

ORIGINAL

NUCLEAR REGULATORY COMMISSION

---

IN THE MATTER OF:

THREE MILE ISLAND  
SPECIAL INQUIRY DEPOSITION

DEPOSITION OF: DR. ROBERT C. WILBURN

Place - HARRISBURG, PA.

Date - September 19, 1979

Pages 1 thru 41

---

Telephone:  
(202) 347-3700

ACE - FEDERAL REPORTERS, INC.

*Official Reporters*

444 North Capitol Street  
Washington, D.C. 20001

NATIONWIDE COVERAGE - DAILY

POOR ORIGINAL

80011 60666

NOR-4895 1  
bp

UNITED STATES OF AMERICA

2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

-----X  
 NUCLEAR REGULATORY COMMISSION'S :  
 :  
 TMI SPECIAL INQUIRY GROUP :  
 :  
 ON :  
 :  
 THE ACCIDENT AT THREE MILE ISLAND :  
 :  
 -----X

(Oral deposition of DOCTOR ROBERT C. WILBURN)

APPEARANCES:

NRC's Special Inquiry Group  
 Robert Chin, Esquire  
 Malcolm Ernst  
 Frederick Herr  
 Robert Schamberger

TAKEN AT:

Holiday Inn Town	10:00 a.m., Wednesday
Second and Chestnut Streets	September 19, 1979
Harrisburg, Pennsylvania	

I N D E X

<u>WITNESS:</u>	<u>EXAMINED BY:</u>	<u>PAGE NUMBER</u>
Robert C. Wilburn	Mr. Chin	3 - 4
	Mr. Ernst	5 - 39

EXHIBITS

<u>Number</u>		<u>Marked</u>
1	Letter of confirmation to Doctor Wilburn from the NRC TMI Special Inquiry Group	3
2	Four page resume entitled "Robert C. Wilburn"	4
3	Eleven page document entitled "Chronology of TMI Incident"	40

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

P R O C E E D I N G S

1  
2 MR. ERNST: I would like to state for the record  
3 that we are at the Holiday Inn Town Motor Hotel in Harrisburg,  
4 Pennsylvania. It is 10:00 a.m., September 19, 1979. The  
5 purpose is to take a deposition with regard to events during  
6 the Three Mile Island accident.

7 If you would stand and raise your right hand.

8 DOCTOR ROBERT C. WILBURN,  
9 was called as a witness and, having been duly sworn, was  
10 examined and testified as follows:

11 MR. ERNST: Be seated and state your full name and  
12 office, please.

13 THE WITNESS: Robert Charles Wilburn, Secretary of  
14 Budget and Administration for the Commonwealth of Pennsylvania.

15 (Exhibit No. 1 marked.)

16 BY MR. CHIN:

17 Q Doctor Wilburn, I will show you what is marked as  
18 Exhibit 1. Is this a copy of the letter sent to you by the  
19 NRC-TMI Special Inquiry Group confirming your deposition  
20 hearing this morning?

21 A Yes, it is.

22 Q Do you understand the information set forth in this  
23 letter including the general nature of the inquiry, your right  
24 to have an attorney present and the fact that information you  
25 give today may become public at some time?

1 A Yes, I do.

2 Q Doctor Wilburn, are you represented by counsel  
3 today?

4 A No, I am not.

5 MR. CHIN: I would like to note for the record that  
6 the witness is not represented by counsel today.

7 BY MR. CHIN:

8 Q Doctor Wilburn, if at any time during the course of  
9 this interview you feel that you need an attorney or attorney  
10 present, please advise me and I will adjourn this proceeding  
11 and afford you the opportunity to make one present. Is this  
12 procedure all right with you?

13 A Yes, that's right, fine.

14 Q Did you bring a resume with you today?

15 A Yes, I did.

16 MR. CHIN: I mark as Exhibit 2, which is a resume,  
17 I believe -- excuse me, a four page memorandum entitled  
18 "Robert C. Wilburn."

19 THE WITNESS: Right.

20 BY MR. CHIN:

21 Q Does this resume accurately summarize your employ-  
22 ment and educational background?

23 A Yes, it does.

24 MR. CHIN: Thank you. This is marked Exhibit 2.

25 (Exhibit 2 marked.)

1 MR. CHIN: Mr. Ernst.

2 BY MR. ERNST:

3 Q First, a couple of questions of a general background  
4 information of your activities during the Three Mile Island  
5 accident emergency response. The first one is that according  
6 to the testimony of Mr. J.C. Waldman before the President's  
7 Commission on April 26, the Governor ordered an accelerated  
8 review of emergency plans and indicated that you quickly  
9 tightened up the five-mile plan. I think he also testified  
10 that the Governor and his immediate staff did not feel comfort-  
11 able regarding adequate and accurate information for the first  
12 seven days after the event.

13 We were wondering when the Governor requested that  
14 you conduct this review of emergency plans.

15 A It was Saturday morning approximately 10:00 o'clock.

16 Q That would be April 1st?

17 A March 30th -- 31st.

18 Q Okay. Saturday.

19 A Thirty-first.

20 Q All right. In your review of the emergency -- first,  
21 I guess the emergency plans that you reviewed, was that the  
22 original five-mile plan or some modified plans, or just which  
23 reviews were they?

24 A When I began my review, we had in place a five-mile  
25 plan for the counties that were affected, which was originally

1 drafted by the counties. In addition to that, at that point  
2 in time, the Pennsylvania Emergency Management Agency was in  
3 the process of developing a 20-mile plan -- both a 10 and 20-  
4 mile plan. So, they were all in the process as of that  
5 morning.

6 Q What deficiencies did you find in the original five-  
7 mile plans?

8 A The original five-mile plans by county differed  
9 greatly in the level of specificity. By that time, while the  
10 written plans did not reflect a completeness, I think that the  
11 actual plans that people were dealing with did -- had come  
12 a long ways over the last -- over the prior three days.

13 My role was one of doing, I suppose, what the  
14 Governor would do had he the time to go down and ask questions  
15 and trying to get answers and trying to get a degree of confi-  
16 dence in the plans -- how comfortable we felt with the plans.  
17 I tried to cross-examine the plans and poke holes in them to  
18 see that they were attempting to address all the questions.

19 I asked questions like, "Well, who is going to drive  
20 the school buses now that we have them?" In some cases, the  
21 answers were not as good as I would have liked to have thought  
22 they would be. But, of course, as soon as the question was  
23 raised, then it is checked and double checked in going out to  
24 the counties. And in some counties, response would be better  
25 than others.

1           The questions -- I tried to question each aspect of  
2 the plan concerning -- questions like, "Who would drive the  
3 school buses? Are there any difficulties in the transit routes?  
4 Are they sure that they have in fact -- that they don't have  
5 any counties being evacuated in one direction and another  
6 county going in the other direction?" I think logical ques-  
7 tions, making sure that they were looking at the forest and  
8 not just the trees.

9           My initial reaction in the morning of -- Saturday  
10 morning was that the plans were reasonably good, that there  
11 were a lot of answers that people in the Emergency Management  
12 Agency did not have and I had some concerns about the traffic  
13 flows and issues like that.

14           Subsequently, during the day I continually called  
15 various people to try to get crosschecks on what was being  
16 done. I had discussions with General Scott who is the  
17 Adjutant General of the Pennsylvania National Guard, or the  
18 General in charge of the National Guard; discussions with  
19 Dan Dunn, who is the Commissioner of the State Police; dis-  
20 cussions with Gordon MacLeod, who is the Health Secretary, in  
21 attempting to do crosschecks on evacuation plans to make sure  
22 that they were comfortable with their functional areas and  
23 how they were being handled in the plans.

24           I found in that process that the questions that  
25 PEMA was not able to answer was being addressed very carefully



1 by each of these cabinet secretaries, and I felt in the  
2 evening much more comfortable than I did in the morning.

3 Q This is on Saturday?

4 A On Saturday. And by Saturday night, I felt reason-  
5 ably comfortable that we could conduct certainly a five-mile  
6 evacuation, and with a 10-mile evacuation with a reasonable  
7 degree of success and minimal amount of loss as far as injuries,  
8 property damages, personal damage of all kinds. Which again,  
9 you know, it was a gradual process through the day of asking  
10 questions and making sure that at least somebody was in  
11 charge of that particular area and that we were not going to  
12 run afoul.

13 Just as a specific example would be with the  
14 Transportation Department in the fact that the Transportation  
15 Department, while many of the questions could not be answered  
16 by PEMA in the morning, as the day progressed, I found out the  
17 Transportation Department was running simulated models of  
18 traffic flows, that they knew what the traffic would likely  
19 be in all directions, that they had actually stationed barriers  
20 and roadblocks and maintenance sheds and brought them in from  
21 surrounding areas to make sure that they would have the  
22 equipment available. They had placed the maintenance people  
23 on standby call so that they could be called in to rearrange  
24 barriers if massive traffic changes were required. So, I  
25 think that is one example.

1 I found the same kinds of response with the National  
2 Guard, the same kind of response with the state police.  
3 As the day went along, I was giving more positive responses  
4 to the Governor. I also gave an evaluation of our evacuation  
5 plans to General Eidenberg at the White House and also to  
6 Jack Watson who is Mr. Eidenberg's boss. All of this was done,  
7 unfortunately, orally. We weren't thinking of making reports  
8 at that particular point in time. And other than the plans  
9 that we were working on, there is very little documentation  
10 of that.

11 Q So, you went from agency to agency then, or did the  
12 agencies communicate with each other? Like the State Police  
13 and the National Guard, did they talk to each other?

14 A Yes, we have what is called a PEMA Council in which  
15 all the affected cabinet members sit. There is a meeting of  
16 that group that I attended the previous day on Friday at --  
17 I believe it was 1:30 or 2:00 o'clock in the afternoon.  
18 Although I am not a member of that council, the Governor asked  
19 me to go as his personal representative to that council.

20 The role that I played from Saturday and subsequently  
21 through this incident -- I mean the pieces were falling in  
22 place as they were supposed to fall in place. The protocol  
23 was being followed. There was coordination among the depart-  
24 ments. But the Governor, recognizing his kind of unique  
25 responsibility of making sure that everything comes together

1 as it is supposed to come together, did not want to leave any-  
2 thing to chance and asked that I go in and kind of make sure  
3 that all these pieces were coming together in the ways they  
4 were supposed to be coming together. And it was really a  
5 double checking of everything.

6 We were very careful that in no way would we inter-  
7 fere with the Emergency Management Agency and very careful to  
8 be as invisible as possible as far as not to in any way weaken  
9 the authority of the director of the Pennsylvania Emergency  
10 Management Agency or, you know, the counties. And tried to be  
11 as invisible to the county structure as possible. I think we  
12 were successful. I don't think they really knew that was  
13 going on for the Governor.

14 Q Do you happen to know the responsibilities that were  
15 delegated from the Council to the PEMA director?

16 A The responsibilities that were delegated?

17 Q I think the state law, if you don't know it -- we  
18 will -- but I think the state law talks about responsibilities  
19 of PEMA, which is the Council, and then also it says the  
20 Council shall delegate whatever authority -- not the delegation  
21 of responsibility but the delegation of authority as appro-  
22 priate to the director.

23 Q I really can't answer those questions. I didn't do  
24 a management review. I was just there trying to say "Are we  
25 missing anything? Are there big holes in this plan?"

1           And frankly, as far as the Pennsylvania system is  
2 concerned, I had very little involvement before that point and  
3 probably would have little involvement afterwards unless --

4           Q       Fine. You mentioned PEMA could not answer some  
5 questions. Do you have a specific on -- of the kinds of ques-  
6 tions that you found most difficult to work out or find  
7 answers to?

8           A       Most of them were traffic related questions, traffic  
9 flow questions. I mentioned the one about the bus drivers,  
10 and it was one simply that the answer was in the counties. It  
11 wasn't that the answer wasn't available. They just didn't  
12 have it centrally.

13                   At that time there was a layer of concern that was  
14 being overlaid on the whole plans because of the uncertainty  
15 about the radius of evacuation, and that was causing great  
16 concern I think on everybody's part about whether we were  
17 going to be asked to do a five or 10-mile evacuation. And at  
18 that time there was even speculation about a 20-mile evacuation,  
19 which was heightened that day by Washington that there could  
20 be a 20-mile evacuation. You know, we spent a considerable  
21 amount of time asking questions about the interaction of a  
22 five, 10 and 20-mile evacuation. If we had a five-mile  
23 evacuation, could we then go to a 20-mile evacuation, or will  
24 we have evacuated everybody from the five miles into a 10-mile  
25 radius? Those kinds of sequential questions.

1 I don't know if they had been addressed in part or  
2 had been raised before or if that was the initiation of them  
3 being addressed. It is difficult for me to assess. But  
4 certainly, during the day we became very attuned to these  
5 kinds of issues.

6 Q Is it fair to characterize then that the existing  
7 emergency plans were rather general in nature, did not have  
8 too many specifics as to people and exact routes and --

9 A Yes.

10 Q -- and detailed responsibilities, and this was the  
11 area that you were checking into?

12 A Yes.

13 Q PEMA didn't have those details either, and you had  
14 to --

15 A I think it is important to keep in mind that there  
16 were two sets of emergency plans. There is the ones that were  
17 developed by the Radiation Bureau and the Department of  
18 Environmental Resources, which is a protocol for calling  
19 evacuation. PEMA has the execution phase, if you will, of  
20 that evacuation.

21 The degree of specificity, I think, was fairly good  
22 in terms of the Department of Environmental Resources' kinds  
23 of response to give levels of radiation and so forth.

24 The counties are charged with -- the principal  
25 responsibility in evacuations, as I understand it, and PEMA

1 serves as the coordinator over all agencies. The level of  
2 detail varied considerably by county, and I think to a large  
3 extent it depended upon the individuals that were in those  
4 counties.

5           And I would hasten to add that I don't think that  
6 those plans really -- the written plans are reflective of the  
7 capabilities of the individuals and what can be done in a  
8 crisis. I think if you looked at the plans or if you looked  
9 at the counties, you might find little coordination in that  
10 regard. But nevertheless, I think it is fair to say that  
11 certain counties are very vague in exactly how they would  
12 evacuate and in what direction and --

13           Q       Did you talk to the coordinators of each of the  
14 counties in this review process, or did you have big meetings,  
15 or how --

16           A       No, what was done with the counties was really done  
17 through the National Guard. I requested that the National  
18 Guard be sure that they had at least one representative in  
19 each county that would at least serve as sort of an independent  
20 check and that would report back to General Scott on an inde-  
21 pendent assessment of how well the county was being -- that  
22 was being done in a manner not to interfere or in any way  
23 question the authority of the kind of people who have the  
24 authority to evacuate. And we relied on that information flow,  
25 and that was through General Scott to me as just an independent

1 crosscheck on their plans.

2 Those reports were coming in late Saturday and  
3 through -- well, through the remainder of the incident and  
4 were generally very positive as far as their capability of what  
5 work was being done.

6 Q You mentioned the 10-mile and 20-mile plans.

7 A Yes.

8 Q Did you review this as time went on and these plans  
9 were developed, or did you stay in this review process for  
10 the next several days and get familiar with the 10 and 20-mile  
11 plans?

12 A Yes, in fact on Saturday we were reviewing the five,  
13 10 and 20-mile plans all day long. It wasn't just focusing  
14 on the five and 10. We were looking at the 10 and 20-mile  
15 plans through Saturday and Sunday, I would say, culminating  
16 by Sunday afternoon, we reached the conclusion that there was  
17 little use in planning for a 20-mile evacuation because we  
18 were unable to determine scenarios under which a 20-mile  
19 evacuation would be required.

20 We then focused all of our attention on the five  
21 and 10-mile plans and dismissed the 20-mile plan. I shouldn't  
22 use the term dismissed because what we found in this process  
23 was that it made no sense to talk about a five and 10-mile  
24 plan without recognizing the consequences beyond that radius.  
25 We began to focus on what we called a 10-mile plan with 20-mile

1 consequences.

2 I think I could explain that very easily. One of  
3 the problems that we were having concern about -- having con-  
4 cern to a certain extent -- was checking on the institutions  
5 in the area to make sure they were continually being staffed.  
6 There were a lot of rumors -- the rumors were incredible about  
7 institutions being without staff and getting calls from  
8 various responsible people saying that we had to close certain  
9 hospitals because there was no staff there. One example --  
10 and I do not remember the name of the hospital -- but they  
11 said there was only a third of the staff had showed up --  
12 professional staff showed up to take care of the patients,  
13 and that we had to close the hospital.

14 After doing an investigation of that, we found that  
15 it was true, that they were down by two-thirds as far as the  
16 staff was concerned, but they also had released patients so  
17 that a third of the patients were left, and it was not an  
18 imminent problem but one that had to be watched and monitored  
19 very closely.

20 Q How did the chicken and egg work on this? Did they  
21 reduce staff because the patients were reduced because they  
22 were going elsewhere, or did they have to release the patients  
23 because the staff was not available?

24 A No, this was a decision made early on to reduce down  
25 to only those patients that could not be released. And I



1 think that was a very wise decision because that meant if you  
2 had an evacuation, it would proceed more smoothly.

3           The staff problems, I can't respond to why they  
4 occurred. You can speculate as well as I. The -- what I  
5 started to talk about, this radius and the consequences into  
6 the 20 miles -- the hospitals happened to be located at, I  
7 think, between 10 and 20 miles, and we were having problems  
8 prior to an evacuation in that 10 to 15-mile area. We were  
9 convinced if we ordered a 10-mile evacuation we would also  
10 have to evacuate those hospitals, even though they were  
11 technically outside that 10-mile radius.

12           So, we began to talk about a new concept, a radius  
13 of evacuation with consequences going out considerably further  
14 than that radius. And I think that is something that is going  
15 to be very important for future planning in these events. One  
16 lesson I think that was learned is that it is important to  
17 establish different radiuses and don't change them during the  
18 process. And it is, I think, a very inexact science, and it  
19 is hard to argue the difference between a 10 and 15-mile  
20 radius. And it would be better to stick with a 10-mile radius  
21 -- or whatever the radius is that the experts decide is  
22 appropriate.

23           And the second thing is, once that radius is deter-  
24 mined, you had better prepare for the perimeter. And if you  
25 have major installations on the perimeter, you had better be

1 prepared to evacuate those.

2 Q You mentioned criteria or scenarios of consequences.

3 A Yes.

4 Q Where did you get these scenarios or types of  
5 consequences? What was your source of information?

6 A Well, a principal source of information was Mr.  
7 Denton, Harold Denton. We met with him at least once a day  
8 and talked with him on the phone periodically during the days.  
9 We relied on him to give us those scenarios.

10 We also had input from a man named Doctor Wald, who  
11 is, as I understand, a leading expert in nuclear medicine.  
12 And he worked with us on what the effects on human beings are  
13 -- how -- what those radiuses or radii can be.

14 And it was on Sunday that -- by Sunday we had  
15 determined, largely through input from Mr. Denton and Doctor  
16 Wald, that the 10-mile radius was the worst possible case that  
17 we could logically plan for. And it was confirmed Sunday  
18 evening in a meeting with Mr. -- Doctor Hendrie came and met  
19 with the Governor that night. And his conclusion was really  
20 a 10-mile -- 10-mile radius of evacuation. Now, he did talk  
21 about, again, consequences beyond a 10-mile radius, but he  
22 was talking about making it a warning to stay indoors or some-  
23 thing to that effect.

24 But there was no scenario that he presented or dis-  
25 cussed at that meeting which would have -- The worst case

1 plan called for a 10-mile evacuation.

2 So, we were very pleased that at least we were  
3 coming together on what the appropriate radiuses or radaii  
4 were for consideration.

5 Q You mentioned a good deal of coordination with the  
6 National Guard.

7 A Yes.

8 Q A couple of things. Number one, in the meeting that  
9 we had in Harrisburg a few months ago with General Carroll,  
10 I believe his name was, he indicated some concern I think on  
11 his part as to whether guardsmen would easily go into areas  
12 of high radiation because of the lack of equipment to monitor  
13 radiation.

14 I also understand that sometime back there was  
15 another review of General Scott, I think, where there was some  
16 statement that guardsmen will never go into areas of dangerous  
17 radiation.

18 Do you have any observations on whether or not the  
19 Guard -- what kind of consequences might be -- exist and would  
20 still have a Guard that would be willing to go in and perform  
21 emergency services? Is that a problem?

22 A I really have no way of answering that. I can't  
23 make -- I can make a few comments about my feelings with the  
24 total population that we were dealing with, and to the extent  
25 that spills over in the National Guard. When people make

1 flippant comparisons between something like this occurring and  
2 floods and other kinds of national disasters, I think they  
3 really do not understand the degree of fear that existed in  
4 the general population and how that had to impact on everything  
5 that we did, everything from whether or not deciding to close  
6 additional schools or to open additional schools. That you  
7 wanted in no way to communicate that anything was not correct  
8 as far as whether or not the degree of crisis had heightened  
9 or stayed the same or lessened. And we tried to make sure  
10 that all of our actions were portraying the fact that that  
11 was the level of crisis at that particular point in time.

12           It is difficult to pinpoint specific things that  
13 occurred that gave one this sense that the people were in such  
14 a state of emotional frenzy, but there were little things  
15 that happened throughout that kept reminding you.

16           There was a news story that came out on Saturday  
17 night about the bubble might explode, and it was flashed across  
18 the TV. And it was only a matter of minutes that we were  
19 getting reports of some traffic jams on a Saturday night in,  
20 you know, a portion of the greater metropolitan area. And you  
21 had those kinds of indications from time to time that people  
22 really were frightened and that --

23           So, you know, how that spills over into the National  
24 Guard, I think -- It has to be a concern because these people  
25 are human beings. But whether or not they would perform their

1 mission, I have no way of answering that.

2 Q Your comments are enlightening. Thank you.

3 This may be related to the first question, but maybe  
4 not. On August 31st, Governor Thornburg testified before the  
5 President's Commission that he had requested you to monitor  
6 the performance of PEMA. Is this a separate action from the  
7 review of plans or an additional responsibility?

8 A No, this was referring to the review of the plans,  
9 you know, how they were being carried out at that particular  
10 point in time.

11 Q I see.

12 A It was not a long-term charge.

13 Q You did mention one council meeting, I believe you  
14 said --

15 A Yes.

16 Q -- on Friday afternoon.

17 A That's right.

18 Q Was that the first council meeting, or can you  
19 describe to me the activities or actions of the Council itself  
20 during this time period.

21 A Okay. The only -- all that I am aware of is the  
22 meeting that I attended. I do not know if there had been a  
23 council meeting prior to that time. It was clear at that  
24 meeting there had, at least, been prior discussions among  
25 individual members. Whether they had met as a group, I am not

1 aware of.

2 At that meeting, it was principally going through  
3 each department and discussing what their particular responses  
4 had been and were being and planned to be for the incident.

5 It was very clear at that meeting that this was not  
6 the first informational meeting. I don't know if they had  
7 met as a group or if they had been contacted individually.  
8 But they were at that meeting prepared to respond to what was  
9 being done in each department, and everyone seemed to be, I  
10 would say, reasonably well aware of the consequences of their  
11 department and what had happened.

12 Q Were there any subsequent meetings to your knowledge  
13 of the Council?

14 A Not that I am aware of.

15 Q You say there is no written report. And you men-  
16 tioned some actions you were taking. Did you have any overall  
17 recommendations to the Governor or anyone else regarding prep-  
18 aration for emergency as a result of your work?

19 A Yes, we did come up with recommendations for  
20 executive orders that would have to be promulgated in the  
21 event that an evacuation occurred. Some of these are quite  
22 minor but were details to be covered.

23 These included such things as taking over the turn-  
24 pike, for example. Minor thing to make sure that no one tried  
25 to collect tolls. Taking over the gas stations to make sure

1 that -- we assumed that we would have to have the National  
2 Guard actually operate many of the gas stations and be pre-  
3 pared to make sure that the National Guard had equipment to  
4 cut off locks of the pumps and so forth and actually get the  
5 cars moving because cars would be the principal means of  
6 evacuation.

7 We had coordinated with the oil companies to make  
8 sure that they were moving in extra reserves. This was during  
9 the energy shortage. There was at least an energy shortage at  
10 that time, if you remember. We were moving in tanker trucks  
11 at this particular point in time. I had this series of  
12 executive orders that would have to be promulgated simultan-  
13 eously with a declaration of emergency. We communicated those  
14 to the Attorney General. I assume that they were drafted. I  
15 never saw them. But I assume that they were drafted in  
16 preparation for evacuation.

17 Q Did you determine the consequences of an evacuation  
18 from a liability standpoint or maybe a health and safety stand-  
19 point might be a significant problem or --

20 A I never heard anyone address really the liability  
21 concerns. The health and safety were paramount I think to  
22 everything that we did.

23 The great concern about an evacuation as far as  
24 health and safety is the -- if you think about it for a moment,  
25 the hospitals were down to a third -- the population was down

1 to almost a third to what they had been. And the only patients  
2 that were left were the ones that it would be difficult for  
3 them to go home on their own. You have a large number of  
4 people on life-support systems. You have people that have  
5 undergone surgery recently and some in intensive care.

6 You have children, the babies in incubators. These  
7 are things that I never thought of before, the potential loss  
8 of life in ordering an evacuation that isn't necessary.

9 And when you can't contain the evacuation when we  
10 were convinced -- It is one thing to -- if we would have  
11 ordered a five or 10-mile -- or the Governor would have order-  
12 ed a five or 10-mile evacuation at some point, that would have  
13 immediately heightened the concern. We already had people  
14 leaving within considerable distances because of this fear of  
15 the unknown.

16 That is just difficult to anticipate, what would have  
17 happened in the hospitals. Could we have kept them? Would we  
18 have been forced to continue the evacuation out some distance?  
19 Would we have lost lives in moving these people? Those are  
20 great concerns. And we discussed them considerably.

21 We tried to make sure if an evacuation became  
22 necessary that we would have the ambulances available, the  
23 litters. We were working very closely with Mr. Adamcik to  
24 get federal assistance.

25 Q Would it have required a substantial federal response



1 from a resource standpoint to evacuate 10 miles or more?

2 A The 10-mile evacuation, if I remember correctly, did  
3 not require a substantial amount of resources in the near term.  
4 In the long term, of course, if these people would be at the  
5 evacuation centers, the more difficulty we have.

6 The biggest requirement was for ambulances, and those  
7 were being moved into position, as I understand it, by the  
8 federal government.

9 A 20-mile radius, of course, would have required a  
10 considerable amount of blankets and beds and so forth beyond  
11 what we could get from the American Red Cross and other  
12 agencies. But the Red Cross was able to supply most of the  
13 equipment that was required, with the exception of the  
14 ambulances.

15 Q I assume you were at most if not all of the press  
16 conferences and major meetings and so forth held by the  
17 Governor, at least from Friday on if not before?

18 A Right. Prior to Friday I had intentionally stayed  
19 away from the Governor's office. I thought at that point  
20 there were enough resources involved. And I think the magni-  
21 tude of the crisis certainly escalated between Wednesday and  
22 Friday morning. So, I am relatively unaware of what happened  
23 other than what I read on Wednesday and Thursday.

24 From Friday morning through the following Wednesday  
25 or Thursday, I was, with a few notable exceptions, present at

1 those meetings.

2 Q At these meetings, was Colonel Henderson or his  
3 representative present for most of them?

4 A Most of the meetings, he was present.

5 Q He was present?

6 A Yes.

7 Q Apparently, the Governor decided at some time early  
8 on, I guess, to rely primarily on his press conferences to  
9 disseminate information to the public. And there was some  
10 concern, apparently, at the county level and even at PEMA,  
11 apparently, that they were getting information late or after  
12 the press and public.

13 We were wondering why there was not maybe a simul-  
14 taneous information release to the counties or PEMA or other  
15 state agencies at or about the same time as the press con-  
16 ferences.

17 A If you look at press conferences for what I think  
18 they were was a public statement of exactly what the position  
19 was at that point in time. And if you look at the time lapse  
20 between the attainment of the information and the statement to  
21 the press, you will find in almost every case it was a matter  
22 of minutes.

23 One thing that impressed me throughout this whole  
24 series of meetings was the fact that virtually everything was  
25 released to the press and everything was released publicly

1 very shortly after it was received by the Governor, and that  
2 Mr. Denton certainly maintained a complete flow of information  
3 both to us. And normally we would hear it and he would walk  
4 out and give it to the press.

5           The same thing was true with the Governor as far as  
6 all the information that we had. I suppose if we would have  
7 addressed those releases perhaps differently, it would have  
8 made people feel differently. I am not sure it would have  
9 changed the flow of information.

10           I think the information was there as soon as it  
11 possibly could have been there. It was maybe the means of  
12 communication that bothered people as far as -- I think it was  
13 almost more -- I don't want to say it -- how do I want to say  
14 it? A feeling that just had no substantiation, that there was  
15 more information than they were getting. It just wasn't true.  
16 Maybe that feeling could be ameliorated by taking some other  
17 action.

18           Q       I was wondering about the timing of what one might  
19 call a normal official established means of communication  
20 through PEMA and the counties, if that could have been done  
21 simultaneously, or if there was a decision to do it --

22           A       It was being done simultaneously, but it was being  
23 done through the vehicle of a press statement. And, you know  
24 -- under normal times, one would tell all concerned parties  
25 before the press statement was made, but there really wasn't

1 that kind of time lapse.

2 Q Was PEMA and the other state agencies -- maybe  
3 Dauphin County -- advised as to the time of the press confer-  
4 ences ahead of time?

5 A PEMA certainly would have been. At least I say they  
6 were. To the best of my knowledge they were.

7 Q Apparently, the Governor established what one might  
8 call a command center to collect and evaluate information.  
9 I guess it was staffed by Mr. Waldman, yourself and several  
10 others. Could you identify the others that were customarily  
11 involved in this process.

12 A Yes. I am not sure the term command center -- I  
13 don't know if that is the right terminology or not. Some of  
14 us were in the presence of the Governor more than others. And  
15 maybe -- I don't think there was any kind of designation as  
16 such.

17 The people that were present most of the time were,  
18 certainly, the Lieutenant Governor, myself, Mr. Waldman, Paul  
19 Critchlow and Jim Seif.

20 The next level or degree of contact which was maybe  
21 not there quite all the time but almost was Gordon Macleod,  
22 Secretary of Health, Secretary of Environmental Resources.  
23 And when I say these people, they would bring different aides  
24 and have different aides with them and some of their staff.  
25 But they were sort of the focal points.

1           And not quite as often as those two, but toward --  
2 as the incident began to develop, Mr. Penrose Holowell,  
3 Secretary of Agriculture. Certainly Gordon MacLeod and Cliff  
4 Jones were involved. The Secretary of Environmental Resources  
5 and Secretary of Health from the very beginning were present,  
6 I would say, at almost all major meetings.

7           Q       Did you mention a Mr. Seif?

8           A       Yes, he is Special Assistant to the Governor. He  
9 was present at a lot of meetings. Mr. Henderson was present  
10 at almost all the early meetings. He was present at most of  
11 the meetings.

12          Q       When did this group sort of come into being?

13          A       There was no specific time. It evolved. When I  
14 became involved on Friday morning, certainly it was -- for all  
15 practical purposes, it had already come together.

16          Q       What were the basic sources of information supplied  
17 to this group? On whom were you basically relying?

18          A       It really depended on the issue. There was -- the  
19 Lieutenant Governor was clearly responsible for the -- all of  
20 the PEMA operations, and PEMA does report to the Lieutenant  
21 Governor. All the information on radiation levels, on the  
22 environment, of course, was coming through Secretary Jones.

23                   When we got into the problems -- with potential  
24 problems with water and milk and so forth, the Secretary of  
25 Agriculture also became involved, particularly with the milk.

1           The information principally came -- the technical  
2 information came from Mr. Denton once he was -- And it really  
3 became almost a sounding board for Mr. Denton. Believe me  
4 nothing he said was accepted at face value. It was examined  
5 and cross-examined and turned inside out, upside-down, until  
6 we believed -- first that we understood what he was saying,  
7 and secondly, that there was some faith in what he was saying.

8           Secondly, we relied in the early stages on Chairman  
9 Hendrie in calling him. I believe if you look at the itinerary,  
10 we probably had three phone calls -- three very long phone  
11 calls. And most of them were on the speaker phones with most  
12 of the people I have mentioned in the room.

13           Q       Friday morning --

14           A       There was one, I believe, Friday morning at 10:00  
15 o'clock. There was one at 11:45, and one later in the after-  
16 noon. We had a call with Mr. Denton on the speaker phone in  
17 the afternoon, a meeting with Mr. Denton that evening.

18           You know, those -- the information was coming in,  
19 and it was a question of filtering the information, of making  
20 sure that you believe the information and making sure that  
21 you are asking the right questions so that you are getting  
22 full information. And not even necessarily that these people  
23 are trying to keep information from you, but it is just what  
24 is important to you, they may not appreciate. And so that was  
25 the role played by this group, if you call it a group, to

1 serve that function.

2 Q So, is it fair to say that basically the cognizant  
3 state agencies you were relying on was the NRC?

4 A For substantive information.

5 Q You did mention Doctor Wald. Were there any other  
6 consultants, so to speak, or outside --

7 A No. And Doctor Wald was brought in at the suggestion  
8 of the Secretary of Health, and, as I understand it, he was  
9 largely responsible for drafting the guidelines for the NRC.  
10 So, he was a very credible source.

11 Q You mentioned one lesson that might be learned from  
12 TMI, namely that while one might plan for a specified, such  
13 as a 10-mile radius of evacuation, one should also plan for a  
14 ripple effect. Are there any other lessons that you think --

15 A Well, that is certainly one lesson. Another lesson  
16 is the need for NRC or the appropriate agencies to re-think  
17 what those radiuses are prior to an accident and develop some  
18 -- you know, if you read the guidelines as I understand they  
19 existed before, it wasn't even really a five-mile radius. It  
20 was, I believe, a radius of low population density, which in  
21 the case of Three Mile Island was two and a half miles.

22 So, you have all these conflicting kinds of numbers.  
23 You have a two and a half mile-radius, you have a five-mile  
24 radius. Then, we get into the discussion of this crisis and  
25 numbers were flippantly thrown around. There was a press

1 interview in -- Saturday in Washington in which Chairman  
2 Hendrie said it might be 10 to 20 miles. And that one small  
3 statement and the problem that it caused in trying to put the  
4 lid back on the population in Pennsylvania, it is hard to  
5 exaggerate.

6           It seems to me if we had some reasonable basis for  
7 what the difference in those areas are and we established some  
8 kind of radiuses and then stuck with them when we get into a  
9 problem, we would be a lot better off. Plus the fact that you  
10 can't draw the line clearly and you have to be prepared for  
11 the consequences, I think is important.

12           The other thing I think is important in emergency  
13 preparedness for people to address is the whole concept of  
14 fatigue and what it means to get into a crisis which is not  
15 of a limited duration. They all approached this as they do  
16 a hurricane in which the thing is over in 24 or 48 hours.  
17 And I have been on the periphery of some of these operations  
18 in the Defense Department. I at least have observed some  
19 previously in long-term vigils, if you will, incidences that  
20 were occurring around the world and the discipline that is  
21 required in situations like this to make sure that you get a  
22 certain amount of sleep every day and that important decisions  
23 may not occur in the first 48 hours but may occur three or  
24 four days down the road. I think they weren't prepared to  
25 deal with that kind of a situation, and that is something that



1 as we train people to deal in emergency preparedness, it is  
2 very important that people -- people looked very shell shocked  
3 Saturday.

4           It was a discipline that we established in the  
5 Governor's office almost immediately. There was always some-  
6 body around that was responsible. But they made sure that we  
7 didn't extend ourselves to the point that we became disfunc-  
8 tional. I don't think that same principle was being applied  
9 in the emergency management center. By Saturday the people  
10 looked overfatigued. And we tried to insist that schedules  
11 be established that -- because you don't know when the impor-  
12 tant decisions were going to be made. And you had to have  
13 some reasonable degree of performance. You know, those are  
14 the kinds of lessons that I suppose -- Had we had an evacua-  
15 tion, I suppose we would have learned much, much more.

16           Q       Are there any ways in your mind that perhaps the  
17 federal or even state agency response could have been a little  
18 more effective?

19           A       Yes.

20           Q       Pragmatically effective?

21           A       Yes. Mr. Denton's arrival on Friday afternoon, had  
22 he arrived -- a person of that level and that credibility,  
23 had he arrived two days earlier would have made a fairly  
24 important difference. Second, had we had the same response  
25 as visibly on the evacuation site would have helped. Mr.

1 Adamcik was detailed by the President and was given that  
2 authority. It wasn't communicated as clearly as it may have  
3 been.

4 And had we known -- it took time to understand and  
5 realize -- It took also -- from the very beginning I don't  
6 believe that Mr. Adamcik understood what his charge was and  
7 that we really clarified -- we had to clarify that through  
8 calls to Mr. Watson. Had you had a similar response on the  
9 outside of the issue and had it occurred on Wednesday, let's  
10 say, I think we could have had a very coordinated and smooth  
11 running operation if we had had a federal advisor -- an  
12 evacuation plan and a federal advisor on the technical aspects  
13 on site on Wednesday.

14 Of course, it is easy, obviously, to do these things  
15 in retrospect. And for the future I think it is important, and  
16 to very clearly identify their responsibilities.

17 Mr. Denton came knowing that he was the President's  
18 special representative on the scene and had all kinds of  
19 authority. It took a little longer for Mr. Adamcik. I don't  
20 think he was given as clear a mandate as he could have been  
21 given.

22 And the other thing I think that was important was  
23 to make sure that these advisors know each other and, you  
24 know, are prepared -- not that that was a problem here, but  
25 it could have been. That they know each other and are prepared

1 to work together. I think that would have helped. It would  
2 have helped immeasurably in this particular thing.

3 Are you asking the questions as far as response to  
4 an incident?

5 Q Yes. Yes. I think the same question might be asked  
6 as far as planning for an incident, but the question was with  
7 regard to response.

8 Did the state suffer from perhaps the same kind of  
9 a problem, a coming together? You seemed to come together  
10 once you realized that you had a serious event, and that is  
11 human nature.

12 A Yes, we did have the advantage. I think the advan-  
13 tage in the state is that it is smaller than or focused on  
14 the scene and that the Governor is in charge. And, of course,  
15 you don't have these problems as far as who is responsible.  
16 Everybody knows who is responsible. Everybody was cooperating  
17 and working together. I don't think we had that problem.

18 I am not sure -- it seems difficult to analyze your-  
19 self as easily as it is to analyze others. Maybe I will let  
20 somebody else analyze our response.

21 Q You mentioned a difference between the response  
22 per se and the planning. Do you have any observation or more  
23 effective planning or readiness?

24 A Well, I -- a large part of the plans that exist  
25 really do depend upon the plan itself and the operators of the

1 plan. You know, your protocols as far as the radiation side  
2 of it, the evacuation side of it, are all triggered by infor-  
3 mation received from the plant.

4           It seems to me that somebody has to have clear  
5 responsibility for making sure that the resources exist within  
6 the plant and that is either the state government or the  
7 federal government. I believe at the current time, it is the  
8 federal government that has that responsibility. And I think,  
9 you know, you can't start talking about evacuation plans from  
10 the time -- you know, down the road. You have to get back to  
11 the very first day.

12           And I think one of the major shortcomings -- and  
13 again I hate to be in a position of pointing the finger at  
14 everybody else -- but the capability from my observation just  
15 simply wasn't there. Again, I am not an expert.

16           Q       That is Met-Edison at the plant?

17           A       As far as early response, the technical expertise  
18 that existed -- and that is the first step in all the evacua-  
19 tion plans as well as it is in the prevention of an accident  
20 occurring. So, I think -- that is very important.

21           Apart from that, one could talk about having much  
22 better, more detailed plans. I think it is an important  
23 exercise, but it is an exercise. And when you get into the  
24 actual incident occurring, you really have to adjust those plans  
25 dramatically anyway. I am not sure we can do all that much

1 better as far as it really being prepared if you have a change  
2 of wind and -- you know. But a better understanding,  
3 obviously, it would help a lot. Just a better understanding  
4 of things I mentioned before and how the cycles change.

5 Q In your judgment -- and it is a judgment question,  
6 I recognize -- but since you were rather heavily involved in  
7 the plans themselves, and pragmatically involved rather than  
8 a paper exercise, as you say, how long do you think that it  
9 might have taken from the time of notification, say, on  
10 Wednesday to conduct a five-mile evacuation?

11 A Again, it is very subjective. Let me work back-  
12 wards. On Saturday I think that could have been done in two  
13 to three hours on a five-mile evacuation. All I could say,  
14 it would be several times that amount, I believe, on Wednesday  
15 morning. You had more people in the area. You had institu-  
16 tions -- at least a very large nursing home that had not been  
17 evacuated. It had been by Sunday. You also did not have the  
18 psychological preparation for it.

19 It is very difficult for me to answer it other than  
20 saying what it was by Saturday. And Saturday, I think two to  
21 three hours is a reasonable estimate. So, we are talking about,  
22 oh, pick a number as far as what it might be on Wednesday.

23 Q To your knowledge, did anyone look at the cost of  
24 evacuation? I don't really mean just the financial institu-  
25 tional cost but all the other kinds of costs, too, and maybe

1 the cost to society, loss of business and things like that.

2           Were there any estimates made of the balance on  
3 evacuation costs versus health and safety benefits of an  
4 evacuation?

5           A       You know, it is interesting. We kept looking at the  
6 health and safety costs of an evacuation. I don't think we  
7 really looked at the economic cost of an evacuation. I don't  
8 remember it being a discussion, but we continually talked  
9 about what was likely to be the cost of evacuation in terms  
10 of human life, how we could control that.

11          Q       Were there any documents that you are aware of giving  
12 estimates of this nature, perhaps from some of the hurricane  
13 evacuation or statistics of that nature?

14          A       No. No, but you know, in a hurricane evacuation,  
15 if I understand correctly, usually a lot of people are not  
16 evacuated from the hospitals. And the reason they are not  
17 evacuated from the hospitals is the risk of moving them is  
18 greater than the risk of leaving them there.

19                   We did have considerable discussions with the  
20 Secretary of Health and others as to whether we could have  
21 that kind of a situation. I was not convinced you could.

22                   I really am not sure people would have stayed behind.  
23 People are very heroic and -- Nurses and lab technicians in  
24 staying behind who are threatened with their life. But they  
25 know what they are dealing with. And it is interesting -- it

1 is like the question with the National Guard. I think there  
2 is no question that you could send the National Guard into a  
3 flooding situation or hurricane situation. What the response  
4 would be in this kind of situation is very difficult to say  
5 because it has not been dealt with before.

6 But I don't believe you could take everybody out of  
7 hospitals in a hurricane evacuation simply because we are  
8 talking about -- we were really talking about a total evacua-  
9 tion. And persons walking into that hospital -- and he doesn't  
10 know if he is being exposed or not -- is one thing. It is a  
11 lot different than a situation in going in a boat to the  
12 second floor.

13 Q The state law of 1978 -- I believe it was passed  
14 last year -- on emergency response appears to hinge emergency  
15 response on the Governor's declaration of a disaster emergency.  
16 Did the lack of such a declaration have any substantial effect  
17 on state agencies and their ability to respond or react or  
18 whatever is necessary?

19 A Not that I am aware of. I think everybody responded  
20 with the utmost capability to respond. Certainly nobody held  
21 back. This was discussed certainly.

22 Again you have to remember the population was one  
23 that was consumed with fear, at least from my interpretation,  
24 during that period of time. Anything that heightened that  
25 fear caused a response that was difficult to control. And that

1 was always in the back of our minds.

2 The same thing with declaring it a state of national  
3 emergency. We discussed that with President Carter. It was  
4 discussed with Mr. Watson and it was the same kind of conclu-  
5 sion. That, steady as you go and try to be able to control  
6 response of individuals to the extent that we can as to what  
7 the real danger is. And --

8 Q Is it fair to say then that was the controlling  
9 reason why the emergency disaster was not declared by the  
10 Governor?

11 A That and the assurances that were received from Mr.  
12 Watson that we would receive an identical degree of federal  
13 assistance if it were not declared. And statewide, we really  
14 had the capability, I believe, to do everything we could do.  
15 There was nothing to be gained, and there was a risk.

16 Q Anything else at this time that you would like to  
17 state personally for the record that would enlighten us as to  
18 your activities or suggestions or observations regarding the  
19 TMI incident?

20 A I don't think so. I think we pretty well covered  
21 my limited involvement.

22 MR. ERNST: Any questions from the Board?

23 MR. HERR: No.

24 MR. SCHAMBERGER: No.

25 MR. CHIN: Doctor Wilburn, you have been referring



1 to some notes. May we request those notes?

2 THE WITNESS: Sure. This is the chronology of the  
3 TMI incident which we put together after the fact that would  
4 help us remember what happened when.

5 MR. CHIN: I would like to note for the record the  
6 "Chronology of the T.M.I. Incident" for the period March 28th  
7 to April 1, Office of the Governor, 11 pages, as Exhibit No. 3.

8 (Exhibit No. 3 marked.)

9 MR. ERNST: I want to thank you very much for your  
10 time. I found your statements to be very enlightening and  
11 helpful to our inquiry.

12 In conclusion, let me say this is an ongoing inves-  
13 tigation, and although I have completed the questions I have  
14 for you today, we may need to bring you back at some later  
15 time. We will, however, make every effort to avoid having to  
16 do so.

17 I will now recess this deposition rather than  
18 terminate it. And thank you for your time and effort in being  
19 here today. Thank you.

20 (Thereupon, the deposition of Doctor Wilburn was  
21 recessed.)

22

23

24

25

CERTIFICATE

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

I hereby certify that the proceedings and evidence are contained fully and accurately in the notes taken by me on the hearing of the foregoing cause, and that this copy is a correct transcript of the same.

*Nancy O'Neill-Reusing*  
Nancy O'Neill-Reusing, Reporter  
Notary Public in and for the  
Commonwealth of Pennsylvania

MONICK STENOGRAPHIC SERVICE

My commission expires  
December 13, 1982.



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

September 4, 1979

In Reply Refer to:  
NIFTM 790904-01

Dr. Robert C. Wilburn  
Secretary of Budget & Administration  
Room 238, Capitol Building  
Harrisburg, Pa. 17120

Dear Dr. Wilburn:

I am writing to confirm that your deposition under oath in connection with the accident at Three Mile Island is scheduled for September 19, 1979 at 10:00 a.m., in a meeting room at the Holiday Inn Town motel, 2nd and Chestnut Streets, Harrisburg, Pa. Please bring with you a copy of your resume and any documents in your possession or control regarding TMI-2, the accident or precursor events which you have reason to believe may not be in official NRC files, including any diary or personal working file.

The deposition will be conducted by members of the NRC's Special Inquiry Group on Three Mile Island. This Group is being directed independently of the NRC by the law firm of Rogovin, Stern and Huger. It includes both NRC personnel who have been detailed to the Special Inquiry Staff, and outside staff and attorneys. Through a delegation of authority from the NRC under Section 161(c) of the Atomic Energy Act of 1954, as amended, the Special Inquiry Group has a broad mandate to inquire into the causes of the accident at Three Mile Island, to identify major problem areas and to make recommendations for change. At the conclusion of its investigation, the Group will issue a detailed public report setting forth its findings and recommendations.

Unless you have been served with a subpoena, your participation in the deposition is voluntary and there will be no effect on you if you decline to answer some or all of the questions asked you. However, the Special Inquiry has been given the power to subpoena witnesses to appear and testify under oath, or to appear and produce documents, or both, at any designated place. Any person deposed may have an attorney present or any other person he wishes accompany him at the deposition as his representative.

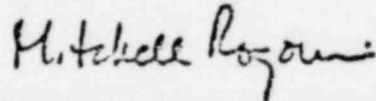
You should realize that while we will try to respect any requests for confidentiality in connection with the publication of our report, we can make no guarantees. Names of witnesses and the information they provide may eventually become public, inasmuch as the entire record of the Special Inquiry Group's investigation will be made available to the NRC for whatever uses it may deem

appropriate. In time, this information may be made available to the public voluntarily, or become available to the public through the Freedom of Information Act. Moreover, other departments and agencies of government may request access to this information pursuant to the Privacy Act of 1974. The information may also be made available in whole or in part to committees or subcommittees of the U.S. Congress.

If you have testified previously with respect to the Three Mile Island accident, it would be useful if you could review any transcripts of your previous statement(s) prior to the deposition.

Thank you for your cooperation.

Sincerely,



Mitchell Rogovin, Director  
NRC/TMI Special Inquiry Group

ROBERT C. WILBURN

/ Room 238 Main Capitol Building / Harrisburg / Pennsylvania / 17120 /

EDUCATION

Princeton University, Princeton, New Jersey  
Doctor of Philosophy, Public Affairs (Economics), 1970  
Dissertation Topic: The Supply of Military Manpower

Princeton University, Master in Public Affairs, 1967  
Major emphasis on Macroeconomics, International Trade  
and Development, Quantitative Methods and Labor  
Economics -- Honors: 1965-66 Woodrow Wilson School  
Fellow and 1966-67 Public Affairs Fellow

United States Air Force Academy, Colorado, Bachelor  
of Science (Economics), 1965. Captain of Debate  
Team and Member of Cadet Forum.

MILITARY SERVICE

Captain, United States Air Force. Air Force  
Commendation Medal and Joint Services Commendation  
Medal.

EXPERIENCE

From January 16, 1979 to the present -- Secretary of  
Budget and Administration, Commonwealth of Pennsylvania.

September, 1975 to January, 1979 -- President, Indiana  
University of Pennsylvania, Indiana, Pennsylvania

October, 1974 to August, 1975 -- Vice President and  
Director of Financial Planning Group, Chase Manhattan  
Bank, N.A.

1972 to 1974 -- Vice President and Director of  
Management Science Division, Chase Manhattan Bank, N.A.

1970 to 1972 -- Office of the Assistant Secretary of  
Defense (Systems Analysis), Department of Defense.  
Economist and Policy Analyst

1969 to 1970 -- Staff Economist for The President's  
Commission on an All-Volunteer Armed Force, White House

1969 -- Project Volunteer Study Group, Headquarters,  
United States Air Force. Chairman, Air Force Project  
Volunteer Incentives Panel.

1967 to 1969 -- Directorate of Personnel Plans,  
Headquarters, United States Air Force. Econometrician  
in the Analysis Division.

PERSONAL

Married Patti-Ellen (Zuidema). Two children, Jason,  
8 and Jesse, 1.

MEMBERSHIPS,  
PUBLICATIONS

Serve on the boards of several professional and  
charitable organizations (list available on request).  
Have published and co-authored five books during my  
military career (list available on request).

PUBLICATIONS: Municipal Development in Guatemala: Matzatenango and Retalhuleu Case Studies, published in Spanish by Instituto Nacional de Administracion Para el Desarrollo, November 1966 (with J. I. Scheiner).

Economic Analysis of First-Term Re-Enlistment in the Air Force, AFPDPL-PR-69-017, September 1969 (with J. M. Quigley).

The Supply of Military Manpower: The Impact of Income, the Draft and Other Factors on the Retention of Air Force Enlisted Men, AF/DPXY-MR-70-009, August 1970. A portion of this report was published in Studies Prepared for the President's Commission on an All-Volunteer Armed Force, November 1970. A portion was also presented at the Southern Economic Association meetings in November 1970.

Cost-Benefit Analysis of AFIT Advanced Education, AF/DPXY-70-002, August 1970 (with S. W. Chapel).

Career Choice and the Supply of Military Manpower, P-896, published by the Institute of Defense Analysis, September 1972 (with G. Nelson).

Presentations to Professional Seminars:

Southern Economic Association, Annual Meeting  
Operation Research Society of America, Annual Meeting  
Numerous financial presentations

OTHER ACTIVITIES:

1974-1975	Committee for the New York Philharmonic	
1975	American Cancer Society of Indiana County	Board of Directors
1975	American Council on Education	
1975	Big Brothers/Big Sisters	Board of Directors
1975	Center for Community Affairs at Indiana University of Pennsylvania	Established
1975	Indiana Arts Council	Assisted in Establishing
1975	Operation Up-Lift	Board of Directors
1975	United Way	Board of Directors
1976	Pennsylvania Commission of State College and University Presidents	Vice Chairman for 1976 Chairman for 1977-79
1976	Phi Mu Alpha	Honorary Member
1976-1979	Trinity College Trustee Washington, DC	Executive Committee
1977	Benjamin Franklin Symposium	Address to the General Assembly of Pennsylvania
1977	American Economic Association	
1977	Pennsylvania Association of State Colleges and Universities	Executive Committee
1977	Phi Delta Kappa	
1977	Opera Guild	
1977	Pennsylvania Postsecondary Education Planning Commission's Standing Committee on Federal Programs	
1977	State Board of Education Committees: Task Force on Finance 1202 Commission Advisory Committee to State Board of Education	

1977	American Association of State Colleges and Universities Committees: Council on College/Corporate Relations Committee on Public Relations	
1977	I-Cap Supported Work Program Advisory Committee	
1978	Bela Bartok Society of America, Inc.	Board of Directors
1978	Pennsylvania Council on Economic Education	President
1978	Indiana County Airport Advisory Committee	Board member
1978	United Way of Indiana County	Executive Committee member
1978	American Council on Education's Commission on Military-Higher Education Relations	Member

MARITAL STATUS      Married, two children  
AND HEALTH:          Excellent Health



*draft for  
Kemeny Committee*

Chronology of

THE T.M.I. INCIDENT  
March 28 - April 1, 1979

Office of the Governor

WEDNESDAY - MARCH 28, 1979

- 7:02 a.m. TMI Supervisor notifies Pennsylvania Emergency Management Agency (PEMA) watch officers that there is a "site emergency".
- 7:04 a.m. PEMA notifies Pennsylvania Department of Environmental Resources (DER).
- 7:08 a.m. PEMA notifies Dauphin County.
- 7:12 a.m. PEMA notifies Lancaster County.
- 7:20 a.m. PEMA notifies York County.
- 7:36 a.m. TMI notifies PEMA of "general emergency" status.
- 7:40 - PEMA re-notifies 3 counties and appropriate Departments  
7:50 a.m. of Pennsylvania Government.
- 7:50 a.m. PEMA notifies Governor of accident at TMI.
- 8:20 a.m. PEMA notifies Lt. Governor.
- 9:05 a.m. Governor calls Lt. Governor; requests report.
- 9:37 a.m. Lt. Governor calls Governor; briefs him by phone.
- 10:55 a.m. Lt. Governor Press Conference  
(See Transcript)
- 11:30 a.m. Meeting:  
Governor  
Lt. Governor  
DER Official  
Governor's Staff  
Lt. Governor's Staff

WEDNESDAY - MARCH 28, 1979 (continued)

2:30 p.m. Meeting in Lt. Governor's Office  
Mr. Herbine - Met Ed  
TMI Plant Manager  
Senator Ross  
Paul Critchlow - Governor's Office  
Mark Knouse - Lt. Governor's Office  
Dave Milne - DER  
Tom Gerusky - DER  
Peter Duncan - DER  
Bill Anderson - Department of Justice

Gerusky reports on a release occurring between 11:00 a.m. and 1:30 p.m. and complains about lack of notification.

Herbine reports on procedures in use; this is a "normal ventilation"; remarks that "we might have to have some controlled steam venting." When confronted regarding 11:00-1:30 venting, admits it and says "it didn't come up" during his press conference. Notes "possible fuel damage."

4:30 p.m. Lt. Governor's Press Conference  
(See Transcript)

6:00 p.m. Knouse invites Higgins and Gallina of NRC to visit Lt. Governor (First NRC contact?)

8:45 p.m. Meeting in Lt. Governor's Office:  
Lt. Governor  
Galina - NRC  
Higgins - NRC  
Friess - DOE  
Jay Waldman - Governor's Office  
Paul Critchlow - Governor's Office  
Mark Knouse - Lt. Governor's Office  
Tom Gerusky - DER  
Rep. DeWeese

Galina says "future emissions, if any, will be less than today's venting from auxiliary building"; also notes possible core exposure.

9:33 p.m. Lt. Governor calls Governor to brief and arranges later briefing at Governor's Home.

10:00 p.m. Lt. Governor's Press Conference #3  
(See Transcript)

10:00 p.m. Governor meets citizens at gate of Governor's Home.

WEDNESDAY MARCH 28, 1979 (continued)

11:00 p.m. Meeting -- Governor's Home:

Governor

Lt. Governor

Higgins - NRC

Friess - DOE

Galinna - NRC

Tom Gerusky - DER

Dave Milne - DER

Mark Knouse - Lt. Governor's Office

Paul Critchlow - Governor's Office

Roland Page - Governor's Office

? [ Ginny Thornburgh  
John Thornburgh

THURSDAY - MARCH 29, 1979

Morning: Met Ed Press Conference

Morning: Lt. Governor calls members of Pennsylvania Congressional Delegation.

Morning: Lt. Governor discusses possible site visit with his staff and Governor's staff.

10:30 a.m. Governor authorizes Lt. Governor's visit.

12:30 -  
3:15 p.m. Lt. Governor at T.M.I.

2:30 p.m. Signal Corps "hot-line" installed in Governor's Office.

3:45 p.m. Lt. Governor reports to Governor and Governor's staff, plus Higgins and Galinna.

5:15 p.m. Governor's Press Conference  
(See Transcript) -

7:00 p.m. Critchlow receives report of possible discharge of 40,000 gallons of water; phones Governor; begins "digging".

10:00 p.m. Higgins calls Critchlow; discusses possibility of fuel damage and continued emissions.

10:00 -  
Midnight Intermittent calls between Governor and Critchlow.

Midnight DER Secretary Cliff Jones issues statement about water discharge.

FRIDAY - MARCH 30, 1979

- Early a.m. PEMA reports emission to Lt. Governor.
- 8:58 a.m. Lt. Governor reports emission to Governor's Office.  
(Governor in transit to his office.)
- 9:00 -
- 9:45 a.m. Critchlow confirms with Abraham of NRC that there was an emission, and that a Harold Collins of NRC "recommends evacuation".
- 9:06 a.m. Governor calls Lt. Governor; learns of emission, and the Collins recommendation.
- 9:24 a.m. Lt. Governor calls Governor; further discussion.
- 9:59 a.m. Governor places call to Chairman Hendrie.
- 10:00 a.m. Lt. Governor visits PEMA.  
Henderson (PEMA) calls Critchlow, advises that DER figures do not indicate evacuation.
- 10:00 a.m. Governor reaches Hendrie; receives advice that people should stay inside, discusses children and pregnant women.
- 10:25 a.m. Governor appears on WHP (live) to deal with evacuation rumors.
- 11:00 a.m. Governor's staff begins legislative notification process.
- 11:15 a.m. President Carter calls Governor:
1. Concurs in the "no evacuation" decision.
  2. Inquires about Signal Corps line.
  3. Informs the Governor that Jessica Tuchman Matthews of his staff is assigned to this matter.
  4. Informs the Governor that his on-site personal representative will be Harold Denton.

FRIDAY - MARCH 30, 1979 (continued)

11:40 a.m. Hendrie calls Governor:

1. Says there will be future emissions.
2. Reports on water pumping attempts.
3. Advises that pregnant women and children should evacuate.

12:30 p.m. Governor's Press Conference  
(See Transcript)

1:30 - Jay Waldman speaks with Jessica Matthews; learns  
3:00 p.m.? that the situation is unprecedented; that the "worst case" was meltdown, and that lead time on meltdown could be 4-6 hours only. Matthews also reports that Jack Watson will be coordinating for the White House.

2:00 p.m. Waldman calls Jack Watson; asks to have Harold Denton visit Governor's Office.

3:08 p.m. Governor calls Matthews, who confirms Waldman's conversation, and adds:

1. There is a gas bubble present.
2. The situation is stable.
3. There was a "conscious" venting this morning.
4. There is a constant leak.
5. There is work being done on the drain pipes.
6. The core is hot, and its top is not covered.
7. There is nobody with a good picture of the situation.
8. Denton and Fouchard are on the way.

3:25 p.m. Jack Watson calls Governor.

FRIDAY - MARCH 30, 1979 (continued)

3:45 p.m. Hendrie calls Governor

1. Says core damage is serious, and Met Ed agrees that it is.
2. Bubble is present, but stable.
3. No need for off-site protective response; explosion potential is low.
4. 1% meltdown chance, but 5% of chance of large unplanned releases.

4:05 p.m. Denton calls Governor; has been on site one hour and has assigned 4 task forces to study the situation.

1. Release off-site is routine noble gas; no threat.
2. 1 - 20 mr/hr on the island.
3. Fuel damage is significant.
4. Bubble on top of core, possibly expanding.
5. Need several days of analysis.
6. Discussion of need for public briefing.

After the call, arrangements made for Denton's visit to the Governor's Office.

4:30 p.m. Watson calls Waldman; discusses declaration of emergency/disaster; feeling is that such an action would generate public panic, and that, in any event, Pennsylvania is already receiving the same type and amount of assistance as if there was a declaration. Also designates Bob Adamcik as federal liaison for emergency preparedness.

8:30 p.m. Denton visits Governor's Office.

1. Fuel damage is great, making this a unique case.
2. No immediate need to evacuate, but Governor's order regarding pregnant women and children should stay in effect.

FRIDAY - MARCH 30, 1979 (continued)

8:30 p.m.  
(cont.)

3. There is still a slight chance of intermittent release.
4. Worst case: meltdown; with "billion dollar effect" and only "hours" of lead time.
5. Non-evacuation, given its own dangers, can't be faulted, but you should have a plan ready.
6. The bubble must be manipulated; critical "puzzle" is that pressure must be lowered for cooling, but that would expand the bubble.
7. Met Ed is "thin" on technical proficiency.

10:00 p.m.

Governor's Press Conference  
(See Transcript)



SATURDAY - MARCH 31, 1979

- 9:40 a.m. Governor discusses PEMA with Jay Waldman.
- 10:00 a.m. Governor assigns Dr. Robert Wilburn to review PEMA and operation.
- 10:05 a.m. Wilburn meets with Lt. Governor.
- 10:30 a.m. Waldman advises Watson of Wilburn's "mission".
- 11:00 - Wilburn at PEMA.  
12:00 noon
- 1:00 p.m. Denton briefs press.
- 2:00 p.m. Governor, Lt. Governor visit evacuees at Hershey Park Arena.
- 2:45 p.m. Hendrie Press Conference in Washington, D.C.
- 3:00 p.m. Wilburn briefs Governor on PEMA.
- 3:45 p.m. Governor calls Denton; discusses Met Ed report that bubble is down by 1/3, learns that report is in error. Also discusses various percentages for hydrogen flammability/explosion.
- 4:25 p.m. Governor calls Hendrie to clarify matters raised in Hendrie's press conference.
- Hendrie recommends keeping pregnant women and pre-school children away for another night. "Better today than 24 hrs. ago." No precautionary evacuation is necessary, but procedure dictates readiness.
- 5:00 p.m. Governor issues statement.  
(See Attached)
- 5:45 p.m. Critchlow and Jody Powell agree to coordinate fed/state public statements.
- 7:00 p.m. Critchlow calls Gene Eidenberg (Watson's office) to discuss White House assessment of Pennsylvania Emergency Plan; learns the meeting to assess is still in progress.
- 8:15 p.m. Eidenberg calls Critchlow; expresses "high degree of satisfaction" with plan; but mentions concerns over hospitals and nursing homes.

SATURDAY - MARCH 31, 1979 (continued)

8:27 p.m. Governor receives copy of wire story about possible bubble explosion; this story touches off general confusion in the area.

Critchlow calls Denton to check the story and learns that the "explosiion" was simply a "hypothetical", a "postulation".

Critchlow calls Governor, discusses possible statement.

9:30 p.m. Denton arrives at Capital; Governor suggests his diversion to Capital newsroom to put explosion story to rest.

10:10 p.m. Governor and staff meet with Denton and Fouchard:

1. "No near-term explosion problem" though bubble is still 90% of its original size.
2. Recommends schools stay closed.
3. Discusses general technical situation.
4. Med Ed is "thin" on technical personnel.

During this meeting, President Carter's visit the next days is confirmed.

11:00 p.m. Governor and Denton's Press Conference  
(See Transcript)

SUNDAY - APRIL 1, 1979

9:00 a.m. Lt. Governor, Secretary Wilburn, Senator Gekas and Dauphin County officials meet to discuss preparedness plans.

12:20 p.m. Governor departs for Middletown for President Carter's visit.

1:00 -

3:00 p.m. President Carter at T.M.I.

4:20 p.m. Lt. Governor hosts meeting in Governor's Conference Room for emergency preparedness personnel, including Adamcek.

1. Discussion of evacuation radius; NRC requires only 5 miles (regulation) and 10 miles is absolute limit, medically. No further discussion of 20 miles.
2. Governor arrives, asks Adamcek for assessment of local preparations by next morning.
3. Secretary McLeod (Pennsylvania Department of Health) notes that available stock of potassium iodide is defective, with no labels on half the bottles, poor instructions and droppers which don't fit.

7:00 p.m. Governor issues statement.  
(See Attached)

8:45 p.m. Governor, Lt. Governor meet with Hendrie and Denton:

1. Discussion of bubble status.
2. Governor raises "Mr. Collins" evacuation statement, and Hendrie disclaims knowledge.

9:50 p.m. Governor briefs Pennsylvania legislative leaders at his home.