: Okay. Thank you, Joyce.

13 MS. CORRADI: You are welcome.

14 CHAIRMAN MORRIS: You were good to your word on
15 the time. Thank you.

16 MR. BIXBY: My name is Willis Bixby for the
17 Department of Energy at TMI. You may be wondering why
18 this gentleman to my right is sitting down next to me
19 since you have seen him for the last three years with the
20 NRC.

21 Phil J. Grant has hired by EG&G Idaho to manage
22 the TMI programs. As you may be aware, EG&G is the prime
23 operating contractor for the Department at the Idaho
23 National Engineering Laboratory as well as at the TMI
25 site. I for one am happy to have Phil onboard.

1 His predecessor, Harold Burton, who was with me
2 back in May when we first talked about the core shipping,
3 has since left EG&G and become a Vice President for United
4 Nuclear Corporation in Richland, Washington.

5 I know there would be a lot of interest tonight
6 with respect to the Department's budget for FY-87. As
7 many of you are aware, Gramm/Rudman/Hollings is having a
8 pronounced effect throughout the Federal Government and
9 DOE is no exception.

10 Grambo as it is referred to in Washington ---
11 (Laughter.)

12 --- is having perturbations in DOE's budget.
13 And I think it is probably appropriate to go back to
14 September when we briefed the people of Maryland and
15 review just a little bit about DOE's role in the cleanup.

16 We came here in January of 1980. And if you
17 remember back in 1981, Ed Meese sent a letter to Governor
18 Thornburgh indicating that DOE's involvement at TMI would
19 be about \$123 million in the form of research and
20 development.

21 Since that time our finding has been applied in
22 areas that have been to gain access to and remove the fuel
23 as soon as possible. It benefits the people of Central
23 Pennsylvania and it also benefits the Department because
25 we truly do want to get that material to analyze what

1 happened because it does have a key to severe accident
2 research which is of major importance to DOE as well as
3 the rest of the industry.

4 Our funding therefore has been specifically
5 tied to such activities as head removal, plenum removal,
6 fuel removal and those activities that go to getting the
7 fuel out as quickly as possible.

8 GPU's target for our direct involvement has
9 been about \$83 million. Our funding for FY-86 is about
10 twelve and a half -- well, I had better put that in
11 calendar year. Our funding for calendar year '86 is about
12 \$12 million. Our finding projections for calendar year
13 '87 are about \$10 million bringing the total direct DOE
14 contribution to about \$78.5 million. This is a little bit
15 shorter than GPU's target of \$83 million.

16 But I think one thing that really hasn't been
17 made clear is that in addition to the \$83 million in
18 direct funding that the Department has provided, or \$78 I
19 should say, DOE has contributed an addition -- about \$40
20 million. Those costs cover such things as the acceptance
21 of the EPICOR waste, the acceptance of the SDS liners and
22 their disposition, engineering and equipment for the
23 purification demineralizers and money at Idaho to receive
23 the core. So when we look back our contribution is about
25 \$120 million.

1 We have been here since the beginning. When
2 Governor Thornburgh's plan was formulated, we were the
3 agency that came forward and began putting the first
4 substantial contribution into the funding, and our
5 contribution has been towards getting to and removing the
6 fuel, and we have come to that point.

7 Our funding, Tom mentioned earlier, there was a
8 letter from the Pennsylvania Delegation. That letter was
9 formulated based upon information that we had put together
10 nine months ago when we were putting together our budget
11 and we were assuming a certain degree of progress with
12 respect to the defueling.

13 We tie our money to specific activities that
14 are being performed and specific milestones that are
15 completed, and then that is how the money is released.
16 Now consequently we were, like GPU, looking to a faster
17 defueling and consequently the funding that we projected
18 for '87 was only about \$2 million.

19 Back in November when we were in the budget
20 cycle, we of course being like any other federal agency,
21 we really are not in a position to talk about what are
22 real budget is going to be until the President puts it
23 before the Congress.

23 When the Department's budget went in to OMB it
25 was about \$18 million. Grambo did have an effect. It did

1 cut the Department's budget for TMI to zero. There were
2 internal and external discussions, and now that budget for
3 FY-'87 is \$12 million and our projections for FY-'88 are
4 \$8 million. And on a calendar year basis I would look to
5 funding of GPU to about \$10 million. But that has exacted
6 pain, not only to GPU in the fact that they having reached
7 their \$83 million target, but it also exacts some pain for
8 the Department in its research and development program.

9 We have to balance all of those factors because
10 we have a requirement and an obligation I think to find
11 out what actually happened at TMI. So I hope that
12 clarifies what our position is on the Department's budget.

13 CHAIRMAN MORRIS: I think it does very well,
14 and I thank you very much for that explanation.

15 MR. BIXBY: Okay.

16 CHAIRMAN MORRIS: Does anybody have a question
17 on that part of it?

18 (No response.)

19 If not, why don't you go ahead with the fuel
20 shipment.

21 MR. BIXBY: Okay. If you remember last May, we
22 had put together a film that gave you a synopsis at that
23 time of what our condition was and where we stood with
23 respect to the planning and the preparation to ship the
25 fuel.

1 At that point in time we were in the process of
2 designing two casks, rail casks to ship the fuel. We had
3 just completed a series of quarter scale drop tests which
4 we showed you on the video.

5 Where we are today is that we have finished
6 designing and fabricating both casks. We completed one in
7 December and one in January. We have submitted responses
8 to what we consider to be the last round of questions from
9 the NRC Transportation Branch and we expect to receive a
10 certificate of compliance within the next month and a
11 half.

12 One of the rail casks that has been fabricated
13 was sent to the Idaho National Engineering Laboratory
14 where a dry run was performed where the cask is actually
15 taken off the rail car, loaded onto a truck and
16 transported 25 miles to the test area north hot shop. Its
17 tests were performed there and it was brought back and put
18 on the rail car.

19 You will see footage of that in the video that
20 we are going to show you.

21 The second rail cask was shipped to the Hanford
22 Engineering Development Laboratory where the ancillary
23 equipment that goes with this cask, namely, the platform
23 that holds it upright, the mini hot cell, as we call it
25 and the transport cask, and those terms will become clear

1 when you see the video tape and the animation.

2 That activity is under way right now and we
3 expect that activity to be completed within the next
4 several weeks and that that equipment will be disassembled
5 and begin arriving here in the middle of March with
6 subsequent loading of the fuel in late April or early May
7 for shipment in the May time frame.

8 Since we last met, in addition to the quarter
9 scale drop tests that were performed on the cask, the NRC
10 requested that tests be performed to ensure that the
11 canister itself if in a hypothetical accident would
12 withstand the forces generated by the accident conditions.

13 Consequently, we took a full-scale canister to
14 the Oak Ridge National Laboratory and subjected it to a
15 series of drop tests. You will see that footage in the
16 video.

17 Of particular interest I know to the people in
18 this area is what are the routes and how is this material
19 going to leave here and how long is it going to take.

20 The plans that we have right now call for when
21 the cask is ready for shipment that we will contact the
22 railroad and a train will come to the north gate. We will
23 take that train from the North Gate down to the Shucks
23 River Bridge at Marietta, go across the bridge and go up
25 to the marshalling yard at Enola where it will then catch

1 a regular train from Enola to the Pennsylvania line.

2 The total time for the shipment is planned to
3 be about 15 days from TMI to Idaho Falls. Remember that
4 each one of these casks, and there are two of them,
5 contain seven canisters per cask. The question is asked
6 why rail when we are dealing with 250 canisters?

7 We looked at how we can make this shipment
8 campaign in the quickest possible time, and our
9 evaluations indicated rail where you get more per package,
10 and we are looking at 35 to 40 of these shipments. And
11 while we are loading one at TMI, we plan to be unloading
12 one at Idaho.

13 We have talked to the railroads by arranging
14 this situation where we call them and a train comes, what
15 we call a special transfer train. That way we can
16 minimize the time, the juncture point in Enola and sort of
17 maximize the time that it takes to get from here to Idaho.

18 The carrier provides the routes. We have
19 looked at these routes. Our evaluations are that based
20 upon the accident history for those particular lines, the
21 quality of track that it is taking and the time that it
22 takes to get from here to Idaho that these appear to be
23 the appropriate routes.

23 We recognize that of course in any operation
25 from the time you leave the gate until the time you get to

1 Idaho there may be some minor variations, depending upon
2 what the rail conditions are.

3 The route that we are looking at right now
4 appears to be the one that gets it to Idaho in the
5 shortest period of time.

6 So with that I would like to show you about a
7 10 minute video tape and then open it up to any questions
8 that you may have.

9 CHAIRMAN MORRIS: Could you give the name of
10 the bridge again?

11 MR. BIXBY: Shucks Bridge.

12 (Laughter.)

13 MR. GRANT: It is north of Marietta, and I
14 think it is right above the Armstrong Plant.

15 CHAIRMAN MORRIS: Thank you.

16 (Film presentation.)

17 MR. BIXBY: Let me go back and answer I guess a
18 question that Kay Pickering brought up. The Department
19 does have a contract with GPU to accept the TMI-2 core
20 debris. We plan to accept this material even as our
21 budget for '87 and '88 begins to taper off.

22 As I talked about our budget I guess I forgot
23 to point out that we have some money at the very end of
23 the program logically when the fuel comes out to start
25 doing examinations.

1 So where we may not be here providing \$10
2 million to GPU to do defueling activities, there is a big
3 share of effort at Idaho that needs to be done. So we are
4 still "parties" to the cleanup both in actuality when we
5 were here in the last three to four years and in spirit
6 when we are working on the analysis of this information
7 out in Idaho.

8 So the answer to your question, Kay, is you bet
9 we are going to be here to take this fuel, and we are
10 providing our resources such that we are going to have
11 that money to be able to do that.

12 Questions that came up back in May have to do,
13 if I remember correctly -- we talked about briefly the
14 routes. Of course, we do not specify neither the time nor
15 the date of shipment. That is both a DOE and an NRC
16 regulation.

17 With respect to security, I wouldn't call it an
18 escort but similar to the truck shipments that we had for
19 the SDS shipments, and by the way we did have 63 of those
20 shipments and they were sent across the country without
21 incident. Those shipments had an escort in the form of
22 the second driver.

23 We are working with the railroads to attempt to
23 ensure that this cask is within visual distance of the
25 front of the train or the rear of the train, and by that I

1 mean within the first six to ten cars of either the front
2 or the rear of the train depending upon where it is going
3 to actually be hooked.

4 That will have constant communication. The
5 railroads have constant communication with their
6 dispatcher so they know where that train is at all times.
7 We have a requirement that they call in a minimum of every
8 four hours to indicate to our warning communications
9 center at the Idaho National Engineering Laboratory where
10 that train is.

11 And we have a protocol that we provide to the
12 railroad that they will follow if there is an incident,
13 what actions they need to go through and who they need to
14 notify.

15 In addition, as we get to these trains and get
16 to a switching station, we are with the railroads on a
17 paid for surveillance of that train at the yard so that
18 there is somebody there with that train while the switches
19 are being made.

20 Now have I missed anything?

21 CHAIRMAN MORRIS: Well, we will find out.

22 MR. GRANT: Let me also add to Kay's question.
23 She also asked about, not only spent fuel, but also the
23 other high activity waste. There is a program established
25 to handle abnormal wastes with GPU, and that normal waste

1 being defined as that waste which cannot be buried at a
2 commercial facility.

3 We have set up a program such that GPU will
4 process that waste on site and ship it to the INEL
5 facility, and this is waste that has higher than normal
6 levels of TRU and the like.

7 Specifically the waste that we have earmarked
8 thus far are the purification or demineralizer resins and
9 also some of the SDS prefilter material, the cuno filters
10 that exceeded the commercial burial limits.

11 MR. BIXBY: Again, we should clarify that those
12 will not proceed by rail. They will probably proceed by
13 normal truck.

14 CHAIRMAN MORRIS: I just want to make sure
15 there is adequate time for questions.

16 MR. BIXBY: Okay.

17 CHAIRMAN MORRIS: Panel members, who would like
18 to go first?

19 (No response.)

20 Let me ask something, or make a comment and
21 then ask something. It seems to me that once that cask is
22 put together that it is not very likely that if it falls
23 off it is going to get hurt. It is going to do a lot of
23 hurting if something would happen like that, but it seems
25 that the weakness would be in putting it together,

1 possible weakness, and that you would want to make sure
2 that you have the proper quality control over putting the
3 cask back together again before it is shipped because if
4 it is not assembled properly then there is a problem with
5 it.

6 I assume that there will be a great deal of
7 effort to make sure that taking it apart and putting it
8 back together is done properly and efficiently and
9 effectively.

10 MR. BIXBY: Let me speak to that on several
11 terms.

12 First, in the actual construction of the cask,
13 Nuclear Packaging of Federal Way Washington was
14 responsible for designing and fabricating that cask. They
15 have per requirement, an NRC requirement, an approved
16 quality assurance plan.

17 In addition to that, the Department through
18 EG&G also had its own quality assurance people, one,
19 review that quality assurance plan that they have, as well
20 as provide a site inspector, both at the fabrication of
21 the outer vessel in Washington and the fabrication of the
22 inner vessel at Chicago Bridge and Iron in Salt Lake City.

23 We had a resident engineer there following the
23 activities and the particular key points in the
25 fabrication of that cask. That is No. 1.

1 (Slide.)

2 Secondly, part of the reason, and the photographs that you
3 see here, and I am sorry, but these are hot off the press,
4 if you will, and we were going to try to factor those into
5 the video.

6 But one of the things that we wanted to ensure
7 is that the various pieces of equipment made it up and
8 functioned properly, and we consequently arranged to have
9 this integrated test at Heddle to work out whatever kind
10 of bugs there are and to iron out whatever problems there
11 may be in the actual operation procedures prior to
12 bringing it here to TMI.

13 Third, when we actually get to TMI, we have a
14 check list that we are putting together of the things that
15 need to be done, not only to get this cask ready to ship,
16 but remember we have the responsibility for this material
17 for up to 30 years. So we have a vested interest in
18 making sure that what we receive is suitable for long-term
19 storage.

20 We are going to provide a list of, if you will,
21 our check list to see that the canister contents are in
22 conformance with the safety analysis report and of course
23 all on-site operations will be performed by NRC and
23 reviewed by DOE as selected activities take place during
25 the actual loading operation.

1 So you have got GPU and their operation and you
2 have got NRC and their oversight and our selected
3 oversight as this thing is being loaded.

4 CHAIRMAN MORRIS: Does anybody from the public
5 have any any questions they would like to ask at this
6 time? If you do, I would ask you to again to please come
7 forward and state your name for the record and then
8 proceed with the question.

9 MR. BIXBY: One more thing. The Department and
10 what I was going to point to is I have here Mr. Al
11 Anselmo, who is our Traffic Manager for EG&G Idaho, and
12 Mr. Gene Wiles, who is the DOE Traffic Manager from DOE
13 headquarters.

14 The Department carries out many of these
15 shipments throughout the year and we looking at this as
16 following our standard operating procedures for makings
17 these shipments throughout the country. So we consider
18 these to be routine shipments, if you will.

19 CHAIRMAN MORRIS: Does anybody from the public
20 have a question they wanted to ask?

21 (No response.)

22 Does any Panel Member have a question?

23 MS. DAVENPORT: I wanted to know if the
23 abnormal wastes are classified as abnormal wastes in any
25 other facility in the country or is that specific to this?

1 MR. BIXBY: We classified abnormal waste
2 Debbie, that is a nomenclature that came with the
3 Memorandum of Understanding that Bernie Snyder and Frank
4 Coffman signed back in 1981. It really defines that waste
5 which is not suitable for disposal at commercial shallow
6 land burial.

7 Just recently DOE has been give the
8 responsibility for that waste that is greater than Class
9 C. So this is sort of a natural -- this particular waste
10 happens to fall into that category. So where we were sort
11 of new, if you will, we were really breaking new ground
12 for the Department in accepting Class C waste that now has
13 I guess been legislated that DOE will be the receiver of
14 that kind of waste in the future.

15 So the things that we do here and the
16 arrangements that we have with GPU contractually may form
17 a model for the Department's cooperation with other
18 utilities.

19 CHAIRMAN MORRIS: Okay. Thank you, Willis.

20 MS. DAVENPORT: Also, how will it be
21 processed? You said that it will be processed before it
22 is shipped.

23 MR. GRANT: I used that term, and what I meant
23 is prepared for shipment. There is other waste other than
25 the purification of mineral resins which need to be

1 sluiced and put in the proper shipping containers.

2 There is also the potential of some of the
3 sludge in the reactor building basement that might fall
4 into that category as well which means it has to be
5 processed prior to shipment.

6 MS. DAVENPORT: Thank you.

7 CHAIRMAN MORRIS: Tom.

8 MR. COCHRAN: NASA has recently demonstrated
9 its stringent safety analyses, the QA and so forth, but
10 things do happen from time to time that are unforeseen.

11 What would happen if someone forgot to bolt the
12 inner and outer cans on one of these shipping casks and
13 you got in an accident, a severe accident?

14 MR. GRANT: One of the requirements in
15 acceptance for shipment and meeting the NRC's C of C,
16 certificate of compliance, is that leak tests are required
17 to be performed both on the inner vessel and the outer
18 vessel closure lids independently. This measurement
19 should identify if there is a potential problem where one
20 of the closure bolts weren't properly installed.

21 The other thing I would add in the number of
22 closure bolts, and I don't have the exact number, but we
23 are talking probably like 60 to 62, that if one of those
23 wasn't properly torqued down, the consequences of that
25 probably are insignificant.