

1 Closed Commission Meetings for Friday, March 30, 1979
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3 contain all the basic materials that will be incorporated
4 in the final version when corrections have been made.

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BACKGROUND INFORMATION

As the Three Mile Island situation developed beginning on Wednesday, March 28, the Commissioners met to discuss the nature of the event and scheduled a staff briefing held on March 29 at 9:50 a.m. The emergency nature of this situation at Three Mile Island led the Commission to go into "continuous" session for the duration of the event beginning on the morning of March 30. This meant that whenever a quorum was present, it was part of the continuous session. Because of the nature of these sessions, particularly on Friday, March 30, Saturday, March 31, and Sunday, April 1, most of the Commission meetings were held outside the Chairman's Conference Room which is equipped with magnetic tape recorders. Part of Saturday's and Sunday's meetings, for example, were at the Incident Response Center at Bethesda.

The nature of these meetings was informal and often interrupted. Commissioners and staff members came and went as conditions arose. During many of the sessions, multiple conference telephone calls and twoway telephone calls were made and received that were difficult to record and to transcribe.

These continuous meetings were for the most part recorded by several portable tape recorders using mini cassettes and regular cassettes. Nonetheless, in the fast moving events connected with this incident, there may have been times when Commissioners discussed matters which were not recorded.

The transcripts of the tapes of these continuous sessions, particularly where the meetings were held outside the regular meeting room, are a composite of several tapes. For all of the reasons above, these transcripts do not represent formal or official Commission statements on the matters discussed therein, nor have they been reviewed or edited by the Commission.

(Tape No. 1, Side No. 1)

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MR. DORIE: Yes, sir.

MR. GOSSICK: Bill, we have got a deteriorating situation up there with regard to some releases. The Governor is asking us to confirm what he is getting from the plant which says that -- the plant official -- which said that they had an uncontrolled release of stuff which may result in something like up to 1200 mr per hour. They are planning to ---

MR. DORIE: Mr. Gossick, can you hold just a second until I get John in her?

MR. GOSSICK: Get who?

MR. DORIE: I just want John Austin, for just a second.

MR. GOSSICK: Well, hurry up.

MR. DORIE: Okay. Go ahead, I'm recording it. that's all right.

MR. GOSSICK: All right.

Anyway, I have called John Ahearne, I tried to call the Chairman and he is in route somewhere. I will call Kennedy. Would you get it to Gilinsky and Bradford.

We have just started banging this up to the White House Situation Room and DOE and everybody else, okay?

MR. DORIE: Okay, sir, I have it

MR. GOSSICK: All right. And would you also tell Congressional to get on the stick and get current

56
J.M.

/

1 with us out here so that they can start making calls for
2 the Hill.

3 MR. DORIE: Fine, will do.

4 MR. GOSSICK: Thank you.

5 (End of telephone conversation.)

6 (Phone Conversation with Mr. Denton and Mr. Gossick)

7 MR. DENTON: -- they are getting 63 curies
8 per second and I can't explain to you the mathematics, but
9 what they are saying is if that's true, by comparing it with
10 what we knew the shutdown rate was and the measurements taken
11 at the north gate and those were yesterday, they were on
12 the order of the times of what they were yesterday, which
13 would put us somewhere in the 1200 millirem per hour, the
14 number that I gave somebody a little while ago.

15 COMMISSIONER GILINSKY: For where?

16 COMMISSIONER KENNEDY: For where?

17 MR. DENTON: Well, you know wind, and it will
18 fall off with the distance, of course, 1200 ---

19 COMMISSIONER KENNEDY: 1200 at the tower?

20 MR. DENTON: -- in the northeast -- Pardon?

21 COMMISSIONER KENNEDY: It would be 1200 at the
22 tower?

23 MR. DENTON: Yes, sir, correct. Thn it would
24 fall off, of course, as it went out.

25 What we are trying to do is to figure out what

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9:37 AM

1 to tell the Governor, who is insisting on accurate
2 information from the NRC about what he does about evacuation.

3 COMMISSIONER GILINSKY: Well, let me ask you,
4 the fact that you are multiplying this by 20, does that
5 mean that the close-in range of the for, say the closest
6 communities would be 20 times what it would be in the
7 plant yesterday?

8 MR. GOSSICK: Yes. That's what they are saying.

9 COMMISSIONER GILINSKY: Well, that's pretty high.

10 MR. GOSSICK: I don't know how good the
11 10 gallon per let-down -- the 10 gallon per let-down rate
12 is, but I think the 63 curies is comparing it with what
13 they knew of the let-down of yesterday.

14 COMMISSIONER BRADFORD: What actual measurements
15 do you have?

16 MR. GOSSICK: I can't give you any at the
17 moment The ARMS airplane is taking measurements, but I don't
18 have anything that is current since this happened here,
19 you understand. The source has been sealed again and I
20 think this is probably being released being for one or
21 two hours. We don't know, however, whether that's good for
22 any period of time (inaudible)

23 COMMISSIONER GILINSKY: Do we have any ground
24 readings from around the site?

25 MR. DENTON: I beg your pardon?

1 COMMISSIONER GILINSKY: Do we have any ground
2 readings --

3 MR. GOSSICK: I don't have any at the moment.

4 MR. DENTON: No, data have come in, these were
5 calculated numbers, a function of miles and I guess Lee
6 has given those to you already.

7 COMMISSIONER GILINSKY: Well, would we be getting
8 any, do we have any monitoring equipment ---

9 MR. DENTON: There is a lot up there, Vic,
10 but it takes a while for it to ever get back here.

11 COMMISSIONER GILINSKY: Well, is there any way
12 to get in touch with them quickly?

13 MR. DENTON: Wee, we're doing that out there,
14 with it, I guess. Well, there are helicopters in the air and
15 people on the ground.

16 COMMISSIONER GILINSKY: Well, what is the quickest
17 way we could get the information. What is the service we
18 could get the information in.

19 MR. DENTON: Historically, Vic, it takes an hour
20 from the time the guy makes the measurement on the ground
21 until before he gets the call back here.

22 CHAIRMAN HENDRIE: Harold, have you been --
23 have you talked to Vollmer in the last 15 minutes or so?

24 MR. DENTON: No, I haven't.

25 CHAIRMAN HENDRIE: Is he on tope of it?

4

1 MR. DENTON: Well, I sure hope so, but he is
2 not in the dialing communications line and I have not been
3 able to reach him.

4 MR. FOUCHARD: This is Joe, Mr. Chairman, I just
5 had a call from my guy in the Governor's Office and he
6 says the Governor says the information he is getting from
7 the plant is ambiguous, that he needs some recommendations
8 from the NRC.

9 MR. DENTON: It is really difficult to get the
10 data. We seem to get it after the fact. They opened the
11 valves this morning, or the let-down, and were releasing
12 at a six curie per second rate before anyone knew about it.
13 the time we got fully up to speed, apparently they had
14 stopped, there was a possible release on the order of an hour
15 or an hour and a half ---

16 COMMISSIONER GILINSKY: This is from the containmen

17 MR. DENTON: Well, it was coolant from the
18 containment, apparently it got released into the radwaste
19 or the auxillary building and was vented out through the
20 normal release point. We calculate doses of 170 mr/hr at
21 1 mile, about half that a 2 miles and at five miles about 17.
22 Apparently, it is stopped now, though I'd say there is a puff
23 release cloud going in the northeast direction, and we'll
24 just have to see. We did advise the state police to
25 evacuate out to five miles, but whether that has really

1 gotten pulled off, we'll just have to ---

2 MR. FOUCHARD: Well, the Governor has to authorize
3 that, and he is waiting for a recommendation from us.

4 COMMISSIONER AHEARNE: Harold, the data that you
5 have is you know that there was a release for a couple
6 of hours, and you had measured the curie content of the
7 water and the rest of your calculations are all ---

8 MR. DENTON: No, the conferred curie content of the
9 water from other measurements, but the let-down flow -- it
10 is just very difficult to get any data on how much of the
11 water was actually released or what the content of that water
12 was. With the water spilled over there, you would kind of
13 expect it to result in this release rate.

14 CHAIRMAN HENDRIE: Harold, where is -- for a
15 puff release, what you have got is an oblong plume headed
16 out. Where is it now, would you guess, that is, if we
17 go ahead and suggest to the Governor that the evacuation in
18 that direction out to five miles be carried out, is it
19 going to be after the fact of the passage of the cloud?

20 MR. DENTON: Well, if they haven't gotten it
21 cranked up, it might well be after passage. There are
22 people living fairly close to the northeast direction.
23 I guess the plume has already passed there.

24 COMMISSIONER GILINSKY: What is the wind speed,
25 do you have any idea?

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1 MR. DENTON: We are trying to establish that.

2 COMMISSIONER GILINSKY: And when did this plume --
3 when was the puff released?

4 MR. DENTON: Within the last two hours.

5 COMMISSIONER GILINSKY: Last couple of hours?

6 CHAIRMAN HENDRIE: Presumably it has just
7 terminated recently then.

8 MR. DENTON: We don't know how long, but if it was
9 a continuous release over a period of an hour or an hour
10 and a half which from what I understand which is a kind of
11 lot of puff.

12 COMMISSIONER GILINSKY: So even with a modest wind

13 CHAIRMAN HENDRIE: A couple of knot wind and the
14 damned thing -- the head edge of it is already past the five
15 mile line; not so lear you could do much --

16 COMMISSIONER AHEARNE: Do the people there have
17 a direct radio link to the helicopter?

18 (MULTIPLE VOICES)

19 MR. DENTON: Very, very likely.

20 COMMISSIONER KENNEDY: Harold, has anybody checked
21 the rest of the meterology? It seems to me, that in looking
22 at the weather map it is going to be raining there if it
23 isn't already.

24 MR. DENTON: Well, the meterolofy for these
25 calculation were based on whatever was called back in at

1 the axial at the time (inaudible)

2 COMMISSIONER KENNEDY: The weather map suggests
3 that if it isn't already, it is going to be raining there
4 shortly.

5 MR. DENTON: I don't have the weather report handy.

6 COMMISSIONER KENNEDY: Somebody ought to get it.

7 VOICE: We're told at the moment it is a very, very
8 light wind, under 5 miles per hour.

9 MR. DENTON: It is very light in the northeast
10 direction, but it is not raining yet.

11 CHAIRMAN HENDRIE: How far out -- there has been
12 a suggestion for a five mile evacuation in the northeast
13 direction, I take it ---

14 MR. DENTON: A good five miles, I would say from
15 first impression and the numbers (inaudible) about
16 17 or so.

17 CHAIRMAN HENDRIE: m^r per hour?

18 MR. DENTON: Yes.

19 COMMISSIONER GILINSKY: At what point?

20 MR. DENTON: Yes, I think the important thing
21 for evacuation to get ahead of the plume is to get a start
22 rather than sitting here waiting to die. Even if we
23 can't minimize the individual dose, there might still be a
24 chance to limit the population dose.

25 COMMISSIONER GILINSKY: Well, what did they

1 tell them, was it for the northeast quadrant?

2 CHAIRMAN HENDRIE: Yes.

3 COMMISSIONER BRADFORD: It ought to be made clear
4 that you are not talking about lethal doses.

5 CHAIRMAN HENDRIE: Harold, the recommendation on
6 evacuation was for that direction, right? Northeast?

7 MR. GOSSICK: Yes, but with a very, vvery, light
8 wind. We'd have to look at that harder to find out what
9 quadrant we are talking about.

10 CHAIRMAN HENDRIE: Yes

11 MR. DENTON: But the people at the site are obvious
12 much better to direct and run emergency plans than we are,
13 and I would hope the plant people and our own people are
14 really monitoring what is going on in there and acting on it
15 from moment to moment. Our number really was a factor of
16 60 ratio and from some limited plant data. It just seems
17 like we are always second, third hand; second guessing them.
18 We almost ought to consider the Chairman talking to the owner
19 of the shop up there and get somebody from the company who
20 is going to inform us about these things in advance if he
21 can and then what he is doing about it if he can't. We
22 seem not to have not have that contact.

23 COMMISSIONER GILINSKY: Well, it seems to me we
24 better think about getting better data.

25 MR. FOUCHARD: Well, the Governor is waiting on

1 it, and Mr. Chairman, I think you should call Governor
2 Thornburgh and tell him what we know. I don't know whether
3 you are prepared at the present time to make a Commission
4 recommendation or not. The Civil Defense people up there
5 say that our State Programs people have advised evacuation
6 out to five miles in the direction of the plume.

7 I believe that the Commission has to communicate
8 with that Governor and do it very promptly.

9 MR. DENTON: It may be an over reaction to get
10 started to the fact the fact that it has stopped ~~me~~ may
11 change the whole thing, but it seems like a separate ---

12 COMMISSIONER GILINSKY: (Inaudible)

13 MR. DENTON: Now, the other point -- of it, we've
14 got to find out what they intended to do if we have the
15 situation again, and there's the real possibility of in
16 another hour or two ... (inaudible)

17 COMMISSIONER GILINSKY: Well, one think we have
18 got to do is get better data. Get a link established with
19 that helicopter to make sure that -- from now on we get
20 reasonable data quickly.

21 MR. FOUCHARD: But it does seem to me you have
22 to make a judgment promptly.

23 COMMISSIONER GILINSKY: Well, that's right,
24 but also it doesn't look like this thing is going to be
25 over with that judgment call.

1 MR. DENTON: It just seems to me we are going
2 to have to operate on the basis primary coolant has very
3 high dissolved gas levels, its a five-day half life and it
4 is going to persist like this for a long time until they
5 really get to a situation where they don't have to get
6 any of the primary coolants out of the containment area. As
7 long as they keep piddling around iwth pressurized levels,
8 blow-down and let-down they're going to give a continual
9 occassional case like this.

10 I sure wish I had better data.

11 CHAIRMAN HENDRIE: Yes.

12 Your current link out to the site is just not
13 operating or what is the situation? Who are you talking
14 to out there, and is there an open line out there?

15 MR. DENTON: I'm not sure. Let me ask. What is
16 our line at the site?

17 We talk to our guy in the control room who
18 bends over and asks the questions while we are talking
19 to him and gets back on the phone. So we do have our
20 people in the control room who search out the answers.
21 But with regard to any actual or hard numbers for release,
22 rate, curies, quantities, doses off-site, that process seems
23 to take hours.

24 MR. FOUCHARD: Don't you think as a precautionay
25 measure there should be some evacuation?

1 CHAIRMAN HENDRIE: Probably, but I must say, it
2 is operating totally in the blind and I don't have any
3 confidence at all that if we order an evacuation of people
4 from a place where they have already gotten a piece of the
5 dose they are going to get into an area where they will have
6 had .0 of what they were going to get and now they move
7 some place else and get 1.0.

8 COMMISSIONER GILINSKY: Does it make sense that
9 they have to continue recurrent releases at this time?

10 MR. DENTON: I guess I tend to feel that if they
11 really didn't stop the release a half an hour ago -- it's
12 probably best to leave it to the operational people up there.

13 (Side 2 of tape No. 1)

14 --the cloud hasn't had a chance to get down to
15 these low levels.

16 COMMISSIONER AHEARNE: But Harold, what
17 confidence do you have that they won't embark on the same
18 thing?

19 MR. DENTON: I don't have any basis for believing
20 that it might not happen -- is not likely to happen again.

21 I don't understand the reason for this one yet.

22 MR. FOUCHARD: I believe as a precautionary
23 measure ---

24 CHAIRMAN HENDRIE: I think we had better get --
25 Harold, see if you can get some sort of a better link

1 established.

2 MR. DENTON: Trying to get in touch with Marbury,
3 to get us some sort of communication with somebody who's
4 doing the evaluative function as opposed to information
5 passing. We need to have some way to that when we ask a
6 question we get an answer eventually for it, but everybody
7 who is up there in a supervisory role is doing something else
8 And we don't know what they are doing, they may be taking
9 just the proper action.

10 CHAIRMAN HENDRIE: It would certainly be helpful
11 if Vollmer could find the senior company officer present,
12 who is directing the operation of the plant and stay fairly
13 close to him and then report regularly back to us, as they
14 could have advance notice of the steps that they take from
15 time-to-time so we don't go through yesterday's flap on the
16 sewerage, and furthermore, so if we are going to have to
17 have another transfer of water out of the primary for some
18 reason that we: a) understand that it is necessary, and
19 b) can go ahead and get the people out of the way in advance.

20 MR. DENTON: Well, people who go up there fall
21 into a morass, it seems like they are never heard from.
22 It seems like you might want to consider having something
23 like rotating shifts through senior people there in the
24 control room or in a room off the control room that we could
25 communicate with about these kinds of things directly.

1 I would be happy to volunteer and see how things go along
2 for a while.

3 CHAIRMAN HENDRIE: You decide whether you ought
4 to be one, Harold, but it seems to me that we ought to back
5 Vollmer up with coverage as this could go around the clock
6 for the next couple of days. I don't know what you can do
7 to improve the communication situation, but it is certainly
8 lousy.

9 Now, Joe, it seems to me I have got to call the
10 Governor ---

11 MR. FOUCHARD: I do. I think you have got to
12 talk to him immediately.

13 CHAIRMAN HENDRIE: -- to do it immediately. We
14 are operating almost totally in the blind, his information
15 is ambiguous, mine is non-existent and -- I don't know, it's
16 like a couple of blind men staggering around making decisions.

17 Let me get ---

18 MR. DENTON: Update is over on the last number
19 measured anywhere. He's getting on.

20 MR. GRIMES: What we've got is one offsite number,

21 COMMISSIONER BRADFORD: Where is it?

22 CHAIRMAN HENDRIE: Whereabouts is it, Bryan?

23 MR. GRIMES: Pardon?

24 CHAIRMAN HENDRIE: Do you know where it is?

25 MR. GRIMES: Well, I think it's up inside the gate

1 COMMISSIONER KENNEDY: 25 mr --- at the foot of
2 the gate?

3 MR. GRIMES: Taken by our people, may have been
4 during a period when the relief valve on the waste gas decay
5 tank was lifting, and shutting.

6 COMMISSIONER BRADFORD: They don't know when it
7 was?

8 MR. GRIMES: Not for sure not, they don't have the
9 exact time.

10 CHAIRMAN HENDRIE: So you can't corollate it
11 as being a representative reading during the period of
12 significant release?

13 MR. GRIMES: That's right, because the Army is
14 flying that way now and they are in communication with
15 our mobile van, should have a man in the van reporting
16 health effects shortly.

17 CHAIRMAN HENDRIE: How long?

18 MR. GRIMES: Within 10 or 15 minutes.

19 MR. FOUCHARD: Mr. Chairman, I don't think --
20 Is there anybody who disagrees that we ought to advise
21 the Governor on what to do?

22 MR. DENTON: I don't. Just on the basis of
23 what we know. It's a good first step.

24 CHAIRMAN HENDRIE: Go ahead with the evacuation?

25 MR. FOUCHARD: I think you and the other

1 Commissioners should get on the line with the Governor, sir.

2 COMMISSIONER AHEARNE: Harold and Ed, what are
3 you recommending though?

4 CHAIRMAN HENDRIE: I can't hear the background
5 muttering. Is there a consensus there that we ought to
6 recommend to the Governor he move people out within the
7 five mile quadrant?

8 MR. DENTON: I certainly recommended we do it
9 when we first got the word, Commissioner. Since the
10 rains have stopped and the plume is going ---

11 I would still recommend a precautionary
12 evacuation in front and under. And if it turns out to have
13 been too conservative ---

14 MR. GRIMES: My view is that it might have been
15 useful right near the site, but now it is down below the EPA
16 particular level so, it probably is the most that should be
17 done, in my view, is to tell people to stay inside this
18 morning.

19 COMMISSIONER AHEARNE: Brian, how do you know
20 it is polluted?

21 ^{Grimes} VOICE (Brian): Well, just from the meterological
22 calculation, making an estimate, go down about a factor of 1

23 CHAIRMAN HENDRIE: Let's see if we can get the
24 Governor on the phone.

25 MR. FOUCHARD: All right, here is the Governor's
telephone number: Area 717 ---

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CHAIRMAN HENDRIE: Hang on a minute.

717 ---

MR. FOUCHARD: 787-2500.

CHAIRMAN HENDRIE: 2500 ---

MR. FOUCHARD: I've got an open line from the Governor's office from heree, my guy is in the Press Secretary's office. Can I tell -- pass word to the Governor he will be hearing from you very shortly?

CHAIRMAN HENDRIE: We are trying to get him now.

MR. FOUCHARD: Okay.

(Placing a call to Governor Thornburgh)

MS. SHUTTLEWORTH: He's on .

CHAIRMAN HENDRIE: Hello. (Call not completed)

(Inaudible conversation between Chairman Hendrie and Commissioner Gilinsky.)

CHAIRMAN HENDRIE: It sounds like the other one that is the extent, in a sense don't start out with a though in mind that they are going to send up a toot, but they are watching the gate, we are about to get up to flood level on the so and so tank, they look around and say good, transfer some of that over here and the guy opens the valve and later on somebody over there says, why are my feet wet. And it turns out to be in the auxillary building, and of course, there are some out gases and nobels go out, says why did you do that?

3/30/79
10:00 AM

1 I don't have the impression that there is a --
2 that they have a good grip on it.

3 COMMISSIONER AHEARNE: I was just going to ask
4 what about pregnant women and children? Sternglass --
5 (inaudible)

6 COMMISSIONER GILINSKY: Well, Brian says it is
7 a factor of 10 can be gained by staying indoors.

8 Anyway, I just think it is worth getting that
9 half hour to find out, first of all, you are alerting
10 people that they are going to have to do something, and they
11 are not going to be able to do something in a half hour
12 any way.

13 COMMISSIONER AHEARNE: I'd alert the State Policy
14 though.

15 COMMISSIONER GILINSKY: Got to be ready for the
16 possibility.

17 COMMISSIONER BRADFORD: How much low-level --
18 Nobody knows, right?

19 CHAIRMAN HENDRIE: (inaudible.)

20 Ms. SHUTTLEWORTH: He's on now.

21 VOICE: Just one moment.

22 GOVERNOR THORNBURGH: Chairman Hendrie?

23 CHAIRMAN HENDRIE: Governor Thronburgh, glad to
24 get in touch with you at last.

25 I am here with the Commissioners. I must say

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10:07 AM

1 that the state of our information is not much better than
2 I understand yours is. It appears to us that it would be
3 desirable to suggest that people out in that northeast
4 quadrant within 5 miles of the plant stay indoors for
5 the next half hour.

6 We have got one of those monitoring aircraft
7 up and seem to have an open line to it and we ought to be
8 able to get some information in the next 10 to 15 minutes.
9 They can tell us whether it would be prudent to go ahead
10 and start an evacuation out in that direection.

11 GOVERNOR THORNBURGH: So your immediate
12 recommendation would be for people to stay indoors?

13 CHAIRMAN HENDRIE: Yes, out in that -- out in
14 the northeast direction from the plant.

15 GOVERNOR THORNBURGH: The northeast direction
16 from the plant to a distance of?

17 CHAIRMAN HENDRIE: To a distance of about five
18 miles.

19 MR. DORIE: Gossick's on the line with the latest
20 information.

21 CHAIRMAN HENDRIE: Governor, I have just had a
22 call through from our Response Center. If we could
23 manage to hold on to you for a moment, keep this line open
24 and let me get on the other one see what's coming in.

25 GOVERNOR THORNBURGH: I sure will.

Handwritten notes:
02 or
Hald.
~~...~~
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1 CHAIRMAN HENDRIE: Thanks.

2 Okay, Lee.

3 MR. GOSSICK: Joe, I know you are talking to the
4 Governor ---

5 CHAIRMAN HENDRIE: Yes, good, you came in just in
6 time.

7 MR. GOSSICK: We just got in touch with the site
8 up there on some readings and let me put Brian Grimes on
9 the phone and he will tell you exactly what we know at this
10 point.

11 CHAIRMAN HENDRIE: Good.

12 MR. GRIMES: The winds are light and variable
13 and while they are to the south, headed toward the south we
14 got some readings of about 25 mr, there is one reading 600
15 feet over the plant at the rate of release of 1200 mr, that
16 is over the plant. By the time it gets off site it is going
17 to drop by a factor of 3 or 4. We also have 1 reading on
18 the east bank of the river at 20 mr of peaking radiation that
19 rapidly went down or it might have been shine from the plume,
20 or it might have been part of what came over this morning.
21 Based on the 1200 mr directly over the plant, we got at
22 most a couple hundred mr on site. But that is a best
23 estimate.

24 CHAIRMAN HENDRIE: Yes. Now, that will be close
25 in. How far out do you have to get before we get a factor

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of 10 on that?

MR. GRIMES: A factor of 10 with the wind conditions probably talking a mile. I'll have to check it out.

CHAIRMAN HENDRIE: Okay, they have had it cut off long enough so that in a mile it's gone.

COMMISSIONER BRADFORD: When was that measurement?

MR. GRIMES: Also, I'm informed we are closing to 450 feet, may be a factor of 10 lower on the ground.

(End of tape 1, side 2.)

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(Start Side 1 Tape 2.)

COMMISSIONER AHEARNE: When were those measurements made?

MR. GRIMES: The measurements were made at 6:40, at 11:00 . They screened a valve, the reading was made during one of those.

CHAIRMAN HENDRIE: Now, Brian, if they have got 1.2 r per hour up in the plume, --

MR. GRIMES: We had 1.2 r per hour in the plume.

CHAIRMAN HENDRIE: You had it? That would suggest something around mr per hour on the ground.

MR. GRIMES: Yes, on the ground outside containment.

CHAIRMAN HENDRIE: Either probably underneath the plume as it pulls in or when the plume hits the ground and ups the fusion to again get the factor then gets around 120.

MR. GRIMES: Yes.

CHAIRMAN HENDRIE: So that suggests ---

MR. GRIMES: The 11:00 reading was where they were lifting the relief valve on the tank, it went to the vent system from the tank. We don't have any information about the duration but we think we got a measurement of 1200 mr per hour while those vents were being released.

COMMISSIONER AHEARNE: But Brian, what time was that, one hour ago, two hours ago, do you have a rough? ---

1 MR. GRIMES: About two hours now since the plume
2 went over.

3 CHAIRMAN HENDRIE: Okay, that's about the size of
4 it for the moment?

5 MR. GRIMES: That's it.

6 CHAIRMAN HENDRIE: Okay, thank you very much.

7 MR. GRIMES: Joe Fouchard wants to know if we're
8 going to give the Governor our recommendation.

9 CHAIRMAN HENDRIE: Yes, and I'll get back to you.

10 (Chairman Hendrie back to his phone conversation
11 with Governor Thornburgh.)

12 CHAIRMAN HENDRIE: Governor, we've got a few
13 numbers again.

14 GOVERNOR THORNBURGH: We have some too.

15 CHAIRMAN HENDRIE: Okay, let's compare numbers.

16 GOVERNOR THORNBURGH: Hope they are the same.

17 CHAIRMAN HENDRIE: I have got a reading.

18 During one of these burst release up over the
19 plant several hours ago, up over the plant about 1200 mr
20 per hour which seems to calculate out, by the time the
21 plume comes to the ground where people would get it would
22 be about 120 mr per hour

23 Now, that is still below EPA evacuation trigger
24 levels, on the other hand, it certainly is a pretty husky
25 dose rate to be having off-site. However, I'm afraid that

1 we are behind the event, so that that dose rate is no
2 longer being experience since it is probably over an hour ago.
3 ago.

4 The emissions from the plant, at least for the
5 moment, have apparently been cut off. I think I would
6 continue to recommend that people stay inside this morning.
7 And as our information improves, hopefully it will, then
8 we can see where we go from there.

9 GOVERNOR THORNBURGH: Let me give you the report
10 that we just had from our Department of Environmental
11 Resources that I think was from your people at the plant
12 and see if we are talking about the same thing.

13 CHAIRMAN HENDRIE: Okay.

14 GOVERNOR THORNBURGH: Paul Critchlow is here,
15 can you summarize that information?

16 CHRIS: Yest, Tom Jarowsky said that there
17 appeared to be a puff of about 1 hour and the dose rates
18 off site with a maximum of 14 mr per hour. The numbers are
19 now down to 1 and a half mr and decreasing. He says that
20 Washington may have gotten mis-information when -- do
21 you have a man there by the name of Collins who advised our
22 Civil Defense director that we ought to evacuate at 9:15 a.m.

23 The wind is picking up now, according to Jarowsky,
24 and the plume should be dissipating -- at present he did
25 not believe there was a need for evacuation. He told us

1 it probably didn't make any difference now whether people
2 stayed indoors or not. That's the end of it.

3 CHAIRMAN HENDRIE: All right, I think that's
4 probably not a bad judgment. I think our suggestion about
5 people staying indoors is more of a precautionary one
6 of a feeling that the material is there.

7 We are ---

8 GOVERNOR THORNBURGH: Can I ask you, just so we
9 are on the same beam here: Has your information come from
10 a Dr. Galinna at the site?

11 CHAIRMAN HENDRIE: I can't tell. I didn't ask
12 who the specific one was, Governor. This was a report that
13 came into our people at the site from the Arms aircraft
14 and it was transferred back out by a mobile communi-
15 cations link that our inspection crowd had got earlier.
16 It came through several hands and I didn't attempt to
17 track back and find the source of it.

18 GOVERNOR THORNBURGH: I think that would be
19 useable, because then we can make sure we are talking --
20 Our people Tom Jarowsky who is the head of our
21 monitoring operations here, and Dr. Galinna, who is your
22 man here, have been in communication fairly constantly.
23 If their assessment is in sync, I think both of us would
24 feel a little more confident about that assessment.

25 CHAIRMAN HENDRIE: Yes, and I'd feel happier too,

1 having direct communication come through with people who
2 are at the site, ---

3 GOVERNOR THORNBURGH: Yes.

4 CHAIRMAN HENDRIE: -- presumably getting a better
5 picture and a more accurate picture.

6 GOVERNOR THORNBURGH: Sir, what's the highest
7 off-site reading that you have, do you know?

8 CHAIRMAN HENDRIE: We have got one on a dispatch
9 that just came through that I put you on hold to get, and
10 I have one on the east bank of the river at 20 mr per hour.
11 To the south at the site boundary, 25 mr per hour which
12 was apparently taken during the releases, and then this
13 one from the monitoring aircraft that got up into the plume
14 directly over the plant, obviously reads a higher number,
15 and we are making an estimate of sort of what the maximum
16 would be down-wind in that when it got down to the ground.

17 But, of course, that is a temporary position,
18 and the release apparently is now over long enough and has
19 been over long enough so that that plume is dissipating and
20 is on down-wind some place.

21 GOVERNOR THORNBURGH: Was your person, Mr. Collins,
22 in your operations center, justified in ordering an
23 evacuation at 9:15 a.m. or recommending that we evacuate
24 at 9:15 a.m. or was that based on mis-information? We
25 really need to know that.

3/30
10:14 3/14

1 CHAIRMAN HENDRIE: I can't tell what the -- I
2 can go back and take a check, Governor, but I can't tell
3 you at the moment I don't know ---

4 GOVERNOR THORNBURGH: Yes. We are not asking
5 to be judgmental about it, ---

6 CHAIRMAN HENDRIE: Yes. I just don't know.

7 GOVERNOR THORNBURGH: Okay. That would be
8 extremely helpful, because if we get any such further
9 recommendations, we really have to know what the basis of
10 those are.

11 CHAIRMAN HENDRIE: Yes.

12 GOVERNOR THORNBURGH: Do we know the precise time
13 of the release?

14 CHAIRMAN HENDRIE: I doubt it with any precision,
15 I had it come through here, say, at 6:40 a.m. there were
16 a series of 11 relief valves lifting and one discharge from
17 a vent system, and in total, then, these have constituted the
18 releases that have occurred. And I believe they were
19 supposed to have been terminated then, something like --
20 what, maybe half an hour to an hour ago.

21 GOVERNOR THORNBURGH: So from 6:40 a.m. until?

22 CHAIRMAN HENDRIE: May 8:30 or something like that.

23 GOVERNOR THORNBURGH: Do we have any assurances
24 that there is not going to be any more of these releases?

25 CHAIRMAN HENDRIE: No, and that's a particularly

1 important aspect I want to talk to you about.

2 As best I can judge from the kind of information
3 coming through from the plant, it is not clear that they
4 won't get into this kind of situation again. I trust
5 not again without all of us knowing it in advance and being
6 ready to anticipate what we may need to do. But we may very
7 well get there again, I think.

8 GOVERNOR THORNBURGH: But you still think it is
9 not necessary or reasonable to order a precautionary
10 evacuation, just on the event that we have more bursts?

11 CHAIRMAN HENDRIE: I think it would be just as
12 well to wait until we know that they are going to have to
13 make some kind of a water transfer, that there may be a
14 release. And then at that time, go ahead and make a
15 precautionary evacuation.

16 COMMISSIONER BRADFORD: Another way to put it
17 to make him feel better ---

18 GOVERNOR THORNBURGH: I think that ought to do
19 for the moment. Just a moment, please.

20 VOICE FROM GOVERNOR'S OFFICE: Do you have any
21 readings off-site that would bear out your estimate that the
22 maximum dose off-site would be 120 mr?

23 CHAIRMAN HENDRIE: No, I don't.

24 What we have got is simply that reported reading
25 from the aircraft above the plant, supposedly in the plume

1 at about 4-600 feet at the time of the release, and then a
2 calculation based on the meteorology.

3 VOICE: Sir?

4 CHAIRMAN HENDRIE: Yes.

5 VOICE: One last thing, if you could check out the
6 question of that 9:15 a.m. recommendation for us, that is
7 probably going to cause some problems here.

8 CHAIRMAN HENDRIE: Okay, let me do that.

9 VOICE: All right, and if you would mind calling
10 the Governor back as soon as possible, it would be most
11 appreciated.

12 CHAIRMAN HENDRIE: Will do.

13 VOICE: Thank you, sir.

14 CHAIRMAN HENDRIE: Thank you.

15 VOICE: Goodby.

16 (End of the telephone conversation between
17 Chairman Hendrie and Governor Thornburgh of Pennsylvania.)

18 COMMISSIONER GILINSKY: Where do we stand with
19 regards coordinating with plant personnel?

20 COMMISSIONER KENNEDY: My own feeling is the best
21 way to get that done, call the President and say that's
22 what we have got to have. I think passing the word down --
23 you know, talking to the plant super, you are right, the
24 plant super is a pretty busy fellow. But if his boss says
25 that's the way it's got to be, that's the way it's going to be

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CHAIRMAN HENDRIE: Furthermore, I mistrust our ability to establish any direct communication with the site, and that is precisely what we haven't been able to do for 24 plus hours.

COMMISSIONER BRADFORD: (Inaudible)

COMMISSIONER GILINSKY: Well, and also I think as far as evacuation (inaudible)

COMMISSIONER BRADFORD: (Inaudible)

CHAIRMAN HENDRIE: Let me see if I can get ---

(Tape off at this point.)

(End side 1, Tape 2.) (Blank space at beginning of tape)

COMMISSIONER BRADFORD: I had a call (inaudible)

VOICE: Mr. Gossick's on.

(Phone conversation between Commission and Mr. Gossick.)

CHAIRMAN HENDRIE: Lee, I talked to the Governor, we are not going to order an evacuation at the moment.

We suggested that he recommend to people that they stay indoors (inaudible) however, -- by the way, am I coming through okay?

(Inaudible)

CHAIRMAN HENDRIE: You are not coming through. Are you far away from the phone or what?

MR. GOSSICK: (Inaudible) Okay, can you hear me now?

1 CHAIRMAN HENDRIE: Yes, fine.

2 MR. GOSSICK: Okay, we've got you on the speaker
3 now.

4 CHAIRMAN HENDRIE: Okay, I talked to the Governor
5 and we recommended that he might consider -- suggesting to
6 people that they stay indoors for the next half hour or
7 so until the information improves a bit.

8 The Governor, however had a report from his health
9 people of a max. off-site dose of 14 mr per hour, so he's
10 really worried about the lack of communications in trying to
11 corollate his numbers with ours. (Inaudible)

12 Now, one of the things he is interested or concerne
13 about is our recommendation to -- for evacuation at 9:15?

14 MR. GOSSICK: Well, I find this came from our
15 State office -- the Office of State Programs recommended
16 (inaudible) and as I understand it holding mode.

17 CHAIRMAN HENDRIE: Yes, and to try to get -- he
18 named some of his people and asked whether my information
19 was coming through from somebody was in contact with them,
20 and obviously I didn't know and couldn't tell him that.

21 MR. GOSSICK: Do you have the name of the guy
22 who is giving him the information?

23 COMMISSIONER AHEARNE: Tom Jarowsky is their guy,
24 and he is talking to Galinna.

25 CHAIRMAN HENDRIE: Do we have a man named

1 Galinna down there?

2 VOICE: Yes.

3 MR. GOSSICK: Okay, Jarowsky is the state guy?

4 COMMISSIONER AHEARNE: Yes.

5 CHAIRMAN HENDRIE: Okay, it would be useful for
6 them to keep each other informed so we will have the same
7 sorts of numbers.

8 MR. GOSSICK: Right.

9 CHAIRMAN HENDRIE: In view of what we now know
10 about the ---

11 COMMISSIONER GILINSKY: (Inaudible)

12 CHAIRMAN HENDRIE: What's that?

13 -- In view of what we now know, would we have
14 still recommended evacuation at 9:15?

15 MR. GOSSICK: Well, there has been a lot of
16 discussion here in the last 10 minutes with regards to:
17 1) we don't know that we are not going to have another one
18 of these things, and we don't know when. (Inaudible)

19 CHAIRMAN HENDRIE: Aside from that, I'm just
20 tracking back on the Governor's behalf.

21 MR. GOSSICK: Ok, sure he's probably ---

22 CHAIRMAN HENDRIE: Let's see --- On the basis of
23 that airborne -- in the plume reading and it is going to be
24 down a healthy cut by the time it comes to the ground ---
25 would you have still have recommended evacuation do you think

1 COMMISSIONER BRADFORD: ----a lot to do with
2 whether the source was cut off -

3 CHAIRMAN HENDRIE: Yes, and did you know the
4 source was cut off at that point or not? Do we know when
5 the source was cut off and when we knew it was cut off?

6 MR. GOSSICK: (Inaudible)

7 CHAIRMAN HENDRIE: I can't hear you.

8 MR. DENTON: It began about 8:00 and was timed
9 about an hour or hour and a half later.

10 Now, we did hear from the arms people that they
11 were averaging something on the order of an R an hour at
12 600 feet above the plant. But then the data from around
13 the instrument trailer and some of our people read off
14 something like 25 mr an hour. (Inaudible) the
15 Governor's 14 or 20 or 25 mr -- (inaudible)

16 CHAIRMAN HENDRIE: Yes.

17 MR. DENTON: (Inaudible)

18 CHAIRMAN HENDRIE: Wait a minute, I lost a piece of
19 it. I was thinking something else.

20 MR. DENTON: (Inaudible) which would eliminate
21 (inaudible) primary coolant down to (inaudible)

22 CHAIRMAN HENDRIE: Yes. There is no way to let
23 down into the containment?

24 MR. DENTON: (Inaudible)

25 CHAIRMAN HENDRIE: And the need for let-down
occurs why?

1 MR. DENTON: Need to maintain pressurizer level
2 and keep the primary water pumps going (inaudible) to
3 let water out (inaudible)

4 COMMISSIONER AHEARNE: Harold, the way it is
5 going right at the moment, what is your estimate of whether
6 they are probably going to have release again?

7 MR. DENTON: People told me was perhaps three hours

8 COMMISSIONER BRADFORD: Not whether, but when?

9 CHAIRMAN HENDRIE: Yeah

10 COMMISSIONER AHEARNE: Is your estimate that they
11 probably will have to release?

12 MR. DENTON: Well, they are trying to find ways
13 to jury-rig a system to put what is in these tanks over into
14 unit one tank, somehow, so that they can accommodate more
15 let-down here.

16 COMMISSIONER AHEARNE: But that's only got what,
17 a 4 inch pipe? That's your only link isn't it?

18 MR. DENTON: Could you repeat that, John?

19 COMMISSIONER AHEARNE: Isn't there only one small
20 pipe between Unit 2 and Unit 1 tanks?

21 MR. DENTON: I don't know.

22 I would say three hours is firm and maybe they
23 are saying that to save time. The let-down flow at the
24 moment, I understand at the forward end (inaudible) is going
25 to continue to (inaudible) their ability to (inaudible). So
if we could find a way put either water or gases that evolve

1 back into --

2 CHAIRMAN HENDRIE: Alright, keep working on that.
3 If you get through to Vollmer, I'm going to try to get to
4 Met Ed's chief officer. We need to know when they are going
5 to have to make one of these transfers, and know in advance
6 so we can let people know. I guess we would like to know
7 enough in advance so we can call the Governor and recommend
8 some protective measures for precautionary evacuation and
9 so on, on the direction the wind is blowing for some
10 reasonable distance. So that means, I would guess, we would
11 need an hour or more notice, if possible. All the notice
12 we can get but it may be difficult.

13 MR. GOSSICK: We understand that Jarowsky has
14 recommended (inaudible) five people (inaudible) and we
15 are told that he is making that recommendation to. quote,
16 save NRC's face". I thought you ought to know the
17 foundation of that (inaudible) ---

18 CHAIRMAN HENDRIE: I think that's because he doesn't
19 feel that anything is necessary.

20 MR. GOSSICK (Inaudible) 10:25 reading about a
21 mile southeast of the plant, one at 3 milirems. The wind
22 speed is zero at the control room at the present time,
23 I guess, that's what is on the board here. I think,
24 (inaudible) we could go on, I guess, they tell me (inaudible)
25 with this continuing kind of problem, and I guess what we

1 need to discuss with the folks up there is the advisability
2 or possibility of pulling the plug and going to some other
3 mode to get this thing down better condition. Of course ---
4 right Harold?

5 CHAIRMAN HENDRIE: Hang on a minute. I want to
6 go to another phone. Do the other Commissioners have some
7 questions?

8 (End of Tape No. 2, side 2.)

9 ~~(Beginning of Tape No. 3, reverse side of Tape No. 2)~~

10 (Tape No. 3 is blank.)

11 (Tape No. 4, side 1)

12 (Tape starts off in a telephone conversation
13 between the Commission and

14 TELEPHONE VOICE: (Inaudible)

15 CHAIRMAN HENDRIE: Okay.

16 TELEPHONE VOICE: I don't believe that anything
17 took place to concern them in the 11:00 to 11:30 (inaudible)

18 CHAIRMAN HENDRIE: Okay.

19 TELEPHONE VOICE: Now, as far as what we have
20 got going on right now, I'm still waiting to hear whether
21 or not the (inaudible) as of a few minutes ago we had not
22 yet seen any change in the vent monitor from what it had
23 been reading prior to starting the change or transfer of
24 the radioactive gas (inaudible). Now, one other thing

25 ~~(inaudible) we have got in touch with the plant staff,~~

1 ~~need to discuss with the folks up there is the advisability~~
2 ~~or possibility of pulling the plug and going to some other~~
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6 go to another phone. Do the other Commissioners have some
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23 been reading prior to starting the change or transfer of
24 the radioactive gas (inaudible). Now, one other thing

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19 TELEPHONE VOICE: Now, as far as what we have
20 got going on right now, I'm still waiting to hear wether
21 or not the (inaudible) as of a few minutes ago we had not
22 yet seen any change in the vent monitor from what it had
23 been reading prior to starting the change or transfer of
24 the radioactive gas (inaudible). Now, one other thing
25 (inaudible) we have got in touch with the plant staff,

1 the NRC staff has asked Babcock and Wilcox why Harrisburg sho
2 be evacuated if another release takes place, and I don't
3 know if that is true or not, but I don't think we are into
4 that kind of a situation.

5 CHAIRMAN HENDRIE: That's news to me.

6 TELEPHONE VOICE: Okay.

7 TELEPHONE VOICE: Do you just want to hold the
8 line while we see ---

9 CHAIRMAN HENDRIE: Bob while I've got you there.

10 (Evidently another phone conversation between the
11 Chairman and Mr. Wallace.)

12 CHAIRMAN HENDRIE: I talked to the Governor just
13 a few minutes ago, and recommended to him that since it
14 is uncertain about the continuing release, possible bursts
15 and so on, that a precautionary evacuation of pre-school
16 kids and pregnant women and so on could usefully go on,
17 out to, oh, five miles or so from the plant. And I think
18 they will probably go ahead with that. They had already
19 asked people to stay indoors in the area this morning,
20 and were coming up on a time when they had to amend the
21 instruction and say, either go out or continue to stay in.
22 I recommended that they move kids and pregnant women out
23 and others stay in. So you just be aware of that. There
24 isn't anything you have to do about it, but ---

25 MR. WALLACE: They are going through the course,

1 but there is a little furor here and I'm sure they will go
2 ahead and do it. I'm not sure. York is still (inaudible)
3 I do think it is important the NRC and ourselves stay in
4 agreement on what the nature of the instructions is to
5 everyone.

6 CHAIRMAN HENDRIE: Yes, well, having this link
7 open is a considerable help.

8 MR. WALLACE: My boss probably wishes (inaudible)

9 CHAIRMAN HENDRIE: Yes. I'm wondering if we
10 shouldn't cut the (inaudible). I think you had better
11 come off our line, Bob, and go to the response center.

12 VOICE: Okay.

13 CHAIRMAN HENDRIE: Now, I don't know if it is
14 possible to transfer you or shall we keep a line open or
15 what, do you want to call again? Maybe we had better try
16 a transfer.

17 MR. WALLACE: You have a few other people I need
18 to talk with, so give us a few minutes for this line to
19 clear (inaudible) I might help me. Are you still there?

20 CHAIRMAN HENDRIE: Which line do you mean?

21 MR. WALLACE: The one that ---

22 CHAIRMAN HENDRIE: The one we are talking on?

23 MR. WALLACE: Right.

24 CHAIRMAN HENDRIE: Yes, yes, I'm saying, why don't
25 you disconnect from us here at H Street and get to the

1 response center and I & E.

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1 MR. WALLACE: Okay, we will try to reestablish
2 that in a few minutes.

3 Now, on the space for your command post, we have
4 got two trailers due here at 1:00 o'clock and I have ordered
5 two more.

6 CHAIRMAN HENDRIE: Okay. Good.

7 MR. WALLACE: All right, sir? Thank you very much.

8 CHAIRMAN HENDRIE: Now, do you want to just try
9 to hang up and then call the response center, or should I
10 try to transfer you here?

11 MR. WALLACE: Why don't you try to transfer me.
12 I'll try on the other line (inaudible) So if you can
13 transfer me to your response center, why do so.

14 CHAIRMAN HENDRIE: Okay, let me see if ---

15 MR. WALLACE: Just one second. Let me be sure
16 I have got the basic information before (inaudible)

17 VOICE: Hello?

18 CHAIRMAN HENDRIE: We are on the line, leave it
19 clear.

20 VOICE: Okay.

21 MR. WALLACE: We have monitored so far the
22 turbine in the control room, they haven't said anything
23 about a change in the monitor's level. This is after
24 talking with them about the line up.

25 CHAIRMAN HENDRIE: Okay, let's go ahead and try

1 to get you hooked into the response center so that you
2 can be relaying information to the full organization. We
3 are well up-to-date for the moment. Okay?

4 MR. WALLACE: Yes, sir.

5 (End of that conversation.)

6 (Blank spot in the tape.)

7 (End of Tape No. 4, Side 1)

8 (Beginning of Tape No. 4, Side 2)

9 (Side No. 2 of Tape No. 4 not recorded.)

10 ~~(Beginning of Tape No. 5, Side 1)~~

11 (Phone conversation between Mr. Denton and the
12 Commissioners.)

13 MR. DENTON: (inaudible)

14 COMMISSIONER GILINSKY: Okay, Harold, I'm going
15 to have to hold for one second here, I have got to pick
16 up the phone.

17 MR. DENTON: You still there?

18 CHAIRMAN HENDRIE: Yes.

19 MR. DENTON: In looking at the amount of data
20 (inaudible) when you get back away from the plant a mile
21 or so the numbers are quite low wind speed report there
22 was vertical dispersion but no horizontal dispersion.

23 COMMISSIONER AHEARNE: That was the ARMS measuring
24 that --

25 ~~MR. DENTON: Within the last half hour. (inaudible)~~

1 ~~to get you hooked into the response center so that you~~
2 ~~can be relaying information to the full organization. We~~
3 ~~are well up-to-date for the moment. Okay?~~

4 MR. WALLACE: Yes, sir.

5 (End of that conversation.)

6 (Blank spot in the tape.)

7 (End of Tape No. 4, Side 1)

8 (Beginning of Tape No. 4, Side 2)

9 ~~(Side No. 2 of Tape No. 4 not recorded.)~~

10 (Beginning of Tape No. 5, Side 1)

11 (Phone conversation between Mr. Denton and the
12 Commissioners.)

13 MR. DENTON: (inaudible)

14 COMMISSIONER GILINSKY: Okay, Harold, I'm going
15 to have to hold for one second here, I have got to pick
16 up the phone.

17 MR. DENTON: You still there?

18 CHAIRMAN HENDRIE: Yes.

19 MR. DENTON: In looking at the amount of data
20 (inaudible) when you get back away from the plant a mile
21 or so the numbers are quite low wind speed report there
22 was vertical dispersion but no horizontal dispersion.

23 COMMISSIONER AHEARNE: That was the ARMS measuring
24 that --

25 MR. DENTON: Within the last half hour. (inaudible)

11 d

1 CHAIRMAN AHEARNE: What that half-hour-ago
2 measurement again?

3 MR. DENTON: 450 mr per hour at 600 feet measured
4 by ARMS over the plant.

5 COMMISSIONER AHEARNE: Over the plant.

6 MR. DENTON: Now, there's equal numbers over the
7 end of the island it looks like 14 mr an hour and on the
8 land on south of the island, 9 mr an hour and this other
9 number we just got -- 1-3 mr.

10 COMMISSIONER AHEARNE: Do you have a number for
11 the Chief Operations Officer for Metropolitan Edison?

12 MR. DENTON: (inaudible)

13 COMMISSIONER AHEARNE: Which do you have Lee, why
14 don't you give me a buz.

15 MR. GOSSICK: Tell the media there was an uncon-
16 trolled release of radioactive material earlier today.
17 Duration of the release appears to have been stopped. The
18 Chairman has talked with the Governor and recommended that
19 he direct people to stay indoors for the present time.

20 COMMISSIONER AHEARNE: Up to a distance of about
21 five miles.

22 MR. GOSSICK: Is that accurate, Mr. Chairman?

23 COMMISSIONER KENNEDY: That's right.

24 COMMISSIONER AHEARNE: Mr. Chairman is not here,
25 but that's accurate.

The two of us who are here say that's accurate.

115

1 MR. GOSSICK: All right, there was an uncontrolled
2 release of radioactive material earlier today, we are not
3 certain of the duration. It appears to us that it has
4 stopped.

5 COMMISSIONER KENNEDY: Don't we know that it has
6 been stopped?

7 MR. FOURCHARD: Vice President Herbuin of
8 the Company reports it has been stopped.

9 Chairman Hendrie has talked to the Governor and
10 recommended that he advise people to stay indoors up to a
11 distance of about five miles for the present time.

12 COMMISSIONER KENNEDY: Joe?

13 MR. FOUCHARD: Yes, sir.

14 COMMISSIONER KENNEDY: Do you want the Governor
15 to know we are saying that before we say it?

16 MR. FOUCHARD: (Inaudible)

17 COMMISSIONER KENNEDY: You had better find out,
18 whether the Governor wants us to say that we advised him in
19 this connection.

20 (Inaudible voices)

21 COMMISSIONER AHEARNE: Joe, you have a link to the
22 press secretary, don't you?

23 MR. FOURCHARD: If I can get into the line, yes.

24 But --

25 COMMISSIONER AHEARNE: Our concern is that we

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have advised the Governor now of what you were saying. Earlier, Collins advised the Governor's Office to evacuate and he didn't say anything about that. We are not telling him in our press release that we did advise him to have people stay indoors. If we put out anything that we advised we ought to make sure the Governor knows --

MR. FOUCHARD: Are you going to be available at this number? Let me try and see if I can --

COMMISSIONER AHEARNE: Yes.

MR. FOUCHARD: -- get through to the Governor's Office.

MR. GOSSICK: We have just lost telephone contact with the site. I assume that it is telephone problems, but -- (inaudible)

Okay, we have got communications with a trailer up there, but we have lost contact with the control room.

COMMISSIONER AHEARNE: Joe is on the site?

MR. GOSSICK: He is across the river.

MR. DENTON: We have got some other things working I need to tell you about.

COMMISSIONER AHEARNE: All right.

MR. DENTON: Forecast projecting the wind speed is picking up. N-NE direction -- there is not a lot of people out there in that direction, within the first mile its only a few 100 but maybe eventually we will be able to

10:40 AM

1 call the potential doses out there and get a better estimate
2 of (inaudible) any number this far down.

3 COMMISSIONER KENNEDY: Harold?

4 MR. DENTON: -- (inaudible) we are getting the
5 projections for the weather for the future, and we have
6 had resident populations in that and if I could get some
7 number that will allow us to corollate with reality we
8 will have a better feel for what (inaudible)

9 COMMISSIONER AHEARNE: Harold, (inaudible) jot
10 down those phone numbers.

11 MR. CASE: Here is the corporate headquarters.
12 Herbuin is the Vice President and General Manager. He is
13 on area code 215, 929--3641. Now, that is the (inaudible)
14 number. Let me give you the site number. The site number
15 is 717, 944-4041. That's J. G. Herbuin, H-E-R-B-U-I-N.
16 The chairman, do you want the number one (inaudible) he
17 is not at the site, his number is 215, 929-3601. Neither
18 one of them are around. The President of the company is
19 W. M. Crize and he is at that number that I gave you.

20 COMMISSIONER AHEARNE: Okay, thank you.

21 COMMISSIONER KENNEDY: Harold?

22 MR. CASE: This is Ed Case.

23 COMMISSIONER AHEARNE: Go ahead, Ed.

24 MR. CASE: I would just like to put in my thinking
25 that you ought to base considerations for this thing that

1 the information you will have within the next hour maybe
 2 as sketchy or less than you had the last time. The plant
 3 is in a tender state, not really knowing what they are
 4 doing and I have no confidence that they will know come
 5 the next --

6 COMMISSIONER KENNEDY: Ed, Harold is speaking of
 7 the plume standing over the plant is essentially motionless,
 8 thereforē, with little horizontal dispersion, only vertical
 9 at the moment.

10 MR. CASE: Right, at the moment.

11 COMMISSIONER KENNEDY: Right, at the moment.

12 If that situation attains for another couple of
 13 hours, then what effect will there be if the wind picks up
 14 and the plume begins to drift off?

15 MR. CASE: I'll have to ask the dose -- like
 16 a diffused point source spread out further if the wind
 17 picks up.

18 COMMISSIONER GILINSKY: Let me understand, do we
 19 get continuous reading from these helicopters or --

20 MR. CASE: No, we don't -- (inaudible) Hold on
 21 just a second.

22 The answer I get is that I wouldn't worry about
 23 this release..

24 COMMISSIONER GILINSKY: Because it's over?

25 MR. CASE: Yes.

1 COMMISSIONER GILINSKY: Why can't we get better
2 data from this helicopter. Is it aloft or not?

3 MR. CASE: I don't know. (inaudible)
4 We get it back by radio-phone.

5 COMMISSIONER GILINSKY: And they give that to whom,
6 our people on the ground?

7 MR. VOICE: Yes, to our trailer.

8 COMMISSIONER GILINSKY: And are we in touch with
9 our trailer?

10 MR. VOICE: Yes, we are in touch with our trailer.

11 COMMISSIONER GILINSKY: Now, why can't we get
12 direct readings as these guys are going around?

13 MR. VOICE: We are not talking to the airplane.
14 But are getting it from the trailer gets it faster. We
15 weed it out and then put it on a piece of paper and then
16 call it in to us --

17 COMMISSIONER GILINSKY: Well, I guess I'm asking
18 why Ed thinks we are not going to be getting this
19 information (inaudible)

20 MR. CASE: (inaudible) lost communications with
21 the control room. It's off, we don't have it.

22 COMMISSIONER GILINSKY: Let me ask you, what is
23 the status of the reactor, by the way?

24 MR. CASE: Same as it was an hour ago, I guess.

25 COMMISSIONER GILINSKY: What cooling system are
they on?

1 MR. GOSSICK: Could you also tell the Chairman
2 that we have a message going to ¹¹Herbuin to call the
3 Chairman (inaudible) he is out running around the site.
4 We have got a message in to him to call the Chairman.

5 COMMISSIONER GILINSKY: Herbuin's function is
6 what?

7 MR GOSSICK: We are sending a messenger up there
8 to Mr. Herbuin, he is probably in the control room or
9 somewhere, but anyway, we are getting a message carried to
10 him for him to call Chairman Hendrie. Just let the Chairman
11 know. He may be having trouble finding him. Okay?

12 COMMISSIONER GILINSKY: Yes.

13 MR. GOSSICK: I think we're at the point as best
14 we can and as promptly as we can, the readings sent back
15 to us, but what we are not, I guess, sure of, at the moment
16 we are cut off from the control room, is we are getting
17 back as fast up-to-date information as to what all is being
18 done by whom on the part of the utility, and our guys are
19 tied up in many ways with these activities. (garbled) We
20 are trying to get hold of Vollmer and as soon as we do,
21 we will let you know.

22 COMMISSIONER GILINSKY: Okay.

23 MR. CASE: (inaudible) an hour and a half ago or
24 something like that, they are trying to do this jury-rig
25 and (inaudible) We don't know how far they are or what
they have done.

1 COMMISSIONER GILINSKY: Do you have any idea
2 why the release took place?

3 MR. CASE: Yes.

4 COMMISSIONER GILINSKY: Would you explain that
5 to me as well as the others?

6 MR. CASE: They had a leak within the cooling
7 system in one of the pumps, and they have to replenish
8 water to the reactor coolant. The technique of replenishing
9 water, as I understand it, involves going/releasing the
10 gases from the system and releasing the gas through the
11 system through a vent tank, to a tank that is full.

12 COMMISSIONER GILINSKY: Leak gases into what
13 water?

14 MR. CASE: From the primary coolant water.

15 COMMISSIONER GILINSKY: I see. Which is leaking
16 out somewhere?

17 MR. CASE: Yes. So unless things get picked up
18 you are going to be burping in the cooling system like this
19 every couple hours.

20 COMMISSIONER GILINSKY: Now, what happens if they
21 don't get a release?

22 MR. CASE: They release themselves. The tank
23 gets overpressurized and lets go, as I understand it --
24 release valve.

25 COMMISSIONER KENNEDY: Where would it vent to if
it did release itself?

1 MR. CASE: I think this is just what happened
2 an hour ago.

3 COMMISSIONER GILINSKY: I see,
4 (End of Tape No. 5, Side No. 1)
5 (Beginning of Tape No. 5, Side No. 2.)
6 (This is a continuation with the same phone
7 conversation.)

8 COMMISSIONER GILINSKY: What is the state of the
9 core?

10 MR. CASE: Well, it is about like it was yesterday.
11 The temperature is about 280 degrees, the pressure is up
12 (inaudible)

13 COMMISSIONER GILINSKY: Are they still running
14 on this steam generator?

15 MR. CASE: Yes. We have the different temperature
16 anomalies on these different fuel elements. They are
17 slowly decreasing, but very, very slowly.

18 The current thinking is that we cannot stay up
19 in mode very long. We have asked (inaudible) to get down
20 to another mode, and the argument is going to be between
21 going to the RHR system and we are not sure what will happen
22 when we do that, because of the gas bubble, how that might
23 effect it. Or going directly to the ECCS system and opening
24 a relief valve atop the pressure system and blow it down.

25 COMMISSIONER KENNEDY: And what would the effect
of that be?

1 MR. CASE: Well, the concern is that you have got
2 a very damaged core, and it is going to be subjected to a
3 lot of forces hydraulically.

4 COMMISSIONER KENNEDY: And you don't know what
5 that's going to do to the rest of those elements?

6 MR. CASE: That's right.

7 COMMISSIONER GILINSKY: Let's see, why are the
8 forces greater if you switch over to another cooling mode?

9 MR. CASE: Because you open the relief valve
10 and you just pour all the water you can in there.

11 COMMISSIONER BRADFORD: (Inaudible)

12 MR. CASE: -- Now, one of the problems is to
13 what degree could you control that mode? It is not designed
14 to be controlled, it is designed to be full out.

15 The core is in a mode that this is just not
16 designed for.

17 COMMISSIONER GILINSKY: (Inaudible)

18 COMMISSIONER AHEARNE: Wait a minute, Ed, Joe
19 has come in (Referring to Chairman Hendrie.)

20 CHAIRMAN HENDRIE: Yes. Ed, is Harold there?

21 MR. CASE: He's around here some place, Joe, shall
22 I get him?

23 CHAIRMAN HENDRIE: Yes.

24 Ed, while he is coming back -- Hello?

25 MR. CASE: He's coming.

1 CHAIRMAN HENDRIE: Okay, I was trying to get
2 Case and Denton on the other end.

3 MR. CASE: Just a second.

4 CHAIRMAN HENDRIE: I think the communications
5 will improve in a moment. We are about to get the White
6 House so we can to anywhere and talk to anywhere.

7 Harold?

8 MR. DENTON: I'm here.

9 CHAIRMAN HENDRIE: This is the Chairman again.
10 The President just called over, I think you

11 had better do down to the site. He'd like to see a senior
12 officer and I think you are it.

13 MR. DENTON: What? We got a squeal the moment you
14 started.

15 CHAIRMAN HENDRIE: Okay, I have talked to the
16 President and I think you ought to do down to the site.
17 He will be sending down, immediately, a sort of communica-
18 tions system that he takes with him when he travels. He
19 will send somebody with it and he wants to be in a
20 position to pick up the telephone and go right through to
21 the site, and be able to talk to his man down there for
22 information and recommendations on what to do.

23 We will also be able to patch into that from
24 here to the White House operator, so maybe our communication
25 with the site will improve.

*Interview 10:47
11:03
Chairman
M...
off
Ch...*

1 MR. DENTON: (Inaudible)

2 CHAIRMAN HENDRIE: I don't know.

3 COMMISSIONER KENNEDY: The President said
4 (inaudible)

5 MR. GOSSICK: There are some congressmen out
6 there right now -- (inaudible)

7 VOICE: We know the people to call at the Pentagon
8 to get you a chopper.

9 CHAIRMAN HENDRIE: Why don't we see if we can
10 get you a chopper.

11 MR. GOSSICK: Joe, do you want me to go up with
12 Harold?

13 CHAIRMAN HENDRIE: It probably wouldn't hurt.
14 I don't know that the response center is a very satisfactory
15 place.

16 MR. DENTON: Vollmer, he needs alternates or
17 backups (inaudible)

18 CHAIRMAN HENDRIE: Okay, why don't you try to
19 gather up a party and we will work from here on getting
20 the transportation.

21 MR. DENTON: (Inaudible)

22 CHAIRMAN HENDRIE: Harold, hang on a second.

23 Now, would it be best if we put Dorie working
24 on that with the Pentagon or do you have contacts over
25 there or --

51

1 MR. DENTON: You would probably do just as well.
2 We will get everybody rounded up down here if we can get
3 a location to be at.

4 CHAIRMAN HENDRIE: Okay, Bill, where will they
5 probably want them?

6 MR. DORIE: Probably the pad at the Pentagon.

7 CHAIRMAN HENDRIE: Probably the pad at the
8 Pentagon.

9 COMMISSIONER KENNEDY: You ought to get an
10 airplane. An airplane would be better than a helicopter.
11 An airplane would get there a hell of a lot faster and carry
12 a lot more people.

13 CHAIRMAN HENDRIE: Well, let me check with them.

14 Okay, if it is a helicopter it will be at the
15 Pentagon helicopter pad, and if it is an airplane, we'll
16 let you know. why --

17 MR. DENTON: (Inaudible)

18 MR. GOSSICK: If it is a helicopter, there is
19 a helicopter pad right there at the Navy in Bethesda.

20 CHAIRMAN HENDRIE: Okay, let us work at that.

21 (Pause while they locate Mr. Dorie.)

22 (Commencement of another phone conversation
23 between Commission and Mr. Mattson.)

24 CHAIRMAN HENDRIE: Roger!

25 MR. MATTSON: I've got Ed on the other line.
Go ahead.

*12:37 is time
response by 109
12:40
MATTSON*

1 CHAIRMAN HENDRIE: Okay, now tell me about this
2 transfer.

3 MR. MATTSON: Okay, they are apparently stable at
4 the moment at 1,000 pounds, a little over, 280 degrees
5 inlet temperature. The thermo-couples are --

6 CHAIRMAN HENDRIE: Is the outlet showing the
7 same?

8 MR. MATTSON: We have no outlet measurements
9 and we have not had them for two days. All we have got
10 is outlet thermo-couples above the core, 52 of them, minus
11 two that are off scale.

12 CHAIRMAN HENDRIE: Yes.

13 MR. MATTSON: Now, these are the things that
14 I was telling you, I meant, were kind of going all over the
15 place, but in the last 12 hours, they have appeared to
16 stabilize and we can say that every thermo-couple that
17 is measured, and that is 50 out of 52, is now coming
18 down or stationary. There is one that was continuing to go
19 up until about 6 hours ago and neared the cutoff point
20 from the process computer, and suddenly it began to turn
21 around again. That is still the hottest assembly for which
22 we have a measurement. It shows that the temperature
23 being measured by that thermo-couple, and we are tending
24 to believe these thermo-couples, is 100 degrees above
25 desaturation.

5 2

1 CHAIRMAN HENDRIE: That's the top one?

2 MR. MATTSON: Pardon me?

3 CHAIRMAN HENDRIE: That's the top one?

4 MR. MATTSON: That's the top one.

5 CHAIRMAN HENDRIE: That's the maximum reading.

6 MR. MATTSON: That's the maximum.

7 CHAIRMAN HENDRIE: Now, what about the other
8 two that are off-scale. Have there been any --

9 MR. MATTSON: The request for the plant to try to
10 take potentiometry readings on those thermo-couples, it
11 is a request that has been outstanding for -- I don't
12 know -- 15 hours and we don't hear anything.

13 CHAIRMAN HENDRIE: Well, they seem to be pretty
14 busy.

15 MR. MATTSON: There is a problem incidentally
16 in tracing the damned things to the back panel and they
17 can't find them. So there are people busy doing other
18 things and they are not getting it done.

19 Now, that's the only assembly, at the moment,
20 that is above saturation. There have been some others,
21 but they are down. There have been maybe five others
22 that are rewbed in the course of the last 12 hours
23 and have come down.

24 Now, these thermo-couples all but one, seemed
25 to be stable. They are not erratic thermo-couples. There
are some temperatures we can generally explain, the

1 periphery of the core is cool, it is about the same
2 temperature as the -- inlet temperature of the coolant.
3 It has got a 10 degree Delta T which says they are being
4 cooled.

5 There are about 57 assemblies, in roughly the
6 center of the core, that demonstrate these higher
7 temperatures. Some of them having, oh, 150-160 degree
8 Delta T, yet still all within saturation. There are two
9 assemblies that are hanging in right at saturation. So
10 there is probably boiling going on in those assemblies.

11 Now, B&W and we have both concluded, some hours
12 ago, now, -- I don't know, sometime close after midnight,
13 that we have extensive damage to this core. That
14 corroborates with the releases we are seeing, which are
15 TID and maybe even worse, as I understand it from the
16 radiation people.

17 My bestguess is that the core uncovered, stayed
18 uncovered for a long period of time, we saw failure
19 modes, the likes of which has never been analyzed.
20 It isn't like a LOCA. Some kind of swelling, rupture,
21 oxidation near the top of the quarter center of the
22 assembly.

23 We just learned -- I don't know -- three hours
24 ago, that on the afternoon of the first day, some 10
25 hours into the transient, there was a 28 pound containment

1 pressure spike. We are guessing that may have been a
2 hydrogen explosion. They, for some reason, never reported
3 it here until this morning. That would have given us
4 a clue hours ago that the thermo-couples were right and
5 we had a partially disassembled core.

6 As long as they stay where they are at right
7 now, they have demonstrated for 24 hours or more that
8 they can control these temperatures and they are generally
9 tending downward. It is fair to say that the condition
10 of the core is stable to improving from the heat transfer
11 standpoint. But it is also fair to say it is still dynamic.
12 There are still changes going on in there with an otherwise
13 stable system. There are still inter-assembly flow changes
14 of some sort.

15 Okay, the problem: How do we get down? The
16 best estimate by the operating staff is, their engineers,
17 and we have done the same calculations, a simple
18 calculation, P_1, V_1 equal P_2, V_2 . You take a couple pressures
19 and volumes and combine them with a couple of other
20 pressures and volumes and you calculate the volume of the
21 bubble that is in that vessel, within 30 percent using
22 two data points and that's all. It is on the order of
23 1,000 cubic feet. The only way that we can explain that
24 is that it is mostly hydrogen, and of course, the helium
25 fill gas, and the hydrogen probably generated from

1 radiolytic decomposition, which would be very small
2 and the only way we can explain that size of bubble
3 would be a considerable amount of water reaction. They
4 can't get rid of the bubble. They have tried cycling and
5 pressurizing and depressurizing. They tried natural
6 convection a couple days ago, they have been on forced(?)
7 circulation, they have steamed out the pressurizer, they
8 have liquided-out the pressurizer, the bubble stays. It
9 probably isn't glowing, but it is hard to say. It
10 would glow a little from radiolytic decomposition, but
11 would guess it is the metal-water reaction because there
12 is so much water in good flow in the core and it is still
13 an open-lattice core, even if it has got blocking, there
14 probably is not metal-water reaction, but that's probably
15 because there is a dynamic situation in the core.

16 CHAIRMAN HENDRIE: Whereabouts is the bubble?

17 MR. MATTSON: The bubble is in the upper head.
18 The upper head volume at 1128 cubic feet as best we can
19 tell. The estimate of the gas in that volume now is
20 1,000 cubic feet, best that we can tell. That is at
21 1,000 psi.

22 If you take the plant to 200 psi, then --

23 CHAIRMAN HENDRIE: Yes, you are going to blow
24 right down and empty the core.

25 MR. MATTSON: That bubble will be 5,000 cubic

1 feet. The available volume in the upper head and the
2 candy canes, that's the hot legs, is on the order of 2,000
3 cubic feet total. I get 3,000 excess cubic feet of non-
4 condensibles. I've got a horse race. I'm putting in
5 high head, and if I get down in pressure, low head and
6 coolant, it is coming in the cold leg, it is going down
7 to the lower plenum, it is coming up through the core, it
8 is splashing and it runs into the noncondensibles, I've
9 got a core partially full or maybe totally full of non-
10 condensibles. The noncondensibles will be trying to get
11 out of the pressurizer by that time, and the pressurizer
12 has got a two inch hole in it. That's all you can open.
13 Plus the adiabatic heat up rate is about three degrees
14 "F" per second at this decay level.

15 We have got every systems engineer we can find,
16 except the ones we put on the helicopter, thinking the
17 problem, how the hell do we get the noncondensibles out
18 of --

19 (End of Tape No. 5, Side 2.)

20 ~~(Beginning of Tape No. 6, Side No. 1)~~

21 (This tape begins the same as the commence of
22 the conversation between the Commission and Mr. Mattson,
23 page 50, line 24.)

24 MR. MATTSON: -- there, do we win the horse
25 ~~race or do we lose the horse race. And if you are lucky~~

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19 (End of Tape No. 5, Side 2.)

20 (Beginning of Tape No. 6, Side No. 1)

21 (This tape begins the same as the commence of
22 the conversation between the Commission and Mr. Mattson,
23 as Tape 5, Side 2.)

24 MR. MATTSON: -- there, do we win the horse
25 race or do we lose the horse race. And if you are lucky

C 4

1 and there is not a lot of -- you have overestimated the
2 noncondensibles, you might win it. If you are not lucky
3 and you have got the right number on the noncondensibles,
4 you might loose it.

5 CHAIRMAN HENDRIE: Suppose we try.

6 MR. MATTSON: You've got preferential flow in
7 the core, you would probably get the water up the
8 peripheral bundles where you don't need it, and the
9 noncondensibles would penetrate the center is where you
10 need the water.

11 CHAIRMAN HENDRIE: Is there any estimate of what
12 evolution rates there are into the bubble?

13 MR. MATTSON: No, that's what I was saying
14 a minute ago. The best guess would be that there is not
15 metal-water reaction going on now because there is a lot of
16 cold water in there. So it is only radiolitic decomposition
17 and it shouldn't be that high.

18 Now, eventually the bubble is going to grow,
19 but you have got some time to think about it. Now, the
20 plant's difficulty, we were told about an hour ago that the
21 plant was on the verge of going to a depressurization,
22 their problem is that there they go water solid because
23 they lose letdown. Our guess is they have got debris,
24 it is in the letdown line and we can't get letdown out.

25 If they go water solid, when they go water

1 solid they get the leakage out of the auxillary building --

2 CHAIRMAN HENDRIE: Where does that leakage come
3 from:

4 MR. MATTSON: I think it's (inaudible)

5 CHAIRMAN HENDRIE: I see, and they are way below--
6 have they got control on relief valves on the pressurizer,
7 can they vent the pressurizer, go liquid solid, then
8 vent the pressurizer, just let it dribble?

9 MR. MATTSON: One two inch power(?) operated
10 relief valve.

11 CHAIRMAN HENDRIE: But is that a feasible mode,
12 to relieve that way rather than --

13 MR. MATTSON: The letdown?

14 CHAIRMAN HENDRIE: Yes.

15 MR. MATTSON: Well, it wasn't feasible until
16 they got this line hooked up, which now they are cycling this
17 radioactive release that was going burping out the stack,
18 which has caused little burps.

19 CHAIRMAN HENDRIE: Yes.

20 MR. MATTSON: They have now hooked up a fire
21 hose, I think and they don't know -- the place that that
22 bump occurs, right back into the containment. We are
23 told that they are going to have that within the hour
24 fully secured and operative.

25 In the meantime, I think I understand it, they

1 are putting in a piping system in case they lose the
2 hose.

3 CHAIRMA HENDRIE: Yes.

4 MR. MATTSON: Now, that means that they must
5 not be on the verge, right now, having to cool down. They
6 thought they could get into a better situation by
7 cooling down, they gave up the options they were con-
8 sidering we said about trying to figure whether the
9 letdown was good or bad. At this point, I think the
10 consensus is the get-down is probably much worse than where
11 we are at now if we can stay there. If they can find a
12 better way of getting down, I think they will sort of stay
13 there as long as they are not dosing the people.

14 And if you decide that you are going to come
15 down, if we don't know any more than we know right now,
16 I think you are going to move them, because I think you
17 are going to lose the horse race.

18 And as soon as you make that decision to come
19 down, I think, you know, we have got the best you got,
20 Joe, and they are not coming up with answers. We have
21 got the Navy working, we've got Calvert Cliffs working
22 who had a similar problem, only without the bubble. B&W
23 in constant communication with GPU decision makers at this
24 point. We don't have a solution, but maybe they are
25 coming up with one. They are going to double-check and

1 whatever they decide, and as soon as they get off the
 2 phone, they will be back to check with our people, but
 3 we haven't found one here yet. The one the plant proposes
 4 is they say, please verify this for us. So it seems like
 5 they are not confident either.

6 CHAIRMAN HENDRIE: It sounds to me like we ought
 7 to say where we are. I don't like the sound of
 8 depressurizing and letting that bubble creep down
 9 into the core.

10 MR. MATTSON: Not yet. I don't think we
 11 want to depressurize yet.

12 The latest burst didn't hurt many people.
 13 I'm not sure why you are not moving people. Got to
 14 say it. I have been saying it down here. I don't know
 15 what we are protecting at this point. I think we ought
 16 to be moving people.

17 (Note: This is the end of the transcription
 18 on tape No. 6, Side 1, ^{Tape 6, 1 side only} as this is covered on Tape No. 7.)
 19 (~~Beginning Tape No. 7, one side only.~~)

19 COMMISSIONER KENNEDY: How far out?

20 CHAIRMAN HENDRIE: How far out?

21 MR. MATTSON: I would get them down-wind, and
 22 unfortunately the wind is still meandering, but at these
 23 dose levels that is probably not bad because it is (inaudible)

24 COMMISSIONER KENNEDY: But down-wind how far?

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1 whatever they decide, and as soon as they get off the
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 22 unfortunately the wind is still meandering, but at these
 23 dose levels that is probably not bad because it is (inaudi

24 COMMISSIONER KENNEDY: But down-wind how far?

25 MR. MATTSON: I might add, you aren't going to

1 kill any people out to 10 miles. There aren't that many
2 people and these people have bnn -- they have had two
3 days to get ready and prepare.

4 COMMISSIONER KENNEDY: Ten miles is Harrisburg.

5 MR. MATTSON: 40,000 (inaudible) five miles.

6 CHAIRMAN HENDRIE: Yes.

7 I don't know, Roger, you --

8 MR. MATTSON: It's too little information too
9 late unfortunately, and it is the same way every partial
10 core melt-down has gone. People haven't believed the
11 instrumentation as they went along. It took us until
12 midnight last night to convince anybody that those God-damn
13 temperature measurements meant something. By 4:00 o'clock
14 this morning, B&W agreed.

15 CHAIRMAN HENDRIE: Okay, get back on the phone
16 with them and if you will keep us posted as you go along.

17 MR. MATTSON: Yes, sir.

18 MR. GOSSICK: Mr. Chairman, Gossick, Victor
19 called out here and directed us to set up a bull-p^lin for
20 the press in the building so they can be kept advised,
21 face to face, as opposed to all the phone calls.

22 CHAIRMAN HENDIRE: Yes.

23 MR. GOSSICK: We are intending to do that.

24 CHAIRMAN HENDRIE: Okay, I think on balance that's
25 a good idea. Now, that's going to be out at your place?

1 MR. GOSSICK: We are arranging for the arrival
2 of Harold and all the people up there with cars and a
3 trailer. I guess (inaudible)

4 We need to get something out, I think, in the
5 way of a statement or release. Frank Ingram is sitting
6 here working on it. I think the question is, do you want
7 to make a statement down there with some of our people
8 present, or how do you want to handle it? Anyway, would
9 you think about that one?

10 CHAIRMAN HENDRIE: Yes.

11 MR. GOSSICK: (inaudible) inquiries, and I'm
12 sure you are down there, and I think a statement from NRC
13 is necessary.

14 Carl is out here and I have asked him to prepare
15 a statement, to try to keep the Congress informed. Of
16 course, they all want to talk in detail to everybody, and
17 I told them they are going to have to cut them off, make
18 it brief, say this is generally the situation as things
19 are moving so fast we just can't -- there are so many
20 people to inform, we just can't spend an hour filling them
21 in on details. Okay?

22 CHAIRMAN HENDRIE: Yes, right.

23 COMMISSIONER KENNEDY: (Inaudible)

24 CHAIRMAN HENDRIE: (inaudible) _____ loaded
25 system rather than a liquid solid vessle, et. cetera,

1 they think they've got a good chunk of non-condensable
2 bubble in that vessel, why you don't want to change pressure,
3 you don't want to drop the pressure, so there' is no where
4 to go.

5 COMMISSIONER KENNEDY: What option for getting
6 rid of the bubble?

7 CHAIRMAN HENDRIE: I don't know what's on the
8 head of that vessel, but I suspect -- I don't know whether --
9 There ought to be some control rod drives on the head of
10 that vessel. (Inaudible) get it out of the vessel.

11 COMMISSIONER KENNEDY: Take a chance of having
12 an explosion.

13 CHAIRMAN HENDRIE: (Inaudible)
14 could have been (inaudible)

15 COMMISSIONER KENNEDY: (Inaudible)

16 CHAIRMAN HENDRIE: You can calculate the
17
18
19
20
21
22
23
24
25

1 energy (inaudible)

2 COMM. KENNEDY: Is there a big possibility of damaging the

3 core (inaudible)

4 COMM. BRADFORD: (inaudible)

5 CHAIRMAN HENDRIE: (inaudible)

6 COMM. BRADFORD: (inaudible)

7 CHAIRMAN HENDRIE: First of all, an explosion is not a

8 guaranteed (inaudible) and it may or it may not be enough hydrogen to

9 get you to a flammable mixture in the containment unless it is trapped

10 in a small volume.

11 COMM. BRADFORD: (inaudible)

12 (Inaudible conversations.)

13 CHAIRMAN HENDRIE: Well, the problem is not that we are facing

14 a hydrogen concentration in the containment, the problem is that we

15 can't figure out how to get the hydrogen up there so we can face that

16 problem. That sounds peculiar, but the main --

17 COMM. KENNEDY: The problem is how to get it out of the core.

18 CHAIRMAN HENDRIE: The main problem is --

19 COMM. BRADFORD: (inaudible)

20 CHAIRMAN HENDRIE: Well, it appears to me (inaudible) Roger

21 said they were hooking up a hose to go over to a piping system so that

22 one could continue this cycle of periodically letting down the primary

23 for some time. What he means is that while he is saying we

24 could stay in this situation until apparently it gets stabilized, there

25 has also been some core damage which is considerably more extensive

1:00 P.M.

Containment
R

1 than (indicated) yesterday. He's very concerned about those thermo-
 2 couples that are showing above saturation, apparently, (inaudible).
 3 You can't get there unless you are steaming hard enough so that thermo-
 4 couple is in a steam atmosphere in which the steam has (inaudible).

5 COMM. BRADFORD: (inaudible)

6 CHAIRMAN HENDRIE: (inaudible) halfway measures and we are
 7 looking at (inaudible).

8 COMM. AHEARNE: What kind of a worst case situation do you see

9 CHAIRMAN HENDRIE: (inaudible)

10 COMM. AHEARNE: Roger honestly feels (inaudible) if the bubble
 11 comes down (inaudible) let-down (inaudible)

12 (The tape is inaudible for some distance)

13 CHAIRMAN HENDRIE: (inaudible) Roger kept saying, look,
 14 there is enough damage in that core (inaudible) and it's always a
 15 possibility.

16 (End of Tape 7. Tape 7 recorded on one side only.)

17 (Tape 8, Side 1)

18 (Phone conversation between the Commission and Dr. Mattson)
 19 (March 30, 1979 - date on tape is unclear.)

20 DR. MATTSON: So what you have got, in the sequence you would
 21 lose the reactor coolant pump, because you wouldn't have any water to
 22 pull in it any more, you would only have gas. So they would go out,
 23 you would probably turn them out. You would be putting in high
 24 pressure injection to start and then as the pressure came down cold --
 25 sorry, can't talk straight any more -- you would putting in the low

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 22 pull in it any more, you would only have gas. So they would go out,
 23 you would probably turn them out. You would be putting in high
 24 pressure injection to start and then as the pressure came down cold --
 25 sorry, can't talk straight any more -- you would putting in the low

1 (load) head injection as the pressure came down. The cold water would
2 be coming down the cold leg into the lower plenum up through the core
3 and there would be a pressure balance somewhere. And as the water
4 stagnated because it was being held up by the swelling hydrogen bubble,
5 a portion of the core would be cooled and a portion would not be cooled.

6 People are arguing, but that is the situation we are in and we
7 are apparently stable for up to 15 hours, which caused the core damage
8 that we have already got. If we lived with it for 15 hours, why can't
9 we live with it for a little bit longer?

10 So the horse race you got, at this point, the hydrogen would
11 be all that would be going out the two-inch power operated relief valve
12 on the pressurizer and a 2-inch wide isn't very big. It would take a lot
13 of time to pass a lot of gas through a two-inch line.

14 They are working on some alternates. One, we thought of and
15 one that B&W kind of likes, but it doesn't have a lot of promise. B&W,
16 start up all reactor coolant pumps, burn them out, blow the seals, and
17 hope they cause a loss of coolant accident that way, which would
18 depressurize the system rapidly. Then we get into a mode for which all
19 of these systems were designed and we could cope with.

20 Unfortunately, you know, we teach these guys to make
21 conservative assumptions on how those seals blow when we do calculations
22 on them, I'm afraid they are thinking of those conservative assumptions
23 and in all likelihood the seals would not have a lot of vent capability
24 when they blew. They would be small. And all of our materials and
25 assurance mechanics people agree with that. We are very conservative

1 for what we estimate for the LOCA.

2 A possibility we just thought of about an hour ago and B&W
3 is working on it now is that you take -- see, the recirc system, the
4 normal decay heat removal system comes out of one of the hot legs,
5 the 14-inch line. You could open that line, not burn any pumps on and
6 valve the line, we think for the control room, valve the line into the
7 core spray system and return the gas to the containment through the
8 containment spray nozzles up at the top of the dome.

9 Now, if that works, then we may have found a way to remove
10 the bubble and to do either a fast or a slow blowdown. You have the
11 option then, depending on how the analyses that are being run on the
12 computers now tell you is the best way to bring this core down. We are
13 still doing analyses with what we now understand the conditions, to see
14 if we can try to estimate with the codes, what the condition of the core
15 really is. It is a failure mode that has never been studied. It is
16 just unbelievable.

17 COMM. GILINSKY: Let me ask you something which I may have
18 missed today.

19 How long do we think the core was uncovered? When did that
20 take place?

21 DR. MATTSON: Now, unfortunately, the front-end information
22 for us here is very sketchy and it is impossible for us to go back and
23 get it, because you just can't detract those people from what they are
24 doing now.

25 So we are guessing on the first four hours, roughly. But

1 if we are guessing right, it may have been uncovered for as long as
2 15 hours.

3 COMM. GILINSKY: On the first day?

4 DR. MATTSON: Pardon me?

5 COMM. GILINSKY: On the first day?

6 DR. MATTSON: Yes, from the first day, early after the
7 transient when the SIS was turned off, up until the reactor coolant
8 pump flow was reestablished when B&W finally got through to the control
9 room.

10 COMM. GILINSKY: And presumably if you had all this metal-water
11 reaction, you must have been up to something like 2,000 degrees, is that
12 right?

13 DR. MATTSON: We are estimating now that we probably melted
14 some fuel. We are estimating. I don't know what I would say if a
15 reporter called me and asked me if we melted fuel.

16 There are some things going on that we can't explain unless
17 we did. We have driven out, by most estimates now, more than the TID
18 assumption. It is a severely damaged core.

19 VOICE: What's TID?

20 COMM. GILINSKY: What is TID?

21 DR. MATTSON: The dose assumption in the Part 100 citing
22 review. TID 14844. Actually, it has been replaced by a couple of
23 Reg Guides and everybody knows it is the TID assumptions which is
24 25 percent of the total inventory of the fission products.

25 COMM. GILINSKY: That's for what, design basis accidents?

1 DR. MATTSON: Yes, sir.

2 COMM. GILINSKY: So we have exceeded that?

3 DR. MATTSON: We are working from very sketchy information,
4 Vic, so --

5 COMM. GILINSKY: But it is comparable.

6 DR. MATTSON: But it is comparable. The stuff was flow to
7 Bettis, God, hours ago and we don't have the from the spectroscopic
8 analysis at Bettis, but we are guessing there is uranium in it. It is
9 the only sample that has been made of the primary coolant system. It
10 was made last night, they diluted it last night and then flew it to
11 Bettis. And these analyses take like 24 hours and we haven't heard
12 anything yet.

13 COMM. GILINSKY: Can you estimate anything with the amount
14 of hydrogen there?

15 DR. MATTSON: Well, we have got a problem there. The thing
16 that really tripped, you know, Vic Stello was involved for the first
17 two days over here and was trying to convince people to start thinking
18 a severely damaged core. He had a hunch at the start, and when the
19 temperature measurements started to go in there was some anomalies
20 in them. He said start thinking severely damaged core. Believe the
21 instruments. We had some trouble getting people to believe it, not
22 necessarily inside, because our people turned to and started working
23 pretty hard on that aspect.

24 We had some trouble with B&W wanting to believe it. Finally,
25 they began to believe it about midnight last night, and by 4:00 o'clock

1 this morning they were agreeing with us. I think the thing that
2 tripped them was this sample of hot coolant having this 1000 R at
3 contact.

4 Then a second thing happened this morning, I don't know, it
5 must have been mid-morning, 9:00 - 10:00 o'clock. Just in the midst
6 of taking some temperature data from the I&E guy, he says, you know, I
7 have just heard in the control room that a guy was reading the script
8 chart recorder and says he's got a funny blip in the containment that
9 nobody saw before, 28 psi pressure blip in the containment at 1350
10 hours Wednesday.

11 COMM. GILINSKY: And we have just found out about that now?

12 DR. MATTSON: We just found out about it, maybe it escaped
13 everybody's notice, because you know, they were sitting there with some
14 super-heated steam coming out the top of the core, they were just then
15 deciding they had an uncovered core, and they were just then getting
16 instructions on how to get it fixed. So they may not have even noticed
17 it. But that's possibly a hydrogen explosion.

18 COMM. GILINSKY: That would be the hydrogen that leaked out
19 of the system, out of the primary system?

20 DR. MATTSON: That's right. And that would be the source of
21 this bubble.

22 The only thing that could explain this bubble is metal-water
23 reaction. We just ran a calculation on that and it looks like
24 Val Pedisco, he said 10 to 30 percent -- he used a couple of assumptions --
25 I guess I can't remember -- either 10 or 30 percent water reaction

1 would explain the 1500 cubic feet of hydrogen that is there now,
2 1000 psi, but if there was a hydrogen explosion in addition to that, there
3 could have been a lot more.

4 COMM. GILINSKY: Let me ask you may original question which is,
5 what sort of time scale (inaudible) and what should we be concerned
6 about?

7 DR. MATTSON: Yes, we were asking ourselves that question.
8 Where we are at now, we are convinced we can stay there
9 indefinitely, because the generation rate of hydrogen is apparently
10 small, and we have got some margin left, indefinitely, I'm sorry,
11 that's too strong. We can stay there on the order of days, I guess
12 if it were 5 days, I would say that's getting a little long. If it
13 were two days, I'd say yes.

14 COMM. GILINSKY: Is it vulnerable to something failing, say
15 a steam generator?

16 DR. MATTSON: Prior to the start (inaudible) that is
17 getting to be a real question. If you weren't on the verge of driving
18 this bubble into the hot leg.

19 Now, we have got early warning signals that tell us when
20 that happens. The first early warning signal would probably be
21 malperformance of the pump that is running. It would start to draw a
22 lot of gas and it would cavitate, vibrate the vibration monitors on
23 the pumps that are working.

24 COMM. GILINSKY: How long would that give you?

25 DR. MATTSON: That would tell you you needed to go to either

1 a fast or slow blowdown situation. And you would have hours until you
2 were generating fission products in a core-melt kind of situation through
3 the containment.

4 COMM. GILINSKY: Let me ask you -- well, let me take you off.

5 DR. MATTSON: There was one more thing I was going to say.
6 These thermocouples, which is the best thing we have got going for us,
7 would also show a blanketing effect from the gas coming down,
8 penetrating from the upper plenum down into the core. So that would
9 be another early warning signal. That would tell you, no matter how
10 good your procedures are, go with them. Go with your best guess and
11 blow the system down. Either fast or slow, whichever judgment you made
12 at that moment. And people are coupled together ready to make that
13 decision right now. And there are pros and cons both ways and somebody
14 is going to have to call it.

15 COMM. GILINSKY: Listen, what are the dangers of further
16 hydrogen explosions to bubble through or whatever?

17 DR. MATTSON: Well, they have got a recombiner and so if you
18 know that it is going on, and at a rate--you see, now they don't even
19 think it is getting to containment. What we would like to do is get to
20 containment, then we burn it. They have got to recombine or they can
21 burn it and control it from exploding.

22 COMM. GILINSKY: Okay, what if you decide to go with one of
23 these maneuvers, not either if you are forced to by degradation, but
24 deciding that how we want to move the reactor.

25 DR. MATTSON: If I would rather go with one of these maneuvers

1 right now, I would want you to move people as far as you felt
2 comfortable moving them.

3 COMM. GILINSKY: And --

4 DR. MATTSON: I must say to you, I have been recommending
5 move people since about four hours ago.

6 COMM. GILINSKY: Okay, now that's the next question I want
7 to ask.

8 What sort of evacuation plans are there, in other words, if
9 someone decides to move right now, are there plans?

10 DR. MATTSON: Oh, yes. The people would begin to move.
11 The word I had is that some people have moved, that there were children
12 and pregnant women who had been moved.

13 COMM. GILINSKY: Is John Davis there?

14 DR. MATTSON: Not right here at the moment.

15 COMM. GILINSKY: Could you scare him up, please?

16 DR. MATTSON: Yes.

17 I may have faulty information, but I only overhear scratches
18 of what went on (inaudible) and I'm trying to work this other problem.

19 COMM. GILINSKY: Presumably, the evacuation plans are state
20 plans?

21 DR. MATTSON: Yes, sir.

22 COMM. GILINSKY: We will get to Davis on that, but why don't
23 let me ask you: What is your principal concern right at this minute?

24 DR. MATTSON: Well, my principal concern is that we have got
25 an accident that we have never been designed to accommodate, and it's,

1 in the best estimate, deteriorating slowly, and the most pessimistic
2 estimate it is on the threshold of turning bad. And I don't have a
3 reason for not moving people. I don't know what you are protecting
4 by not moving people.

5 John, I said that I thought children and pregnant women had
6 been moved in some sectors, is that true or false, to the best of your
7 knowledge?

8 COMM. GILINSKY: Is that John?

9 DR. MATTSON: It is our understanding that the Governor
10 recommended the moving of pregnant women and children in some sectors,
11 out to five miles. All around? --

12 COMM. GILINSKY: Well, we recommended that earlier, but on
13 the basis of a different problem.

14 DR. MATTSON: Yes. You were recommending it on the first
15 problem.

16 COMM. GILINSKY: That's right.

17 DR. MATTSON: And hopefully that's under control, but I --

18 COMM. GILINSKY: The Chairman is going to be back here pretty
19 soon and we are going to figure out what we are going to do.

20 DR. MATTSON: Yes.

21 COMM. GILINSKY: But if John Davis is there, I would like to
22 go over the evacuation.

23 DR. MATTSON: Okay, let me try to find him again, he walked
24 out.

25 Vic, the hydrogen explosion is a guess at this point, you know,

1 we got it by about third-hand and it would go along with significant
2 metal-water reaction. It would also go along with the failure of some
3 instruments that afternoon, and some equipment failures. (inaudible)
4 -- that you would expect if there were explosions how that would go.

5 COMM. GILINSKY: Why didn't the recombiners work on that?

6 DR. MATTSON: I haven't asked that question. That's a good
7 question. I don't know whether they are automatic for this kind of thing,
8 or whether they are only automatic for a loss of coolant accident.

9 COMM. GILINSKY: Is Davis getting scared up?

10 COMM. AHEARNE: (inaudible) -- how much time (inaudible)

11 COMM. GILINSKY: All right, while you are trying to get Davis,
12 let me ask you again, suppose we go into this maneuver or one of them,
13 and it turns bad, what sort of time-scales are involved there?

14 DR. MATTSON: Hours.

15 COMM. GILINSKY: Hours before what?

16 DR. MATTSON: Before you had a core melt.

17 COMM. GILINSKY: Before you had a core melt?

18 DR. MATTSON: If you lost it and had a core melt, it would
19 be hours before the core was slumping.

20 COMM. GILINSKY: Are there intermediate --

21 DR. MATTSON: -- and you would go to things like WASH 1400
22 to tell you how long you had, depending on what you thought the
23 conditions were.

24 COMM. GILINSKY: So, okay, but when it went bad, you are
25 saying it takes hours for the core itself to slump internally?

1 DR. MATTSON: No, I'm extrapolating that from a judgment from
2 the fact that the thing sat there for 15 hours and didn't slump already.

3 COMM. GILINSKY: Now, it would take some further time, what,
4 another half hour for something to go through the vessel?

5 DR. MATTSON: Right.

6 And you wouldn't lose, here, your capability to put water
7 in if it were available. One thing we have got is the capability to
8 put water in, but we don't have the capability to deliver it to the core,
9 if we lost. If that bubble expands and blankets the core.

10 COMM. GILINSKY: So, okay and --

11 DR. MATTSON: John is here. Can I give you to him?

12 COMM. GILINSKY: Yes, please.

13 MR. DAVIS: Hello.

14 COMM. GILINSKY: John, what is the status of evaluation
15 plans in this area? I presume these are state plans. Suppose one did
16 say right now that we ought to execute evacuation. Are there plans
17 that would be put into effect or what would happen?

18 MR. DAVIS: The evacuation is, as we understand it under the
19 control of the state.

20 COMM. GILINSKY: Sure, but do you know what plans they might
21 be exercising or is it sort of everyone on his own, jumping into his
22 car and clogging the highways?

23 MR. DAVIS: I will get the (inaudible) Just a minute.

24 We have copies of the plan here.

25 (End of Side 1, Tape No. 8)

(Beginning of Side 2, Tape No. 8)

1 COMM. KENNEDY: I don't think we ought to do anything like that
2 until the Chairman comes back.

3 First of all, the minute you do that, the press is going to
4 read that as a signal of a decision.

5 COMM. GILINSKY: Well, I tell you, Dick, I think they ought
6 to know --

7 COMM. KENNEDY: -- until we decide to do it.

8 COMM. GILINSKY: Well, it seems to me that we ought to be
9 prepared to decide not to do it, and be prepared to decide to do it.

10 COMM. KENNEDY: I think we should, but we don't do it on
11 (inaudible).

12 COMM. GILINSKY: I would like one of our state people to
13 check out with their counterpart from the state, and know just exactly
14 what (inaudible) Where they are, are they ready to do anything, do
15 they have places for people to go, does it make sense to order an
16 evacuation? I wouldn't like to do it, when if something starts going
17 with that core and we are all sitting here, you know, (inaudible)

18 COMM. KENNEDY: (inaudible)

19 COMM. GILINSKY: (inaudible)

20 COMM. KENNEDY: (inaudible) Roger got through saying that
21 there would be a number of notifications, or early warnings we would
22 get.

23 COMM. GILINSKY: Well, I guess I am a little concerned that
24 our people has, say that evacuation plans (inaudible)

25 I guess all I was going to ask is, sure, I don't want to

1 create, you know, (inaudible)

2 COMM. KENNEDY: I don't think that John is the guy who normally
3 takes care of evacuations.

4 COMM. GILINSKY: We have got to get the states programs people.

5 COMM. KENNEDY: I thought you were talking about John Davis.

6 COMM. GILINSKY: He's got it right behind you, the state program.

7 I would have been happier if we should have held hands with
8 them all along just so we know what it is they (inaudible)

9 COMM. KENNEDY: I told you that this morning.

10 COMM. GILINSKY: Well, that's what I'm asking. We are trying
11 to find out.

12 COMM. KENNEDY: Why don't you ask that question.

13 COMM. GILINSKY: Sure.

14 John, could you bring the state person who has interfaced
15 with the state's evacuation people.

16 MR. DAVIS: John Collings is here beside me.

17 COMM. GILINSKY: Okay, John?

18 MR. DAVIS: Don Collings is right here, who has been interfaced
19 with the state people. Do you care to speak to him or do you want me
20 to?

21 COMM. GILINSKY: No, I'd be delighted to speak to him.

22 MR. DAVIS: Okay.

23 Don, --

24 MR. COLLINGS: Commissioner, how are you.

25 COMM. GILINSKY: Yes, how are you.

Handwritten notes:
2:00 P.M.
Harris

Handwritten marks:
X X

1 MR. COLLINS: Don Collings, State Programs.

2 Pennsylvania, like all states, has the ability to conduct
3 evacuations. As a matter of fact, we are aware that the Director of
4 their -- what amounts to their Civil Defense organization, which is
5 called Pennsylvania Emergency Management Agency, told the Governor that
6 he has such capabilities.

7 COMM. GILINSKY: For this area?

8 MR. COLLINS: For this area, for any area in the state. He
9 is the state director.

10 COMM. GILINSKY: I mean, do we have some idea of precisely
11 what would happen today, do they have places to tell people to go and
12 if you tell them what would they do?

13 MR. COLLINS: Relocation areas, I imagine that they do, but
14 you know, those are things that people decide when they do it. They have
15 to see which way the wind is blowing, and you have to tell -- you have
16 to look at maps and decide where the schoolhouses are, where you can
17 set up relocation centers. But --

18 COMM. GILINSKY: Well, have they thought about this one?

19 MR. COLLINS: They have been privy to all of NRC's previous
20 emergency planning guidance, let me put it that way, which is quite clear
21 on this, and we have not concurred in the State of Pennsylvania's
22 Emergency Plan as that is not one of the 10 states that we did give them
23 an NRC concurrence, but nevertheless, they do have a plan.

24 COMM. GILINSKY: Well, I tell you, for myself, I think I would
25 like to know what the state of affairs is in the State of Pennsylvania.

1 (inaudible) what sort of measures might go into effect -- Let me just
2 stop for a minute. Do you have a concern about inquiring with the state
3 emergency people at Don Collins level?

4 COMM. KENNEDY: Don Collins' level? Purely routine basis?

5 COMM. GILINSKY: Purely routine.

6 COMM. KENNEDY: (inaudible)

7 COMM. GILINSKY: That's right --

8 COMM. KENNEDY: It is going to be in the newspapers this
9 evening at 5:00 o'clock: "NRC contemplating evacuation," if that's
10 what you want, all right.

11 COMM. GILINSKY: We have already told children and pregnant
12 women to move.

13 COMM. KENNEDY: That's not what the Governor said. (inaudible)

14 COMM. GILINSKY: Yes, well we recommended that that was just a
15 reasonable (inaudible)

16 COMM. KENNEDY: (inaudible)

17 COMM. GILINSKY: Look --

18 COMM. KENNEDY: I was sitting here, we made a recommendation
19 and the Governor said yes, --

20 COMM. GILINSKY: Well, look, Dick. I'm just proposing
21 that Don Collins inquires into the people that he has been dealing with
22 (inaudible) about his dealings with the State of Pennsylvania --

23 COMM. KENNEDY: All right, then I think at the same time you
24 do that you should notify Fouchard (inaudible)

25 COMM. GILINSKY: All right --

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1 COMM. KENNEDY: "NRC contemplating evacuation" Joe has
2 got to answer the questions. (inaudible)

3 COMM. GILINSKY: I propose maybe somebody ought to notify
4 them. Bill, why don't you tell Mr. Fouchard and say that I have asked
5 Don Collins to ask his counterparts in the State of Pennsylvania, what
6 their state of readiness is. Is that a fair way of putting it?

7 VOICE: (inaudible)

8 COMM. GILINSKY: Well, how far would you go?

9 COMM. AHEARNE: (inaudible)

10 COMM. GILINSKY: Well --

11 COMM. AHEARNE: (inaudible)

12 COMM. BRADFORD: (inaudible)

13 COMM. GILINSKY: Well, that's why I say -- (inaudible)

14 COMM. KENNEDY: They have the whole plan out here.

15 COMM. GILINSKY: But they haven't approved this and who knows
16 whether (inaudible)

17 COMM. AHEARNE: (inaudible)

18 COMM. GILINSKY: Don?

19 MR. COLLINS: Yes.

20 COMM. GILINSKY: I would like --

21 COMM. KENNEDY: I have noticed that almost all plans are
22 (inaudible)

23 COMM. GILINSKY: Don, I would like you to interface with
24 whoever your counterpart person is --

25 MR. COLLINS: Their Director of their Civil Defense --

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1 COMM. GILINSKY: Well, the person that you deal with.

2 MR. COLLINS: Right.

3 COMM. GILINSKY: I would like to understand what their
4 state of readiness is, in other words, what is their plan?

5 MR. COLLINS: All right, in the plan that I have on my
6 desk here, the state agency that is in charge of evacuation in
7 Pennsylvania is the Pennsylvania State Police. They are the supportive
8 agency for the Civil Defense people.

9 COMM. GILINSKY: Yes, but what would they, in fact, do in
10 this instance, in this location, you know, even if you are dealing with
11 highways. Do they have (inaudible)

12 MR. COLLINS: All right.

13 COMM. GILINSKY: Now, you know, one has to recognize that
14 Commissioner Kennedy has a point that as soon as you contact (inaudible)
15 asking questions.

16 MR. COLLINS: Yes, I know, but Henderson knows I'm a staff guy,
17 so I don't think he is going to get excited.

18 COMM. GILINSKY: Right, but at the same time, I think we
19 have just got to have that information, and I would like to be in the
20 position to report back to us in about a half hour and tell us just
21 what is their state of readiness, what would they do, do they have
22 various levels of alert. Do they have some notions as to where they
23 move people --

24 MR. COLLINS: All right. Okay, we are having a little
25 difficulty with phone lines, I'll do my best.

1 COMM. GILINSKY: -- have they exercised the vairous, you
2 know, the various phone links that have to be exercised and so on.

3 MR. COLLINS: Right, I have it. I will get back to you
4 as quick as I can.

5 COMM. GILINSKY: Very good, try to do it within a half hour.

6 MR. COLLINS: Yes, sir, right.

7 (End of telephone conversation.)

8 (End of Tape No. 8, Side 2.)

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2:30 PM

(Beginning of Tape 9, Side 1, March 30, 1979)

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MR. COLLINS: Because the three counties that are involved, Dauphin, York and Lancaster, over the past couple of days have been told to review their evacuation plans in case they were needed. All counties there have evacuation plans, they have the capability, they have never tested these plans, but he said that he's confident that they can carry it out.

He also said at the State level, their emergency operation center is activated and all Pennsylvania State agencies have senior representatives in the emergency operations center, which is Chaired by the Director of ^{Public Safety} (inaudible) Colonel R. Henderson.

I asked him if they thought about where they might have to send people, the locations, he said, of course we have. Schools and armories would be used and he said they also have had for some time an interagency agreement with the Federal Government General Services Administration for food and water and other supplies that might be needed in any relocation center.

So the bottom line, Commissioner, is after talking to Laminson, he says he is confident that they can carry out evacuation if needed, and he is confident that the counties can do it.

COMMISSIONER GILINSKY: Did you by any chance get a feeling for what time scales are involved or ---

1 MR. COLLINS: No, I did not, sir. I didn't
2 ask him that question specifically, because I think that
3 that's a little bit difficult to ask, although I can
4 call him back and ask him, if you want me to get that
5 precise with him.

6 COMMISSIONER GILINSKY: No. Do you have some
7 notion of your own what that might be?

8 MR. COLLINS: Just a moment. Hal, do you have
9 any feeling of what the time frame might be for evacuating
10 at the county level for Dauphin, York, and Lancaster,
11 places like that (inaudible) what time frame are we talking
12 about, say within five miles ---

13 COMMISSIONER GILINSKY: Well, we might be talking
14 more than five miles.

15 MR. COLLINS: Ten miles, maybe? Of course when
16 you get to 10 miles you are into Harrisburg, you know.

17 COMMISSIONER GILINSKY: I understand that.

18 MR. COLLINS: Yes, sir. You would be evacuating
19 about -- probably on the order of about three 22 and a half
20 degree sectors. I'd have to look and see how many people.
21 It would depend which way the plume is going, you know.

22 COMMISSIONER GILINSKY: What's your thought
23 on that?

24 MR. COLLINS: Has he thought of this? I'm
25 sure they have thought about how fast they can get people out

1 COMMISSIONER GILINSKY: No, what is your thought
2 on that?

3 MR. COLLINS: My thought on it, just sort of a
4 gut feeling, up to 10 miles, at about three say 22 and a half
5 degree sectors which is, say, 70 degrees wide, I would think
6 they would be able to get them out inside of an hour, at
7 the most two.

8 COMMISSIONER GILINSKY: Are you talking about
9 Harrisburg too?

10 MR. COLLINS: I would have to include that, if it
11 went toward Harrisburg.

12 COMMISSIONER GILINSKY: Let me ask you, do those
13 three counties include Harrisburg?

14 MR. COLLINS: Let's see, Harrisburg is in
15 which county? (Mumbling to himself obviously looking at
16 a map).

17 Yes, there are a lot of little towns around
18 there, too, but the sector would be, you know, 70 degrees
19 wide. I would say they ought to be able to get all the
20 small towns in the counties and the local folks out within
21 an hour, and probably certainly have the city cleared
22 by two or, you know, something on that order. I'm
23 estimating, since I don't live there, I really don't
24 know. You know. It is a difficult question, Commissioner.

25 COMMISSIONER GILINSKY: Does that jive with

1 your experience of other evacuations in other places?

2 MR. COLLINS: I can tell you historically what
3 happened in California one time during the Van Normam
4 dam collapse.

5 COMMISSIONER GILINSKY: Right.

6 MR. COLLINS: That involved the evacuation below
7 a dam that was threatened with collapse---

8 COMMISSIONER GILINSKY: I was there.

9 MR. COLLINS: -- of about 80,000 people in a
10 sector about as wide as you would think would be needed
11 for a large plume from a nuclear facility. And they got
12 these 80,000 people something on the order of five or six
13 hours. But that was in a narrow confined valley, which is
14 a lot different than what we have got here.

15 COMMISSIONER GILINSKY: Let me ask you this.
16 Harrisburg falls into one of those three counties that
17 they are referring to?

18 MR. COLLINS: Yes, let me see, what county is
19 Harrisburg in, Bill?

20 Let me check it here, looks like it's Dauphin,
21 but I want to make sure because there are three counties.

22 COMMISSIONER GILINSKY: But I just want to be
23 sure that it is in one of those three counties that the
24 other fellow is talking about.

25 MR. COLLINS: Yes, the counties he named for

1 me were Dauphin, York and Lancaster. It is in one of
2 those three. I'm getting it out for you now.

3 COMMISSIONER GILINSKY: Let me ask you, where
4 does this sector notion come from? Is that our idea or is
5 that the State's idea?

6 MR. COLLINS: Harrisburg is in Dauphin county, sir.

7 COMMISSIONER GILINSKY: Okay, so that includes ---

8 MR. COLLINS: That includes one of the counties
9 he told me about. It is in Dauphin county.

10 What was your other question, sir?

11 COMMISSIONER GILINSKY: Are they thinking just
12 about a limited, a sort of sector evacuation or can they
13 handle something a little larger?

14 MR. COLLINS: Well, you know, if the balloon
15 went up, they would do the whole thing. But I think --
16 they would have to make the decision to do, you know, the
17 sectors. I'm sure that's the way they'd go. They would
18 probably go something in the neighborhood of a 70 to a 90
19 degree sector, a piece of pie, something like that, about
20 I'd say between some order of that, a sixth to a quarter
21 of a circle.

22 Then of course, if the wind shifted and blew
23 the other way then they would have to do something in
24 the other direction. But I don't think that they would
25 implement an evacuation if they had a pretty good handle

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on where any plume was going, they would be very careful to select the appropriate sector. They know about this, it is in all our guides and publications so that they don't panic and just evacuate a whole area unless they really have to.

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COMMISSIONER GILINSKY: Well, it is good to know they seem to be on top of things.

MR. COLLINS: Yes, I think so, sir. That is the best that we can determine now, and Lamison sounded very confident and calm. He wanted to assure me that they could do this, and that the counties could do it. He said as a matter of fact, as I told you, they had the county Civil Defense directors review their plans as late as the last couple of days just to make sure that they refresh their minds as to what they would do if and when ordered.

COMMISSIONER GILINSKY: Listen, I want to check around to see if there are any questions.

MR. COLLINS: All right.

COMMISSIONER GILINSKY: Okay, thank you very much and thank you for calling back promptly.

MR. COLLINS: Okay, thank you.

(End of this telephone conversation)

(Blank section of tape)

(Inaudible conversations among the Commissioners)

CHAIRMAN HENDRIE: Okay, the discussion over in the Situation Room dealt first with what's the situation

*Chairman's
C/S Room
approx 2:45
PM.*

1 and I outlined it for them, you know, sort of up to last
2 night, the releases and so on and the releases this morning
3 and then the fact that we think the core is in considerably
4 worse shape than we thought.

5 I pointed out that with the nature of the difficult
6 with the depressurization, trying to get it down around
7 (inaudible) that we don't, at the moment, see a way to get
8 the hydrogen out of there neatly.

9 And the possibility, probably not large, but a
10 possibility, to that if you do get into a problem,
11 why you get some major releases. Part of the meeting over
12 there was with regards to getting into place a coordinated
13 Federal response capability that has several parts to it.
14 Jack Watson's going to be the contact the central manager
15 point in the White House operations. They'll be sending
16 Federal Disaster Assistance Agency guy up to stick with
17 the Governor. He'll be calling the Governor so that if
18 there is a need for evacuation leaders then Federal and
19 State actions can be coordinated in the immediate area.

20 (Inaudible voices)

21 this morning they needed some (inaudible)

22 Okay, Harold is to stay in contact and has called
23 in to the White House. They want that sent in directly to
24 the White House down there - the chiefs of the (inaudible)
25 technical on site chiefs (inaudible) reactor problems (inaudible)

1 Well, we want to discuss it briefly around the loop, I
2 think (inaudible)

3 Harold is going to be in the best position
4 (Background voices)

5 I think we ought to give him...

6 COMMISSIONER GILINSKY: There is also a link down to the
7 reactor...

8 CHAIRMAN HENDRIE: I don't know whether that's significant
9 or not (inaudible)

10 (End of side 1 of Tape No. 9.)

11 (Beginning of Side 2, Tape No. 9)

12 CHAIRMAN HENDRIE: I think somebody has to start to say
13 something and uh (inaudible) I don't know whether from here or
14 (inaudible)

15 COMMISSIONER AHEARNE: Joe, how about the (inaudible)
16 Hearing?

17 MR. DORIE: As I recall, Senator Schweiker and Senator Kennedy
18 will be on tomorrow (inaudible) Califano, Costle and yourself for
19 2:00 p.m. tomorrow and on the other matter I was just getting ready
20 to call Frank Ingram who asked you or one of the Commissioners to go
21 out to the Center out there somewhere around 4:00 or 4:30 (inaudible)

22 CHAIRMAN HENDRIE: Jody Powell will be calling Frank with some
23 questions that he thinks we're likely to have to field (inaudible)

24 I want to wait a little bit and give Harold a chance to hold it himself.

25 VOICES: (Inaudible)

3:00 P.M.

101

1 VOICE: I think if things continue to hold stable...

2 CHAIRMAN HENDRIE: Got worried about the possibility that we
3 will get into a situation which begins to degrade, and (inaudible)
4 pressurize (inaudible) start the high pressure injection system,
5 (inaudible). Even if we do get a further break up of the parts of
6 the fuel that are heavily damaged, that's still far from a meltdown
7 situation as long as we can keep the water around - degrees
8 (inaudible) falling down and so on. The thing to do is to keep it,
9 a solid wall around it (inaudible) know what the situation is with
10 regard to the recirculation pump (inaudible) trying to get out of the
11 containment back in; that is the more of emergency core cooling that
12 one would go into loss of coolant accident after finished injection
13 and run down through the storage tank and so on, why the whole system
14 might start pumping around loss.

15 COMMISSIONER BRADFORD: (Inaudible)

16 CHAIRMAN HENDRIE: I think we are going to have to go back
17 (inaudible)

18 COMMISSIONER KENNEDY: that's the minimum time to expect
19 (inaudible) available then, (inaudible) before serious problems arise.

20 CHAIRMAN HENDRIE: Aside from very small amounts, letdown amo
21 can get into the auxiliary building and overflow and flooding
22 (inaudible) or unless the containment (inaudible) pressures

23 COMMISSIONER KENNEDY: (Inaudible)

24 CHAIRMAN HENDRIE: Well, you are not going to rupture that
25 shell, you know (inaudible)

1 COMMISSIONER GILINSKY: (Inaudible)

2 CHAIRMAN HENDRIE: I'm not sure I follow you. What I'm
3 saying is I see two evacuations, one is a degrading situation in the
4 damaged core not coming about because of a change in pressures,
5 temperature of flow or anything, but just because there is damage and
6 you can't be sure that it is a fully stable situation.

7 COMMISSIONER KENNEDY: And you said that when we perceive
8 that, I can see that, and clear evidence of it, serious problems won't
9 arise for 6-12 hours. (inaudible)

10 CHAIRMAN HENDRIE: I don't think you get major releases
11 unless you (inaudible) but let me talk more about that in a minute.

12 Let me talk about the other situation, and that is, if we
13 come to a time here in another day or something like that, when we
14 think we think we see how to deal with the hydrogen (inaudible)
15 and start the pressurizer and we want to go through that evolution
16 now, that would be one of which we and the Operator do it (inaudible)
17 at some time get all lined up, the choice is, surely is ours to make

18 I think the way to do that one is to look for the wind
19 blowing away from Harrisburg, among other things; that is you choose
20 a time when the meteorology is favorable, in case things don't go well,
21 and for that you might consider a precautionary evacuation from downwind
22 (inaudible) ten miles or so (inaudible)

23 Now, I want to go back to the first situation, where it
24 degrades on you and you haven't set up a deliberate (inaudible)
25 the bulk of the core, so far as we can tell is being cooled.

1 Even a number of the elements which, if thermocouples are reading
2 correctly, were steaming yesterday and last night, have now stopped
3 steaming, we still have got one or three elements, depending on
4 whether the two thermocouples reflect the steam; that is a fairly
5 limited portion of the core. It sounds as though it could (inaudible)
6 and seems to me fairly unlikely that that could lead to a general
7 (inaudible) a limited amount of debris around but there need not be any
8 (inaudible) what you worry about, of course, is evolution of more fission
9 products in the containment than you've got and the pretty substantial
10 inventory of water and air.

11 COMMISSIONER BRADFORD: (Inaudible)

12 COMMISSIONER GILINSKY: Basically this just isn't right
13 (Inaudible)

14 COMMISSIONER BRADFORD: (Inaudible) systematic evacuation
15 (inaudible)

16 COMMISSIONER GILINSKY: At the minimum we've got to give him
17 (inaudible)

18 COMMISSIONER AHEARNE: (Inaudible)

19 COMMISSIONER GILINSKY: I think we also owe it to him to tell
20 him that right now (inaudible) but I do think we have to tell the
21 Governor because he has the responsibility; he may have a different
22 judgment. (inaudible)

23 COMMISSIONER AHEARNE: (Inaudible) what is your estimate
24 of the probability (inaudible)

25 CHAIRMAN HENDRIE: (Inaudible) Aside from the determination

1 shutdown the coolant, and as you say in a sense it is subject to
2 question because its controllable time.

3 (End of Side 2 of Tape No. 9)
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(Begining Side 1, Tape 10)

CHAIRMAN HENDRIE: I think lets see Harold will have been down there now perhaps three fourths of an hour, so in 15 minutes to a half hour, I'll call him.

COMMISSIONER GILINSKY: In fact, not having talked to Harold, tell him the reason for not...

CHAIRMAN HENDRIE: Well, it's very possible that he's in closer touch with the site than I am. Things are going, the Governor...

COMMISSIONER GILINSKY: (Inaudible)

CHAIRMAN HENDRIE: Okay. If possible.

COMMISSIONER GILINSKY: If possible.

CHAIRMAN HENDRIE: Okay, they seem to...are they in the same party or...

Mr. FOUCHARD: we can put Denton on, and he can report on his conversation and then you and he need to talk about coordinating our activities for the rest of the day.

CHAIRMAN HENDRIE: Yes sir. Alright. Speak loud and clear.

MR. DENTON: Hello, Mr. Chairman.

CHAIRMAN HENDRIE: Hi there.

MR. DENTON: Quite an experience.

CHAIRMAN HENDRIE: Well, I didn't tell you about this when we made you Director of that office, Harold, actually I thought I - I was going to let you know later this summer actually. How's it going.

MR. DENTON: I think its going alright - the communications

*at Commission
office. Party
P.M.*

3:16 PM

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1 are just frightfully inadequate because of the crunch, but they
2 spent an hour working on this line.

3 CHAIRMAN HENDRIE: Okay, can you move in a little closer to
4 the speaker.

5 MR. DENTON: I'm right on top - I'll just talk a little
6 louder.

7 CHAIRMAN HENDRIE: Okay, good.

8 MR. DENTON: Are getting hard wire lines in - we're getting
9 our own trailer we've had to borrow the highway patrol trailer as an
10 interim measure.

11 CHAIRMAN HENDRIE: Good.

12 MR. DENTON: I've been briefed in general, I can pass that on
13 to you.

14 CHAIRMAN HENDRIE: Alright.

15 MR. DENTON: That - let me start first with what's happening
16 with regard to the let down line. We are still letting down at the
17 rate of about 10 gpm and they are continuously off gassing Xenon from
18 that, they're calculations indicate a rate of about a tenth of a
19 curie of Xenon 133 a second. That's to be contrasted with the 60
20 curies a second that we were speculating about this morning, during
21 the pump release. So, as soon as that's stored here, they're just
22 letting it go.

23 CHAIRMAN HENDRIE: Okay.

24 MR. DENTON: A tenth of a curie of Xenon 122 a second, roughly,
25 and that's coming from the 10 gpm continuous letdown.

1 CHAIRMAN HENDRIE: Yeah.

2 MR. DENTON: The does rates around the perimeter of the site
3 seem to be in the range of 120 mr an hour. These are all numbers
4 measured on the property of the Island. I haven't been briefed yet
5 on what the doses are anywhere else.

6 CHAIRMAN HENDRIE: Okay.

7 MR. DENTON: The core cooling situation is not changed this
8 morning, they're still cooling through the steam generator - they have
9 agreed not to make any changes in the cooling mode such as RHR until
10 their analysts B&W and our guys really understand what the potentials
11 are and perceive the risks for all the eventualities. They do agree,
12 there's been some core damage, there's a bubble in the core they don't
13 think any of the fuel has been covered, they do agree there's a bubble
14 there. There's also an indication of pressures divided in containment,
15 which they think might have been a hydrogen explosion.

16 CHAIRMAN HENDRIE: Yeah.

17 MR. DENTON: So I would say the situation is stable, I don't
18 see any immediate threat there - we've got our own people fanned out
19 to really get up in each one of these areas. I've organized four
20 task forces each task force has two bases so they can rotate around the
21 clock. We expect the one possibility for melt of the core, the other,
22 how do you explain how we operate if it melts, one is effluent treatment
23 systems operations, one is offsite dosage. All these are manned by
24 senior people, and I think pretty soon, I'll get them back together
25 and give me a briefing on where everything stands as they see it.

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1 We're in a private house which illustrates the communications
2 problem. The President is very interestd with LOFT data, very well .
3 informed.

4 CHAIRMAN HENDRIE: Okay - now the central question that turns
5 up concerns the need for precautionary evacuation. I guess a good
6 part of our recommendation - the Governor has had, suggested that people
7 in the neighborhood stay indoors till further notice and that pre-
8 schoolers and pregnant women pull out of the area for a while.

9 MR. DENTON: My concern in that area is that as release
10 rate goes down then they're not storing any of this gas, or caught,
11 in view of the dose rates around the perimeter of the site, that
12 might help warrant a forced evacuation, but the precautions they have
13 taken are pretty reasonable.

14 CHAIRMAN HENDRIE: Okay that's a consideration that deals
15 with sort of the present situation where we are still cursed with this
16 10 gpm let down - I take it that they have not been successful thus
17 far in finding a way to just pump that right around and back into the
18 containment and not have to have the release.

19 MR. DENTON: They've established a line from the pressurized
20 gas storage tank of the system back into the containment and some-
21 time this evening, they hope to put a T in it which will connect up
22 with the bulk of the gases from the letdown. This has been more than
23 one task, so the team won't guarantee it takes care of the whole
24 problem but it helps a lot.

25 CHAIRMAN HENDRIE: Okay - so that would cut those releases

1 somewhat more.

2 MR. DENTON: Yeah.

3 CHAIRMAN HENDRIE: Substantially more. Now, the other aspect
4 of the evacuation consideration has to do with the fact that we now
5 conclude we have a substantially more degraded core than we thought,
6 say at this time yesterday or even this morning. That it isn't clear
7 at the moment how we get the gas bubble out of there and get the pressure
8 down and established on a stable long term post accident cooling
9 regime with everything controlled -

10 MR. DENTON: I told Vic I think its advisable that we get
11 sort of procedures established with them right now in case they
12 were to lose the vacuum or something they'd have to make a hasty
13 judgment and if we could get some sort of interim agreement on
14 what you do if the vacuum in the condenser. Then a...

15 CHAIRMAN HENDRIE: Hang on a second - we've got a fire engine
16 going by and the audio signal's weakening so that we can't hear.
17 No, we're at H Street and you're speaking to a gathering of Commissioners
18 and Assistants and I guess this is a closed meeting of the Commission,
19 as a matter of fact. Now, what about - what do you feel at the
20 moment about any possible need for a precautionary evacuation just in
21 case something happens like some of the pieces in the core begin
22 to shift around and we get a sign of rising temperatures or as you say
23 you lose condenser vacuum and are scurrying around looking for some
24 place to put the heat.

25 MR. DENTON: I guess I'd like to defer that until I can

11A

1 meet with the people in that area a little bit, at least having gotten
2 here and gotten some people all talking to each other I'd like to
3 get back with them to see what they think the situation really is as
4 you would expect start talking to the staff here there are a lot of
5 details that we didn't have back in Bethesda.

6 CHAIRMAN HENDRIE: Yeah.

7 MR. DENTON: They have given it some thought and their thought
8 and their thought of course is if it were to happen they'd always
9 fall back on the full emergency system if the safety injection
10 system goes sour.

11 CHAIRMAN HENDRIE: Yeah

12 MR. DENTON: And they don't think that the bubble would prevent
13 cooling of that mode but that kind of thing really needs a lot of
14 discussion between our staff and theirs.

15 CHAIRMAN HENDRIE: Yeah. Well that was my conclusion too
16 that if you saw, particulaly if you saw temperatures begining
17 to rise in those thermo couples you thought it might be getting away
18 from you, that you drum in the high pressure injection and keep
19 things, keep as much water in there and keep it moving as fast as you
20 could. Harold is there - I guess the normal ECCS cooling link you
21 have an accident, you get a lot of water in the containment, you inject,
22 when you get through draining the injection into the tanks why you
23 go over to a recirculation mode that all depends on a low pressure
24 situation I take it.

25 MR. DENTON: Ah

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CHAIRMAN HENDRIE: Is that true - is there a high pressure link by which one could do cooling by taking water from the containment sump - run it through an exchanger and pump it back in through the high pressure injection system and set up a you know a stable long term cooling mode that way at a 1000 pounds in the reactor system.

MR. DENTON: I know the lifting suction can do that - where they can take suction on water in the containment sump. Would you mind asking Denny Ross who is standing here beside me and who has gotten a little bit up to speed by now.

CHAIRMAN HENDRIE: Yeah, Denny, did you hear the question.

MR. ROSS: No sir.

CHAIRMAN HENDRIE: The question is - is there any configuration there which would allow a 100 pound gage system operation with high pressure injection - pulling water out of the primary and through an exchanger and back in. I guess . . .

MR. ROSS: I understand the question

CHAIRMAN HENDRIE: What I'm thinking - I'm thinking the answer to my question is that was all predicated in the accident case on being in a low pressure situation.

MR. ROSS: The answer is no. You can use the high pressure system to pump in the recirculation mode water back into the vessel. What you have to do have - have to pump water from the sump as a preparatory first step. Low pressure side discharge goes to the suction side of the high pressure inlet. The so-called piggy-back mode is designed this way in the event of small break, which causes

1 pressure loss over a long period of time. You could go in the injection,
2 mode now probably in that line, there is a bypass line going to a
3 purification of the sump flow. You can see that the, this is not a
4 closed system, you can't close it, you can't take the suction side,
5 either of these pumps and tie it in to the reactor, though of the
6 design pressure it won't do that.

7 CHAIRMAN HENDRIE: What we need in this situation Denny is
8 a small break - can you pick out a four inch pipe and put us in a mode
9 we understand.

10 MR. ROSS: Yeah. For example you might be taking a little
11 risk if the let down lines at the return of two valves, you are almost
12 certain that between the two valves is a release valve, of a code.

13 CHAIRMAN HENDRIE: Code, yeah.

14 (End of Side 1, Tape 10)

15 (Begining Side 2, Tape 10)

16 MR. ROSS: I don't really think that's a good idea right now

17 CHAIRMAN HENDRIE: No, I don't either.

18 MR. ROSS: There may be some other safety valve connectors
19 like that that could be used with the nodules we've got out best systems
20 people going to the trailer on the site, and we'll have a radio
21 to them, and we can ask them your question; if they can't figure it
22 out, we don't have anybody else that could.

23 CHAIRMAN HENDRIE: Okay - give me Harold back for a minute.

24 MR. DENTON: I'm back.

25 CHAIRMAN HENDRIE: Let me see if there are questions from

1 the assembled group.

2 MR. DENTON: Let me ask you one to be thinking about. Joe
3 is very anxious for some sort of brief press conference - a lot of
4 people outside are talking about a 4:00 one, not so much go into
5 detail but just outline why we're here and what we intend to do
6 and how the overall situation looks. Do you have any problem
7 with that or do you want to do it down there or...

8 CHAIRMAN HENDRIE: Why I think its - I think a) I think it
9 may be useful but b) have Joe call Jody Powell and coordinate
10 it through the . . .

11 MR. DENTON: The other people who were on . . . in touch
12 when I got off the phone with the President.

13 CHAIRMAN HENDRIE: Yeah. Now, I went over to a meeting an
14 hour ago - they want to run a press briefing here to try to satisfy
15 some of the yen for information, and I think I've gotten tagged for
16 it - the coordination is all through Jody Powell.

17 MR. DENTON: I'm about to lose you.

18 CHAIRMAN HENDRIE: Oh

19 MR. DENTON: We've picked up a lot of (static)

20 CHAIRMAN HENDRIE: I can still hear you but there's a little
21 intermittent buzzing in the background. Can you hear me?

22 MR. DENTON: It has recovered. What about the Governor.
23 Should I contact him or have you done that?

24 CHAIRMAN HENDRIE: I'm about to do it. If your call hadn't
25 been on the line I'd be talking to him now.

1 MR. DENTON: Do you want to tell him that I'll be calling him.

2 CHAIRMAN HENDRIE: Yes, I think it'd be useful. Why don't
3 you give me 15 minutes and then call him.

4 MR. DENTON: Alright.

5 CHAIRMAN HENDRIE: Now with regard to that press conference
6 let me say again let Joe call Jody Powell.

7 MR. DENTON: Alright

8 CHAIRMAN HENDRIE: And coordinate through there.

9 MR. DENTON: He's standing right here - I'll tell him.
10 Call Jody Powell and coordinate this press conference because the
11 Chairman is having one about the same time. I can put Joe on if you
12 like.

13 CHAIRMAN HENDRIE: No, just give him the message and have him
14 call Jody.

15 MR. DENTON: Got it, understood.

16 CHAIRMAN HENDRIE: Okay, I think you've got a lot of press
17 people down there and it may be appropriate to do it both places,
18 but that'll raise the cross communications problem with two spokesmen
19 in different places at about the same time, and I'd like Mr. Powell
20 to think about that.

21 COMMISSIONER GILINSKY: Well, lets see if you just stagger
22 the times a little bit, one can . . .

23 CHAIRMAN HENDRIE: Yeah. As Vic suggests, at the minimum
24 we ought to arrange to stagger the time so that we can communicate
25 between us briefly. Okay

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MR. DENTON: We're trying for your plan?

CHAIRMAN HENDRIE: No, I'm to call Mr. Powell back as soon as I've talked to you and think I know enough to say anything sensible. I guess I talked to you now, but the other part I don't know.

MR. DENTON: Okay. My briefings have been just really surfaced by the licensee, and not by my own staff up till now.

CHAIRMAN HENDRIE: Yeah.

MR. DENTON: I think I'll know a lot more after I've had a chance to collect them back again.

COMMISSIONER AHEARNE: Harold, when do you--

CHAIRMAN HENDRIE: Hang on a second, Harold. Harold, you have to come right over and talk to him.

COMMISSIONER AHEARNE: Harold, when do you expect to have that feedback from your guys.

MR. DENTON: Ah, they're all closeted, my own thought was to give them an hour or so to pursue their specialities and collect them back, and if they have a press conference at 4:00 about all I can do is relate general information.

COMMISSIONER AHEARNE: Yeah.

MR. DENTON: There's some press for 4:00 briefing up here, if it were delayed till about 6:00 I could obviously have plenty of time to get briefed.

1 COMMISSIONER AHEARNE: My concern was your getting
2 back to Washington - I guess you're saying somewhere around
3 6:00 you might have a better understanding.

4 MR. DENTON: I think I could probably, if we don't
5 go with a press conference - get back to you within an hour -
6 just took the time to get back, but you understand how
7 we've organized. Vic and I have been at work in developing
8 the record here, Dick Vollmer, he's been here all along,
9 will alternate with Benaroya as the main coordinator with
10 the licensee. Then we've got four crews, with two people
11 assigned so that they can go to full time coverage; for
12 example, Benaroya and John Collins will cover all the
13 effluent treatment actions, and similarly, we've got two
14 people in each one of the other areas. So, I think once
15 we get back together again, we can set up more directly
16 somebody to communicate with you all the time. The police
17 are letting us have their van, and the White House
18 communications here will live wire a line back to you from
19 the White House. So, I can get back to you that way.

20 COMMISSIONER AHEARNE: Harold, one of the issues
21 that obviously we're trying to think through is as you
22 know before you left, Mattson and Case had recommended
23 evacuation. And obviously we're waiting to find out after
24 you're now there and have your people talking to the
25 licensee and have a better feeling for at least that view,
what your recommendation is.

1, 7

1 MR. DENTON: I think - one of the things that
2 at least is encouraging, we kind of had the feeling this
3 morning, back there that the licensee doesn't even
4 recognize the problems that we're facing with regard to the
5 bubble and damage and what might happen if we were to lose
6 vacuum and so forth and the brief discussions we've had,
7 they seem to comprehend the same sorts of problems and have
8 preliminary plans to cope with it. This takes a little bit
9 of the pressure off the immediacy of my concern this
10 morning. Their people do seem to be quite aware of the same
11 kind of problems that we were having this morning. Have
12 given some thought, I think, Denny Ross can describe what
13 they're doing and I can get a better picture and call you
14 back once I do.

15 CHAIRMAN HENDRIE: I think you ought to go ahead
16 and get to them as soon as you can, Harold, and put Fouchard
17 in touch with Jody Powell to see so we can get a coordinated
18 press conference array here, and Fouchard should also let
19 Ingram know what's going on back up through the response
20 center I would think.

21 MR. DENTON: Allright. Joe does want to talk to
22 you if there are no more requirements on me.

23 CHAIRMAN HENDRIE: OK. Quickly, I ought to
24 call the Governor.

25 MR. FOUCHARD: Joe, I've talked to Jody Powell.

1 CHAIRMAN HENDRIE: OK.

2 MR. FOUCHARD: And what they want to be sure of
3 is that we don't get a yo-yo with us saying something up
4 here and you saying---

5 CHAIRMAN HENDRIE: Just so.

6 MR. FOUCHARD: But I think that Harold does have
7 to chat with these newsmen on the site up here even if its
8 in very vague terms, to show the flag, that we're up here.
9 Now, they've got a about 4:00 or 4:15 time-lag, because
10 they've got to get their film into Harrisburg. What time are
11 you planning to---

12 CHAIRMAN HENDRIE: Don't know. As soon as I talk
13 to Harold I was going to call Jody Powell and see when and
14 where they wanted to go.

15 MR. FOUCHARD: OK. Have you been over to the
16 White House.

17 CHAIRMAN HENDRIE: I don't know. That's a thing
18 to think about whether it ought to be there or here.

19 MR. FOUCHARD: Does it bother you at all for
20 Harold just to say a few things up here?

21 CHAIRMAN HENDRIE: Hell no. I think he---

22 MR. FOUCHARD: We ought to show the flag up
23 here but I also think we ought to---

24 CHAIRMAN HENDRIE: He's in better shape than I am
25 and I think all we're concerned about here is that we

1 find some way to know what was said at the press conference
2 before I get up and start talking to the folks here.

3 MR. FOUCHARD: It's not really a press conference,
4 Joe, it's walking out in the yard of this house and talking
5 to the news folks who are all over this site. It isn't
6 anything formal at all, there's no way to have anything
7 formal here because we're out in the middle of nowhere.

8 CHAIRMAN HENDRIE: Yeah, yeah, but somebody can
9 call back here and cover some of the subject of what were
10 said, or maybe Harold himself can before I go on stage.

11 MR. FOUCHARD: What time - you don't know what
12 time you're going to go on stage.

13 CHAIRMAN HENDRIE: No, but it looks like you're
14 gonna go first -- its 20 to 4:00 and I've got to call the
15 Governor and wire up with Jody Powell - I think it'll be
16 close to 5:00 before we go.

17 MR. FOUCHARD: Well, I can delay here you know
18 - another half-hour probably.

19 CHAIRMAN HENDRIE: Sounds to me like it might be
20 better to go ahead and do it, and then there'd be more time
21 to communicate.

22 MR. FOUCHARD: You got it, but because he doesn't
23 have all those details to communicate. When he starts
24 getting details and then---

25 CHAIRMAN HENDRIE: Oh, one thing, give me a 15 or
20 minute lead to call the Governor, OK?

Time, 3:40

1 MR. FOUCHARD: Is Harold going to go in and see
2 the Governor - did you talk about that.

3 CHAIRMAN HENDRIE: Harold's going to call him
4 after I do.

5 MR. FOUCHARD: Alright, well I want Harold to be
6 able to say that he talked to the Governor before we go out.

7 CHAIRMAN HENDRIE: Yeah.

8 MR. FOUCHARD: Harold's got one more thing.

9 MR. DENTON: With regard to Commissioner Ahearne's
10 question. I'm going to get briefed at 5:00 - looks like the
11 reasonable amount of time these guys need, and I could call
12 you back with something definite before six.

13 CHAIRMAN HENDRIE: OK.

14 MR. DENTON: Would do to have a really good
15 information exchange.

16 CHAIRMAN HENDRIE: OK. That sounds fair enough.
17 Harold, let's do the following - I'll go call the Governor
18 - give me a 10 minute lead. You get on the phone to the
19 Governor and after that you can fire off with this backyard
20 discussion with the press. And after that as soon as you can
21 break away from them I'll need a call back from you so you
22 can tell me briefly the sorts of things you touched on,
23 and how you phrased it so I can try to avoid saying
24 something that sounds radically different up here.

25 MR. DENTON: Alright, will do.

1 7 1

1 CHAIRMAN HENDRIE: OK, see ya.

2 GOVERNOR THORNBURGH: Hello, this is Dick Thornburgh

3 CHAIRMAN HENDRIE: Dick, Joe Hendrie again.

4 GOVERNOR THORNBURGH: Yes, sir.

5 CHAIRMAN HENDRIE: Sorry to keep bothering you.

6 GOVERNOR THORNBURGH: That's alright.

7 CHAIRMAN HENDRIE: I thought I ought to report in
8 to you after our conversation this morning and tell you that
9 our people have pretty well concluded that we've got - and
10 there is at Three Mile a more seriously damaged core than
11 we would have projected last night or probably even this
12 morning when I talked to you.

13 GOVERNOR THORNBURGH: Joe, can I put you, I have a
14 group of our technical people here and I would appreciate
15 it if I could---

16 CHAIRMAN HENDRIE: I think it'd be very good - yeah.

17 GOVERNOR THORNBURGH: I'm going to put you on the
18 speaker phone.

19 CHAIRMAN HENDRIE: Yeah.

20 GOVERNOR THORNBURGH: Joe?

21 CHAIRMAN HENDRIE: Boy, that comes in loud and
22 strong.

23 GOVERNOR THORNBURGH: Right.

24 CHAIRMAN HENDRIE: Right. Okay, let me tell you.
25 Our people working through the night and this morning

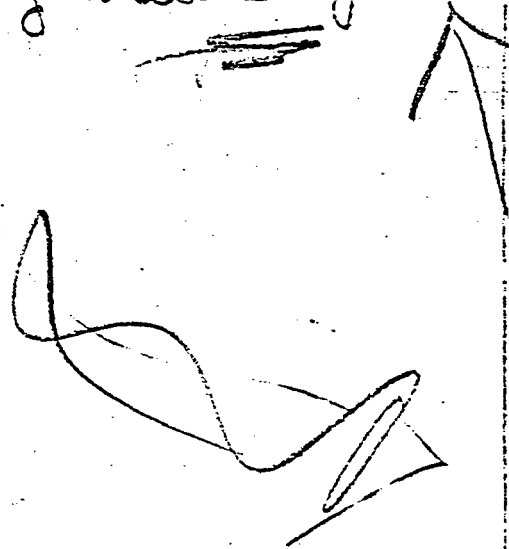
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P.M.

1 have concluded that, and I believe, Ed's people and B&W
2 agree that the core damage there is considerably more
3 extensive than we had thought yesterday. The fission
4 product release to the primary system and part of it to the
5 containment is pretty extensive - it's getting up to a
6 fair fraction of the gaseous inventory and some other things
7 as well I think. Now, there were, you remember, some
8 thermo couples in the top of a number of elements in that
9 core, they've been showing high temperatures, anomalously
10 high temperatures - the feeling was that they were mis-
11 reading, I think the current feeling is that the thermo
12 couples are probably right and what we were seeing for a
13 good part of yesterday without realizing it was the core
14 that was at least in the upper half end of the hot elements
15 steaming rather than water flooded. And the damage would
16 have occurred over that period of time which went on for a
17 good many hours. At the moment, as far as I know, all
18 but a couple of those thermo couples are now reading below
19 saturation temperature, which means that they are, almost
20 certainly means that they're water flooded. There is
21 at least one element, however, that still reads over
22 saturation, and that strongly suggests there is some
23 blockage in that element and steaming going on so that that
24 thermo couple is in a steam atmosphere. Now, in addition
25 there is pretty fair reason to believe that we've had some

1 metal-water reaction and the experts project that there is a
 2 hydrogen bubble up in the top of the vessel - things are
 3 setting fairly ⁷⁰stably at the moment and continue that
 4 way for some days I think, but we need to, our people and
 5 the licensees people are working hard figuring how to come
 6 down out of this situation. System pressure is about a
 7 1,000 psi, temperature in the bulk temperature is about 280
 8 Fahrenheit - there is a continuous letdown stream of about
 9 10 gallons per minute *which is necessary from the*

10 (End of Tape 10, Side 2)

primary because you're



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(Beginning of Side 2, Tape No. 12)

(Chairman Hendrie in conversation with Governor Thornburgh continued from Side 1.)



CHAIRMAN HENDRIE: ... in effect pumping water into the primary through various pump seals and rod seals and things like that. That steam is going into the auxiliary building and my understanding is that there is a small, but fairly steady xenon fission product released into the atmosphere from that. The resulting readings around the site boundary are down at or below the levels that we've seen previously, that is from one to twenty millirem per hour range, so that doesn't seem to be an especially high concern at that level. But since when I talked to you previously I've been thinking of the nature of the damage in somewhat different terms -- in terms of perforation, cracking of some fuel rods, but not much beyond that -- I thought I'd better get back to you and let you know we think it looks this way.

Now, in terms of what do we do now, I think we maintain the circulation that's there, keep it stable, and let the experts work overnight and see if they can devise steps to get us calmed down to lower pressure and a stable, long term recovery situation. I don't, at the moment, have any feeling for any measurements outside the plant site. I've got -- the Commission has sent its

1 Director of Reactor Regulation down to the site -- the
2 White House has provided us with some communications
3 equipment, so that's getting into pretty good shape now.
4 The officer's name is Harold Denton. He's our senior man
5 on the site, an experienced and senior officer of the
6 Commission. I've asked him to give you a call so that you
7 can discuss directly with him the situation and any question
8 which I probably couldn't answer from here.

9 GOVERNOR THORNBURGH: Can we try you on a
10 couple of questions, Joe?

11 CHAIRMAN HENDRIE: Shoot.

12 GOVERNOR THORNBURGH: (Inaudible) Can you
13 hear me?

14 CHAIRMAN HENDRIE: No. If there was a question
15 there, I missed it completely. Sorry.

16 GOVERNOR THORNBURGH: Can we try you on a couple
17 of questions. I think some of our folks here indicated
18 there were a couple of things you said triggered some questi
19 of theirs.

20 CHAIRMAN HENDRIE: Of course, I'd be glad to give
21 it a try. I may end up suggesting that a better answer may
22 come from Harold Denton when he gets through ---

23 GOVERNOR THORNBURGH: I appreciate that.

24 CHAIRMAN HENDRIE: Go ahead.

25 PHONE VOICE: What are the potentials for

1 an explosion that would rupture the core? Rupture the
2 vessel?

3 CHAIRMAN HENDRIE: There isn't any oxygen in
4 there to combine with that hydrogen so the answer as far
5 as I know is pretty close to zero.

6 GOVERNOR THORNBURGH: It is extremely important
7 for us to get a chance to talk to Dr. Denton as soon as
8 possible, Joe, so ---

9 CHAIRMAN HENDRIE: Right. I think the thing to
10 do is for me to get off the horne here and leave it clear
11 for him to get through -- I just talked to Harold and told
12 him to give me ten minutes to call you and then for him
13 to call you.

14 GOVERNOR THORNBURGH: All right.

15 CHAIRMAN HENDRIE: You should be getting it
16 pretty quick.

17 GOVERNOR THORNBURGH: That's fine, thank you.

18 CHAIRMAN HENDRIE: Give me a call if there's
19 anything I can do.

20 GOVERNOR THORNBURGH: (Inaudible) Mr. Chairman.

21 CHAIRMAN HENDRIE: Okay.

22 GOVERNOR THORNBURGH: Can you project the
23 worst possible cases or complications, contingencies we
24 can put into effect to prepare for realistically what
25 contingencies we ought to be prepared for in the next
couple of days?

1 CHAIRMAN HENDRIE: I think it would be prudent
 2 to have the evacuation plan and emergency plan people go on
 3 an alert status. There will be -- I think there will be
 4 some people from the Federal side would like to be on hand
 5 and close to your offices just in case. I think getting
 6 that ready, and so I would be there if we needed. It
 7 would be the prudent thing to do.

8 GOVERNOR THORNBURGH: ^{I think that when} We talked to Jack Watson
 9 after your earlier meeting...

10 CHAIRMAN HENDRIE: Just so. Yeah. I think those
 11 ^{steps} ~~steps~~ are what is prudent to do ^{here at the moment.} ~~(inaudible)~~

12 PHONE VOICE: How large an area do you have
 13 any feeling that we'd be talking about in terms of potential
 14 evacuation?

15 CHAIRMAN HENDRIE: I think that if we suspected
 16 getting a fairly husky release, you know, not like the
 17 kinds of things we've seen, which is fairly minimal,
 18 at least in major accident terms, but a major release,
 19 I think, we probably ought to talk about going out to 20
 20 miles. ^{Did I lose you?} (siren noise from street) -- Sorry about that.
 21 Well, you know, you are kind of feeling for a worse ⁺
 22 case sort of situation.

23 GOVERNOR THORNBURGH: Is there anyone in the
 24 country who has experience with the health consequences
 25 of such a release?

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1 CHAIRMAN HENDRIE: Ah -- not in the sense that
 2 it's been studied ^{and} understood in any real way. There
 3 were back in the days when they were doing bomb testing,
 4 they managed to give groups of soliders and occasionally
 5 a few civilians doses in the low rem range -- a subject
 6 of discussion these days, but that's about the only
 7 comparable experience that occurs to me. You are talking
 8 now about a major release, not about the small releases
 9 that have occurred thus far.

10 GOVERNOR THORNBURGH: Yes. What about the ~~same~~ ^{same}
 11 ~~or continuous~~ ^{or continuous} ~~emissions?~~ ^{emissions? Are they} low level ^(siren noise from street) ~~be concerned~~ ^{about}

12 CHAIRMAN HENDRIE: I would think if it were
 13 going to go on for a couple of weeks or something like
 14 that that it would be prudent to move people out of the
 15 near area.

16 I think, you know that it was cut off for a
 17 while last night, then we had ^a repetition this
 18 morning and they are at a low level continuous release ^{now.}

19 Now, the dose rates, I would judge in public
 20 areas, are just a few millirems per hour, if that, and
 21 they're working on a hookup -- they have been for sometime
 22 now, I guess, a day -- a hookup so that you don't have to
 23 release this stuff, but can get it pumped back into the
 24 containment where it is under control and sealed in. So
 25 I think there's a good prospect that even the present level

1 which I'm told, runs about one tenth of a curie per
 2 second release from that 10 gpm letdown, that there's
 3 a good chance that either all or much ^{test -} ~~the~~ [^] a great part
 4 of that will be terminated when they get the system hooked
 5 up. The prospects are tonight sometime.

6 GOVERNOR THORNBURGH: What is your opinion now
 7 of the chance of a meltdown?

8 CHAIRMAN HENDRIE: ^{I think} [^] Pretty small.

9 GOVERNOR THORNBURGH: What do you think the chance
 10 are of a large unplanned release?

11 CHAIRMAN HENDRIE: Well, those are larger than
 12 the chances of a meltdown, because the sources of
 13 significant releases -- you don't have to have meltdown
 14 to get that. You just have to have some leakage from the
 15 containment, in which there are at the moment -- there is
 16 a good inventory of gaseous fission products, or you
 17 know, a pump seal out in the auxiliary building that is
 18 pumping this fluid sull out, you get a moderate chunk
 19 that way.

20 So I think the chance for significant release
 21 than any we've had is not a safe thing or anything, but
 22 I think it's -- if meltdown is like one percent ⁺ [^] well that
 23 is five percent, somewhat larger.

24 GOVERNOR THORNBURGH: Have there been anymore
 25 unplanned bursts of activity?

1 CHAIRMAN HENDRIE: Not that I know of, I think,
 2 and in calling back to the people, our people at the
 3 plant, why, I guess they take a little different view on
 4 the controlled or uncontrolled aspects. I guess they
 5 feel that they knew these things were going to happen
 6 when the level hit the top of that tank, and relief
 7 valves opened and so on. There wasn't much they could
 8 do about it. They knew it was going to occur and
 9 rather than stock this stuff up and then maybe get into
 10 a situation where a valve has to lift on you because you
 11 are pumping fluid in the tank and you get a burst of it
 12 out, why, at the moment they're allowing this continuous
 13 release. I think that maybe if you can get -- Ah,
 14 Denton will call in and I think he can help you some more
 15 because he is down there on site now.

16 GOVERNOR THORNBURGH: Thank you very much.

17 CHAIRMAN HENDRIE: Okay.

18 GOVERNOR THORNBURGH: (Background noise) If things
 19 proceed tonight and in the process of pumping the stuff back into the containment does
 that mean for all intents and purposes the danger is over?
 Did you hear that?

20 CHAIRMAN HENDRIE: Well, what it would mean is
 21 these releases which have concerned us, but haven't been
 22 enormously large thus far -- that those releases can be
 23 pretty well curtailed. ^{so we} ~~one~~ wouldn't expect to see
 24 any more of that.

25 Now, with regard to the future, ~~is~~ the concern

1 now is in view of the degree of core damage that we ^{now} ~~not~~
 2 think we have, are we going to be able to get down to a
 3 stable long-term cooling situation without any other
 4 difficulty or ^{more by which I mean} ~~(inaudible)~~ releases. And that -- I think
 5 we need some more study and work down there.

6 GOVERNOR THORNBURGH: Did the company inform you
 7 of the path of the puff cloud released this morning?

8 CHAIRMAN HENDRIE: Not up here at any rate.

9 I think ^{our --} my impression was in talking to our
 10 guys on the site that they were aware of what was going
 11 on, but that's probably speculation.

12 (Inaudible conversation from Harrisburg.)

13 GOVERNOR THORNBURGH: Mr. Chairman?

14 CHAIRMAN HENDRIE: Yeah.

15 GOVERNOR THORNBURGH: We have Mr. Denton calling
 16 in, so ^{we're done at the moment} ~~(inaudible)~~

17 CHAIRMAN HENDRIE: Okay. Listen, I can hear you
 18 trying to switch him around from phone to phone. You
 19 may not be able to get to him any other way than over that
 20 White House phone. He's out either in a trailer or
 21 somebody's backyard or police van or something like that
 22 when I ^{talked to him,} ~~(inaudible)~~

23 PHONE VOICE: Okay, thank you very much.

24 CHAIRMAN HENDRIE: Okay, give me a call if I can
 25 help you further.

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PHONE VOICE: Chairman Hendrie, is it your primary concern with the reactor right now, the core, the fact that there's a bubble in there, ^{or fact of} the ~~effect on~~ long-term cooling or because you'll be putting some stuff then out of the auxiliary building?

CHAIRMAN HENDRIE: I'm getting about four conversations at once here.

PHONE VOICE: Is your primary concern with the core now the bubble in the reactor vessel, or is it the fact that the core is so badly damaged you don't ^{want} ~~have~~ to pump any fuel elements or anything outside the containment?

CHAIRMAN HENDRIE: The concern is with the bubble and how to get rid of it, and how we get the system down lower in pressure so we can establish a stable long-term cooling mode.

PHONE VOICE: Is there any way you can call us on a line that we will give you or can ~~(Inaudible conversation)~~ We... I think we are finished.

CHAIRMAN HENDRIE: Okay, I'd better get off. I can hear your troubles.

GOVERNOR THORNBURGH: Thank you.

CHAIRMAN HENDRIE: Good luck.

(End of telephone conversation.)

1 stuff then out of the auxiliary building?

2 CHAIRMA HENDRIE: I'm getting about four conversations at
3 once.

4 VOICE: Does your primary concern with the core now the
5 bubble in the reactor vessel or is it the fact that the core is so badly
6 damaged you don't want to pump any fuel elements or anything outside
7 the containment building?

8 CHAIRMAN HENDRIE: The concern is with the bubble and how we
9 get rid of it and how we get the system down lower in pressure so we
10 can establish a stable long term cooling mode.

11 VOICE: Is there any way you can call us on a line that we
12 will give you or can we I think we are finished.

13 CHAIRMAN HENDRIE: Okay. I think I better get off, I can hear
14 your troubles reaching Good luck.

15 (~~End of conversation with Governor's office.~~)

16 (CHAIRMAN HENDRIE CONVERSATION WITH JODY POWELL, 4:00 - 4:10 p.m.)

17 CHAIRMAN HENDRIE: At the site, Fouchard said they have got
18 so many people hanging around he thinks Harold has to at least say
19 something to recognize the federal presence down there. I just talked
20 to Denton. By the way I also talked to the Governor. Harold is now
21 talking to the Governor and as soon as he gets through talking to the
22 Governor he is going to go out and talk to the press and I was going to
23 try to get to him before we (inaudible). What does the timing situation
24 look like and what do you think?

25 VOICE: Yeah

*get off
Resist
4:00 p.m.*

not this date

1 CHAIRMAN HENDRIE: Well that was one of the things of interest
 2 I wanted to Harold off and running so he could give me a call and let
 3 me know what he said (inaudible) something when and then I could stick
 4 within that boundary up here

5 VOICE: inaudible

6 CHAIRMAN HENDRIE: Sound like a time gonna make and should I do
 7 it over here, over there or what would you like?

8 CHAIRMAN HENDRIE: Good.

9 CHAIRMAN HENDRIE: Good, good.

10 CHAIRMAN HENDRIE: Right

11 CHAIRMAN HENDRIE: I think that's excellent, yeah.

12 VOICE: (inaudible)

13 CHAIRMAN HENDRIE: Okay, I think that's first class. I guess that
 14 leaves little option to see whether it appears Harold's discussion down there
 15 covered the ground amply or I suppose people who are still in town
 16 will be clamoring to get to us here since they couldn't be down at the
 17 site.

18 VOICE: (inaudible)

19 CHAIRMAN HENDRIE: Doing two

20 VOICE: (inaudible)

21 CHAIRMAN: Yeah, I think we might turn it the other way and
 22 try to go low feed here as long as they are underway down there.

23 VOICE: (inaudible)

24 CHAIRMAN: Yeah.

25

1 VOICE: (inaudible)
2 CHAIRMAN: Yeah after he gets off the
3 VOICE: (inaudible)
4 CHAIRMAN: Will do. By the way are you aware that we have
5 a little Senate hearing tomorrow afternoon?
6 VOICE: (inaudible)
7 CHAIRMAN: Yeah, Califano, Costle and I got ah, Senator
8 Kennedy wants to talk about the health effects...
9 VOICE: (inaudible)
10 CHAIRMAN: Well if we are still running sort of mid emergency
11 why (inaudible)
12 VOICE: (inaudible)
13 CHAIRMAN HENDRIE: I'll jot a note. I'll call you back before
14 we do anything desperate over here.
15 VOICE: (inaudible)
16 CHAIRMAN HENDRIE: Yeah, yeah.
17 VOICE: (inaudible)
18 CHAIRMAN HENDRIE: That's exactly right.
19 VOICE: (inaudible)
20 CHAIRMAN HENDRIE: Okay, thank you sir.
21 (End of conversation with JODY POWELL)
22 CHAIRMAN HENDRIE: He says watch out. He's right. There will
23 be a tape from Harold in the back yard at Three Mile Island and a tape
24 of the dumb Chairman answering the same question in sufficient and they
25 will pick out the divergencies even though they may not be matters of
substance.

1 COMMISSIONER KENNEDY: Including the locations of the columns?

2 CHAIRMAN: It is a predicament where the Governor does not know
3 what he is saying. What he is suggesting is maybe we ought to go a
4 little lower key up here and say there is a press briefing going on
5 and the situation going on down there at the Three Mile Island site
6 going on now. You know that is the place of interest to the Pennsylvania
7 press, that's the place to go to find out what is going on at the
8 site. We might be able to provide some kind of background information
9 up here in terms of NRC activities but with regard to the federal coordina
10 disaster relief and emergency actions and so that is Jody Powell's
11 and the White House and anything with regard to civilian protective
12 action and so on, that's the Governor's.

13 VOICE: (Inaudible)

14 CHAIRMAN HENDRIE: Gee wiz I may not make it before the lights

15 COMMISSIONER AHEARNE: Well I am sure you will, many times.

16 VOICE: This is true, Chairman (laughter)

17 VOICE: Except what they are going to allege now is that
18 your testimony of yesterday (inaudible)

19 CHAIRMAN HENDRIE: Yeah.

20 VOICE: It's an (inaudible) situation

21 COMMISSIONER AHEARNE: Better than right when given. Better
22 than than the same (inaudible)

23 COMMISSIONER KENNEDY: Learn something new every day.

24 MR. DORIE: That's right, that's a public relations area.

25 MR. DORIE: They want someone to--Mr. Rashoon's office wants

1 someone to appear on the McNeil ^{Lehrer} ~~Lehrer~~ Show for tonight. Frank Ingram
2 is going to put the finger on Bob Minogue unless someone else volunteers.
3 (inaudible) All they want to know about is health effects too. Unless
4 someone has another idea.

5 COMMISSIONER BRADFORD: (inaudible)

6 CHAIRMAN HENDRIE: What he says is wash out. Two press
7 conferences ^a ~~a~~ short time apart... there would be no comparative
8 tapes. (inaudible)

9 CHAIRMAN HENDRIE: If it wasn't you know great interest in
10 Pennsylvania. I'm afraid if we turn it off down there and say we will
11 do it here why there would be a locals feel terrible so the thought
12 is why don't we get Harold, he's on the spot and is in better shape
13 than second hand, let him do it and we'll regard that as the major
14 NRC press briefing.

15 COMMISSIONER BRADFORD: Let me turn that over and get to my
16 immediate problem.

17 CHAIRMAN HENDRIE: Yeah.

18 COMMISSIONER BRADFORD: Would you then rather meet with
19 Califano and Costle (inaudible)

20 VOICE: (inaudible)

21 COMMISSIONER BRADFORD: I guess its (inaudible)

22 CHAIRMAN HENDRIE: You want to do it or should I?

23 COMMISSIONER GILINSKY: What is that about Califano?

24 CHAIRMAN HENDRIE: Go see Califano and Costle?

25 COMMISSIONER GILINSKY: (inaudible)

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CHAIRMAN HENDRIE: Why don't you go see them because I may still get involved in something like that and I want to hear how Harold comes out down at the site and call Powell back. The thought at the moment is for us not to have a big dog and pony show here but return Harold's briefing to the press down there as the major NRC information rel

COMMISSIONER GILINSKY: Okay.

CHAIRMAN HENDRIE: And what I want to consider up here is whether we want to provide something as general sort of background (inaudible) instructions to the local (inaudible)

COMMISSIONER GILINSKY: I will just give ^{them} ~~them~~ a (inaudible) I called Senator Heinz (inaudible) he was very disturbed.

COMMISSIONER KENNEDY: (inaudible) there are only two telephones and they have to wait in line till they get in to get their call answered

COMMISSIONER KENNEDY: Yeah, press guys always have 4:00 deadline

VOICE: That's a problem.

MR. HASSELL: Yesterday was a little different because they were primarily conversations with the Center and all of those were recorded on the Center's tape anyway. So you didn't have the Commissioners milling around and a lot of that didn't start until today and most of it is on tape (?)

VOICE: (Inaudible)

CHAIRMAN HENDRIE: No I don't think that's a fair reflection of what's going on down at Three Mile Island. There is fairly extensive core damage.

VOICE: (Inaudible)

*approx 4:15: telephone
interview with
the delphia reporter*

*Approx
4:15*

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Phila. reporter

CHAIRMAN HENDRIE: You're speaking with Joe Hendrie.

VOICE: (Inaudible)

CHAIRMAN HENDRIE: Okay the situation as it appears now at Three Mile Island is that there is fairly substantial core damage more than we had thought 24 hours ago. The reactor is not in danger that we know of going through a meltdown or anything close to it but it is (inaudible) than we thought.

VOICE: (Inaudible)

CHAIRMAN HENDRIE: I don't know, ask UPI.

VOICE: (Inaudible)

CHAIRMAN HENDRIE: I don't write their press stuff.

VOICE: (Inaudible)

CHAIRMAN HENDRIE: Well the operator of the plant along with the NRC and the state health people who are all in there in close coordination. We have to work out now the steps to bringing the plant down to a stable long term cooling situation in the recovery phase and that is going to take a few days to work through as far as I can see from here.

VOICE: (Inaudible)

CHAIRMAN HENDRIE: well because there are an assortment of

VOICE: (Inaudible)

CHAIRMAN HENDRIE: Hard to say, several days.

VOICE: (Inaudible)

CHAIRMAN HENDRIE: Can't define it anymore than several days. Okay. There are an assortment of complicated systems there and we just want to make sure that everything is, that the steps that one takes are carefully thought out before hand. So you don't just go banging off

1 ch

1 and doing things left, right and sideways without thinking about it
2 and that takes time.

3 VOICE: (inaudible)

4 CHAIRMAN HENDRIE: I really don't know at the moment. There
5 is a pretty fair fission product release.

6 VOICE: (inaudible)

7 CHAIRMAN HENDRIE: No I speculate that it is pretty hot,
8 how about that.

9 VOICE: (inaudible)

10 CHAIRMAN HENDRIE: Where? In the containment.

11 VOICE: (inaudible)

12 CHAIRMAN HENDRIE: Quite low, people go in there during operati
13 to check on the pipes, pump systems and so on.

14 VOICE: (inaudible)

15 CHAIRMAN HENDRIE: Yeah

16 VOICE: (inaudible)

17 CHAIRMAN HENDRIE: They still haven't completed that connection
18 or at least as far as I know. The last report I had a few minutes ago
19 they hadn't completed that connection.

20 VOICE: (inaudible)

21 CHAIRMAN HENDRIE: Yeah

22 VOICE: (inaudible)

23 CHAIRMAN HENDRIE: I don't know, I am not at the site.

24 VOICE: (inaudible)

25 CHAIRMAN HENDRIE: They weren't able, they haven't been able to

get it done yet my understanding is that they are still working
1 on it and they expect a solution you know tonight.

2 VOICE: (Inaudible)

3 CHAIRMAN HENDRIE: Well there are low level (inaudible)

4 VOICES: (Inaudible)

5 Let's see I have three other calls, I have got to go.

6 VOICE: (inaudible)

7 CHAIRMAN HENDRIE: Hang on a second, okay.

8 VOICE: (inaudible)

9 CHAIRMAN HENDRIE: The McNeil...

10 COMMISSIONER GILINSKY: I didn't know if we were cooperating
11 with (inaudible) I don't want to do it if ah....

12 CHAIRMAN HENDRIE: No! (inaudible)

13 VOICES: (inaudible)

14 CHAIRMAN HENDRIE: Yeah, Hi, did you ring me yet?

15 VOICES: (inaudible)

16 CHAIRMAN HENDRIE: He thinks, you know he is trying to keep
17 track of this (inaudible). He thinks on balance it will be impossible

18 VOICES: (inaudible)

19 CHAIRMAN HENDRIE: I would because, I wouldn't mind looking
20 funny, you know I have been over to a meeting and committed, we agreed
21 who would be chief for public and it is (inaudible)

22 Where are you now?

23 VOICE: (inaudible)

24 CHAIRMAN HENDRIE: All of that complicated stuff, you were
25 losing me there.

Handwritten notes:
to be in
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Handwritten notes:
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VOICE: (inaudible)

CHAIRMAN HENDRIE: Well there it sits and that's part of the complication in getting down to the long term situation.

VOICE: (inaudible)

CHAIRMAN HENDRIE: Just making sure that all the steps that one would take. Valves to open, pumps to start, pumps to turn off and so that all of that sequence is properly worked out and understood and that people examine the things that could possibly go wrong and make sure that it is a rational procedure. That just takes

VOICE: (inaudible)

CHAIRMAN HENDRIE: Well we don't normally have this sort of accident as part of our normal operation to need it.

VOICE: (inaudible)

CHAIRMAN HENDRIE: I think there has been a lot more thinking that there is at stop signs on a road (inaudible)

VOICE: (inaudible)

CHAIRMAN HENDRIE: Listen I have got to go.

VOICE: (inaudible)

CHAIRMAN HENDRIE: Nope, I've got to go.

VOICE: (inaudible)

CHAIRMAN: Oh Dudley is one of the NRC Inspection and Enforcement Office people. Yep.

VOICE: (inaudible)

CHAIRMAN HENDRIE: Look, everything is possible in this life (inaudible) in terms of

1 VOICE: (inaudible)

2 CHAIRMAN HENDRIE: No, No.

3 VOICE: (inaudible)

4 CHAIRMAN HENDRIE: No I'm not. Did he say it was likely?

5 VOICE: (inaudible)

6 CHAIRMAN HENDRIE: There is always the risk. We just went

7 through that routine. You want to know from me whether it is likely.

8 No it is not likely.

9 VOICE: (inaudible)

10 CHAIRMAN HENDRIE: It is very unlikely.

11 VOICE: (inaudible)

12 CHAIRMAN HENDRIE: When we get on the long term recovery

13 cycle. Look I've got phones and I've got to go. See you.

14 ~~End of conversation~~ *with reporter*

15 VOICE: Right directly to the Switchboard at the White House.

16 CHAIRMAN HENDRIE: You don't dial anything?

17 VOICE: They can give you an outside line if you desire one

18 but if you pick it up it will go right directly into (inaudible)

19 CHAIRMAN HENDRIE: Great.

20 VOICE: And they can also call you and it will ring here.

21 CHAIRMAN HENDRIE: Yes.

22 VOICES: (inaudible)

23 ~~MAZUR:~~
~~VOICE:~~ Do you mind if I shadow you with a recorder?

24 CHAIRMAN HENDRIE: I shudder to think of what it will look like

25 when we are through. Have fun.

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~~VOICE~~: It will be very difficult to sort anything out but

CHAIRMAN HENDRIE: Yeah. What else is on the (inaudible)
Let's see Vic is off to see Califano and Costle (inaudible)..
You know what to do about the local press, I don't want the (inaudible).

VOICE: Well the local press by now I would guess

CHAIRMAN HENDRIE: There's some phone calls.

VOICES: (inaudible)

COMMISSIONER GILINSKY: (inaudible) I'll call back but I assume
it was not his personal idea to a lower level but they seem pretty keen
to accommodate that show.

PEGGY: First of all that was the White House. You are
connected to the White house and they will be connected to (inaudible)
to Three Mile Island. (inaudible)

CHAIRMAN HENDRIE: Yeah, and after that I want who else?

PEGGY: (inaudible)

CHAIRMAN HENDRIE: I think I need to get through to Ingram
(inaudible) or something like that at some point soon.

PEGGY: Okay.

on phone:

CHAIRMAN HENDRIE: Hey there!

VOICE: (inaudible)

CHAIRMAN HENDRIE: The Chairman.

VOICE: (inaudible)

CHAIRMAN HENDRIE: Hi Howard, No she's alright, Mumm, busy.

VOICE: (inaudible)

CHAIRMAN HENDRIE: Not at all.

*approx
4:15 p.m.
check
tel. log.*

1 VOICE: (inaudible)

2 CHAIRMAN HENDRIE: Yeah, I just got a call, I just had to
3 take a call from a woman in Philadelphia about to go on the air and
4 broadcast (inaudible) Thompson made a statement which is just a little
5 too expansive to be happy with in this kind of situation. You know
6 what he said was that it could happen, I suppose or something like that
7 and (inaudible) Jesus Christ

8 VOICE: (inaudible)

9 CHAIRMAN HENDRIE: That's a hell of a lot of help.

10 VOICE: (inaudible)

11 CHAIRMAN HENDRIE: We've got Harold Denton on the site down
12 there talking to the press right now. We have been coordinating
13 through Jody Powell and the agreement at the moment is that we are
14 trying to avoid a two headed press conference where people are down
15 there taping Harold and then rush up here and prepare tapes of what I
16 say or somebody would say up here.

17 VOICE: (inaudible)

18 CHAIRMAN: Yeah, and I am going to be calling Ingram in a
19 second to try to get, see what we can do to help the locals who
20 aren't down at the site and also to offset this grave thing from
21 Dudley Thompson.

22 VOICE: (inaudible)

23 CHAIRMAN: Naw, hell I don't . . .

24 VOICE: (Inaudible)

25 CHAIRMAN HENDRIE: Yeah, we've got a more serious situation down
there than I thought yesterday by a hell of a long shot.

4:31 p.m.

1. A /

1 VOICE: (inaudible)

2 CHAIRMAN HENDRIE: Well we've got a lot more core damage than
3 we thought yesterday, clearly heavier fission product burden in the
4 containment, and we've got a hydrogen bubble up at the vessel. And
5 at the moment nobody has figured out a way to get the god damn thing
6 so we can't come down in pressure because if we come down in pressure
7 the bubble increases in size and we don't want it to do that. It is
8 up in the head and it is big enough so that if depressurize down to
9 the place where you can go on RHR why that bubble is going to reach
10 down into the core and (inaudible) and you will have the core uncovered.
11 The bulk temperature is pretty uniform to the system at 280. We have
12 got some higher T's showing on the outlets of some elements.
13 We've got one element showing steam conditions just above the element
14 so apparently we have got one that is still steaming. The feeling now
15 is that the core spent a good deal of daylight hours yesterday largely
16 in a steam cooled position.

17 VOICE: (inaudible)

18 CHAIRMAN HENDRIE: Well sort of some of one some of the other.
19 It was planned in the sense that they knew that they had to, that they
20 were using up the last of the volume available in the let down tank.
21 I guess we are going to go solid in it and start spitting out the relief
22 valves and they did and while they were at it dumped enough to make some
23 headroom in the interim tanks. You know it wasn't voluntary but it
24 wasn't precisely uncontrolled. It did go out through the auxilliary
25 filters so that it is noble gases.

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VOICE: (inaudible)

CHAIRMAN HENDRIE: Yeah

(End of Tape side A)

(Tape Side B)

CHAIRMAN HENDRIE: Why don't we get onto Dudley Thompson announcing we are going to have a meltdown? I know he didn't say it. I've got a piece of it written in my Irish female in Philadelphia reporter but

VOICE: (inaudible)

CHAIRMAN HENDRIE: UP

VOICE: (inaudible)

CHAIRMAN HENDRIE: Yeah. Secondly, is there any, what can I do short of a major press conference to help out with background information briefing or whatever.

VOICE: (inaudible)

CHAIRMAN HENDRIE: Okay, when was this statement made? Was there some kind of, down there in the bull pen at Bethesda?

VOICE: (inaudible)

CHAIRMAN HENDRIE: Yeah, I see and they just picked that piece up hugh.

VOICE: (inaudible)

CHAIRMAN HENDRIE: Okay.

VOICE: (inaudible)

CHAIRMAN HENDRIE: The way it was quoted to me, UPI reports says the senior officials says in a few days we will be faced

Handwritten notes:
4:40
Hendrie
F. Ingram
~~...~~

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with the possibility of a meltdown.

VOICE: (inaudible)

CHAIRMAN HENDRIE: Yeah, oaky.

VOICE: (inaudible)

CHAIRMAN HENDRIE: (inaudible) See ya.

VOICE: (inaudible)

CHAIRMAN HENDRIE: I got Ingram on his way back to UP to try to swamp that out there.

VOICE: (inaudible)

CHAIRMAN HENDRIE: He's, I can show you where he is on the charts.

COMMISSIONER BRADFORD: That's alright I've seen the stuff (inaudible)

CHAIRMAN HENDRIE: This is one of Davis' co-workers. This is Dudley Thompson here. The UPI summarizes what he said in an unfortunately contracted way and makes him say that we will be facing the possibility of a meltdown within a few days. What happened was the discussion out there in the bull ^{pen} ~~pen~~, he got to talking about the hydrogen bubble and the fact that if you brought the pressure down the bubble would grow and if it grew you know if you took the pressure on down and the bubble grew into the core that would limit the cooling and there was a possibility of the fuel melting and then he went on to talk if there was a possibility why we would use protective measures for the population for the public and so on and that got quoted out by this UPI and that's what this woman in Philadelphia was on the line

to 27
Production
with Ingram

4:43
P.M.

1 about.

2 COMMISSIONER GILINSKY: Well, I know what I have to do with
3 her. I guess I want to (inaudible)

4 CHAIRMAN HENDRIE: Why don't you let somebody...Let's see
5 how did we call (inaudible)

6 COMMISSIONER GILINSKY: I guess I ought to get back to
7 Rashoon.

8 CHAIRMAN HENDRIE: Yeah, what you need to do is be around
9 to get the update from Harold.

10 COMMISSIONER GILINSKY: When is that?

11 CHAIRMAN HENDRIE: Close to 6:00.

12 COMMISSIONER GILINSKY: Let's see what we've got here.

13 COMMISSIONER BRADFORD: (inaudible) That makes it tough
14 when the press does that to you, it's like having someone jogging your
15 elbow when you're trying to line up.

16 CHAIRMAN HENDRIE: You know this woman from Philadelphia
17 she said can you guarantee this, can you guarantee that. No you
18 can't guarantee anything. (inaudible)

19 COMMISSIONER BRADFORD: I don't know.

20 COMMISSIONER AHEARNE: I talked to (inaudible) and suggested
21 that I help (inaudible)

22 COMMISSIONER BRADFORD: Who's that?

23 COMMISSIONER AHEARNE: O'Toole.

24 COMMISSIONER BRADFORD: Oh.

25 COMMISSIONER AHEARNE: He said he's pinned to the telephone

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because he the (inaudible)

PEGGY: Pick up.

CHAIRMAN HENDRIE: Yeah.

COMMISSIONER BRADFORD: (inaudible)

CHAIRMAN HENDRIE: Yeah Jim.

COMMISSIONER BRADFORD: (inaudible) get a statement somehow

COMMISSIONER GILINSKY: Why don't we zip over there

VOICE: (Inaudible)

CHAIRMAN HENDRIE: It may be because the President was interes
in knowing whether we had everybody available we might want to have
and he suggested (inaudible) stand by to lend a hand and I think there
may have been a call from (inaudible)

COMMISSIONER BRADFORD: (inaudible)

CHAIRMAN HENDRIE: (inaudible) Met. Ed. is not all that strong
technically, they are backed by a GPU holding company engineering staff.

VOICE: (Inaudible)

CHAIRMAN HENDRIE: No, it's not a fact you're a (inaudible)
just for show

CHAIRMAN HENDRIE: We're not sure the Westinghouse folks are
going to be familiar with that plant to be much help.

CHAIRMAN HENDRIE: We've got Harold Denton down on the site
now with communications network (inaudible) I'll be getting a report
from Hanauer (inaudible). Just a moment. You have some time? Let
me bring you up to date. We've got more damage in that core than we
thought yesterday.

VOICE: (Inaudible)

*End of telephone
with James S. ...
4:45
Chairman
Council*

*Bradford
Council
4:46*

~~*[Handwritten scribbles]*~~

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CHAIRMAN HENDRIE: Best guess now is that there was extensive overheating and we got fairly substantial degradation we got a lot of fission products in the containment. What were regarded yesterday as probably as anomalous and incorrect thermocouple readings at the top end to the number of elements for what we believe those temperatures are may have come down over the past day and well we've still got one of them that is above the saturation temperature and is steaming that thermocouple is steaming at the top of the element. The system is stable, we ought to be able to maintain it as it is without any particular problems for some time. Pressure is 1,000 pounds in the system, the temperature is about 280, the bulk temperature. The circulation through the reactor coolant pump, the energy is being taken out through a steam generator. There is a small flow that goes into the primary because you have to have the pump seals pressurized and the suction in turn creates a need for a small stream out of the primary a 10 GPM and that has been the primary source of intermittent and sort of continuous flow level releases put some noble gas activity in the area dose rates about 20 or 30 mr per hour yesterday. I think there is ..The radiation isn't enough to alarm (inaudible). I recommended to the Governor this morning, well yesterday I thought we had things in pretty good shape and the immediate public opinion standpoint last night was in good shape. Then this morning there were more releases from this let down source after they had been terminated over the night and all of a sudden they got to be a great (inaudible) yeah from the primary system. You are pumping a little water in there

1 because you've got to keep the seals back pressure and that ends up
2 putting about 10 GPM into the primary system. In short that means
3 you have got to take 10 GPM out and the way that let down goes, it
4 goes to the auxiliary building. I thought we were going to be able
5 to can up this release and just pump it back in the primary containment
6 and get that piped up last night but we weren't able to do it. There
7 were some complications (inaudible) how the gas enters and they are
8 still working on it (inaudible)

9 VOICE: (inaudible)

10 CHAIRMAN HENDRIE: Yeah how about that. Well that's tearing
11 around trying to get that UPI considerable oversimplification and
12 something of an extrapolation of what one of our guys said this afternoon.
13 The system is stable, we've got a little problem. We got some little
14 water reaction yesterday when those temperatures were running hot.
15 That core is the best guess now is that the core, at least the upper
16 part of it is steaming and in a steam cooled mode up through the better
17 part of yesterday. That fuel temperatures got up (inaudible)
18 maybe a good deal of it. At the moment there is a noncondensable
19 gas bubble in the head of the vessel. The only thing it could be is
20 hydrogen.

21 VOICE: (inaudible)

22 CHAIRMAN HENDRIE: Well if ^{it} were water it would be
23 condensable. The only thing that bubble could be is hydrogen and
24 it is the source of a lot of head scratching and the question is
25 how the hell do we get rid of it. They have got the system at a

1 1,000 pound gauge. The bubble has at that pressure a volume of about
2 1,000 cubic feet, the size of most of the dome in the vessel. If we
3 knock the pressure down so you can get over on the long term decay
4 heat cooling mode that bubble is going to expand as the pressure
5 decreases and we are worried about how we will manage to get the pressure
6 down without having that hydrogen expand down and void the upper part
7 of the core.

8 VOICE: (inaudible)

9 CHAIRMAN HENDRIE: Well I don't think any of it is exposed now.
10 except this little patch over one or two elements where there is still
11 some residual steaming going on. But that you go on up in the vessel
12 solid water and this hydrogen bubble now you drop the pressure down to
13 200 # then that bubble volume will reach down into the core
14 and that doesn't seem to be a very good thing to do.

15 VOICE: (inaudible)

16 CHAIRMAN HENDRIE: Good question. That's what all the experts
17 are struggling with right now and that's why we have agreed with the
18 utility that we aren't going to do anything to taking swift steps.
19 We have all agreed that we are going to know where we are going, how
20 we are going to get there and what the possibilities are. We are
21 going to stay in this mode for a while (inaudible) but you know
22 it leaves you in a very uncertain sort of situation because you
23 haven't got the machine cooled down to a stable long term recirculated
24 recovery mode and that's making everybody edgy. I say the fact that
25 as long as we up with the bubble in the higher pressure we haven't

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1 got the machine down on the stable long term recovery mode and until
2 we get there people are going to be (inaudible) your folks are standing
3 by. I don't know what else to do at the moment.

4 VOICE: (inaudible)

5 CHAIRMAN HENDRIE: I don't know, I have contemplated that. I
6 have concluded not. If we can get up there and get into a press what
7 we have done is to send Harold Denton, Director of Nuclear Reactor Reg-
8 ulation up there with a senior team (inaudible). He is the federal
9 (inaudible) technical chief in terms of what's going on at the reactor.

10 VOICE: (Inaudible)

11 CHAIRMAN HENDRIE: Yes, he's the chief of the Reactor Regulati

12 VOICE: (Inaudible)

13 CHAIRMAN HENDRIE: Alright sir, thank you, bye-bye.

14 (End of conversation) *with James Schlesinger.*

15 VOICE: (Inaudible)

16 CHAIRMAN HENDRIE: What's he on?

17 PEGGY: You have to come in here sir.

18 ~~VOICE: (Inaudible)~~

19 ~~VOICES: (Inaudible - Background voices - Pause)~~

20 CHAIRMAN HENDRIE: Yeah.

21 ~~MR. DENTON:~~

22 ~~VOICE:~~ The first question I was hit with was that (inaudible)
NRC was concerned about meltdown.

23 CHAIRMAN HENDRIE: Oh for Christ's sake. Yeah I know.

24 ~~MR. DENTON:~~

25 ~~VOICE:~~ I came about you because I knew you (inaudible) about
new ways to cool the core and my concern was (inaudible)

*mtg moved
to Doris
Hendrie's office
Sumner, phone
back at 5:00 P.M.*

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(Beginning Side 1, Tape 12)

1 CHAIRMAN HENDRIE: Hello

2 MR. FOUCHARD: Hello

3 MR. DORIE: Yeah - go ahead.

4 MR. FOUCHARD: Jody Powell just called and said something
5 about some story on meltdown.

6 CHAIRMAN HENDRIE: Yeah - we had a UPI condensation of a
7 briefing given in the press room at Bethesda.

8 MR. FOUCHARD: Goddamit.

9 CHAIRMAN HENDRIE: In which Dudley Thompson got wandering
10 off about what might happen if the gas bubble expanded.

11 MR. FOUCHARD: Yeah.

12 CHAIRMAN HENDRIE: Got to talking about the possibility of
13 meltdowns. We've got Ingram tracking back to UPI to see what we can
14 do about that - Vic is headed for the McNeil Leher show tonight - I
15 guess primarily on that account.

16 MR. FOUCHARD: Yeah.

17 CHAIRMAN HENDRIE: Now. When I talked to Jody Powell a
18 little bit ago we were concerned about having press conferences there
19 at the site and then up here and people comparing tapes.

20 MR. FOUCHARD: That's right.

21 CHAIRMAN HENDRIE: Hello

22 MR. FOUCHARD: Yeah, I'm here.

23 CHAIRMAN HENDRIE: Can you hear me?

24 MR. FOUCHARD: Just.

25 CHAIRMAN HENDRIE: Marginal?

1-1

1 MR. FOUCHARD: Just barely, Joe, yeah.

2 CHAIRMAN HENDRIE: Let me get in a little closer. I can hear
3 a lot of hullaballo in the background.

4 MR. FOUCHARD: Yeah, we're still in the, you know in the

5 CHAIRMAN HENDRIE: That briefing still going on?

6 MR. FOUCHARD: No - Harold needs to (inaudible) we need to
7 get - we've talked with the Governor, OK,

8 CHAIRMAN HENDRIE: Yeah

9 MR. FOUCHARD: We're going to go in there and meet with the
10 Governor tonight and then hold a joint press conference with him.

11 CHAIRMAN HENDRIE: You're not holding it there?

12 MR. FOUCHARD: Harold just talked very briefly with reporters
13 here because there was no way we could hide him.

14 CHAIRMAN HENDRIE: Yeah.

15 MR. FOUCHARD: And then we're going - we've told them all
16 that we'll talk to you in detail tonight ah - after we've talked to the
17 Governor. But I think what we've got to do is get on top of that
18 meltdown story.

19 CHAIRMAN HENDRIE: Yeah.

20 COMM. KENNEDY: Where did it come from Joe?

21 MR. FOUCHARD: I have no idea - somebody said Dudley
22 Thompson said something like that. I haven't seen the story.

23 CHAIRMAN HENDRIE: I know enough of the origin of it to explain
24 it to him. Let me tell you in a minute Dick. Now look -

25 MR. FOUCHARD: Do you need to talk to him for anything?

1 CHAIRMAN HENDRIE: Who?

2 MR. FOUCHARD: Harold Denton.

3 CHAIRMAN HENDRIE: Yeah. Ah - he's getting ready to go talk
4 to his tropps - right?

5 MR. FOUCHARD: Yes.

6 CHAIRMAN HENDRIE: Harold - you there?

7 MR. FOUCHARD: Just a minute. Harold?

8 MR. DENTON: Hello, Mr. Chairman.

9 CHAIRMAN HENDRIE: Hi.

10 MR. DENTON: I can understand Dick Vollmer's problem now.
11 Christ, all I've done is get on the phone.

12 CHAIRMAN HENDRIE: Yeah.

13 MR. DENTON: Governor's office calls every few minutes.

14 CHAIRMAN HENDRIE: Yeah.

15 MR. DENTON: That was the first question I was hit from when
16 I told him why I was here was that word from NRC was concern about
17 meltdown.

18 CHAIRMAN HENDRIE: ^{oh} ~~for~~ for Christ sake. Yeah - I know.

19 MR. DENTON: I gave him my view that there was no imminent
20 hazard and that there were ways of cooling the core and my concern was
21 bringing it cold with a minimum release to the public and that I had
22 my staff pouring all over this and I intended to meet with him later
23 tonight and the Governor and I are going to hold a joint press conference
24 sometime after seven - after I brief him.

25 CHAIRMAN HENDRIE: Yeah.

1 VOICE: We did mention the steam bubble and they wanted to
2 know what all that meant, so I had to give them five minute briefing.

3 CHAIRMAN HENDRIE: Steam bubble?

4 VOICE: The bubble in the core.

5 CHAIRMAN HENDRIE: Bubble in the head actually.

6 VOICE: Yeah the head of the vessel. I told them that the
7 core was covered but the temperature was very high (inaudible)

8 CHAIRMAN HENDRIE: Yeah. Well alrighty, listen I think
9 Fouchard ought to call Jody Powell and report in on these public informati
10 developments.

11 VOICE: We just got off the phone with Jody. He wasn't
12 really concerned, but is getting a lot of congressional calls about
13 this core meltdown word whoever originated it and apparently that
14 (inaudible) what I said and they were satisfied with that. I guess what
15 needs to be done is to find out how it was used on the air and a
16 briefing was held and there was nothing to it to the right people.
17 Did you attend the briefing?

18 CHAIRMAN HENDRIE: No.

19 VOICE: I understand it was Dudley Thompson and some other
20 people.

21 CHAIRMAN HENDRIE: Yeah, Dudley and Brian. Dudley got off
22 and wandering around with the gas bubble and the possibility that it
23 could expand down into the core and so on and so on.

24 VOICE: That was the word that was already here at 9:00.

25 CHAIRMAN HENDRIE: Yeah.

1 MR. DENTON: And I'll get back to you after my guys brief
2 me. Do you need - I can see its a full time job just to answer the
3 phone. I hope the technical staff are doing better than I'm doing.

4 CHAIRMAN HENDRIE: Yeah. Now, what else did you say at
5 what must have been a fairly brief appearance that you've just made
6 with the press.

7 MR. DENTON: Just about eight minutes worth that you'd called
8 the President and that he was very interested in getting hard information
9 from the site - we were getting hard lines in and my job was to keep
10 you informed, and him informed, that the release rate was down - I
11 thought the Governor's action was reasonable regarding precautions to
12 stay inside and that I had all these people up here and we'd give them
13 more details later.

14 CHAIRMAN HENDRIE: Uh huh.

15 MR. DENTON: Now - they, you know, asked a lot of other
16 questions, most of which I didn't answer.

17 CHAIRMAN HENDRIE: OK

18 MR. DENTON: It was just a small group of people but they
19 were pretty persistent; needed some information so I'm sure that
20 tonight in Harrisburg it's going to be a mob scene.

21 CHAIRMAN HENDRIE: Yeah. Afraid so.

22 MR. DENTON: And we did mention the steam bubble and they
23 wanted to know what all that meant so I had Stello give them five
24 minutes worth.

25 CHAIRMAN HENDRIE: Steam bubble?

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1 MR. DENTON: Well the bubble in the core. Not condensable.

2 CHAIRMAN HENDRIE: Bubble in the head actually - what?

3 MR. DENTON: In the head of the vessel. I told them that
4 I thought the core was covered but the temperature was pretty hot in
5 several elements.

6 CHAIRMAN HENDRIE: Yeah. All righty. Listen, I think
7 Fouchard ought to call Jody Powell and report in on these public
8 information developments.

9 MR. DENTON: We just got off the phone with Jody he was
10 pretty concerned - getting a lot of Congressional calls about this
11 core meltdown words - wherever they originated - and apparently that's
12 his - I told him what I'd said and he appeared satisfied with that.
13 I guess what needs to be done is to find out how it was used down
14 there in the briefing that was held and try to make sure it's under-
15 stood. The same people. Did you attend the briefing?

16 CHAIRMAN HENDRIE: No.

17 MR. DENTON: I understand it was Dudley Thompson and some
18 other people.

19 CHAIRMAN HENDRIE: Yeah - Dudley and Brian - and Dudley got
20 off wandering around with the gas bubble and the possibility that it
21 could expand down in the core and etc.

22 MR. DENTON: That was already here at nine. I guess my
23 own opinion and what I hear from Vollmer and the other people close
24 to it is they're convinced that the operable safety injection
25 systems would still work in spite of the bubble even if they lose

1 the steam generator cooling right now.

2 CHAIRMAN HENDRIE: Yeah.

3 MR. DENTON: So, I think our next effort to try to see what we
4 know will be this Harrisburg briefing and the White House is getting
5 hard wired lines in so maybe shortly we'll be able to deal more
6 directly.

7 CHAIRMAN HENDRIE: Yeah. All righty, go and talk to your
8 folk.

9 MR. DENTON: All right - I'll call you later.

10 CHAIRMAN HENDRIE: And we'll look to hear from you later.

11 MR. DENTON: Yes.

12 CHAIRMAN HENDRIE: Right, thanks Harold.

13 (end of telephone conversation with Denton and Fawcett)

14 CHAIRMAN HENDRIE: They were out in a press briefing in the
15 bull-pen out there in Bethesda. Dudley got to talking - explaining
16 about the gas bubble, lowered the pressure - bubble would expand
17 and maybe if it didn't all happen right, why it might expand down and
18 uncover a portion of the core. It's conceivable that there'd be some
19 fuel meltin and he went on and talked about (inaudible) and then he
20 said if there were any possibility of that why we'd take appropriate
21 protective action for people, etc., etc. UP then came out and said -
22 see, your official says we're facing meltdown within the next few days.

23 VOICE: (Inaudible) That sounds like Thompson, being accurate.

24 CHAIRMAN HENDRIE: Yeah. Ingram didn't know when I called
25 him back in there about the UPI thing and said (inaudible) he's had

1 to listen (?) very carefully and what Dudley said was not out of
2 line except that maybe just being aware of the possibility of
3 misinterpretation, is the problem.

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5 (End of Side 1, Table 12)

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Mr. DENTON!

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~~VOICE~~ I guess my own opinion, I want to hear it from Baumer or the other people close to it (inaudible) operable safety ejection system still work... if part of the bubble...even if they lose the general coolant right now.

CHAIRMAN HENDRIE: Yeah.

Mr. DENTON!

~~VOICE~~: Yeah I think our next effort will be to try to pull (inaudible) in the Harrisburgh thing. The White House is giving hard (?) loud lines in so maybe shortly you'll be able to deal more directly.

CHAIRMAN HENDRIE: Yeah. Alright go and talk to your folks.

Mr. DENTON!

~~VOICE~~: Alright, I'll talk to you later.

CHAIRMAN HENDRIE: We'll look to hear from you later. Alright

thanks Harold.

~~(End of conversation)~~

VOICE: (Inaudible) (Laughter)

CHAIRMAN HENDRIE: Not for us, we are used to that.

VOICE: (Inaudible)

5:06 p.m.

(MEETING MOVES TO CHAIRMAN'S OFFICE; HENDRIE ON PHONE WITH JERRY POWELL)

CHAIRMAN HENDRIE: Okay lets get started on it and see how fast we can get it out. Now apparently Denton, by the way, Harold said he had contacted the press down there but there is a big layout for Harrisburgh for 7:00 p.m. with the Governor. Does it look to you as though that covers pretty well and there is not a need for flags and drums over here?

VOICE: (Inaudible)

CHAIRMAN HENDRIE: Yes.

VOICE: (Inaudible)

CHAIRMAN HENDRIE: Then we can stand, yeah.

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VOICE: (Inaudible)

CHAIRMAN HENDRIE: Yeah, alright.

VOICE: (Inaudible)

CHAIRMAN HENDRIE: Yeah.

VOICE: (Inaudible)

CHAIRMAN HENDRIE: Okay, fine.

VOICE: (Inaudible)

CHAIRMAN HENDRIE: Will do.

VOICE: (Inaudible)

CHAIRMAN HENDRIE: Right, Bye now.

(End of conversation with *Judy Powell*)

CHAIRMAN HENDRIE: Should we just do it or should we ask Ingram to draft?

COMMISSIONER AHEARNE: Well I would suggest for the moment (inaudible) let him know we are doing it though.

VOICE: We prepare the press release?

COMMISSIONER AHEARNE: Yeah.
(Chairman on phone with *Ted Stearns Stern* ?)

CHAIRMAN HENDRIE: Hi Ted.

(Background noise and voices)

MR. STERN: (Inaudible)

CHAIRMAN HENDRIE: Yeah, no.

MR. STERN: (Inaudible)

CHAIRMAN HENDRIE: We've got the President pretty interested in the whole thing but I don't see that there is anything he can do up there I assume that (inaudible) has got you thinking about how to get the hydrogen out of there.

*let me know
Chairman
Stearns*

1 VOICE: (inaudible)

2 CHAIRMAN HENDRIE: Well let us know if anything occurs to you.

3 VOICE: (inaudible)

4 CHAIRMAN HENDRIE: It's hard from that distance without the
5 background material (inaudible)

6 VOICE: (inaudible)

7 CHAIRMAN HENDRIE: By the way how good a staff does GPU got
8 on the engineering side, anything worthwhile?

9 VOICE: (inaudible)

10 CHAIRMAN HENDRIE: Yeah.

11 VOICE: (inaudible)

12 CHAIRMAN HENDRIE: (inaudible) One of the concerns is that the
13 whole shop there is not that strong and the operating staff clearly
14 is not.

15 VOICE: (inaudible)

16 CHAIRMAN HENDRIE: Yeah. Right now I'm time limited at a
17 personal matter. What I'll do is to shout these numbers out to people
18 to see if it will be helpful to call and let them call you.

19 VOICE: (inaudible)

20 CHAIRMAN HENDRIE: Wait a minute - 245-

21 VOICE: (inaudible)

22 CHAIRMAN HENDRIE: Okay, Very good. Ted, thank you very much.

23 VOICE: (inaudible)

24 CHAIRMAN HENDRIE: If we don't we won't call.

25 VOICE: (inaudible)

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1 CHAIRMAN HENDRIE: Right and in the meantime if anybody thinks
2 of a bright way to do something we ought to think about why go in through
3 GPU or call back here.

4 VOICE: (Inaudible)

5 CHAIRMAN HENDRIE: Think you do.

6 VOICE: (Inaudible)

7 CHAIRMAN HENDRIE: The best thing to do probably would be to
8 call Ed Case at the Response Center or just get the NRC Operator to get
9 you. The Response Center is Area Code 301 492-8111.

10 VOICE: (Inaudible)

11 CHAIRMAN HENDRIE: Yeah or the NRC Operator if you want to get
12 hold of Case directly why that's 301 492-7000.

13 VOICE: (Inaudible)

14 CHAIRMAN HENDRIE: Yeah. Thanks.

15 (End of ^{please} conversation ~~with~~ with Ted Stern)

16 VOICE: (Inaudible) Boy you guys have really done it.

17 VOICE: What do you mean?

18 VOICE: Announcing a (inaudible) is about to occur.

19 VOICE: What are you talking about?

20 COMMISSIONER KENNEDY (?): They just announced it on the radio
21 NRC officials say...

22 CHAIRMAN HENDRIE: Peg get me several xerox copies of that.

23 COMMISSIONER KENNEDY (?): ...ultimate accident core meltdown
24 well occur. People are fleeing the area and going off to Hershey. Red
25 Cross is hustling blankets, setting up food kitchens

1 VOICE: Please say something man.

2 COMMISSIONER KENNEDY: I practically had to throw a net over
3 this group in your absence. I wasn't even called and I have taken the
4 hide off your assistant, Dr. Austin, who was in a sense one of the
5 perpetrators by feeding these guys whose calm nature is exceeded the
6 thing in velocity only by enraged bull, you know.

7 CHAIRMAN HENDRIE: Yeah.

8 COMMISSIONER KENNEDY: By getting them so uptight about what..
9 I'll find out what they are saying about. I kept saying but that's not
10 what he was saying I was sitting right here. Joe says that's not the
11 case at all.

12 COMMISSIONER KENNEDY: (Inaudible) If I hadn't protested why
13 wouldn't people (inaudible) right around the room. We have them plannin
14 an evacuation underway already, I'm telling you.

15 VOICE: You know you have got to understand that's what you
16 are dealing with, you don't understand.

17 CHAIRMAN HENDRIE: It's like ah

18 VOICES: (inaudible)

19 COMMISSIONER KENNEDY: So anyway I just wanted you to know tha
20 that's the way life is and that's what you have walked back into.

21 VOICE: (Inaudible)

22 COMMISSIONER KENNEDY: Yeah and I didn't know it. When you
23 left I went back to my office, ate a sandwich, went through a bunch of
24 press releases that we have been getting by the bushel load. All of a
25 sudden I looked at my watch and said Jez that's (inaudible)

1 so I said to Claudia has anybody called you, have you heard anything.
2 She said No. She came back and she said they are having a big meeting,
3 the place is full of people. I said oh really.

4 CHAIRMAN HENDRIE: (inaudible) Do you want to stick around
5 and engineer a press release?

6 COMMISSIONER KENNEDY: Sure.

7 COMMISSIONER KENNEDY: Somebody has got to make a general
8 statement to the press, you know.

9 ANNE HODGDON: Please tell him that you are the Chairman
10 and I referred it to because you know, bla, bla, bla and (inaudible)
11 should be dealing with us.

12 CHAIRMAN HENDRIE: Do you go 80 on commercial?

13 ANN HODGDON: 8, just 8 and then the code and the number.
14 Thinks Myers, kept calling me sir. I said I know I have a low voice.
15 If you worked here you would too. (Laughter)

16 CHAIRMAN HENDRIE: You see it's the new ethnic code we don't
17 distinguish.

18 ANNE HODGDON: That's right sir, I shouldn't have even have
19 said anything he said but your name started off with Anne. (Laughter)
20 Thank you.

21 CHAIRMAN HENDRIE: Alright, this is Joe Hendrie, Chairman
22 of the Nuclear Regulatory Commission any chance of talking to Mr.
23 Myers?

24 VOICE: (inaudible)

25 CHAIRMAN HENDRIE: Yeah, (inaudible) we're not going to have

1 a meltdown for God's sake.

2 MR. MYERS: (inaudible)

3 CHAIRMAN HENDRIE: You can say the Chairman of the Nuclear
4 Regulatory Commission says we are not facing a meltdown situation.
5 There is a very, very remote possibility that the ample warning
6 (inaudible)

7 MR. MYERS: (inaudible)

8 CHAIRMAN HENDRIE: Well we would have something like a half
9 a day I guess as an absolute minimum and like half a day, I just don't
10 think we're in anything like that kind of a situation.

11 MR. MYERS: (inaudible)

12 CHAIRMAN HENDRIE: I think it just doesn't matter a general
13 prudence. I think people who are in the evacuation machinery need
14 to be alert but that's a precautionary measure which I think is prudent
15 to take in any situation like this and it doesn't matter by any manner
16 of means that we are going to (inaudible)

17 MR. MYERS: (inaudible)

18 CHAIRMAN HENDRIE: Yeah. Well we've got a stable situation
19 in the core, the circulation is set up, the core is cooled. What we
20 have not accomplished, however, yet is to get the machine depressurized
21 down onto a you know stable, shutdown cold long term recovery situation
22 and until we do that it will be some several days anyway before we
23 accomplish that, why there is going to be some concern.

24 MR. MYERS: (inaudible)

25 CHAIRMAN HENDRIE: Yeah, no worse with respect to (inaudible)

1 and I have some high hopes that they will finally succeed in terminating
2 those tonight.

3 MR. MYERS: (Inaudible)

4 CHAIRMAN HENDRIE: No. Actually the emissions are the sort that
5 are occurring are the result of thus far inevitable small let down stream
6 that we haven't got a full handle on yet. It is letting some liquid
7 lose in the auxiliary room, then the gaseous fission products get sucked
8 up into the building exhaust, its a tight building. They go through filter
9 so it cleans out everything but the noble gas and what we're seeing out
10 there is (inaudible)

11 MR. MYERS: (Inaudible)

12 CHAIRMAN HENDRIE: That I think is (inaudible)

13 MR. MYERS: (Inaudible)

14 CHAIRMAN HENDRIE: Okay.

15 MR. MYERS: (Inaudible)

16 CHAIRMAN HENDRIE: Yeah, you have the telephone number here?

17 Let me give you my direct number. It's area code 202 634-1459.

18 MR. MYERS: (Inaudible)

19 CHAIRMAN HENDRIE: Yeah.

20 MR. MYERS: (Inaudible)

21 CHAIRMAN HENDRIE: Okay thank you.

22 (End of conversation)

23 (Conversation between Chairman Hendrie and Peggy Shuttleworth)

24 CHAIRMAN HENDRIE: Hi, this is the Chairman can you get me
25 to Edson Case?

VOICE: (Inaudible)

(Fragmented conversation)

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CHAIRMAN HENDRIE: Edson

MR. CASE: (inaudible)

CHAIRMAN HENDRIE: Oh a little hassell, we're having a lot of trouble with this radio stuff going out about the imminent meltdown and denying it left and right.

MR. CASE: (inaudible)

CHAIRMAN HENDRIE: Good. Now I had a call from Ted Stern. He has given me a couple of numbers. They are ready to (inaudible).

MR. CASE: (inaudible)

CHAIRMAN HENDRIE: Yeah, and he is also ready to call in Combustion and ...

MR. CASE: (inaudible)

CHAIRMAN HENDRIE: That's what were ...yeah

MR. CASE: (inaudible)

CHAIRMAN HENDRIE: Okay let me give you a couple of numbers in case you want to marshall some forces, they're ready to do whatever, put teams on to work right around the clock for you. Man named Tom Anderson apparently in charge of their licensing office 412-3735766, home, same area code 327-

(Beginning Side 1, Tape 11) March 30, 1979

5:20 P.M.

1 CHAIRMAN HENDRIE: Now, tell me again about ^{votes} ~~this~~.

2 ~~MAZUR~~
MR. ~~HASSELL~~ Just here to tape, since there

3 are three of you.

4 ~~MR. BICKWIT~~: JUST THAT IT TAKES...

5 CHAIRMAN HENDRIE: We can always posthumously vote
6 for short notice meetings.

7 COMMISSIONER KENNEDY: This is a continuation of
8 the previous meeting.

9 CHAIRMAN HENDRIE: Continuation of the meeting
10 voted last night. OK, We start out and say the Chairman of
11 the NRC said this afternoon that contrary to some media
12 reports there's no imminent danger of a core meltdown of
13 the Three Mile Island nuclear plant, period.

14 ^{Splendid.}
COMMISSIONER KENNEDY: Then I would go right
15 along---

16 CHAIRMAN HENDRIE: Then we go here. There have been
17 new paragraphs. There have been intermittent--- We end-up -
18 the reactor is being maintained - all the way down to
19 reactors being maintained in a stable condition.

20 COMMISSIONER KENNEDY: Then you can add that---

21 CHAIRMAN HENDRIE: Then we add---

22 COMMISSIONER KENNEDY: Additional staff from the
23 Commission and additional numbers of the Commission staff -
24 technical experts. Additional technical experts from the
25 Commission staff.

CHAIRMAN HENDRIE: The Commission staff, comma,

1 headed by

2 COMMISSIONER KENNEDY: Yes. The director--

3 CHAIRMAN HENDRIE: The staff were flown to the
4 site and reached the site early this afternoon.

5 COMMISSIONER KENNEDY: They went through White
6 House auspices, at the direction of the President.
7 They have been provided with all granted communications,
8 and are working closely with the utility personnel, experts
9 from other Federal agencies and the State of Pennsylvania.

10 CHAIRMAN HENDRIE: Anybody.

11 COMMISSIONER AHEARNE: Thornburgh.

12 MR. HASSELL: Thornburgh.

13 COMMISSIONER KENNEDY: "burgh" I believe
14 (simultaneous conversation)

15 COMMISSIONER KENNEDY: True, that says it. It
16 seems to me

17 COMMISSIONER AHEARNE: I guess what you're saying
18 is that you want to be very positive to Congress mainly
19 because--

20 CHAIRMAN HENDRIE: Yes.

21 COMMISSIONER AHEARNE: Clearly the fuel rods are in
22 a situation.

23 COMMISSIONER KENNEDY: It says that, it says that
24 there's evidence of severe damage to nuclear fuel. Possibili
25 exists of interrupting coolant flow within the reactor etc.

1 Several options can be considered, in the meantime a
2 state of --

3 COMMISSIONER AHEARNE: The whole flavor is very
4 optimistic and I--

5 COMMISSIONER KENNEDY: I don't think its
6 optimistic. It just says we're working hard. Which
7 happens to be the case. The focus, I think, has to be
8 reassuring...reassure people that at least we're working
9 on it.

10 CHAIRMAN HENDRIE: OK Let me read. I think
11 we ought to stick this paragraph right under the top. The
12 Chairman of the NRC said this afternoon that contrary to
13 some media reports there is no imminent danger of a core
14 meltdown at the Three Island nuclear plant. New paragraph,
15 technical experts from the Commission staff headed by the
16 Director of Nuclear Reactor Regulation, Harold Denton,
17 reached the site early this afternoon. At the direction
18 of the President they have been provided with all granted
19 communication facilities, the NRC team at the site is
20 working closely with the utility personnel and experts from
21 other Federal agencies and the State of Pennsylvania. Close
22 contact has been maintained with Governor Thornburgh. New
23 paragraph. Go to here. There has been, ends up--

24 COMMISSIONER KENNEDY: Why don't we say close
25 contact is being maintained. Instead of has been.

1 CHAIRMAN HENDRIE: OK

2 COMMISSIONER KENNEDY: Sounds good to me.

3 CHAIRMAN HENDRIE: Good.

4 COMMISSIONER AHEARNE: In the middle, take out
5 members of the NRC technical staff at the--

6 CHAIRMAN HENDRIE: Make it per hour at the end
7 of the first paragraph. Now do those paragraphs come in a
8 reasonable order?

9 COMMISSIONER KENNEDY: Wouldn't--I guess I'd take
10 that other sentence out of there too--about 11:30 a.m.,
11 Chairman of NRC. That's ^{all} history.

12 COMMISSIONER AHEARNE: Yeah. You're right
13 (inaudible)

14 COMMISSIONER KENNEDY: That's way behind us, The
15 Governor's already ~~gone~~. *done that once before.*

16 CHAIRMAN HENDRIE: I wonder if after the things
17 I've read here, we shouldn't start the press release with
18 efforts to reduce the temperature and get that message
19 in, and then put that there have been intermittent releases
20 as a final paragraph. Because it kind of deals with the
21 fundamental problem that this thing is talking about first.

22 COMMISSIONER KENNEDY: Which gets back to your
23 opening sentence-- Is a few mili roentgen per the right
24 way to phrase that, what's that, four, five?

25 CHAIRMAN HENDRIE: I think its ^{off} ~~at~~ site level ~~100~~ ^{- a few}

1 COMMISSIONER KENNEDY: I'm worried about few.
2 *On the east bank of the river they got*

3 COMMISSIONER AHEARNE: ~~(Inaudible)~~ to 20,

4 COMMISSIONER KENNEDY: Well, your off-site
5 readings were ranging anywhere between one and 20. Is that
6 characterized by a few OK?

7 CHAIRMAN HENDRIE: The last report quoted one
8 to 20 around the, sort of around the perimeter of the Island.

9 COMMISSIONER KENNEDY: That's right.

10 CHAIRMAN HENDRIE: I think ^{it's} ~~that's~~ a likely
at a... Shall I call it out?
11 to be as accurate. ~~Are you pulling it out?~~

12 COMMISSIONER AHEARNE: I, I picking up Dick's,
13 I'd just drop off site level. It's been as high as 25 mr.

14 CHAIRMAN HENDRIE: OK, all right.

15 COMMISSIONER AHEARNE: Let me make one last ~~point~~ ^{plea --}
releasing, you go on to say several options
16 down here where you finished ~~it is not (inaudible).~~ You
I think it
17 ~~go on to state several options, those that you state,~~ would
is
18 be technically a lot better ~~than what you said--something~~
it could
19 about there's a possibility--it's small, but, ~~can~~ lead to
serious
~~some~~ problems.

20 COMMISSIONER KENNEDY: Well, you've got to
21 remember that's the only thing out of the press release
22 they will then take out.

23 COMMISSIONER AHEARNE: Well, Dick, we've been
24 sitting here for the longest time telling them everything's
25 fine. It's a real struggle, with what to do. There's

1 none of that flavor here. And I realize you're counter-
2 balancing.

3 COMMISSIONER KENNEDY: Well, I understand what
4 you're saying; I'm worried about the effect that you're
5 going to get; it's going to be hyped by a factor of a
6 hundred. The question is how to phrase it so that it
7 might get that kind of treatment. You could put a little
8 sentence in right there after expand to say were this...in
9 the unlikely event that this occurred, increased temperatures
10 would result and possibly further fuel damage. OK? Then
11 say several options are reasonably considered. OK?

12 COMMISSIONER AHEARNE: That's the type of core
13 melt distraction.

14 COMMISSIONER KENNEDY: Yes, I think--that doesn't
15 trouble me if you could get enough of the qualifiers in to
16 get it back to where it was in the opening sentence.

17 COMMISSIONER AHEARNE: What I'm trying to do is
18 to pick up, Joe?

19 *MS. SHUTTLEWORTH: Gentleman; Mr. Gossick's on T
(the time is 5:58 p.m.) phone,*

20 MR. GOSSICK: Hello.

21 CHAIRMAN HENDRIE: Yes, go ahead Lee.

22 MR. GOSSICK: Yes sir, I'm just checking to see
23 if you'd had anything further back from them. We left
24 it with Vic Stello that he was going to call us if there
25 was anything in the way of bad news, we have not heard from

*Chairman's
office*

5:50

1 him, we don't know for sure whether he was trying to get
2 us but we wondered what Denton's second call was, and I
3 think we ought to know out here.

4 CHAIRMAN HENDRIE: Let me summarize it briefly
5 and the others can help me remember it. Harold and Joe
6 called back after I had called the Governor of Pennsylvania
7 and Harold had called the Governor of Pennsylvania and Harold
8 had stepped outside to speak fairly briefly with reporters
9 who were there at the site. *And he was calling because we
10 had been talking about the possibility of a press conference here but
11 (End - Side 1, Tape 11) decided not to have one.*
~~(Beginning - Side 2, Tape 11)~~

12 ~~CHAIRMAN HENDRIE:~~ Harold by the way will be
13 meeting with the Governor later this evening and they
14 have scheduled a joint press conference in Harrisburg at
15 7:00 p.m. Now, it was decided that having sort of near
16 simultaneous press conferences here and at the site was
17 not a good idea. We are, however, having to deal with this
18 media report that's got running from the UPI report and so
19 on about meltdown being imminent and we are putting together,
20 by the way, a press release that says no, there's not an
21 imminent danger of a meltdown.

22 MR. GOSSICK: Yeah, I had a call from the White
23 House situation room on that, I told them what had happened,
24 that our guy had been taken out of context and misquoted.

25 CHAIRMAN HENDRIE: Yeah.

1 MR. GOSSICK: There's plenty of calls -- we can
2 get the word, we can pick up out here and see if they can
3 hook us in. We'll just pick up the one call.

4 CHAIRMAN HENDRIE: Yeah. Why don't - I was just
5 going to say, let's see, would it be best for you to call
6 the situation room and see if that patch could be made or
7 can you do that from here?

8 MR. GOSSICK: We'll tell them we're expecting
9 a call from Mr. Denton around 6:00 to you and ask if they
10 would let us know and ring us in on it.

11 CHAIRMAN HENDRIE: See if they can patch in. OK,
12 lets try that. So you get simultaneous report.

13 MR. GOSSICK: OK, we're presently updating the
14 PN for you. Hopefully we'll have the results of the second
15 try on this line that's been installed. It has not been
16 tried yet. But we expect it shortly and also the latest
17 on readings which still, you know, seem to be in hand, or
18 still way down there, measurements taken around the site
19 .and off base.

20 CHAIRMAN HENDRIE: What kind of off-site readings
21 are you getting in the last round?

22 MR. GOSSICK: Hold on. Just a second. Looks
23 like it's in the one or two millrems - three millirems
24 at the most, range. Nothing really significantly different.

25 CHAIRMAN HENDRIE: OK, Very good. Thank you.

1 in the last round?

2 MR. GOSSICK: Hold on just a second.

3 (Gossick speaking to aide in Bethesda)

4 Looks like its in the 1 or 2, 3 millirems at the
5 most. Nothing any significantly different.

6 ~~CHAIRMAN HENDRIE: OK, very good.~~

7 MR. GOSSICK: OK.

8 CHAIRMAN HENDRIE: Thank you.

9 ~~END OF CONVERSATION WITH GOSSICK.~~

10 COMMISSIONER KENNEDY: You could even say a very
11 few, but a few is fine.

12 CHAIRMAN HENDRIE: Put the sentence back.

13 COMMISSIONER KENNEDY: Put the sentence back in.

14 MS. SHUTTLEWORTH: There's a man from Meet the
15 Press on the line saying Jody Powell said there was going
16 to be a press briefing.

17 CHAIRMAN HENDRIE: A press release.

18 MS. SHUTTLEWORTH: A press release, OK, thank you.

19 COMMISSIONER KENNEDY: Here is the sentence, John
20 said: "In the unlikely event that this were to occur,
21 some of the fuel will fail to cool and further damage to
22 that fuel could occur" - how's that?

23 ~~CHAIRMAN HENDRIE: I think that's superb.~~

24 ~~COMMISSIONER KENNEDY: That takes care of John's~~
25 ~~concern. Sorry, as you know my writing looks like I'm~~
~~writing with a great intensity.~~

~~Mr. Hassell. OK.~~

~~Chairman Hendrie: Thank you.~~

You could even say a very few

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~~COMMISSIONER KENNEDY: Sounds like a few. Put the sentence back in.~~

~~COMMISSIONER KENNEDY: If this were to occur, some of the fuel would fail to cool and further damage to that fuel could occur. How's that?~~

CHAIRMAN HENDRIE: I think that's superb.

~~COMMISSIONER KENNEDY:~~

~~voice.~~ That takes care of John's concern. Very

good. Sorry, as you note, my writing looks like I'm writing (laughter) with great intensity.

MR. HASSELL: Dorie is trying to come in now by contact with the White House. Whether they have the capability to--

COMMISSIONER KENNEDY: I'm sure they do. Who answers that? A gal? (simultaneous laughter) No, no, no - when you pick it up? Who answers it, the switchboard? The White House?

CHAIRMAN HENDRIE: I do.

COMMISSIONER KENNEDY: OK. They can patch you to anybody in the world. They can set up a conference call with 50 people, if you want to. *Give them time.* I think that's a first rate press release. OK?

~~CHAIRMAN HENDRIE: Have been as high as 25 millirem That's spelled millirem-per hour in the immediate vicinity of the site at ground level. Period. Off-site levels are a few millirem per hour. Period, end. Not dealing with~~

1 MR. AUSTIN: Dorie is trying to determine now
2 from the White House whether they have the capability -
3 he just wants to confirm it.

4 COMMISSIONER KENNEDY: Who answers that? ^{a gal?} ~~(inadmissible)~~
5 No, No. When you pick it up who answers it, the switchboard,
6 the White House?

7 ~~MR. MAZIZAN: I think that's what the fellows said~~
8 ~~who installed it, he said it goes to the switchboard.~~

9 COMMISSIONER KENNEDY: They can patch you to anybody
10 in the world. They can set up a conference call with 50
11 people if you wanted it. Give them time. I think that's a
12 first rate press release. OK.

13 ~~(Multiple voices)~~

14 CHAIRMAN HENDRIE: What I'm going to do is do it
15 simultaneously (multiple voices) by the way we just got
16 an update the last round of readings offsite are down to
17 1 or 2 millirem range. That was from Lee. I think we
18 can put that sentence back in.

19 COMMISSIONER KENNEDY: We put that sentence back
20 in a few minutes ago. I think its a fine press release.
21 I think that sentence does give the right sense of actual
22 facts but not with any alarming -

23 MR. KENNEKE: Any significant changes?

24 COMMISSIONER AHEARNE: No, we're really waiting
25 to hear - We've heard from Denton, but when he got out there

1 he farmed out teams and he was going to call back about
2 5:00 or 6:00.

3 COMMISSIONER KENNEDY: You weren't there before
4 when he talked to us?

5 MR. KENNEKE: Just before the Chairman.

6 COMMISSIONER KENNEDY: He says now he understands
7 what poor Vollmer's problem was - he can't do anything
8 but answer the phone. That's what I was saying.

9 COMMISSIONER AHEARNE: And also the problem - he
10 is having to try to explain what people in Bethesda were
11 saying.

12 COMMISSIONER KENNEDY: He sees it not to be quite
13 the same now then when he was in Bethesda.

101 PM
HENDRIE TO

14 ^{INGRAM ON PHONE} CHAIRMAN HENDRIE: Let me also read it to you
15 and you run out there with it, so you've got it at the same
16 time. OK, now, the first thing to do is to get that
17 draft release in hand, yeah, the one that started out there.

18 (multiple voices)

19 CHAIRMAN HENDRIE: OK, let me ^eread along - 1st
20 paragraph -- hang on.

21 COMMISSIONER KENNEDY: Joe, these came from
22 Kammerer.

23 CHAIRMAN HENDRIE: Yeah, but I think it was
24 passed on from - hold on a second Frank - I think it was
25 passed on from Ingram. OK, I'll just read through the
whole thing, OK?

1 "The Chairman of the Nuclear Regulatory Commission,
2 Joseph M. Hendrie, said this afternoon that contrary to
3 some media reports, there is no imminent danger of a core
4 meltdown at the Three Mile Island nuclear plant." - next
5 paragraph--

6 "Additional technical experts from the Commission staff,
7 headed by the Director of Nuclear Reactor Regulation,
8 Mr. Harold Denton of the Commission staff, reached the site
9 early this afternoon. At the direction of the President
10 they have been provided with augmented communications
11 facilities. The NRC team at the site is working closely
12 with the utility personnel and experts from other Federal
13 agencies and the State of Pennsylvania. Close contact is
14 being maintained with Governor Thornburgh." I think
15 there's an "h" on it but you had better check. Then we
16 go into some of the language of the press release. OK, now c
17 to the middle paragraph, delete the sentence that starts
18 at about 11:30 ST, delete the front of the sentence that
19 starts, "members of the NRC technical staff." Paragraph c
20 now starts "efforts" and continues:

21 "Efforts to reduce the temperatures of the reactor fuel
22 are continuing. These temperatures have been coming down
23 slowly and the final depressurization of the reactor vessel
24 has been delayed. There is evidence of severe damage to
25 the nuclear fuels. Samples of primary coolant, containing

185

1 high levels of radioiodine, and instruments in the core
2 indicate high fuel temperatures in some of the fuel bundles,
3 and the presence of a large bubble of non-condensable gases
4 in the top of the reactor vessel." Continue on: "Because
5 of these non-condensable gases, the possibility exists of
6 interrupting primary coolant flow within the reactor" and
7 then say: "should the pressure be further decreased and
8 the contained gases" and insert "allowed to expand". Then
9 I want an insert sentence: "In the unlikely event that this
10 were to occur, some of the fuel would fail to cool and
11 further damage to that fuel could occur." Then we continue:
12 "Several options to reach," OK, "a final state for the
13 fuel under consideration." "In the meantime, the reactor
14 is being maintained in a stable condition". Then we go
15 back to the top for the last paragraph: "There have been
16 intermittent" delete uncontrolled - "releases of radio-
17 activity into the atmosphere from the primary coolant" etc.
18 on through - make the last sentence read "Off-site levels
19 are a few millirem per hour." That's it. Fire as fast as
20 possible and read it to everybody in town. Shoot.

21 ^{Ingram,}
VOICE: (On other end of telephone line)

22 CHAIRMAN HENDRIE: Oh boy. What time does
23 that go on? I don't know whether we're going to be in any
24 situation by Sunday to say things are getting any better or
25 any worse. Let me ask my colleagues present. I'm wanted

1 for "Meet the Press" on Sunday. (Inaudible background voices)
2 Let's get back down, Frank. I think I want to talk to the
3 White House who are trying, poor Jody is trying what seems
4 to be a futile attempt to keep everybody from running in
5 all directions, with public statements. OK? Yeah. Go
6 and get it out all over. Thank you. (Background voices)

(END OF CONVERSATION WITH F. INGRAW)

7 MR. DORIE: The White House asked for --

6:11 P.M. 8 CHAIRMAN HENDRIE: (on telephone) Allright, this
9 is Chairman Hendrie of the Nuclear Regulatory Commission.
10 I wonder if I can reach Jody Powell? Jody, Joe Hendrie.
11 Hey, we got a press release and then after that I got
12 something for you to think about on Sunday on "Meet the
13 Press". Yeah. (Long pause) I'm trying to get Carolyn to
14 take down a statement from over here at the NRC. Allright,
15 did you get Carolyn? OK? Is Mr. Powell around there?
16 Yeah. I think we got Carolyn, OK. Carolyn, if I just read
17 it straight down can you catch it? It's probably a page
18 and a half. OK, let's start out. (Repeats Press Release
19 above)

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Tape 3A - Side 2 - March 30, 1979

1 [Continues with end of press release being dictated
2 to Carolyn at White House]

3 CHAIRMAN HENDRIE: Ah, not dealing with it here, ah
4 I think that's got pretty broad coverage in some other stuff
5 that's coming out.

6 (Pause.)

7 CHAIRMAN HENDRIE: Well, the last so-called expert
8 on X-rays that I talked to, Jody, said that he thought the
9 level that you get from a chest X-ray, sort of the average
10 in the U.S. is somewhere, I don't know, in the 50-70 millirem
11 range. Now what that means is that if you stuck around and
12 were exposed to this 20-25 millirem per hour level for two to
13 three hours, you would have an exposure which would be about
14 equivalent to a chest X-ray, and that seems to have been a
15 useful calibration for people. Okay. Very good. Well,
16 let's see we've got Vic lined up tonight on Maneill/Leher,
17 ah, I guess they've reported into you that Harold Denton and
18 the Governor are going to Harrisburg to a joint press con-
19 ference at 7:00. Ah, I've got a call from Meet the Press
20 for Sunday, and I am not enthused, but what do you think?

21 (Pause)

22 CHAIRMAN HENDRIE: Yeah.

23 (Pause)

24 CHAIRMAN HENDRIE: Yeah. I don't know how they
25 can prolong, they can delay, but I think that's reasonable.

1 We're still in an operational mode here.

2 (Pause)

3 (Laughter)

4 CHAIRMAN HENDRIE: Okay. Thank you.

5 (Long Pause)

6 CHAIRMAN HENDRIE: ~~Well, you could not hear, you~~
7 ~~know~~ his shop runs out there at Bethesda. The downtown,
8 normally, Public Affairs doesn't maintain people downtown
9 here,

10 (Pause)

11 CHAIRMAN HENDRIE: Ah, well, I thought we'd set
12 that bull pen up there, for people to go to and maybe they're
13 having trouble with the phone, you know just too much traffic
14 on the phone. Alright sir. I don't know what's best there.

15 (inaudible)

16 (Pause)

17 CHAIRMAN HENDRIE: Yeah, because you know how it's
18 a complex situation and by the time you get trying to,
19 through trying to acquaint people with even the outlines of
20 some of the complexities, why you know, they are waving
21 their hands and saying, say yes or no.

22 (Pause)

23 Pretty small I think, but you can't rule it out
24 and I've been trying to explain to reporters half the
25 afternoon. You know, this development of things.

1 All right, we're expecting an update from Harold
2 Denton pretty soon. If anything We'll get it out to him.

3 Yes. Okay. Thank ~~to~~ ^{you,}
4 ~~END OF TELEPHONE CONVERSATION~~ WITH JUDY POWELL.

CHAIRMAN HENDRIE: He says you'd do better to just
5 hold off on Meet the Press. I think that's --

6 COMMISSIONER KENNEDY: -- that's eminently sensible

7 CHAIRMAN HENDRIE: Okay, I'll leave it to you to
8 proof. I think, ah --

9 COMMISSIONER AHEARNE: Just have one thing that we
10 struck--

11 COMMISSIONER KENNEDY: --struck out these words,
12 but we didn't get that.

13 CHAIRMAN HENDRIE: Okay. Can somebody catch that?
14 Kelley, I think Bill has already got it.

15 COMMISSIONER KENNEDY: They already gave it to him.
16 Is that the way you spell imminent, it doesn't look right.

17 COMMISSIONER AHEARNE: There are two "m's"

18 COMMISSIONER KENNEDY: it needs an extra "m"

19 CHAIRMAN HENDRIE: Is it eminent or imminent?

20 COMMISSIONER AHEARNE: imminent - eminent is promin
21 imminent is coming (noise interferes)

22 COMMISSIONER KENNEDY: it becomes more imminent as
23 its eminence covers them.

24 CHAIRMAN HENDRIE: Why don't you do that much. I'm
25 worried about Harold -- Listen, would one of you try to get

1 through to Ingram at the Center and make sure that he gets
2 this to Harold and the Governor before they go into their
3 press conference. Well, you know (Inaudible - to Peggy)

4 COMMISSIONER KENNEDY: (Inaudible.)
5 (Telephone conversation between Chairman and
6 Mr. McCormick)

7 CHAIRMAN HENDRIE: Hello, hello, yeah Mike.
8 (Pause - Background voices)

9 CHAIRMAN HENDRIE: Well, we're in a stable situation
10 there. There's a lot of core damage, more than we thought
11 yesterday. But the reactor is stable. Pressure about a
12 thousand lbs. Bulk temperature is about 280° F. We have
13 got at least one element that is still steaming apparently,
14 judging by the temperature on a thermocouple up in the head
15 end of the element. We've got a gas bubble up in the top of
16 the vessel, up in the dome. It's a noncondensable bubble and
17 it's pretty certainly hydrogen and maybe some traces of some
18 steam in it. That's holding things up with regard to getting
19 on down to low pressure, and onto a long-term cooling mode,
20 because we don't want to pull the pressure down and let that
21 bubble expand down into the core. Ah, the systems experts
22 are looking for a way to get to it. We don't have a handy
23 vent on the reactor head operable at this pressure that I
24 know of.

25 (Pause.)

1 CHAIRMAN HENDRIE: Yeah, you see that could occur.
2 if you dropped the system pressure because then the gas would
3 just expand.

4 (Pause.)

5 CHAIRMAN HENDRIE: No, because we're only at a
6 thousand pounds. That will be one of the things that people
7 will be looking at, Mike. I don't know -- I don't know --
8 well I ought to be getting an update from the site at any
9 moment now. I'm not sure that -- I think the reactor
10 situation will keep it in this state for another day or so
11 probably while we try to think through very carefully the,
12 you know, the route out from here. I don't think, you know,
13 there isn't anything in the core it can react with. You
14 know, ha?; No. There's either none or very little, because
15 they hydrogen got there from a metal-water reaction and you
16 don't get, it isn't a radiolytic bubble.

17 (Pause.)

18 CHAIRMAN HENDRIE: No, there will be a ...

19 (Pause)

20 CHAIRMAN HENDRIE: Ah, because we had a briefing on
21 at our response center this afternoon and a couple of the
22 reporters made a condensation and an extrapolation from some
23 of the discussion there in which people were trying to explain
24 what was going on. What I'm told is that our guy didn't say
25 anything that wasn't you know, reasonable, but to a nontechn

1 press audience, ah, may have gone a little beyond what they
2 were able to understand. Anyway, it's not a correct state-
3 ment, and doesn't reflect the opinion here.

4 (Pause.)

5 CHAIRMAN HENDRIE: Yeah, the cooling is still by
6 means of the -- one of the steam generators and we have to
7 do that because we're up at this thousand pounds pressure,
8 there is a reactor coolant pump that's running to keep things
9 well circulated and then the circulation through the steam
10 generator takes the energy out.

11 (Pause)

12 CHAIRMAN HENDRIE: I'm not sure where we reach that
13 point. Mike. Ah, I think, excuse me, I that that's
14 still some days out. I'll have to go and look again. I
15 just don't recall what the estimates are for these elements.

16 (Pause.)

17 CHAIRMAN HENDRIE: Oh, I'm not quite sure. At
18 the moment why, you know there's much thought about going
19 home. Okay. See you, bye.

20 CHAIRMAN HENDRIE: I wonder where he got the
21 airplane? Mike McCormick and Jack Weidler are flying around
22 some place. Do you suppose they've taken to an airborne
23 command post in the emergency? Isn't that what you do,
24 you put one of the command eschelons up in the air?

25 COMMISSIONER AHEARNE: The House Science and Techno.

1 Committee prepared --

2 MR. AUSTIN: I suppose they've evaluated the
3 hazards of impromptu flight as opposed to radiation.

4 CHAIRMAN HENDRIE: Yes just so. Suggests a
5 judgment.

6 CHAIRMAN HENDRIE: Who else have we got, Peggy?

7 PEGGY: We're just waiting right now.

8 CHAIRMAN HENDRIE: Oke^sdoke. As long as we're
9 just waiting I think I'll bring on the next round of phone
10 calls by attempting to go down the hall to the Men's room.
11 That ought to guarantee a --

12 COMMISSIONER AHEARNE: I'll go along with you so I
13 can talk to you for a minute.

14 (Background voices)

15 MR. GIBBON: John, Peter just called and the White
16 House has said that we should not go to the hearing tomorrow,
17 and that neither is HEW or EPA.

18 COMMISSIONER AHEARNE: Well, I guess that's really
19 up to Joe, the White House can tell EPA and ^{HEW} ~~NSA~~ not to go,
20 but they advise Joe not to go.

21 MR. GIBBON: Yeah, that's true.

22 COMMISSIONER AHEARNE: (Inaudible.)

23 (Background voices)

24 CHAIRMAN HENDRIE: (in background) We're also the
25 most vulnerable to Congressional calls. You know Costle and

1 Califano can say ^{no} ~~not~~ but as naked savages ^{we} ain't got no big
2 chief.

3 COMMISSIONER AHEARNE: It's the governor's press
4 conference. Yeah. Make sure that's if you do establish
5 contact with Denton, you want to make it clear they shouldn't
6 be barring anyone after all it's the governor's press con-
7 ference.

8 MR. GIBBON: I explained, made that clear

9 VOICE: Who's being barred?

10 COMMISSIONER AHEARNE: A Congressman's assistant?

11 (Pause.)

12 TOM GIBBON: He said they were getting in the car
13 fairly soon, so they should be on back soon.

14 (Pause - background voices)

15 CHAIRMAN HENDRIE: Vic, Costle and Califano are
16 going to send a man apiece to sit in the Response Center.
17 They felt there ought to be some place that the data, that all
18 the data, would be collected and then flow back out as needed
19 to the Federal agencies, ah, he couldn't think of any place
20 else but the Response Center. I think he's right.

21 CHAIRMAN HENDRIE: Hi there, you still haven't
22 heard from Harold, ah yeah, well I've been on the telephones
23 to assorted people here and it didn't come in here. How
24 fare in to it are you? Well hang on, why don't you finish
25 it up so you get it there and then call us back. What I'm

1 calling to say was that Vic has been to a meeting with
2 Costle and Califano and I guess you've been notified,
3 John Austin told you that there'll be an EPA guy over in
4 HEW guy to act as their liaison. Okay, good.

5 CHAIRMAN HENDRIE: Vic's other -- the reason they're
6 there is because there's a feeling there ought to be one
7 central place where the data comes in the Federal Government's
8 you know, information depot, and then go back out wherever
9 it need to go and Vic thought the Response Center was about
10 the logical place, and I agree with him. Ah, he also suggests
11 you ought to see if you can set up someone there who is sort
12 of the Chief of data collection, and

13 (Pause)

14 CHAIRMAN HENDRIE: Good.

15 (Pause)

16 CHAIRMAN HENDRIE: Yeah.

17 (Pause)

18 CHAIRMAN HENDRIE: Well if-this was data in terms
19 of stuff coming in from the site, radiation levels and so
20 on, cause we're not writing it down in any organized fashion
21 here. Yes. Ya.

22 (Intermittent pauses)

23 CHAIRMAN HENDRIE: Okay. No, I you know, we
24 just produced a press release saying we ain't going to have
25 a meltdown, we don't think.

1 (Pause)

2 CHAIRMAN HENDRIE: Ah, hang on a second because I
3 want to get everybody who's around. Yeah, I'll tell you
4 what, why don't you take a few minutes to set it up because
5 I -- Vic's on his way back from HEW and Dick's down the hall.
6 It'll take ten minutes, maybe a little more before we'll
7 be ready to hear it. No point in playing it twice. Do
8 you, let me ask, do you know if Harold, if Frank was able
9 to get through and read that press release of mine to Harold.
10 Okay, so he knows it? Good, good.

11 (Pause)

12 CHAIRMAN HENDRIE: Okay, good show. Right bye-bye
13 Harold phones his status report back in but the traffic here
14 he didn't get through or whatever, but they've got it on tape
15 at the Response Center. They will play us the tape in a
16 few minutes when we gather the people. Maybe give Vic a
17 chance to get back. Ah. Harold was filling in the White
18 House Situation Room, I guess getting ready to appear with
19 the Governor. I wish we had a television set.

20 MR. SNYDER: There's one in the dining room,
21 Mr. Chairman.

22 MR. DORIE: We've got one set up. I called
23 Communications Watch Officer at the White House, too, and
24 he guaranteed me that the call would be a conference call
25 and come in on the black one but I guess they must have --

1 CHAIRMAN HENDRIE: Well I might have been, it might
2 have come in when I was on the black phone talking to Jody
3 Powell about the press release

4 MR. DORIE: They said he said that that was a
5 simple matter and they do it all the time, he said they patch
6 it right in, and he gave the word so the White House operator

7 CHAIRMAN HENDRIE: Well we can --

8 PEGGY: Landier Brandiger

9 MR. DORIE: That's the one -- that's the gal with
10 public television that scratched Mr. Gilinsky's appearance.
11 She's having hysterics about it. This is a list of people
12 from ACRS that Ray Fraley brought up as a suggestion that
13 maybe Ray might be able to help. Those are the people he
14 thinks are experts.

15 CHAIRMAN HENDRIE: I thought we'd wait a minute or
16 two before we called, give Lee a chance to find a quiet room
17 and get set up with his tape player on the phone and maybe
18 give Vic a chance to --

19 COMMISSIONER AHEARNE: Is he coming back down here?

20 CHAIRMAN HENDRIE: Yeah, he's on his way back down
21 here now.

22 COMMISSIONER AHEARNE: Thought he was going to Macn
23 Lehrer?

24 CHAIRMAN HENDRIE: The White House called him up
25 and said why don't you cancel it? So he called Dorie and said

1 you know, "do you suggest that I do it?" I said yes, but
2 "they suggested that I don't." I said no -- so Dorie is --
3 so that's the story.

4 COMMISSIONER AHEARNE: Two minutes to go

5 CHAIRMAN HENDRIE: You know, now they're hysterical
6 now.

7 COMMISSIONER KENNEDY: I bet they are.

8 CHAIRMAN HENDRIE: Well, it was cancelled, you know,
9 an hour ago, or something like that.

10 COMMISSIONER KENNEDY: Anybody tell, told them an
11 hour ago.

12 CHAIRMAN HENDRIE: Yeah but still its awful cold thi

13 COMMISSIONER KENNEDY: Tough, well the life of news
14 That's why they drink so much. They're always losing their
15 stories just before they file them.

16 That's why they never used to appear at briefings.
17 They had a lottery everyday at 3:00 to see who got to go to
18 the briefing to get the handouts. All the rest went to the
19 bar. The one guy would go and file for everybody and join
20 the others at the bar and they'd pay for his drink.

21 CHAIRMAN HENDRIE: You busy?

22 MR. HASSELL: Yes. No, not busy.

23 CHAIRMAN HENDRIE: Why don't you crank that machine
24 up in the dining room. Ah, that Cookie, that Conference
25 Room -- pieces of it run a line.

1 MR. GIBBON: Myu is looking at it now, Chairman, see
2 if it will come on.

3 CHAIRMAN HENDRIE: Now it may also run late because,
4 you know, Harold has to get up to Harrisburg and I bet his
5 half an hour behind.

6 COMMISSIONER KENNEDY: It is the lead story at all
7 networks succeeded only by the ship that is burning in
8 St. Thomas, where people are really going to get hurt.

9 CHAIRMAN HENDRIE: There's a ship burning in St.
10 Thomas?

11 COMMISSIONER KENNEDY: A cruise ship

12 CHAIRMAN HENDRIE: Holy Mackerel, I was thinking
13 about taking a cruise this winter, when I decided I wasn't
14 going to ski. Good thing that never got off, isn't it?

15 COMMISSIONER KENNEDY: By ship nothing is riskless.

16 (Pause)

17 COMMISSIONER KENNEDY: It's the lead story. Jean
18 says she knows more about Three Mile Island than she really
19 cares to know, Great National crisis.

20 COMMISSIONER AHEARNE: Well, have to admit that it
21 does have won and lost aspects.

22 COMMISSIONER KENNEDY: Oh, you bet.

23 CHAIRMAN HENDRIE: Hi there,

24 (Pause)

25 CHAIRMAN HENDRIE: No. Well, its calmer here

1 than in a number of places, I guess. There it's likely
2 to be late, you know, you go ahead.

3 I'll be along when I can.

4 Me too, bye bye.

5 CHAIRMAN HENDRIE: How did you do with Monigan?

6 MR. DORIE: Monigan wants somebody for a special on
7 Sunday, now. He's about to give up on tonight.

8 COMMISSIONER KENNEDY: I think Tom Gibbon should go

9 MR. DORIE: How about the Historian?

10 MR. MAZUZAN -- ^{I'll go} incognito

11 COMMISSIONER KENNEDY: Good idea, great idea.

12 COMMISSIONER AHEARNE: She's at the stage somewhere

13 MR. DORIE: I volunteered myself but she said she
14 didn't want to have me.

15 COMMISSIONER KENNEDY: MacHeill & Lehrer are probab
16 already looking down their noses at this girl, saying My God,
17 you are our production manager? How much did you say you
18 make?

19 COMMISSIONER AHEARNE: They can probably do the emg
20 chair bit. (inaudible)

21 MR. DORIE: We cancelled out at the last minute

22 COMMISSIONER KENNEDY: (Inaudible.)

23 CHAIRMAN HENDRIE: Tom, where did, is Peter around
24 or did --?

25 MR. GIBBON: He's with Vic

1 COMMISSIONER AHEARNE: He's at the meeting.

2 CHAIRMAN HENDRIE: Oh, that's right, then they'll be
3 back together.

4 MR. GIBBON: I hope.

5 CHAIRMAN HENDRIE: If you're going down there,
6 why don't you leave word that-why don't they come down as
7 soon as they come and then we'll get this tape going.

8 MR. GIBBON: Okay.

9 COMMISSIONER KENNEDY: Oh, they taped the conversati
10 with Denton. Oh, how nice.

11 CHAIRMAN HENDRIE: You won't be able to ask question
12 but --

13 COMMISSIONER AHEARNE: Denton tried to --

14 COMMISSIONER KENNEDY: That was very funny.

15 CHAIRMAN HENDRIE: They're pretty good out there

16 COMMISSIONER KENNEDY: That was very thoughtful.

17 (COMMISSIONER BRADFORD, COMMISSIONER GILINSKY
18 OTHER)

19 CHAIRMAN HENDRIE: Vic, did you get the-Harold
20 apparently tried to call on that thing and I was probably
21 calling that last press release over to Jody Powell, and
22 had the White House line tied up. They've got it on tape
23 at the Response Center -- at least (inaudible). Anything
24 else about the HEW, et al, meeting?

25 PEGGY: (On intercom) - line 59

1 CHAIRMAN HENDRIE: Hi, Lee.

2 MR. GOSSICK: Yes sir. Can you manage to hear this?

3 CHAIRMAN HENDRIE: Ready when you are ^J~~FB~~.

4 MR. GOSSICK: Okay - I think it would be better if I
5 take this little recorder and go across the hall. There's
6 much too much noise in here, let me call you right back, okay.

7 CHAIRMAN HENDRIE: Okay.

8 COMMISSIONER BRADFORD: Feelings from the meeting th
9 Vic's probably already told you: one - they want to be able
10 to plug into our Command Center so that they can feed through
11 that sort of thing the other's the White House apparently wou
12 fell better if they could get the, tomorrow's hearing cancell
13 They are going to try communicate with Senator Kennedy. I
14 gather you had said we would be there, so we said --

15 CHAIRMAN HENDRIE: Somebody probably responded
16 automatically on my behalf, you know when anybody says report
17 we just get up and go.

18 COMMISSIONER BRADFORD: We said we suspected if it
19 were cancelled, you would not shed tears.

20 CHAIRMAN HENDRIE: Tears? Jesus.

21 PEGGY: Gossick on line 9

22 CHAIRMAN HENDRIE: Hey there once again.

23 MR. GOSSICK Okay. I'm going to start this playing
24 and lay the receiver on it and I'll go over and pick up
25 an extension and see if it's coming through. Holla²r if it is

7:14 p.m.

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1 too loud or not loud enough, okay?

2 VOICE: Good, let her blast.

3 (Tape recording of prior phone conversation)

4 "VOICE: Hold on.

5 MR. DENTON: Thank you.

6 MR. GOSSICK: Denton, this is Gossick.

7 MR. DENTON: Lee? (inaudible)

8 MR. GOSSICK: OK

9 MR. DENTON: I was telling the Chairman earlier I
10 can see the problems (inaudible), (you never get off the
11 phone.)

12 MR. GOSSICK: Yeah

13 MR. DENTON: We have this latest by my technical
14 group. Remember I set up the four groups because - to
15 find out (inaudible)

16 CHAIRMAN: Hey Lee?, ah, its awashout. Hey, Lee,
17 are you on the extension?

18 (NOTE: This part of transcript consists of a tape recording
19 played during Gossick/Hendrie phone conversation. The taped
20 portion being played indicated in parens.)

21 [MR. DENTON on Tape - Inaudible]

22 MR. GOSSICK: Yes, can you hear it.

23 CHAIRMAN: Na, it's too low, go back and restart
24 it and crank the volume.

25 MR. GOSSICK: It's too low?

1 CHAIRMAN: Yea.

2 COMMISSIONER BRADFORD: Maybe if he just stays
3 off the phone.

4 [After tape volume turned up]

5 "MR. DENTON: ... may be alternative ways-----"

6 CHAIRMAN: Good, Good.

7 "MR. DENTON: ... reading it that way where we
8 consider -

9 MR. GOSSICK: Yeah

10 MR. DENTON: Enough ways to start.

11 MR. GOSSICK: Even if you lose one of those
12 remaining recirculation pumps.

13 MR. DENTON: Even if you lose the recirc, what you
14 do, of course, is probably start the high pressure injection
15 pump and try to rebuild the pressure; you've got the
16 alternate pump to try to start --"

17 MR. GOSSICK (to Chairman): Can you hear it now?

18 CHAIRMAN: Yes, its better.

19 MR. DENTON (on tape): "... looks like very
20 reliable things. I expect they put in all kinds of water
21 expose the pressure valve, now if we see it start to
22 reverse as its down, few airs will come on and the low
23 pressure injection pump will come on; we got all kinds of
24 water out there for injection (inaudible). Reasonably
25 satisfied with part of the condition of the core. But I

1 are concerned with the cause of the bubble - can the way we
2 eventually get to cold shut down be done with a way that
3 doesn't release any more gas offsite than necessary.

4 MR. GOSSICK: Yeah.

5 MR. DENTON: Because some of these ways end up
6 passing through the outside of the containment.

7 MR. GOSSICK: Right.

8 MR. DENTON: Then, with regard to releases, the
9 release - they are continuing to release some noble gases from
10 the let-down system. They are trying to jury-rig this line
11 that will return most of the gases back to the containment.
12 Now if they get that working successfully -

13 MR. GOSSICK: That could be several cubic feet of
14 storage, right?

15 MR. DENTON: A couple of days worth."

16 MR. GOSSICK: We just heard that they require now -
17 ten times away from having to have another burp, which would
18 be avoided by using this line, I think. Is that what you
19 understand?

20 MR. DENTON: Yes

21 MR. GOSSICK: Yeah, OK

22 MR. DENTON: The doses that are resulting from
23 this on site range from 1 to 20 mR depending on where
24 you're at. Offsite they range from a tenth to a few
25 millirems depending on where you measure.

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1 MR. GOSSICK: What was the reading again offsite?

2 MR. DENTON: Offsite I'd say from a tenth to a
3 few millirem per hour. In the town of Goldsboro at
4 4 o'clock it was 1 mr per hour. Now one interesting thing
5 with the POD's is they had some - POD is out for a quarter
6 in the 3 months and they pulled them at 2 o'clock yesterday
7 and you recall that was the first 24 hrs. of the transient,
8 and that's to begin with, but the total readings turn out to
9 5 to 7 millirems per month which is the same as normal
10 background. So when we get that information (inaudible)

11 The information which I was going to try to
12 relay to the Governor is I think we are stable, that the
13 releases themselves, even if they were to continue, which
14 they occasionally have, don't warrant evacuations, that I
15 I think the condition of the core doesn't warrant evacuation.
16 As a precautionary measure, that we think things as they
17 exist are expected to work, and we are going to be looking
18 very carefully though, at a procedure to get the core down
19 and a cold shutdown.

20 MR. GOSSICK: Try that last bit again, I got
21 interference here.

22 MR. DENTON: To be sure that bringing the
23 procedures for bringing the plant to a cold shutdown, with
24 that bubble in there --

25 MR. GOSSICK: Oh, yes.

MR. DENTON: -- do it with the lease leakage of

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1 coolant to the outside.

2 MR. GOSSICK: Harold, there is some indication that
3 Westinghouse and others have been working the problem you have
4 with everybody else and management came in here while ago,
5 an hour ago, and said it looked like they might be finding
6 alternate ways for enabling getting rid of this problem.
7 Have you heard anything about that?

8 MR. DENTON: I haven't heard that. I'll ask.

9 MR. GOSSICK: Well, somebody might want to call
10 and check with him, because I gather, you know, it is fast
11 as hell yet, but they are working on the possibility.

12 MR. DENTON: I see.

13 MR. GOSSICK: Okay, anything else?

14 MR. DENTON: This place up here is a madhouse and
15 I'm calling from a private home.

16 MR. GOSSICK: Yes, I understand you are having
17 a joint press conference with the Governor this evening?

18 MR. DENTON: I plan to brief the Governor and then
19 hold a joint press conference.

20 MR. GOSSICK: What arrangements have you made?

21 MR. DENTON: We are going to leave at 7:00 from
22 here --

23 MR. GOSSICK: Yes.

24 MR. DENTON: -- and how ever long he wants to talk,
25 and we will let someone set it up.

7 0 8

1 MR. GOSSICK: I see.

2 MR. DENTON: And Fouchard has been in touch with
3 Jody Powell, I talked to the President --

4 MR. GOSSICK: Yes.

5 MR. DENTON: -- we are getting a trailer with
6 hard wires -- hard line wires in, they are not in yet.

7 MR. GOSSICK: Okay.

8 MR. DENTON: I've got 22 people here ---

9 MR. GOSSICK: 22 people.

10 MR. DENTON: -- divided into four teams and they
11 are going to work, eight of them. They sent two more guys
12 up, leaving about 4:00 o'clock. They have arrived.

13 Four of our people are already in the plant, in
14 the Control Room, down in the Rad Waste Building and so forth.

15 MR. GOSSICK: Yes.

16 MR. DENTON: The utility is a little shy, in my
17 view, of technical talent. We outnumber them. They are
18 pretty thin. I'm trying to convince them to bring in
19 comparable levels from their own organization. Their
20 cooperation is good, but it is obvious that they are a small
21 outfit here and the guys are getting swamped with demand.

22 MR. GOSSICK: How about Boyce's contacts with
23 the local Civil Defense folks, is that working alright?

24 MR. DENTON: I can ask -- Vic, have Boyce come in?
25 Boyce got here a few hours ago.

1 MR. GOSSICK: Yes.

2 MR. DENTON: His people seem to be well
3 coordinated and set up. In my briefings by the staff, I had
4 a fellow from the Governor's Office who called and wanted
5 to know what the state was, so he would like to sit in and
6 he is going back to brief the Governor.

7 MR. GOSSICK: Right.

8 MR. DENTON: I'm trying to be as open as I can,
9 and anybody with the State who wants to sit in or do anything,
10 we're saying fine.

11 MR. GOSSICK: Good.

12 MR. DENTON: Now, I don't know whether I should
13 call the White House back or March or whose ever name I
14 have for a contact -- maybe I should do that now just to
15 let them know what is going on.

16 MR. GOSSICK: Okay. I guess -- You have't passed
17 this same sort of information -- this is all going to the
18 Chairman, right?

19 MR. DENTON: Yes.

20 MR. GOSSICK: Seems to me, if you have a chance
21 you ought to do that. We are in constant contact with the
22 Situation Room and we are providing them copies of the PN's
23 we are putting out and trying to keep them posted, but I
24 think, particularly since you are being billed on TV as his
25 personal representative, that you ought to make sure that

1 they're kept up to date.

2 MR. DENTON: All right.

3 MR. GOSSICK: Okay.

4 MR. DENTON: Fine.

5 MR. GOSSICK: Thank you very much.

6 MR. DENTON: See you later.

7 MR. GOSSICK: Before you hand up, Frank Ingram wants
8 to talk to you a second, he's right here.

9 Anything else you need up there, Harold, that we
10 can get for you?

11 MR. DENTON: With the arrival of these trailers and
12 telephone lines, we are in fair shape.

13 MR. GOSSICK: Would you please ask Boyce Greer
14 to call John Davis?

15 MR. DENTON: Certainly will.

16 MR. GOSSICK: Okay, here's Frank Ingram.

17 MR. DENTON: Okay.

18 MR. GOSSICK: Mr. Chairman?

19 CHAIRMAN HENDRIE: Yes.

20 MR. GOSSICK: Ingram simply read the piece that
21 you people put out down there to Harold and also read it
22 again to Fouchard, which is on the tape that you are on.

23 CHAIRMAN HENDRIE: Yes, okay.

24 MR. GOSSICK: Did it come through all right?

25 CHAIRMAN HENDRIE: Yes. There was a buzz in the

1 beginning, but I got the --

2 MR. GOSSICK: I don't know, we can't account for
3 that buzz. This is one of those little hand-held recorders.
4 It's the only way we could record the White House hot line
5 that's out here now.

6 CHAIRMAN HENDRIE: Yes.

7 MR. GOSSICK: We had a request earlier for volunteer
8 or somebody, for one of the -- to be on radio or TV and we
9 understood it, to help calm the public. This was from one
10 of our press guys out here, Ingram or his helper. I made the
11 suggestion -- I'm trying to get a hold of Ingram now, he's
12 upstairs with the news people that are in the training room,
13 and the recommendation at that time was to that the press
14 conference that Denton is having with the Governor, really
15 seems to me to be the proper way to do that. Do you concur
16 in that?

17 CHAIRMAN HENDRIE: Yes.

18 MR. GOSSICK: Okay. If anybody wants to hear ---
19 (End of Tape 3A, Side 2, March 30, 1979.)

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1 but I got the -

2 MR. GOSSICK: I don't know. We can't account for that buzz.
3 This is only one of those hand recorders. They're unwilling to record
4 the White House hotline - that's out here now.

5 CHAIRMAN HENDRIE: Yeah.

6 MR. GOSSICK: We had a request earlier for a volunteer or
7 somebody to be on radio or TV and as we understood it to help calm the
8 public. This is from one of our press guys out here, Ingram or his
9 helper. I made the suggestion. I'm trying to get hold of Ingram now.
10 He's upstairs with the people that are in the training room and the
11 recommendation at that time was that, look, the press conference that
12 Denton is having with the Governor really seems to me to be the proper
13 way to do that.

14 CHAIRMAN HENDRIE: Yes.

15 MR. GOSSICK: You concur in that?

16 CHAIRMAN HENDRIE: Yes.

17 MR. GOSSICK: OK. If anybody wants to hear this tape in the
18 way of news, what's your suggestion? Should we let them hear it or not?
19 I don't know that they know about it, but the question could come up.
20 There were other people in the (inaudible).

21 CHAIRMAN HENDRIE: Hang on a second, please.

22 COMM. KENNEDY: He said they were thin on technical talent.

23 CHAIRMAN HENDRIE: Lee?

24 MR. GOSSICK: The feeling is that with the upcoming press
25 conference, that that's going to happen before they react to this

1 anyway, so I'd say, you know, I'm not going to volunteer it or I
2 wouldn't suggest volunteering it, but in case somebody asks to hear
3 it, I'd just as soon know what you thought.

4 CHAIRMAN HENDRIE: I think the press briefing there in
5 Harrisburg will cover the situation.

6 VOICE: I would think so.

7 CHAIRMAN HENDRIE: As it's just pointed out here, it gets awkward
8 if we're going to have to think about everything we say, that gets on
9 these tapes.

10 MR. GOSSICK: That's right.

11 CHAIRMAN HENDRIE: The game is to deal with the situation.

12 MR. GOSSICK: Let me alert you just on one point that was
13 on this paper about Mattson's word that they thought maybe they'd
14 caught some glimmer of hope on the way to get rid of this bubble.
15 At the moment, the flash of inspiration that they had a couple of hours
16 ago doesn't seem to be jelling and they're still working, but we don't
17 have anything further on it.

18 CHAIRMAN HENDRIE: Yes. Well, I had a call from Ted Stern
19 and that forwarded ^{to a set} ~~the case~~ ~~instead~~ of phone numbers. Westinghouse
20 is willing to do whatever would be useful and also to mobilize the
21 rest of the industry and then I told him to think about how to get the
22 hydrogen out of the head, and that's why they're working on it.

23 MR. GOSSICK: OK. Got anything else ^{for} ~~from~~ me out here?

24 CHAIRMAN HENDRIE: No. Doesn't appear like it. Thank you
25 very much.

Mr. Gossick: We'll be here. All right.
(END OF TELEPHONE CONVERSATION WITH GOSSICK.)

7:28 p.m

1 VOICE: They're still working on it. We don't
2 have anything further on it.

3 CHAIRMAN HENDRIE: Well, I had a call from Ted Stern
4 and then forwarded to Case, a set of phone numbers.
5 Westinghouse is willing to do whatever would be useful, and
6 also to mobilize the rest of the industry if that appears
7 useful.

8 I told him to think about how to get the hydrogen
9 out of the head and that's why they're working that.

10 VOICE: Good.

11 VOICE: Okay. Have you got anything else for me
12 out here?

13 CHAIRMAN HENDRIE: No, it doesn't appear like it.
14 Thank you very much.

15 VOICE: We'll be here. All right.

16 COMMISSIONER GILINSKY: Did you mention on the
17 updateables to this gentleman?

18 CHAIRMAN HENDRIE: Yes, I did.

19 COMMISSIONER AHEARNE: (Inaudible)

20 CHAIRMAN HENDRIE: And when I called in to EPA,
21 let's see the EPA guy was already there. He hadn't seen
22 an HEW type yet.

23 COMMISSIONER AHEARNE: What is the suggestion
24 on to pick it up from the beginning of the tape that Harold
25 might be thinking on how to come down?

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1 CHAIRMAN HENDRIE: It isn't a question of how to
 2 come down. He was reporting on his team's analysis of
 3 what's available, and the judgment was that the core cooling
 4 systems are there and ready, and as far as the team can
 5 tell, are ready to go.

6 COMMISSIONER KENNEDY: He said-- I thought he said
 7 that he was confident, or they were confident that if they
 8 were called upon, they would deliver water in all the
 9 quantities needed for the core, --

10 CHAIRMAN HENDRIE: Yeah.

11 COMMISSIONER KENNEDY: -- which is different from
 12 what we heard earlier today.

13 COMMISSIONER GILINSKY: Let me ask you, what is
 14 the problem about just leaving it the way it is? Is it the
 15 growth of the bubble or-- I mean it does seem to have cooled
 16 down a bit and as you were pointing out, there are less of
 17 these bubbling rods.

18 CHAIRMAN HENDRIE: Yeah. I think it ought to stay
 19 the way it is probably for a couple of days. Over the long
 20 term, this is an unsatisfactory configuration for the
 21 machine to be in. We've got to get it down cold.

22 COMMISSIONER GILINSKY: I mean it's not moving at
 23 any significant rate the way the temperature is. Is that what
 24 you're saying?

25 CHAIRMAN HENDRIE: Well, --

1 COMMISSIONER BRADFORD: Why wouldn't it go
2 cold this way?

3 CHAIRMAN HENDRIE: The problem with this thing
4 is that -- I'll get to Roger and his troops later tonight.
5 I want a calculation of the radiolytic dissociation rate.
6 At the moment, we've got a hydrogen bubble with some
7 steam -- maybe some steam in it in the head of the vessel.
8 It's probably pretty pure hydrogen. The reason is that the
9 evolution is from a metal-water reaction in which you just
10 get hydrogen, you don't get anything else in a gaseous form.

11 There are two other ways that you get hydrogen
12 in these situations, however, and the one which is of
13 concern is the radiolytic dissociation of water, just
14 ionization; just ionizing the particles on water gives you
15 hydrogen and oxygen.

16 Now some of the oxygen will trap out as oxide
17 on the structure but some of it will work its way back up.
18 So over some period of time which is probably of the order
19 of many days or a week or weeks, you're going to begin to
20 get enough oxygen up in there to worry about the thing. And
21 if there's anything I don't particularly think I need at the
22 moment it's flammable -- you know, for the bubble to be in a
23 flammable configuration.

24 COMMISSIONER GILINSKY: Is there anything else
25 that can get in there that will combine with the hydrogen?

1 CHAIRMAN HENDRIE: I dare say they're thinking
2 about it. That's part of what the outlying troops are
3 brainstorming at the moment.

4 You know, what we need at the moment --

5 COMMISSIONER BRADFORD: -- is a good pipe break.

6 CHAIRMAN HENDRIE: -- is if one of the control
7 rod drives would just fall off of the head of the damn
8 vessel and give us a nice six-inch diameter small break
9 loss-of-coolant accident.

10 That vents the hydrogen. You get that big con-
11 tainment and it can be vented if necessary to avoid a
12 flammable situation. And then the pressure drops, the
13 water rushes in.

14 The problem is if we simultaneously maintain the
15 pressure to keep the bubble small enough to keep it out
16 of the core, you haven't got a good way to pump the injection
17 water in from the high pressure, say the high pressure
18 safety injection system because all you do is pump in and
19 keep compressing things and the pressure goes up and it will
20 drive it up to 2200 pounds plus, to the set point of the
21 relief valves. Then you open a relief valve on the
22 pressurizer, but that's not what you'd like to have.

23 What you'd like to have, you know, is a decent
24 size hole in the system so that when you pump the water in
25 the bottom, a nice flow through the core and on out the break

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1 and then recirculate out of the containment sump, the heat
2 exchanger, which is not rated for these pressures, but then
3 the whole pressure, the system pressure is down.

4 So --

5 COMMISSIONER BRADFORD: But in this mode the
6 core doesn't cool appreciably?

7 CHAIRMAN HENDRIE: No, it's being cooled.

8 COMMISSIONER BRADFORD: But it's --

9 CHAIRMAN HENDRIE: It's covered with water, and
10 the temperatures ought to come down. In fact they have been
11 coming down slowly as the afterheat dies away. But -- let's
12 see --

13 COMMISSIONER BRADFORD: But it's just because of the
14 oxygen that you wouldn't want to go on doing this for --

15 CHAIRMAN HENDRIE: Yeah.

16 COMMISSIONER BRADFORD: -- weeks and weeks?

17 VOICE: Yeah.

18 Furthermore, --

19 COMMISSIONER BRADFORD: As it cools, the bubble
20 grows unless you keep the pressure on?

21 COMMISSIONER GILINSKY: Well, no presumably there
22 is (inaudible)

23 CHAIRMAN HENDRIE: Well, if the pressure increases
24 then the bubble, you know, gets smaller.

25 (simultaneous discussion)

1 COMMISSIONER BRADFORD: Right. But if it's simply
2 cooling, then the bubble would grow or no not?

3 CHAIRMAN HENDRIE: No, it would just stay as it
4 is, except that, you know, whatever additional gas evolution
5 there may be, a little more hydrogen, a little more oxygen
6 coming up all the time from the radiolytic decomposition
7 just adds to the total mass of non-condensables in the --

8 COMMISSIONER KENNEDY: And perhaps the relative
9 proportion of oxygen to hydrogen.

10 CHAIRMAN HENDRIE: Huh?

11 COMMISSIONER KENNEDY: And probably adds -- changes
12 the proportion of oxygen and hydrogen.

13 CHAIRMAN HENDRIE: Yes, that's just the problem.
14 There's probably no oxygen up there now but as time goes on,
15 definitely why you'll keep building oxygen and --

16 COMMISSIONER KENNEDY: Then you get a flammable ^{mass}

17 COMMISSIONER BRADFORD: How much do you think --

18 CHAIRMAN HENDRIE: Eventually.
19 Well, I think that is probably a long way out.

20 (telephone rings)

21 COMMISSIONER AHEARNE: Is that your black line
22 by any chance?

23 CHAIRMAN HENDRIE: No.

24 COMMISSIONER BRADFORD: How much oxygen to worry
25 you would you put in?

1 and I can't be -- It's just not clear at all that I can
2 make it.

3 MR. INGRAM: I understand. I'll do that.
4 Okay? Thank you.

5 CHAIRMAN HENDRIE: Thank you.

6 COMMISSIONER AHEARNE: How do you know what
7 the mixture is?

8 COMMISSIONER BRADFORD: Joe, so what is the
9 mixture of -- How much oxygen do you have to have before
10 you start to worry?

11 COMMISSIONER AHEARNE: Pardon me?

12 COMMISSIONER BRADFORD: Oxygen?

13 CHAIRMAN HENDRIE: You need to get up to 4 percent
14 by volume oxygen to have a mixture which is minimally
15 flammable, you know, with a certain propagation direction
16 and with an ignition source.

17 As you get on above that, why you get to levels
18 at which the ignition is progressively easier and at which
19 the detonation velocities are better, faster, and you get
20 more bang out of it.

21 COMMISSIONER BRADFORD: How long do you guess it
22 will take to get to 4 percent?

23 CHAIRMAN HENDRIE: Well, I'm guessing it's some
24 days, but as I say, it's one of the things I want calculated
25 with some limits on, you know, some --

1 COMMISSIONER GILINSKY: I mean if you can have it
2 burn (inaudible)

3 CHAIRMAN HENDRIE: Yeah.

4 COMMISSIONER KENNEDY: What was that Vic?

5 COMMISSIONER GILINSKY: Well, you can burn it --
6 Certainly if you burn it it's going to explode it.

7 COMMISSIONER BRADFORD: Yeah.

8 COMMISSIONER KENNEDY: Do you want to burn --

9 COMMISSIONER GILINSKY: Well, no, but there are
10 a few regimes --

11 COMMISSIONER KENNEDY: Do you want to burn it
12 inside the vessel?

13 COMMISSIONER BRADFORD: I don't see how you burn
14 it, burn it in the vessel.

15 COMMISSIONER KENNEDY: You could if there were
16 oxygen in there.

17 COMMISSIONER BRADFORD: The trouble is to burn it
18 without puncture.

19 COMMISSIONER KENNEDY: Yeah, well that's what I'm
20 asking.

21 COMMISSIONER KENNEDY: If you could get it out in
22 the containment and burn it it wouldn't make any difference.

23 (simultaneous general discussion)

24 COMMISSIONER KENNEDY: You could essentially flash
25 it at a level below --

1 COMMISSIONER AHEARNE: No, they were very specific
2 that --

3 COMMISSIONER BRADFORD: They want the worst that cou
4 happen --

5 COMMISSIONER KENNEDY:-- explosive it would burn very
6 quickly.

7 COMMISSIONER GILINSKY: -- one of the worst things
8 that could happen was --

9 COMMISSIONER KENNEDY: Very hot.

10 COMMISSIONER AHEARNE: With no impulse.

11 (simultaneous general discussion)

12 COMMISSIONER KENNEDY: If you could do it.

13 COMMISSIONER AHEARNE: You could do it.

14 (simultaneous general discussion)

15 CHAIRMAN HENDRIE: Yeah. There were these suggestio
16 about iodine uptake inhibitors. I think it's just whirling.
17 Whether or not we should move some of that stuff down into
18 the area I don't know.

19 COMMISSIONER GILINSKY: I think we ought to call
20 this guy back. What's his name?

21 VOICE: Rick Cobbins is Califano's guy.

22 COMMISSIONER GILINSKY: I think that -- who is the
23 guy who raises the iodine in this vicinity?

24 COMMISSIONER BRADFORD: Well, they were the ones
25 who were saying that they hadn't seen any iodine at all.
Kennedy at EPA.

1 COMMISSIONER GILINSKY: Yeah, but there was another
2 guy with an agency that had a lot of this stuff.

3 COMMISSIONER BRADFORD: Iseymoda?

4 CHAIRMAN HENDRIE: I had a call from somebody
5 at the Mayo Clinic to rush down with a couple of suitcases
6 full of iodine pills.

7 MR. AUSTIN: Didn't the Secretary (HEW) just say
8 identify sources, supplies, what would it take to get it
9 here? I thought that was -- He commented on, I would say,
10 identify the supplies of the gas inhaled.

11 COMMISSIONER BRADFORD: The theory was that before
12 you start distributing those things you evacuate people
13 anyway.

14 CHAIRMAN HENDRIE: Yeah, they would be an adjunct
15 to --

16 COMMISSIONER GILINSKY: Let's see, did we owe them
17 an answer on that, or did I answer that?

18 MS. SHUTTLEWORTH: Excuse me. McNeil-Lehr report
19 is picking up the Governor in Denton's press conference on
20 Channel 26. I believe Commissioner Kennedy has Channel 26.

21 COMMISSIONER KENNEDY: ~~Say what?~~ Do I?

22 MS. SHUTTLEWORTH: The TV.

23 COMMISSIONER BRADFORD: Right there with you.

24 (simultaneous general discussion)

25 MS. SHUTTLEWORTH: Mentioned it. That's all.

(simultaneous general discussion)

1 The vessel?

2 COMM. BRADFORD: You don't want to burn the reactor.

3 COMM. KENNEDY: Yes. That's what I'm asking. If you could
4 get it out of the containment and burn it, it wouldn't make any
5 difference.

6 VOICES: (Inaudible)

7 CHAIRMAN HENDRIE: Whether or not we should move some of that stuff
8 down in that area, I don't know, and I had a call from somebody at the
9 Mayo Clinic -

10 MS. SHUTTLEWORTH: MacNeil/Lehrer report is picking up the
11 Governor's press conference on Channel 26. I believe Commissioner Kennedy
12 has channel 26.

13 COMM. KENNEDY: Do I?

14 CHAIRMAN HENDRIE: I'm going to stay a while because I want
15 to call back out and make sure we've got a team started on radiolytic
16 composition calculations and may call Sterns and ask Westinghouse to
17 make a run on that so that a couple of arrangements can be made. Also
18 check with the other folks out there working on the problem. What do you
19 think about keeping somebody on tap down here?

20 COMM. AHEARNE: Well, we've got the lines. Both lines.
21 Westinghouse lines.

22 COMM. BRADFORD: How are we doing with our security plans?

23 VOICES: (Inaudible)

24 Laughter

25 CHAIRMAN HENDRIE: Does anybody know who's - (inaudible) I

1 heard that Kevin was going to try to get through to Gary Hart, see if
2 he could be encouraged to postpone, could you find out if they reached
3 him?

4 MR. KENT: Are you planning to go?

5 CHAIRMAN HENDRIE: I'm going to take the strong advice not to
6 go but I got a little problem with employees currently.

7 VOICES: (Inaudible)

8 COMM. AHEARNE: I would think we would be obligated. I'd
9 get advice from counsel.

10 CHAIRMAN HENDRIE: Present our best. They said they want more
11 on the low-level radiation.

12 VOICES: (Inaudible)

13 CHAIRMAN HENDRIE: I think I better come back in and be on duty
14 maybe not at dawn. You might want to come back...Harold's situation is...
15 he's had a relatively brief time, after he got down there for about six
16 or seven hours to sit down with his troops and get a summary briefing.
17 All his people on site, he'll get back on site later tonight...and get
18 further information. I would think, why don't we gather here late in
19 the morning, 11:00 or like that.

20 (End - Tape 13 - Side 2)

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7:40 p.m.

(Tape of Commission Meeting March 30, 1979 at 12:00 o'clock
Midnight after Chairman Hendrie talked with Vic Stello, via phone.¹
Commissioners present: Chairman Hendrie; Commissioner
Gilinsky; Commissioner Bradford; Commissioner Ahearne.)

(Beginning Side 1, Tape 14)

1 CHAIRMAN HENDRIE: That's fair John. I don't
2 know if the Governor understands radiolytic decomposition.
3 They haven't pushed to the point where (inaudible) they
4 clearly have a day or two (inaudible) at this pressure.
5 An the controlled movement, it's not clear how much of
6 that description (inaudible) whether there is terrific
7 pressure (inaudible) on the vessel, the evolution is the
8 difference between two molecule numbers.

9 COMMISSIONER BRADFORD: Does it happen during
10 normal operations (inaudible).

11 COMMISSIONER GILINSKY: (Inaudible)

12 CHAIRMAN HENDRIE: You get traces--

13 COMMISSIONER AHEARNE: Long lived reactions.

14 CHAIRMAN HENDRIE: (Inaudible) For normal
15 operation, the cleaner the water is, the more nearly the
16 back reaction, over reaction (inaudible) getting dirtier
17 water (inaudible). Apparently, the 30 or 40 cubic feet
18 total gas overage (inaudible). If you're carrying it
19 around (inaudible). I think at this point it's not, I'm
20 not sure whether, as I say, I'm going to know what general
21 concern is until the early morning when we (inaudible)
22 the other thing is, however, that the transportation
23 system would (inaudible) an assortment of scenarios --
24 what happens if this happens, what happens if that happens,
25 what kind of time will we have not only the sequence of the

1 reactor but what kind of warning, what kind of time will we
2 have to trigger evacuation and so on. I just get the sense
3 that its not that everybody in Harrisburg is sort of saying
4 "Thank God" and going off--

5 COMMISSIONER BRADFORD: (Inaudible) press
6 conference at (inaudible).

7 CHAIRMAN HENDRIE: No, I'm afraid not by --
8 apparently they (inaudible) so I have a sense that the
9 Governor and his staff are aware that they could get a call
10 at any time saying the A pump's tripped we can't get B
11 pump started, start cranking up -- the wind's from the
12 west, start cranking up the emergency plan. As long as
13 that seems to be the case, why I'd just --

14 COMMISSIONER BRADFORD: No, if the right number
15 is 10, rather than 40, then there's almost no chance of
16 reaching 4 percent (inaudible).

17 CHAIRMAN HENDRIE: I also want to get the -- my
18 best recollection is that it doesn't vary a hell of a lot
19 given the content, or I don't remember that it creates a
20 lot of pressure although they would physically be looking
21 at it in the atmospheric, according to the (inaudible).

22 COMMISSIONER GILINSKY: (inaudible)

23 CHAIRMAN HENDRIE: At the initial highest allowable
24 limit, you can only get, let's see, upward propagation,
25 downward propagation is a little harder to (inaudible).

1 And then you go up, and that's like 4 percent (inaudible)
2 concentration, and you go on up, why then, you don't go up
3 very much. And then you have downward propagation. No,
4 its -- not necessarily --

5 COMMISSIONER GILINSKY: (Inaudible)

6 CHAIRMAN HENDRIE: Yeah, the, at lean mixtures,
7 you're just feeding in enough energy at the flame point
8 to keep the thing covered. If it were a little leaner
9 than that, you wouldn't quite have enough energy for it
10 to move over into burn in the air, it wouldn't have enough
11 umph to heat the bases in the next layer, so to speak, of
12 temperature; if the mixture gets richer, why then that
13 flame has more of an abundance of energy, and that both
14 allows it to heat the next layer faster and move faster,
15 and so velocities go up. You get up somewhere around
16 inclusive velocity, and then you really go in terms of
17 propagation.

18 COMMISSIONER GILINSKY: What turns it off
19 is (inaudible).

20 CHAIRMAN HENDRIE: Velocity ought to go -- sound
21 velocity would move (inaudible). I don't know whether, how
22 much it moves. My best recollection was that (inaudible).

23 COMMISSIONER GILINSKY: Yeah. (Inaudible)

24 (End Side 1, Tape 14)

25 (Side 2, Tape 14 Not Recorded)