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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

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In the matter of: :
:
METROPOLITAN EDISON COMPANY :
:
(Three Mile Island Unit 1) :
:
- - - - - :
:

Docket No. 50-289
(Restart)

25 North Court Street,
Harrisburg, Pennsylvania

Tuesday, April 14, 1981

Evidentiary hearing in the above-entitled
matter was resumed, pursuant to adjournment, at 10:03 a.m.

BEFORE:

- IVAN W. SMITH, Esq., Chairman,
Atomic Safety and Licensing Board
- DR. WALTER H. JORDAN, Member
- DR. LINDA W. LITTLE, Member

Also present on behalf of the Board:

- MS. DORIS MORAN,
Clerk to the Board
- LAWRENCE BRENNER, Esq.
Legal Advisor to the Board

5109210237

1 APPEARANCES:

2 On behalf of the Licensee, Metropolitan Edison
3 Company:

4 GEORGE F. TROWBRIDGE, Esq.
5 ROBERT ZAHLER, Esq.
6 Shaw, Pittman, Potts and Trowbridge,
7 1800 M Street, N.W.,
8 Washington, D. C.

9 On behalf of the Commonwealth of Pennsylvania:

10 MICHELE STRAUBE, Esq.
11 Assistant Attorney General,
12 505 Executive House,
13 Harrisburg, Pennsylvania

14 On behalf of the Environmental Coalition on Nuclear
15 Power:

16 DR. JUDITH JOHNSRUD,
17 433 Orlando Avenue,
18 State College, Pennsylvania

19 On behalf of Newberry Township TMI Steering
20 Committee:

21 JORDAN D. CUNNINGHAM, Esq.
22 Box 52, R. D. 1
23 Etters, Pennsylvania

24 On behalf of Anti-Nuclear Group
25 Representing York:

GAIL BRADFORD

On behalf of Three Mile Island Alert:

LOUISE BRADFORD

On behalf of the Regulatory Staff:

23 JAMES TOURTELLOTTE, Esq.
24 JOSEPH R. GRAY, Esq.
25 Office of Executive Legal Director,
United States Nuclear Regulatory Commission,
Washington, D. C.

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Petitioners for leave to intervene pro se:

NORMAN AAMOLT
MARJORIE M. AAMOLT
R.D. 5,
Coatesville, Pennsylvania

C O N T E N T S

<u>WITNESS:</u>	<u>DIRECT</u>	<u>CROSS</u>	<u>REDIRECT</u>	<u>RECROSS</u>	<u>BOARD</u>	<u>CROSS</u>	<u>ON BOARD</u>
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Paul M. Lytle, Jr.,
 Vance Fisher and
 Jeremiah K. Fisher

By Mr. Aamodt	18,687						
By Mr. Zahler		18,707					
By Dr. Johnsrud		18,709					
By Mr. Cunningham		18,713					
By Ms. Straube		18,727					
By Mr. Gray		18,732					
By Mr. Aamodt			18,736				
By Chairman Smith							18,750

Afternoon Session ...pp 18,753

Dr. Lawrence Samples							
By Mr. Aamodt	18,755						

Dr. Robert Weber
 joining

Dr. Lawrence Samples							
By Mr. Aamodt	18,772						
By Mr. Zahler		18,800					
By Ms. Straube		18,806					
By Mr. Gray		18,815					
By Dr. Little							18,816
By Mr. Aamodt			18,820				

Robert C. Furrer							
By Ms. Straube	18,832						
By Mr. Cunningham		18,838					
By Mr. Aamodt		18,864					
By Mr. Zahler		18,878					
By Mr. Gray		18,882					
By Dr. Little							18,887

<u>LIMITED APPEARANCE STATEMENT BY:</u>		<u>PAGE</u>
Georgianna Myce		18,896

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C O N T E N T S

<u>WITNESS:</u>		<u>DIRECT</u>	<u>CROSS</u>	<u>REDIRECT</u>	<u>RECROSS</u>	<u>BOARD</u>	<u>CROSS</u>
							<u>ON BOARD</u>
Frederick J. Bath, Vernon Adler and Michael S. Pawlowski By Mr. Gray	18,906						

E X H I B I T S

<u>NUMBER</u>	<u>IDENTIFIED</u>	<u>IN EVIDENCE</u>
Commonwealth Number 6		18,912
Written Testimony of Messrs. Lytle, Jerimiah Fisher and Vance Fisher.....		page 18,749
Written Testimony of Dr. Weber.....		page 18,799
Professional Qualifications of Mr. Furrer and the Organization Chافت of the Pennsylvania Department of Agriculture.....		page 18,836

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1 on line," et cetera.

2 I think I misspoke. The first two sentences -- the
3 first sentence of the first paragraph on page 15 is out in
4 its entirety. The second sentence of the first full
5 paragraph on page 15 is deleted as I read it, that is,
6 "Since the TMI-1 area residents have already been exposed to
7 iodine-131 as a result of the TMI-2 accident, this
8 isotope" -- that language is out. The balance of the
9 sentence needs a subject, so therefore we introduce
10 iodine-131 as the subject of the balance of the sentence.

11 The only other matter remaining is the objection
12 to table 5, and consistent with our ruling concerning the
13 material on page 14, table 5 then will remain.

14 Any questions about that?

15 DR. JOHNSRUD: Mr. Chairman.

16 CHAIRMAN SMITH: Dr. Johnsrud.

17 DR. JOHNSRUD: I have my microphone on. Is it
18 working?

19 CHAIRMAN SMITH: Yes. It is always a question,
20 however, of keeping the microphone close to your mouth.

21 DR. JOHNSRUD: Surely.

22 In view of the condition of the copy that Mr.
23 Zahler had provided to the Board and to the parties, I think
24 it would be advisable for us to provide a copy that is clean
25 to the Board members and the parties and for the record.

1 Will it be satisfactory with you for us to provide that at
2 the time of Dr. Molholt's testimony or would you prefer to
3 have that a bit in advance?

4 CHAIRMAN SMITH: I think it does not matter. We
5 can go from our own notes, what we have as far as preparing
6 for Dr. Molholt. But you are entirely right, there should
7 be a clean, conforming copy, and I think if you follow the
8 form that Mr. Zahler had, and that is drawing a line through
9 the deleted material so that you preserve your record on
10 what was deleted by way of offered testimony, that would
11 work out pretty well.

12 Do you understand what I mean?

13 DR. JOHNSRUD: Yes. We will use the original
14 clean copy and then mark out of it those portions that the
15 Board has stricken.

16 CHAIRMAN SMITH: Yes.

17 DR. JOHNSRUD: And provide it at the time of his
18 testimony.

19 CHAIRMAN SMITH: Are there any objections to that
20 procedure?

21 (No response.)

22 CHAIRMAN SMITH: Okay, very good.

23 MR. ZAhLER: Mr. Chairman, I am unclear what the
24 Board's ruling with respect to page 17 is. I had withdrawn
25 my objection on the first paragraph, but that still leaves

1 the second paragraph.

2 CHAIRMAN SMITH: I thought that that fell into
3 such a logical area Friday that for being in and out -- I
4 guess it hasn't -- as a matter of fact, we have not ruled.
5 We overlooked it. I think it would be a good time, it would
6 probably be advisable to rule now.

7 You say you had withdrawn your objection?

8 MR. ZAHLER: On the first paragraph.

9 CHAIRMAN SMITH: All right. The first paragraph
10 is in, then. Well, I think that it falls into areas of
11 conformity with our previous ruling.

12 DR. JOHNSRUD: Mr. Chairman, are you then saying
13 that this entire second paragraph and the third paragraph
14 would remain in?

15 CHAIRMAN SMITH: No, we have not ruled. I was
16 just making an observation.

17 DR. JOHNSRUD: Yes.

18 CHAIRMAN SMITH: Well, I think the ruling is going
19 to depend on what the purpose of the first sentence is.

20 (Board conferring.)

21 CHAIRMAN SMITH: Whether the first sentence goes
22 in or out depends upon the meaning of it. If there is meant
23 to be a reflection back to the TMI-2 accident as a basis of
24 concern for iodine-131, it is appropriate. If it is meant
25 to be a cumulative dose conclusion, it is not accepted. We

1 take the first meaning.

2 DR. JORDAN: Yes, Mr. Chairman, we do, and I think
3 that the prior paragraph and the subsequent sentence in this
4 conclusory section would indicate that the first
5 interpretation is in fact the one that Dr. Molholt intended.

6 CHAIRMAN SMITH: All right. With that meaning, we
7 accept it. The second sentence is out, consistent with our
8 previous rulings. First in, second out.

9 MR. ZAHLER: Mr. Chairman, there is one more
10 ministerial matter I overlooked on page 12. In the middle
11 of the page, item 3 just refers to the heading on evidence
12 that normally operating nuclear stations release
13 considerable iodine-131, and I would request consistent with
14 the Board's ruling that that item 3 be deleted.

15 CHAIRMAN SMITH: Yes, that would be consistent
16 with our previous rulings, so item 3 is out. I guess we
17 would want to renumber item 4 as item 3. So I think you
18 should renumber the whole area to have a consistent
19 numbering system too.

20 DR. JOHNSRUD: I will try to clean up the entire
21 testimony so that it is logical and reasonable.

22 CHAIRMAN SMITH: It may be that the present
23 numbering system should remain to keep the record for your
24 offered testimony, so that your offered testimony makes
25 sense too.

1 DR. JOHNSRUD: All right. Yes.

2 CHAIRMAN SMITH: The Board wants to take up the
3 filing schedule for answers to Intervenor Steven Sholly's
4 motion to reject the environmental impact appraisal dated
5 April 9. We would like to have a shorter response schedule
6 than that anticipated by the rules, and I guess our chief
7 problem is that of the staff.

8 The staff has been taking its full 15 days lately,
9 and that is too much for this stage of the hearing. Could
10 you give us a date that you wish to respond?

11 MR. TROWBRIDGE: I thought I heard you say
12 April 5. Did you say April 9?

13 CHAIRMAN SMITH: I am looking at the front page.
14 It is dated April 9 in the upper right. It is April 9.

15 Without undue hardship, when can the parties
16 respond to it?

17 MR. GRAY: As of yesterday the staff had not yet
18 received that, although we have talked to Mr. Sholly on the
19 phone yesterday and he indicated that it was on its way.

20 CHAIRMAN SMITH: The 21st. Would the 21st be
21 satisfactory?

22 MR. GRAY: We would --

23 CHAIRMAN SMITH: Do you want to consult with the
24 staff since they have not seen it?

25 MR. GRAY: Yes, that is part of the problem in

1 that it had not been received as of yesterday, and I will
2 have to --

3 CHAIRMAN SMITH: Let's make a general request that
4 the answering parties report to the Board as soon as
5 possible on an answering schedule.

6 Is there anything else preliminarily?

7 DR. JOHNSRUD: Mr. Chairman.

8 CHAIRMAN SMITH: Dr. Johnsrud.

9 DR. JOHNSRUD: I had requested the reporter to
10 check the transcript error that I believe that I found from
11 the March 12. I wonder if he might report to us on his
12 finding.

13 CHAIRMAN SMITH: Yes. I do not have the -- he had
14 given us that correction. Let me get my note on it.

15 (Pause.)

16 CHAIRMAN SMITH: Mr. Parker, the reporter, has
17 reported to me that transcript page 15,193, line 14, based
18 upon the tapes, should be amended as follows: On line 14
19 delete "--" which follows "WITNESS GRIMES" and insert
20 instead "Yes." That is March 12. I think it is much easier
21 for everyone to reconcile their own copy than it is for new
22 pages to be issued, so I told them that would be
23 satisfactory to the Board.

24 DR. JOHNSRUD: Mr. Chairman.

25 CHAIRMAN SMITH: Yes?

1 DR. JOHNSRUD: I would move, however, that a new
2 page be issued for those copies of the transcript that are
3 placed in public document rooms and are made available to
4 the public.

5 CHAIRMAN SMITH: Yes. There is a problem with
6 that, however, and that is matching up the correct page with
7 the original, but I do think that that is appropriate. The
8 reporter does not do that. I have not read this. I do not
9 know what context it is in.

10 DR. JOHNSRUD: It was the response of Mr. Grimes
11 following a lengthy exchange of questions and answers
12 concerning acceptable doses.

13 CHAIRMAN SMITH: Yes. It might be misleading and
14 somewhat insincere, Dr. Johnsrud, for us to say yes, we
15 would order that if we do not have any real expectation that
16 it would be accomplished. However, I do agree that ideally
17 it should be corrected, and we will make a reasonable effort.
18 In the meantime, however, parties will be charged
19 with information that it has been corrected by today's
20 events.

21 DR. JOHNSRUD: Thank you, Mr. Chairman.

22 (Board conferring.)

23 CHAIRMAN SMITH: I might ask that any party who
24 does happen to use the transcript in the public document
25 room make the correction for the benefit of others because I

1 do not really believe that we can realistically expect them
2 all to be made.

3 Anything further?

4 MR. AAMODT: Yes, Mr. Chairman. We have two
5 requests to make of you.

6 We would like to provide the opportunity for Dr.
7 Lawrence Samples, a veterinarian on the east bank of the
8 river, to appear with Dr. Weber this afternoon, for two
9 reasons. One, it is possible that Dr. Weber may not be able
10 to appear because as a practicing doctor of veterinary
11 medicine, he just might not be able to because of calls. It
12 might also be that Dr. Samples for a similar reason might
13 not be able to. So we would like the double coverage.

14 In addition to that, Dr. Samples is a member of
15 the Pennsylvania Veterinary Association, Committee on
16 Emergency Planning, so we think he would offer a real
17 opportunity to the Board and to the record to have him
18 present, much in the same way that Brian Grimes was brought
19 into the hearing.

20 CHAIRMAN SMITH: Are there any objections to that
21 procedure?

22 MR. ZAHLER: Mr. Smith, I am not sure that I heard
23 Mr. Aamodt correctly. Our schedule called for Dr. Weber and
24 the other farmers to testify this morning. I am not clear
25 if he is suggesting that it be changed to this afternoon. I

1 just did not hear it.

2 MR. AAMODT: It is my understanding that Dr. Weber
3 will be here this afternoon at 1 o'clock.

4 CHAIRMAN SMITH: So there is a difference of
5 opinion as to whether Dr. Weber is going to testify this
6 morning.

7 MR. AAMODT: He is not going to testify this
8 morning. He will be here this afternoon at 1 o'clock, as
9 will Dr. Samples, hopefully.

10 (board conferring.)

11 MR. AAMODT: There is no way we could ask them to
12 sit and wait.

13 CHAIRMAN SMITH: It is not a question of the
14 merits of your request. We are trying to clear up now the
15 confusion as to who is going to appear when.

16 MR. AAMODT: Yes, sir.

17 (Board conferring.)

18 CHAIRMAN SMITH: You know, we have conflicting
19 information. One was that Mr. Corbin was going to appear
20 this morning. The other one was that your witnesses were
21 going to appear.

22 MS. STRAUBE: Mr. Corbin is unavailable this
23 morning. He is not available until Wednesday morning. Mr.
24 Fur is available today.

25 MR. AAMODT: Mr. Chairman, it is our understanding

1 that Mr. Fur would be between our two groups.

2 CHAIRMAN SMITH: Who was scheduled to appear first
3 thing this morning?

4 MR. AAMODT: The farmers.

5 CHAIRMAN SMITH: Who?

6 MR. AAMODT: The farmers.

7 CHAIRMAN SMITH: The farmers.

8 MR. AAMODT: Yes.

9 CHAIRMAN SMITH: Oh. Okay. Is that --

10 MR. ZAHLER: I had included with the farmers Dr.
11 Weber. This is the first I have heard that they are going
12 to split the testimony. So long as we move along, I do not
13 have any objection to it.

14 CHAIRMAN SMITH: Okay.

15 MR. ZAHLER: The other inquiry I have with respect
16 to Mr. Aamodt's statement is I would object if Dr. Sample is
17 going to give additional direct testimony since we have not
18 had notice of that.

19 MR. AAMODT: He will not. We will stay within the
20 bounds of what has been covered.

21 CHAIRMAN SMITH: All right. There are no
22 objections.

23 MR. GRAY: The staff has a third question, and
24 that is, Mr. Aamodt, it sounded as if Dr. Samples may in
25 fact appear instead of Dr. Weber.

1 MR. AAMODT: We are always fearful of this
2 possibility. You know, in the area around Three Mile Island
3 are some of the most high priced Holstein cattle in the
4 world and these people have very severe demands on their
5 time, and if they are needed, they just cannot come here.

6 CHAIRMAN SMITH: Well, it looks like Mr. Aamodt is
7 doubling his chances having a witness.

8 MR. AAMODT: That is right, sir.

9 MR. GRAY: The staff's inquiry would simply be
10 that as to whether Dr. Samples would adopt the short
11 testimony offered by Dr. Weber in the written testimony.

12 MR. AAMODT: His is within that. It is smaller.
13 It would be smaller in scope.

14 Then I have one last thing, Mr. Chairman. We have
15 been waiting for some time for a letter from the Humane
16 Society of America to support the conclusions in the
17 research of the FEMA document dated January 1980, Evacuation
18 Planning in the TMI Accident, by William Chenault, which
19 bears on the topic of whether or not farmers will leave.
20 The author of the letter has been away.

21 We checked yesterday. The author should be
22 returning home today and we would appreciate the opportunity
23 when the county agents appear to enter that letter in
24 testimony.

25 CHAIRMAN SMITH: You appreciate the opportunity

1 when what?

2 MR. AAMODT: When the county agent appears.

3 CHAIRMAN SMITH: Oh, the county agents appear.

4 MR. ZAHLER: I have not seen the letter. I think
5 it is premature to rule on it. There may very well be
6 objections when we see the letter.

7 MR. AAMODT: That is quite all right, sir, if we
8 have the opportunity.

9 CHAIRMAN SMITH: Okay.

10 Anything further?

11 (No response.)

12 Are you ready?

13 Ms. Bradford.

14 MS. GAIL BRADFORD: Is this microphone on?

15 Mr. Beyea made a request that Mr. Zahler supply
16 the New York Medical Association whatever it was, the
17 resolution you referred to, and also any copy of the paper
18 presented by Dr. Yalow at the Endocrine Society meeting that
19 he asked for.

20 MR. ZAHLER: I have not yet received the New York
21 Academy resolution. When I do receive it I will give you a
22 copy. At the first break I will provide you a copy of Dr.
23 Yalow's paper, neither of which are in evidence. I will be
24 providing it to Dr. Beyea as you request.

25 MS. GAIL BRADFORD: Thank you.

1 CHAIRMAN SMITH: Now are you ready to proceed with
2 your witnesses, Mr. Aamodt?

3 MR. AAMODT: Yes, sir.

4 I would like to call to the stand Mr. Jeremiah K.
5 Fisher, Mr. Vance Fisher and Mr. Paul M. Lytle, Jr.

6 CHAIRMAN SMITH: Gentlemen, would you come up to
7 the table here, the witness table.

8 Whereupon,

9 PAUL M. LYTLE, JR.,

10 VANCE FISHER and

11 JEREMIAH K. FISHER,

12 called as witnesses by Intervenors, Norman Aamodt and
13 Marjorie M. Aamodt, having first been duly sworn by the
14 Chairman, were examined and testified as follows:

15 DIRECT EXAMINATION

16 MR. AAMODT: Mr. Chairman, as you note in the
17 testimony, there is individual testimony by the three
18 members. I would like to ask each of the panel members if
19 this is their testimony, and then we would like also to
20 expand the testimony, that is, to add to the testimony in a
21 few areas that we think are pertinent.

22 BY MR. AAMODT:

23 Q Gentlemen, you three have before you a document
24 entitled Testimony of Dr. Robert Weber, Paul M. Lytle, Jr.,
25 Jeremiah K. Fisher and Vance Fisher and FEMA Document in

1 Support of Aamodt Contention EP-2. That portion of that
2 document which is testimony of your own, do you each accept
3 it as your own?

4 A (WITNESS LYTLE) Yes.

5 A (WITNESS V. FISHER) Yes.

6 A (WITNESS J. FISHER) Yes.

7 Q Starting with Mr. Lytle, I would like a little
8 individual questioning, if I might.

9 Mr. Lytle, are there some additional things that
10 you would like to have added to your testimony?

11 A (WITNESS LYTLE) Yes, sir.

12 Q Would it be all right with you if we handled this
13 matter in kind of a question and answer fashion?

14 A (WITNESS LYTLE) Yes, sir.

15 Q Mr. Lytle, would you describe for the Board and
16 the members of the group here something about the
17 involvement of your family in the community, yourself and
18 your family?

19 A (WITNESS LYTLE) Well, this has been a lifetime
20 occupation of mine. I have also been involved in the
21 township, which includes a lot of my family members, and I
22 have kind of been there to assist in most anything, whether
23 agriculture, civic duties or whatever comes down the road,
24 and I do not know, in the end. I thought maybe the
25 agriculture had got the short end so I am here today to kind

1 of back up our side.

2 Q You are active with the Planning Commission, you
3 mentioned?

4 A (WITNESS LYTLE) Yes.

5 Q When did you first see the agricultural plan?

6 A (WITNESS LYTLE) I cannot give you the exact date.
7 I know it was in the mail. I have seen it. It has been on
8 my desk and I viewed some of it and it is so outlandish that
9 I kind of stop at that.

10 Q From whom did you receive it?

11 A (WITNESS LYTLE) That I do not know. I just know
12 it was in the mail. It was on my desk.

13 Q I believe it was my wife that mailed it to you.

14 A (WITNESS LYTLE) It could have been. I don't
15 bother going back over it. I just go over matters --

16 Q All right.

17 Your net worth in life, is that pretty much
18 entirely the farm?

19 A (WITNESS LYTLE) Invested in the farm, yes, sir.

20 Q And your whole life has been devoted to the
21 building of that farm.

22 A (WITNESS LYTLE) Yes.

23 Q Would you describe how your herd was built?

24 A (WITNESS LYTLE) Well, it was a family
25 enterprise. It started with my father purchased cattle when

1 he was 19 years old, which was 60-some years ago, and we
2 have bred this herd from those original cattle and have not
3 been in the habit of purchasing cattle. It is all a closed
4 herd, so totally home-bred herd, although we use artificial
5 insemination to institute a better foundation in the cattle
6 and we have done that -- I have carried on after my father's
7 death and it is to be passed on to the next generation,
8 which is already incorporated in our farm.

9 Q Are these all registered cattle?

10 A (WITNESS LYTLE) Yes, sir.

11 Q What is your milk production?

12 A (WITNESS LYTLE) Right now we are just at 16,000
13 per cow.

14 Q Would you explain for the members of the Board
15 what 16,000 pounds per cow means?

16 A (WITNESS LYTLE) Well, just go out and purchase
17 that kind of cow and you are looking pretty close to finding
18 them, and it is years of breeding and feeding and management
19 to get to a 16,000 pound herd average, which is a 305 record
20 on any cow in the herd.

21 Q We visited --

22 CHAIRMAN SMITH: That is each year, 305 days each
23 year your average of the herd produces 16,000 pounds?

24 WITNESS LYTLE: Thousand pounds of milk.

25 BY MR. AAMODT: (Resuming)

1 Q Isn't that something like 60 pounds of milk a day?

2 A (WITNESS LYTLE) Yes, sir.

3 Q We visited you recently. We were struck by the
4 fact that with registered cows there was not a chain around
5 the neck of one. Could you explain why?

6 A (WITNESS LYTLE) We know them all by name because
7 we grew up with them. They are members of our family just
8 like you have employees and we treat them as such and
9 respect them as that.

10 Q Another thing that I found interesting was such
11 high production cows, they are long lived. Would you say
12 something about that?

13 A (WITNESS LYTLE) Well, my father was always in the
14 fact of longevity, and it was a good thing in our dairy
15 industry so we bred it on and on and it is there.

16 Q For example, if I recall when we were standing
17 there you had a cow go by that was 14 years old and milked
18 how much milk?

19 A (WITNESS LYTLE) She had 21,000 last year, the
20 year before 20,000, and she was presently milking right
21 around 90 pounds a day.

22 Q A 14-year old dairy cow.

23 Now, we have one correction in the testimony. We
24 note there that you never missed a milking -- you did miss
25 one. Would you explain what that was?

1 A (WITNESS LYTLE) In '72 the flood Agnes struck our
2 property, and due to all the excitement and water
3 difficulties -- we did have electricity though, and time
4 involved in trying to milk all those cows, we just missed
5 the milking in the time that the water was surrounding us.

6 Q What was the effect of that disaster, first on
7 your herd and secondly on your farming operation?

8 A (WITNESS LYTLE) Well first off, we did get into
9 the trouble, we did get into mastitis on the herd, a disease
10 in the udder of the milking cow, and we got into that which
11 was maybe to the 20 percent level, and I would say in our
12 present day operation we might be on the 3 percent level of
13 any mastitis problems, and we worked with that to clear that
14 up which all milk treated and contaminated with antibiotics
15 was discarded, so we had that loss, and the cows -- well,
16 temperament and disposition and restriction of milk at the
17 time will have a tendency to make them back off on their
18 daily milk production.

19 Q How long was it before your farming -- Oh, in
20 order to stay in business at the time of that disaster, you
21 had to borrow money, did you not?

22 A (WITNESS LYTLE) Yes, sir.

23 Q Prior to this time you were not in debt, you had a
24 profitable operation, was that true?

25 A (WITNESS LYTLE) Yes, sir.

1 Q How much?

2 CHAIRMAN SMITH: You are talking about prior to
3 the '72 flood?

4 MR. AAMODT: Prior to the '72 flood.

5 CHAIRMAN SMITH: I hope you can bring it into
6 relevance.

7 MR. AAMODT: Yes, sir.

8 BY MR. AAMODT: (Resuming)

9 Q In order to maintain your operation after this
10 disaster, how much money did you have to borrow just to keep
11 going?

12 A (WITNESS LYTLE) Just at the year of '72, it took
13 \$65,000 just to cover our debts.

14 Q How many years did it take for the farm to once
15 again become a paying proposition?

16 A (WITNESS LYTLE) It took three years after the
17 flood in cattle and land operation.

18 Q And that was a result essentially of two things:
19 the one, insult to the cattle, and the second, the damage to
20 the ground.

21 A (WITNESS LYTLE) Yes, sir.

22 DR. LITTLE: Damage to the what?

23 MR. AAMODT: The ground, soil.

24 BY MR. AAMODT: (Resuming)

25 Q With regard to the emergency plan, I have several

1 -- well, let me just ask you generally. I am sure the
2 Licensee and others will ask you more. The provisions made
3 for sheltering in the emergency plan, are they adequate?
4 Just yes or no is enough that is needed.

5 A (WITNESS LYTLE) No, I would not think so.

6 Q Do you have sheltering for the cattle that would
7 protect them against what might come out of the plant?

8 A (WITNESS LYTLE) No, we are not built in that
9 direction. I mean we are more to open air.

10 Q Do you intend to provide facilities for sheltering?

11 A (WITNESS LYTLE) I cannot see how with the
12 financial stress like that how we can keep an operation in
13 the clear.

14 Q Do you agree with the general criteria noted in
15 the emergency plan that in the wintertime when the
16 requirements for space and air are perhaps least, you know,
17 because of the lower temperature, that the average cow would
18 need about 130 square feet - about 30 square feet per cow to
19 survive or to stay reasonably healthy? Would 30 square feet
20 per cow be adequate?

21 A (WITNESS LYTLE) That would depend on cow size and
22 the time of production.

23 Q Right. But you are not able to provide that kind
24 of a thing for your 100 milking cows plus the young stock
25 and such that went along with it?

1 A (WITNESS LYTLE) No, sir.

2 Q We mentioned you milked 100 cows, but when you
3 milk 100 cows, how many head of dairy cattle do you have on
4 the farm?

5 A (WITNESS LYTLE) You have to have -- I'm sorry.
6 You have to have at least 100 replacements.

7 Q So then in fact 100 milking cows is a 200-cow,
8 200-animal operation.

9 A (WITNESS LYTLE) Yes, sir.

10 Q And at 30 square feet per animal, that is more
11 building than perhaps you could afford to build.

12 A (WITNESS LYTLE) That is true.

13 (Mr. and Mrs. Aamodt conferring.)

14 Q Now, in the emergency plan it was suggested that
15 in order to implement the plan, the farmer might be willing
16 to or have already the capability to or be willing to take
17 the following actions: provide additional sheltering and
18 barns, remodel existing buildings, provide emergency power,
19 protect feed and water from contamination, store water,
20 protect -- that is to say, cover water supply, and supply at
21 least two weeks supply of covered water.

22 In your case that would be, with the 200 animals
23 would be something over 400 barrels of water. Would you
24 have the capability to take those actions?

25 A (WITNESS LYTLE) No, I could not see how that

1 would be possible.

2 Q Your water supply comes from where?

3 A (WITNESS LYTLE) Local borough's reservoir.

4 MR. AAMODT: That rounds out Mr. Lytle's testimony.

5 CHAIRMAN SMITH: Perhaps, Mr. Aamodt, it would
6 helpful if you could establish whether Mr. Lytle's operation
7 is typical, bigger or smaller than those in the area.

8 MR. AAMODT: Mr. Chairman, we will be doing that
9 both with the county agent and with the veterinarian. I can
10 make the assertion -- Let me ask Mr. Lytle.

11 BY MR. AAMODT: (Resuming)

12 Q All three of you now --

13 CHAIRMAN SMITH: With respect to his capacity to
14 take those actions.

15 MR. AAMODT: Yes, sir.

16 BY MR. AAMODT: (Resuming)

17 Q Would you say that you are fairly typical of farms
18 of your size with your not having the capacity to take these
19 actions?

20 A (WITNESS LYTLE) Yes, sir, in the immediate area.

21 Q Yes, sir. Incidentally, we are talking about the
22 ten-mile perimeter, the ten-mile EPZ.

23 DR. LITTLE: Mr. Aamodt, you mentioned 400
24 barrels. We need to establish what size barrel we are
25 talking about.

1 MR. AAMODT: Fifty-five gallon drums.

2 DR. LITTLE: All right.

3 MR. AAMODT: Which, incidentally, take four square
4 feet of floor space.

5 (Mr. and Mrs. Aamodt conferring.)

6 BY MR. AAMODT: (Resuming)

7 Q Now Mr. Vance Fisher, is the testimony presented
8 your own?

9 A (WITNESS V. FISHER) Yes, it is.

10 Q Mr. Fisher, I would like particularly to broaden
11 -- to add into your testimony something regarding yourself
12 and where you are and the history of your family there.

13 DR. LITTLE: Mr. Aamodt, we need to know which Mr.
14 Fisher is which.

15 MR. AAMODT: That statement applied to both, but I
16 am specifically addressing Mr. Vance Fisher now.

17 BY MR. AAMODT: (Resuming)

18 Q Perhaps it would be helpful at this point before
19 we go further if you would indicate on the map behind you
20 there where your farms are relative to Three Mile Island.
21 Now, we established that Mr. Lytle was directly north, just
22 a few miles north of the Island.

23 Mr. Vance -- I mean Vance.

24 A (WITNESS V. FISHER) Right there, which is three
25 miles west of TMI (indicating), and part of my farm is lower

1 than the tops of the towers. Some of my farm is higher than
2 the tops of the towers, some which there is a lot of
3 so-and-so stuff coming out, or was.

4 Q How would you describe the topography in your area?

5 A (WITNESS V. FISHER) We live what a professor at
6 State College called is a hole, which I think is rather
7 appropriate. We have a valley. We are -- the valley starts
8 at the river. There is a mountain ridge to the north, to
9 the west and to the south. The valley is approximately
10 three miles north and south, four miles east and west, a
11 difference of approximately 200 feet from the top of the
12 ridges to the floor of the valley.

13 If you are familiar with route 83 going over what
14 is called Reezer's Summit just beyond the west shore, you
15 cross over the northern ridge and go near the western ridge
16 into Newberry Town or thereabouts. You cross the southern
17 border. And this, as I say, is just west of the river, the
18 TMI area, and we get a lot of wind, particularly ahead of
19 and during rains that come across TMI into this valley
20 bringing whatever has come out the top of the towers.

21 Q Mr. Fisher, how long has your family lived in that
22 valley?

23 A (WITNESS V. FISHER) Over 200 years.

24 Q Mr. Fisher, during the Second World War you
25 entered the Air Force. With what rank did you leave the Air

1 Force?

2 A (WITNESS V. FISHER) I served in the Air Force,
3 started as a private, left as a major.

4 Q And you retired recently from the Air Force with
5 the rank of colonel?

6 A (WITNESS V. FISHER) Yes.

7 Q What were your general responsibilities with the
8 Air Force when you were on active duty?

9 A (WITNESS V. FISHER) I had quite a variety of
10 assignments but most of them were connected with the
11 worldwide Air Force supply system. At the top headquarters
12 level I was a base commander. I was a subdepot commander, a
13 specialized depot commander.

14 Q Are you opposed to the use of nuclear power?

15 A (WITNESS V. FISHER) Pardon?

16 Q I would just like to demonstrate some objectivity
17 here which might be helpful. As I recall a conversation,
18 you said you were not opposed to the use of nuclear power as
19 such.

20 A (WITNESS V. FISHER) No. I have had quite a bit
21 of experience training -- well, maybe I should not say a
22 lot, but I have had a reasonable amount with the nuclear --
23 military nuclear situation. I believe nuclear power can be
24 controlled.

25 However, we have had demonstrated in our area a

1 lack of competence, I believe, a lack of sincerity, a lack
2 of control by governmental bodies, and I think it has gotten
3 out of hand. I do not feel we can trust those who have done
4 it before. I believe it will happen again.

5 CHAIRMAN SMITH: Mr. Aamodt, even though there is
6 no objection, we would be pleased to hear from Mr. Fisher on
7 those views that he is expressing at a limited appearance
8 and he would have a full opportunity to develop those views,
9 but it simply is not fair with respect to the purpose for
10 which he is here as a witness. Don't forget, he is
11 testifying under oath as a witness.

12 MR. AAMODT: Yes, sir.

13 CHAIRMAN SMITH: And it is not a part of his
14 direct testimony and it is not relevant to your contention.

15 Now, we will be pleased to provide an opportunity
16 at his convenience to express his views along those lines to
17 the Commission, but not from the witness stand and not as a
18 witness.

19 MR. AAMODT: All right, sir. We will withdraw it,
20 Mr. Chairman.

21 CHAIRMAN SMITH: Do you understand that, sir?
22 That is your right to express those views to us and we will
23 give you that opportunity, but you cannot do it as a witness
24 in this proceeding on this particular issue, which does not
25 relate to those views.

1 WITNESS V. FISHER: I see.

2 BY MR. AAMODT: (Resuming)

3 Q Mr. Fisher, have you suffered health effects with
4 your animals? You can just answer yes or no. Generally
5 have you suffered health effects with your animals in the
6 last year -- several years?

7 A (WITNESS V. FISHER) Yes. We have had a health
8 problem since about '75 or '76 every year.

9 Q All right.

10 Is farming your sole occupation now?

11 A (WITNESS V. FISHER) Yes, it is.

12 Q Are you a member of the Pennsylvania Farmers
13 Association?

14 A (WITNESS V. FISHER) Yes, I am.

15 MR. AAMODT: That includes my additional questions
16 for Mr. Vance Fisher.

17 BY MR. AAMODT: (Resuming)

18 Q Mr. Jeremiah Fisher, do you acknowledge the
19 testimony that you have before you as your own?

20 A (WITNESS J. FISHER) Yes, I do.

21 Q Would you indicate -- Well, where is your farm
22 relative to your brother's?

23 A (WITNESS J. FISHER) Our farm is right west of
24 his. Our ground borders each other.

25 Q You have dairy cows as well.

- 1 A (WITNESS J. FISHER) That is right.
- 2 Q You served in the military.
- 3 A (WITNESS J. FISHER) I spent two years in the Army
- 4 and went in May of '54 and get out in May of '56.
- 5 Q You have one child?
- 6 A (WITNESS J. FISHER) That is right.
- 7 Q A ten-year old son.
- 8 A (WITNESS J. FISHER) That is right.
- 9 Q Would your concern for your son in any way
- 10 influence your decision in the event of an accident at Unit
- 11 1 with regard to whether or not you left your cattle and
- 12 your farm?
- 13 A (WITNESS J. FISHER) It most definitely would.
- 14 Q Would you explain why?
- 15 A (WITNESS J. FISHER) It is a very mental stress on
- 16 the boy to go away and leave his father behind not knowing
- 17 whether he will ever see his father again or what, and for
- 18 that reason I would simply abandon the animals and not stay,
- 19 I guess you would say, and go evacuate with the family.
- 20 Q I think in order that everyone can understand
- 21 perhaps the meaning of that better, is there any existing
- 22 problem because of the last accident with your son in that
- 23 regard?
- 24 MR. ZAHLER: Objection.
- 25 CHAIRMAN SMITH: What is the nature of your

1 objection?

2 MR. ZAHLER: The witness has already testified as
3 to the considerations he would give with respect to his son
4 in terms of staying with his farm or evacuating. The
5 present question now inquires as to whether his son suffered
6 any adverse effects from the Unit 2 accident, and I think
7 that is just outside the scope of the proceeding.

8 MR. AAMODT: I think it is clearly within, Mr.
9 Smith, from this point of view: that as Mr. Fisher stated,
10 in the last accident himself he took his family out but he
11 kept coming back to take care of his animals, but as a
12 result of that experience of leaving every day, that boy has
13 been so upset because of that event that he is allowed to go
14 home.

15 BY MR. AAMODT: (Resuming)

16 Q Is that true, to make sure the family is still
17 there?

18 A (WITNESS J. FISHER) He is allowed to go home from
19 school for, I would say, about three or four months after
20 when we got back from the evacuation and he was going back
21 to school. He was very upset, nervous and just plain upset.

22 Q And the point of all this -- I am sorry.

23 (Board conferring.)

24

25

1 CHAIRMAN SMITH: Well, Mr. Zahler, the entire
2 procedure of having a skeletal written testimony and having
3 so much of the substance produced by oral testimony would be
4 objectionable and is not in accordance with our rules, which
5 we have enforced rather strictly.

6 However, that is not the basis of your objection.
7 The basis of your objection is relevance to the contention
8 and relevance to the testimony. And we believe that the --
9 that that is relevant, that the question and answer is
10 relevant as to the activities -- the actions that he is
11 likely to take in the event of an emergency and the
12 explanation for it.

13 However --

14 MR. ZAHLER: I would then make the objection that
15 the scope of the supplemental direct testimony, whatever you
16 call it at this point, is so extensive and beyond the
17 written prefiled that it is not in compliance with the
18 Commission's rules.

19 CHAIRMAN SMITH: You see, you do have a problem
20 there, and we are going to hold you to some limitation on
21 it, Mr. Aamodt. But we will allow the answers to remain,
22 but I think you are going into it about as far as is fair.

23 MR. AAMODT: And we have just about finished what
24 we wanted to bring in, Mr. Smith. What we are trying to do,
25 of course, obviously, is to provide that information to the

1 Board, so that everyone can have a clear understanding.

2 CHAIRMAN SMITH: Yes, sir. But it has to be under
3 the rules which we try to apply evenhandedly, and you have
4 been given probably more latitude on this than any witness
5 that I have observed in this case.

6 MR. AAMODT: Yes, sir. Now may we complete the
7 answer on that question that we have?

8 CHAIRMAN SMITH: All right. Complete the answer,
9 then. That will conclude that line?

10 MR. AAMODT: That will conclude that line. I have
11 one additional question to come back to Mr. Lytle with.

12 CHAIRMAN SMITH: Okay. Would you not only
13 complete -- give the answer again, because we were
14 distracted while you were giving the answer.

15 BY MR. AAMODT: (Resuming)

16 Q How -- how do the considerations relative to your
17 son influence your ability to take action in the event of --
18 protective action, and how you experienced the TMI-2
19 accident?

20 A (WITNESS JERIMIAH FISHER) Well, in the event of
21 an accident, I would definitely evacuate with the family,
22 because of my son, which would be very emotional to him if I
23 did not evacuate. Let's state it this way. If I did not
24 evacuate with him, it would be cruel, mental cruelty on him,
25 and seeing, since I am going with him, some people would

1 call it cruelty to animals.

2 Well, I think it is more acceptable to be cruelty
3 to animals than it is to be cruelty to people.

4 Q Yes. And I guess what we are driving at, though,
5 that was not responded to here, and that was how -- how your
6 son was influenced by what happened to your son because of
7 the accident that caused this attitude?

8 CHAIRMAN SMITH: I think he did. I think he has
9 given it. He has explained the dilemma that he is facing
10 and the options that he would have to take because of it.
11 And I -- I do not think it is fair to allow it to go any
12 further, nor necessary.

13 MR. AAMODT: Mr. Smith, that is quite all right.

14 CHAIRMAN SMITH: As the father of the child, he
15 appreciates what the child's needs are.

16 MR. AAMODT: You see, his was a very unique
17 problem he did not have before the Unit 2 accident. That is
18 the point we were making.

19 BY MR. AAMODT: (Resuming)

20 Q Is that true, Mr. Fisher?

21 A (WITNESS JERIMIAH FISHER) Yes, most definitely.

22 Q All right. Then the other question I did want to
23 come back to Mr. Lytle with was with regard to the
24 development of the emergency plan itself by the
25 Commonwealth. You, as we indicated earlier, have been very

1 active in your community. You have been active pretty much
2 at a state level, I believe, also.

3 You are pretty well-known because of the
4 remarkable herd you have and what you have done. Were you
5 or any of the people in your community asked to give inputs
6 to the state or to comment on the emergency plan that has
7 been prepared by the state?

8 A (WITNESS LYTLE) On a farming level, no. On a
9 township level, yes.

10 Q But as far as from an agricultural point of view,
11 no. ?

12 A (WITNESS LYTLE) No.

13 MR. AAMODT: Thank you very much. That completes
14 our questions, Mr. Smith.

15 CHAIRMAN SMITH: Mr. Zahler?

16 CROSS-EXAMINATION

17 BY MR. ZAHLER:

18 Q Mr. Lytle, what are the sizes of the buildings on
19 your farm in square feet? ?

20 A (WITNESS LYTLE) I could give you lengths and
21 widths, but I could not give you square footage off the top
22 of my head.

23 Q Okay.

24 A (WITNESS LYTLE) The one building which houses
25 most of our young stock is 50 by 100 inside dimension. The

1 other buildings, which includes our milking herd, is 40 by
2 104, plus another building adjoining is 122 by 55.

3 Q How is water provided to your farm?

4 A (WITNESS LYTLE) On free flow gravity feed to
5 water bowls or fountains of that description.

6 Q I was confused by something you said, which was
7 that if you were milking 100 cows you needed 100
8 replacements.

9 A (WITNESS LYTLE) Yes, sir.

10 Q Does that mean that you are not milking those 100
11 replacements?

12 A (WITNESS LYTLE) Yes, sir.

13 (Pause.)

14 Q You indicated that you believed your farm was
15 typical of those in the immediate area. And am I correct
16 that you also said that you believed that the ability of
17 farmers to take protective actions was limited in the same
18 way yours was?

19 A (WITNESS LYTLE) Yes, sir.

20 Q What is the basis of that last view?

21 A Because the most of us have our cattle in loose
22 housing, which is free inside or out. It is only a
23 three-sided shed with an open front, and there is no means
24 of closing the front. And we use that as a natural
25 ventilation.

1 (Pause.)

2 Q Was it also your testimony that from missing a
3 single milking during Agnes that there was an increase of
4 mastitis in your herd?

5 A (WITNESS LYTLE) Yes, sir.

6 Q Did you report that to anyone?

7 A (WITNESS LYTLE) We have our own veterinarian.
8 But we do not employ a veterinarian on a herd that size as a
9 member of the force. We do our own work in that respect.

10 MR. ZHLER: I have no further questions.

11 CHAIRMAN SMITH: Ms. Straube -- excuse me. Before
12 we get to the Commonwealth, are there any questions by other
13 intervenors?

14 DR. JOHNSRUD: I would have one or two short ones
15 if I may, Mr. Smith.

16 CHAIRMAN SMITH: All right. Dr. Johnsrud.

17 This is the one contention where we have not
18 required consolidation.

19 DR. JOHNSRUD: Thank you.

20 BY DR. JOHNSRUD:

21 Q Mr. Vance Fisher.

22 A (WITNESS VANCE FISHER) Yes.

23 Q I believe in describing the location of your farm,
24 you spoke of the location relative to the top of the cooling
25 towers at Three Mile Island; is that correct?

1 A (WITNESS VANCE FISHER) That is correct.

2 Q Mr. Fisher, is it your understanding that the
3 cooling towers are the sole source of releases to the
4 atmosphere in the vicinity of Three Mile Island?

5 A (WITNESS VANCE FISHER) Well, no. My contention
6 is that the chlorine put out there in huge amounts has
7 eliminated our selenium, which has been my problem. I have
8 not been affected material in any other way that I know of.
9 Of course, radiation, which is cumulative and all that, I am
10 not aware as to how much I have accumulated. But at the
11 present time I cannot say I have had a definite problem
12 other than the chlorine coming out those towers.

13 That is chlorine put in every city up the river,
14 and they are bringing water. There is sewage, and the TMI
15 people have added a considerable amount of it, chlorine, to
16 that water going in those towers, to prevent the formation
17 of algae.

18 And as I said, when it is about to rain and when
19 it does rain, that pollution is blown into our farm. The
20 rain brings it down. It hangs in there. It is in a
21 pocket. It is in a hole. And we had a terrific
22 concentration of it.

23 Q Is it your understanding also, Mr. Fisher, that
24 the radioactive releases that are associated with the
25 reactors at TMI occur from structures on the Island, other

1 than the cooling towers?

2 A (WITNESS VANCE FISHER) I do not understand the
3 question. I do not hear too good. I have been running
4 tractors for years. I am sorry.

5 Q I am sorry. The microphone does not seem to be
6 cooperating today.

7 I am asking if it is your understanding that the
8 sources of radioactive releases at Three Mile Island are
9 from structures other than the cooling towers, that is to
10 say, the reactor building itself?

11 A (WITNESS VANCE FISHER) Really, I never paid too
12 much attention to it. There is nothing I figured I can do.
13 I realize there is nothing I can do about it. I have never
14 visited the towers, but I can understand there would be
15 releases from various buildings and operations rather than
16 the towers.

17 In fact, the cooling towers, as I understand it,
18 have nothing really to do with that, unless there be a
19 breakage of certain pipes. The cooling is just like a
20 radiator on an automobile, I believe.

21 Q Thank you, sir.

22 Mr. Jerry Fisher, please. In your view, sir,
23 would the result of your action of evacuating with your
24 family in the event of an accident at TMI-1 result in an
25 economic impact upon the value of your herd or your land, as

1 these in turn would affect the inheritance to your son?

2 A (WITNESS JERIMIAH FISHER) Well, most definitely
3 it would have some economical loss there, because if you are
4 not around to tend the animals and so forth -- it depends on
5 the length of the accident, how long you would have to stay
6 out.

7 Oh, maybe the animals would not be any good at
8 all. They might all get chronic mastitis or something where
9 the udders would go completely -- dry up, you know, and
10 things like that, where if you're out for a long period of
11 time, say maybe four or five days, if you went maybe even a
12 little longer the animals could even starve, as far as that
13 goes.

14 DR. JOHNSRUD: Thank you, sir. Those are the only
15 additional questions I have.

16 CHAIRMAN SMITH: Ms. Straube?

17 MR. CUNNINGHAM: Mr. Chairman.

18 CHAIRMAN SMITH: Yes, sir.

19 MR. CUNNINGHAM: If you wait -- I have some
20 questions. It can wait until after the Commonwealth is
21 done. They may ask the questions I have.

22 CHAIRMAN SMITH: Well, let's take the Intervenors
23 first and then go to the Commonwealth and the staff.

24 MR. CUNNINGHAM: Okay. The way I will ask my
25 questions, they will be addressed to all three gentlemen,

1 and then they can answer it, each one of them for their
2 particular operations.

3 BY MR. CUNNINGHAM:

4 Q First to Mr. Lytle and then Mr. Vance Fisher and
5 then Jerry Fisher. Are your operations basically open air
6 operations?

7 A (WITNESS LYTLE) Yes, sir.

8 A (WITNESS VANCE FISHER) Yes, sir.

9 Q Mr. Vance Fisher, is that correct?

10 A (WITNESS VANCE FISHER) Yes, sir. I have the open
11 housing type farming, except for real young animals are in
12 confinement.

13 Q Okay. And Mr. Jerry Fisher, is that also correct
14 for your farming operation?

15 A (WITNESS JERIMIAH FISHER) The milking herd, the
16 animal that I am milking, I have room for those all in the
17 barn, enclosed barn. The barn is a cement block building
18 with a metal arced roof. And some of the younger animals
19 are out in the open operation.

20 Q And would that represent approximately one-half of
21 your dairy cattle or herd?

22 A (WITNESS JERIMIAH FISHER) I would say normally we
23 have about, oh, maybe three-quarters of them housed up.

24 Q Okay.

25 A (WITNESS JERIMIAH FISHER) Pardon me. Except for

1 summertime, when they are all out in pasture, you know, when
2 the summer comes. They are out in pasture, all of them are
3 then.

4 Q Okay.

5 Back to Mr. Lytle. You said that your water
6 source was a gravity-fed system; is that correct?

7 A (WITNESS LYTLE) Yes, sir.

8 Q Okay. You do not depend upon wells located upon
9 your farm?

10 A (WITNESS LYTLE) No, we have three wells.

11 Q Okay.

12 A (WITNESS LYTLE) They supply the houses and the
13 milking facility.

14 Q And are those wells located where on your farm,
15 inside your buildings or outside the buildings?

16 A (WITNESS LYTLE) Oh, they are definitely all
17 outside.

18 Q Okay.

19 Mr. Vance Fisher, do you depend on wells or
20 another source?

21 A (WITNESS VANCE FISHER) We have a spring which we
22 have an electric pump in for household use. However, the
23 water is gravity fed into the barnyard. The cattle can
24 drink it direct.

25 Q Okay. And how far is that spring from your barn

1 where you feed the animals?

2 A (WITNESS VANCE FISHER) Approximately 150 feet
3 from the barn.

4 Q Okay. And now to your brother, Mr. Jerry Fisher.
5 What do you depend upon for a water source?

6 A (WITNESS JERIMIAH FISHER) We have a dug well, and
7 the well is located -- well, I would say it is about -- I am
8 looking now. Approximately 30 feet from the house and
9 approximately 45, maybe, from the barn, and it is pumped by
10 electric pump.

11 Q Okay. Now, with regard to all three gentlemen,
12 are your operations -- and I am referring to open air
13 operations -- typical of the communities in which you live,
14 to the best of your knowledge? And I will start with Mr.
15 Lytle.

16 A (WITNESS LYTLE) Penn State, any information we
17 get from them, everybody has been leaning to open air
18 operations. So everything that is recent is open air.

19 Q Mr. Vance Fisher?

20 A (WITNESS VANCE FISHER) Well, I believe perhaps
21 mine is different a little bit. A lot of them use a feedlot
22 in connection with their open housing, where I have a rather
23 large pasture and they have a matter like 20 acres to roam
24 over.

25 Q And just for clarification, a feedlot is just a

1 general area where you feed the cattle grain; is that
2 correct?

3 A (WITNESS VANCE FISHER) Yes. Of course, I have a
4 feeding area near the barn where they come for their grain.
5 But then they are at liberty to go out and wander around the
6 20 acres.

7 Q Okay.

8 Mr. Jerry Fisher?

9 A (WITNESS JERIMIAH FISHER) We have an automatic
10 feeding system in the barnyard, and I always put the cattle
11 out to feed out there their haylage, and their grain is fed
12 on the inside. This is the milking cows, and they get some
13 hay on the inside in the barn.

14 Now, the younger cattle, the few that I have out
15 in an open area, they are fed hay and grain in an open shed
16 like.

17 Q Is that generally the situation found in, I guess
18 it would be, Fairview, Newberry Township, York County?

19 A (WITNESS JERIMIAH FISHER) Basically speaking,
20 there is only, I think, two other dairy farms in our two
21 townships there. And the one has a loose housing setup and
22 the other beside myself is confined, like myself.

23 (Counsel for Newberry Township conferring.)

24 Q Now, in your general operation -- and this is
25 referred to, Mr. Jerry Fisher -- is there a way you get the

1 feed from the silo to the barn without it being exposed in
2 an open air situation?

3 A (WITNESS JERIMIAH FISHER) From the silo into the
4 barn?

5 Q That is correct.

6 A (WITNESS JERIMIAH FISHER) I guess you could say
7 that we have a silo at the west end of the barn, and then it
8 drops down into a conveyor, and then it comes out to
9 approximately the center in front of the barn, and it drops
10 into an auger. Now, that auger has a reverse switch. I can
11 turn it into -- drop it inside the building, into a carton.

12 Now, this conveyor has a metal roof over it. But
13 you know, atmospheric conditions, anything can seep in
14 through. It is not airtight.

15 Q Okay. Thank you.

16 Mister -- this is a question directed to all three
17 of you again. Has the county extension agency officer or
18 anything from the Department of Agriculture, be it either
19 your extension agent, USDA, or the Pennsylvania Agriculture
20 Department, spoken to any of you gentlemen concerning
21 actions you could take for radiological protective actions
22 on your part, actions you could take?

23 I will start with Mr. Lytle.

24 A (WITNESS LYTLE) No, sir.

25 Q Okay. Mr. Vance Fisher?

1 A (WITNESS VANCE FISHER) No, he has not spoken with
2 me at all on it.

3 Q Okay. Mr. Jerry Fisher?

4 A (WITNESS JERIMIAH FISHER) No, I have not heard
5 nothing from them whatsoever.

6 Q Okay. To all of you three gentlemen, have any of
7 you ever stored feed or water for a radiological emergency
8 situation or -- that is my first question, beginning with
9 Mr. Lytle.

10 A (WITNESS LYTLE) No, we have not stored any feed
11 for that use, because what we produce in a 365-day farming
12 operation is considered being used in the next 365 days.

13 Q So your answer would be, for any disaster, then,
14 you have not stored water or feed, correct?

15 A (WITNESS LYTLE) No, sir.

16 Q Mr. Vance Fisher?

17 A (WITNESS VANCE FISHER) We have used all
18 home-raised feed. As he mentioned, it is produced on the
19 farm, and it is an annual basis. So at some part of the
20 year we would have more than others. Particularly in the
21 fall we are rather generously supplied. Then as harvest
22 approaches, the summer, fall, we have lesser amount.

23 Q Okay.

24 A (WITNESS JERIMIAH FISHER) Ours is all basically
25 used. The animals, we do not have any for sale or anything

1 in that, and it is the same as the other two gentlemen. You
2 know, in the spring of the year or whenever, it is hard to
3 have much left any more. And then you start to harvest and
4 you start accumulating your hay and haylage or what have
5 you, the grain and so forth.

6 Q Now, a question that was brought up and you
7 gentlemen were not present, but last week we discussed with
8 the Agriculture Department agents the number of days that a
9 dairy cattle who is lactating or in a milking stage, how
10 long could that animal live without water or without feed.

11 The first question I asked was without water. I
12 will ask each of you, based upon your personal experience,
13 what is your estimate that dairy cattle who is a milking
14 cattle could last without water. And I will start with Mr.
15 Lytle.

16 A (WITNESS LYTLE) Well, sir, I think that varies
17 with the state of lactation of each animal. But it is
18 unbelievable how long they will live. And I will not just
19 quite put it on a day. But if you are looking for a figure,
20 they might last two weeks.

21 Q Okay. And if it was a summer hot condition, it
22 would be a shorter period?

23 A (WITNESS LYTLE) Shorter period.

24 Q And a wetter condition would be a longer period,
25 is that right?

1 A (WITNESS LYTLE) Yes, sir.

2 Q Mr. Vance Fisher?

3 A (WITNESS VANCE FISHER) Well, I try to water mine
4 regularly. I have never had any experience on it. But
5 really, I think if it went more than five days you might
6 just as well forget about it.

7 Q Okay. Mr. Jerry Fisher?

8 A (WITNESS JERIMIAH FISHER) I do not know. I am
9 just guessing, like the rest of these gentlemen. I would
10 say they could probably go without water maybe anywhere
11 from three to eight days. For feed, I could see maybe two
12 weeks or longer.

13 I would not say that they would be worth anything
14 after that. You know, it would take a long time to get them
15 revived.

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1 Q Okay. And, Mr. Lytle and Mr. Vance Fisher, would
2 you agree with Jerry Fisher's estimate on feed?

3 A (WITNESS V. FISHER) Yes.

4 A (WITNESS LYTLE) Yes.

5 Q Mr. Lytle?

6 A (WITNESS LYTLE) Yes, sir.

7 Q You would agree with that; correct? Mr. Lytle,
8 you agreed with Jerry Fisher?

9 A (WITNESS LYTLE) Yes, sir.

10 DR. LITTLE: I want to ask a question on that.
11 You state they can go for three to eight days without
12 water. Is that if they are shut in the barn or if they have
13 access to the pasture? Can they be shut up for three to
14 eight days without water and survive?

15 WITNESS J. FISHER: I would say without any water
16 whatsoever; you know, shut up where they cannot get water.
17 But that would be my thinking on it.

18 DR. LITTLE: All right. Thank you.

19 BY MR. CUNNINGHAM: (Resuming)

20 Q Now, Mr. Lytle, based upon the area which you have
21 in your -- on your farm -- and based upon the Commonwealth's
22 Department of Agricultural Plan for Nuclear Generation
23 Station Incidents, Annex B, they state that in a summer
24 situation the ventilation required in animal shelters for
25 1600-pound dairy cow would be 300 feet, 300 square feet, I

1 believe. How many cattle could you store on your farm based
2 upon a figure of 300 square feet per animal?

3 A (WITNESS LYTLE) I do not have the square footage
4 at the top of my head. Only a small percentage of what we
5 own.

6 MS. STRAUBE: I would like to --

7 MR. CUNNINGHAM: I think I misstated that. It is
8 30 square feet.

9 MS. STRAUBE: I was going to say it is 300 square
10 feet of air, I believe.

11 MR. CUNNINGHAM: Right. It is 30 square feet of
12 area.

13 DR. LITTLE: Are you talking about cubic feet?

14 MR. CUNNINGHAM: Well, in the plan it mentions 30
15 square feet, I believe.

16 MS. STRAUBE: Of floor space.

17 MR. CUNNINGHAM: The cubic feet is with regard to
18 ventilation and air.

19 BY MR. CUNNINGHAM: (Resuming)

20 Q Now, 30 square feet of floor space, how many of
21 your cattle could you shelter on your farm, Mr. Lytle?

22 A (WITNESS LYTLE) Just a small percentage of them.
23 I mean we rely on our open lots.

24 Q Would it be in the vicinity of about 20 percent,
25 would you say?

1 A (WITNESS LYTTLE) From that on to a third.

2 Q Mr. Vance Fisher, how many of your animals could
3 you store in a sheltered area using 30 square feet of floor
4 space per animal?

5 A (WITNESS V. FISHER) I think 30 square feet is a
6 little small for loose housing-type operation. If you have
7 them tied up, then I think you could get by with 30 square
8 feet.

9 Q Well, how many -- could you shelter all of your
10 animals at this time?

11 A (WITNESS V. FISHER) Yes. They have shelter, but
12 I do not shut the door.

13 Q Okay.

14 A (WITNESS V. FISHER) I mean it is a matter of
15 choice.

16 Q Okay. Mr. Jerry Fisher, I understand your
17 situation is the same as your brother's; is that correct?

18 A (WITNESS J. FISHER) Yes. I think I could get
19 mine all in; but for a long period of time, I do not know
20 how long they would survive in a confinement area that
21 close.

22 Q I only have two more questions for all three of
23 you gentlemen. The Commonwealth's Agricultural Emergency
24 Plan indicates that -- on page 9 of Annex B, I believe it is
25 -- indicates that a dairy cow in the summer would require

1 nine gallons of water and between 10 and 18 pounds of hay
2 for a minimum subsistence -- in other words, just to keep
3 the animal alive. Do all three of you agree with those
4 estimates based upon your experience?

5 A (WITNESS V. FISHER) Well, as a matter of keeping
6 them alive, they get through on less, but it would take a
7 period of recovery to get them back up to any normal
8 production.

9 Q Do you, Mr. Lytle, and you, Mr. Jerry Vance, agree
10 with Mr. Vance Fisher's statement?

11 A (WITNESS LYTLE) Yes, sir.

12 A (WITNESS J. FISHER) I agree, sir.

13 Q Okay. You have all stated that -- that if these
14 actions were taken, it would be -- that it would take you
15 time to restore your herds to a productive state. I think
16 some of you said that they would not be worth such after
17 that anyway. How long, based upon your experiences, would
18 it take to place a herd back into a production capability
19 after a storage such as is anticipated by what you
20 understand to be the emergency plans? I will start with Mr.
21 Lytle.

22 A (WITNESS LYTLE) Well, any -- any lactating cows
23 which were in the production of milk would take a full year
24 under the best circumstances, maybe longer under harder
25 hardships.

1 Q Just for a point of reference are we talking
2 about? A year's loss of a milk supply from a good -- let's
3 say, just an average cow?

4 A (WITNESS LYTLE) Our cows on DHIA, which is our
5 dairy herd improvement association, are over a thousand
6 dollars per cow income per year.

7 Q Okay. Mr. Vance Fisher.

8 A (WITNESS V. FISHER) Well, I have beef which
9 coming to the various ages are up to, say, \$700 for the
10 larger ones, and if there is any -- any stress, it is going
11 to upset any animal. I used to be in the dairy business --
12 and I think these gentlemen would agree with me -- if you
13 have a stranger come do your milking, that is going to lose
14 you a lot of milk, no matter if it is the best milk person
15 in the county. And any animal that is sick, you are going
16 to have a terrific loss in production in case of milk or
17 weight in cattle. If an animal has been under severe strain
18 for a period of time, you might just as well dispose of him
19 or sell him, because the case would be the food efficiency
20 output is terribly low.

21 Q Mr. Jerry Fisher?

22 A (WITNESS J. FISHER) Well, it is like Mr. Lytle
23 says. It would take you, I think, at least a year, because
24 if -- especially if your animal just started to produce,
25 then until you get it bred again, that would take nine

1 months until you have a calf until you start producing, it
2 is going to take 12 or 15 months. And then it depends on
3 how bad the animal was; why, maybe she never will come back
4 to what she did before.

5 Q Okay. So you would expect that there would be
6 some type of loss.

7 A (WITNESS J. FISHER) Most definitely.

8 Q Okay.

9 And, truly, one last question, Mr. Chairman.

10 Have any of you gentlemen done anything different
11 to your farms -- the shelters in which you keep your animals
12 -- changed them in any way since the TMI-2 accident? Mr.
13 Lytle?

14 A (WITNESS LYTLE) No, sir.

15 Q Mr. Vance Fisher?

16 A (WITNESS V. FISHER) No, I have not.

17 Q Okay. And Mr. Jerry Fisher?

18 A (WITNESS J. FISHER) None whatsoever.

19 Q And would your answer be the same: Do you expect
20 to do anything to your shelters in the near future?

21 A (WITNESS J. FISHER) No, I do not expect to.

22 Q Okay. Would that hold true for Mr. Lytle and Mr.
23 Vance Fisher also?

24 A (WITNESS V. FISHER) Right.

25 A (WITNESS LYTLE) Right.

1 MR. CUNNINGHAM: I have no further questions.

2 CHAIRMAN SMITH: Ms. Bradford, do you have any
3 questions?

4 MS. GAIL BRADFORD: No questions.

5 CHAIRMAN SMITH: Ms. Straube?

6 BY MS. STRAUBE:

7 Q Mr. Lytle, you stated in the written testimony
8 that was submitted that during the TMI-2 accident you had
9 three trailer trucks available. I was wondering where you
10 got those three trailer trucks from?

11 A (WITNESS LYTLE) Hostetter Trucking in Lancaster.

12 Q And were those trailer trucks made readily
13 available to you when you asked for them?

14 A (WITNESS LYTLE) At that time, yes. But present
15 day, I could not say which way.

16 Q Okay. Also, during TMI-2 you stated that you
17 stayed to take care of your animals. But it is my
18 understanding that no general evacuation was ordered; is
19 that correct?

20 A (WITNESS LYTLE) Would you repeat that?

21 Q Okay. During the TMI-2 accident you stayed to
22 take care of your animals; is that correct?

23 A (WITNESS LYTLE) Yes, ma'am.

24 Q Am I correct in stating that no general evacuation
25 had been ordered?

1 A (WITNESS LYTLE) That is right.

2 Q Okay. In the case of another accident where a
3 general evacuation was ordered, will you follow the
4 evacuation order or would you defy the order and stay with
5 your herd?

6 A (WITNESS LYTLE) I would have to weigh my family
7 or the herd and decide at that time which would be best.

8 Q The Department of Agriculture's plan has
9 provisions in it for farmers, in cooperation with the county
10 agricultural agents, to come back -- well, if it is feasible
11 -- to come back in on a daily basis to take care of your
12 herd. Would that factor into your decision to evacuate in
13 any way?

14 A (WITNESS LYTLE) It would help in the decision.

15 Q Okay. Could you estimate the length of time that
16 it would take to evacuate your entire herd if trucks were
17 made available?

18 A (WITNESS LYTLE) Never tried to move a herd of
19 that size, although we did truck cattle in previous years.
20 And I would think it is a six-to-eight-hour project even
21 just to get loaded up and out of there.

22 Q Do you milk by machine or by hand?

23 A (WITNESS LYTLE) By machine man.

24 Q How long does it take to milk the herd?

25 A (WITNESS LYTLE) The 90 cows, two hours and ten

1 minutes.

2 Q All right. That is all for you. Thank you, Mr.
3 Lytle.

4 MR. AAMODT: Mr. Chairman, I have a follow-up
5 question.

6 CHAIRMAN SMITH: Let Ms. Straube finish, please.

7 MS. STRAUBE: Thank you.

8 BY MS. STRAUBE: (Resuming)

9 Q For Mr. Vance Fisher --

10 A (WITNESS V. FISHER) Yes.

11 Q -- I have the same question as I did of Mr. Lytle,
12 that during TMI-2 you stayed, is that correct, to take care
13 of your cattle?

14 A (WITNESS J. FISHER) Right.

15 Q In the case of another accident where a general
16 evacuation was ordered, would you evacuate, or would you
17 defy the order and stay with your herd?

18 A (WITNESS V. FISHER) Well, I think I would have to
19 check all kind of conditions, weather, the type of problem
20 involved and so on. I do not think I would attempt to
21 evacuate a herd. If you are ordered to evacuate, why,
22 usually you are on short notice.

23 Like Mr. Lytle said, it takes time to get cattle
24 on trucks, and the trucks would have to be brought in from
25 outside, and I think if people knew there was an evacuation

1 order, they were not going to drive from Gettysburg to TMI
2 to pick up somebody else's cattle.

3 And besides, the highways would be full of people
4 by the time you start with a load of cattle, the State
5 Police would say, "We need the highways for people. Get
6 that cattle truck out of the way."

7 Q Okay. I think you may have misunderstood a little
8 bit what I was asking. In the case of another accident and
9 a general evacuation for people was ordered, would you
10 evacuate, or would you defy the order and stay to take care
11 of your herd?

12 A (WITNESS V. FISHER) Well, as far as myself, as I
13 pointed out, it depends on a lot of conditions: weather,
14 type of problem, and so on. I may stay. I cannot make a
15 decision now. I mean that is a completely hypothetical
16 case. I would wait until the time come, and then I would
17 make a decision.

18 Q Okay. As I told Mr. Lytle, the Department of
19 Agriculture plan does provide for the farmers, in
20 cooperation with the county agricultural agents, to come
21 back in on a daily basis in the event of an evacuation to
22 take care of their herd. Would that influence your decision
23 to evacuate at all?

24 A (WITNESS V. FISHER) It would be something to be
25 considered, yes.

1 Q And for your herd, could you please estimate the
2 length of time it would take to evacuate the entire herd if
3 trucks were made available?

4 A (WITNESS V. FISHER) From the time the truck
5 arrived at the farm or if there was one right there when the
6 evacuation was ordered, I feel sure it would take me at
7 least three hours to load.

8 Q So it would take at least three hours until they
9 could even start leaving the farm; is that correct?

10 A (WITNESS V. FISHER) Right.

11 Q Okay. And Mr. Jerry Fisher, I have just one
12 question. Could you please estimate the length of time it
13 would take to evacuate your entire herd if trucks were
14 provided?

15 A (WITNESS J. FISHER) I do not know. That is a
16 very good question. I do not know whether you had any
17 experience loading cattle or not. Some of them can be
18 pretty stubborn. Some can take a half an hour or hour just
19 to load one cow. So that is -- that is a very good
20 question. It depends on the time of the year, if the
21 animals are out in pasture, or if you just put them out,
22 why, you may have a hard time just getting them back into
23 the building to start to think about loading them up.

24 It would take several hours, I am quite sure.

25 MS. STRAUPE: Okay. Thank you. I have no further

1 questions.

2 CHAIRMAN SMITH: Mr. Gray.

3 BY MR. GRAY:

4 Q Each of you gentlemen indicated that you produce
5 the feed on your farm -- farms -- which you use for your
6 cattle; is that correct?

7 A (WITNESS V. FISHER) Yes, I do.

8 A (WITNESS J. FISHER) I do, too, all except for
9 proteins, I buy soybean meal.

10 Q Mr. Lytle?

11 A (WITNESS LYTLE) Everything but our protein.

12 Q And you produce that throughout the year; is that
13 correct?

14 A (WITNESS LYTLE) During the growing season.

15 Q Obviously, during the growing season, at which
16 time you store it on your farm for the remainder of the
17 following year?

18 A (WITNESS LYTLE) Yes, sir.

19 A (WITNESS V. FISHER) Right.

20 A (WITNESS J. FISHER) Yes.

21 Q So at any time during the year you have stored
22 feed for your herds on the farm; is that correct?

23 A (WITNESS J. FISHER) Right.

24 Q The amount of stored feed, of course, varies with
25 how close you are to the next growing season and so on?

1 A (WITNESS V. FISHER) Yes, yes, yes,

2 MR. GRAY: No further questions.

3 CHAIRMAN SMITH: Mr. Aamodt?

4 MR. AAMODT: Yes, sir. Mr. Smith, may we have a
5 break at this point? I think we would like to coordinate
6 our follow-up if we might have a few minutes. Some of us
7 might have some physical need, too.

8 CHAIRMAN SMITH: All right.

9 DR. LITTLE: I have one question I would like to
10 address now, and that has to do -- I believe one of the
11 gentlemen indicated problems, health problems, with the
12 livestock.

13 Mr. Vance Fisher, could you describe the nature of
14 the problems that you have noticed with your cattle?

15 WITNESS V. FISHER: Yes. We have had a problem of
16 paralysis starting, I think, in '75, possibly '76. We had
17 our veterinarian there. He had never been able to determine
18 the cause. He has treated five animals for me, which have
19 died. Neighbors have lost a considerable number of
20 animals.

21 Back in the winter of '78-'79, the Food and Drug
22 Administration authorized feeding selenium to animals, and I
23 studied up on it what it was all about. And I found that
24 that was our problem. We were lacking in selenium.
25 Selenium is a mineral which is necessary to the body

1 functions, same as iron, calcium, and so on.

2 So I called the county agent and asked how much to
3 feed these animals. In fact, to put it accurately, on the
4 14th of May of '79 I had two paralyzed. I called the
5 veterinarian. And then I got to thinking, well, I paid him
6 to come and treat four prior to this; they all died. So I
7 was going to call him back after reconsideration and tell
8 him not to come, I would treat them myself.

9 But he came right away that time, so I let him
10 treat the one. He gave it shots, gave me a bottle and
11 syringe. I give it shots for a week. He wanted to treat
12 the other. He said it was just as ill. I said, "No, I will
13 treat it."

14 So I went and bought selenium. I fed that animal
15 selenium for four days. He was perfect. The only animal I
16 had that year that jumped the fence.

17 Two weeks later I had two more paralyzed, so I
18 knew enough then not to call the veterinarian, because he
19 did not know what to do.

20 So I am not a chemist. I am not a veterinarian.
21 But I figured since selenium was toxic, same as arsenic, a
22 four-day cure was a little too quick. So I reduced the
23 dosage. Like I said, the Bureau of Animal Husbandry, the
24 county agent, nobody would give us any information on
25 dosage. So I reduced the dosage, and those two I cured in

1 two weeks, which I think is a normal situation. Since then,
2 I have fed selenium to all the cattle all the time.

3 And the problem comes up in my mind now, what
4 about we people, we raise all the vegetables we can, we
5 raise our own meat, and I am sure we are lacking in
6 selenium. The local doctors claim they know nothing about
7 selenium. We have not been able to find out.

8 I have six neighboring families who are selenium
9 pills. They do not know what they are doing. They do not
10 know how many to take, or high, and nobody will help them.

11 DR. LITTLE: Has there been an analysis of the
12 mineral levels in the forage that you grow? Have you had
13 the -- have you had the county agent or the Extension
14 Service or -- I do not know who does it in the State of
15 Pennsylvania -- analyze your cows to see if they are
16 deficient in selenium?

17 WITNESS V. FISHER: Yes. We went through that. I
18 dug up a bag of topsoil. I dug up a bag of grass, bag of
19 various grains, turned them over to the State. And they
20 have so far, after two years, have failed to give me any
21 answer. They assured me they would give me a report on the
22 tests. They have come up with the excuse the report was
23 lost.

24 I queried them again on it. They said, "Oh, yes,"
25 they will take care of it, but they will not give me any

1 answer whatsoever.

2 DR. LITTLE: Okay. Thank you.

3 (Board conferring.)

4 CHAIRMAN SMITH: All right, do you want to take
5 your break?

6 MR. AAMODT: Yes, sir, if we might. Just five
7 minutes.

8 CHAIRMAN SMITH: All right. Five minutes.

9 (Brief recess.)

10 CHAIRMAN SMITH: Mr. Aamodt.

11 REDIRECT EXAMINATION

12 BY MR. AAMODT:

13 Q Mr. Lytle, with regard to the questioning on
14 hauling your animals, you noted that you had no difficulty
15 getting your trucks from Hostetter at the yards in
16 Lancaster?

17 A (WITNESS LYTLE) I beg your pardon?

18 Q You had no difficulty getting trucks assigned from
19 Mr. Hostetter at the yards in Lancaster?

20 A (WITNESS LYTLE) At that time.

21 Q Do you know anyone else who called Mr. Hostetter
22 for trucks prior to you?

23 A (WITNESS LYTLE) No.

24 Q You were the first one to call?

25 A (WITNESS LYTLE) Yes.

1 Q It is not surprising you had no difficulty?

2 A (WITNESS LYTLE) No.

3 Q Were there any local trucks available?

4 A (WITNESS LYTLE) No size. Six or eight head of
5 cattle.

6 Q And would you describe when you say "no size," why
7 size is a consideration?

8 A (WITNESS LYTLE) Well, six cows or eight cows or
9 ten young stock is a very small amount of the herd.

10 Q And so your cattle, in order to do it efficiently,
11 would have to be hauled on tractor trailers?

12 A (WITNESS LYTLE) Yes, sir.

13 Q With regard to shielding, the emergency plan
14 suggests that what you could do would be to stack bags of
15 feed around your barn to shield against radiation, or bales
16 of hay, and suggests that you would need 30 square feet per
17 animal. Now, you not only have 200 animals, you have an
18 additional group. You have some Semmentals there also;
19 don't you?

20 A (WITNESS LYTLE) Yes, sir.

21 Q In total, how many animals do you have?

22 A (WITNESS LYTLE) I could not tell you right off
23 the top of my head. I mean --

24 Q Well over 200?

25 A (WITNESS LYTLE) Well over 200, yes.

1 Q So that means you would need 206,000 square feet
2 enclosed proper ventilation to properly care for them
3 according to the emergency plan; is that correct?

4 A (WITNESS LYTLE) I would think so. It would take
5 a --

6 Q Roughly?

7 A (WITNESS LYTLE) Yes, if you did all the figuring
8 on it. I did not push a pencil.

9 Q And would you say that under any circumstances it
10 would be practical -- practical to build a wall of hay or
11 bags of feed after you got notification that there was an
12 emergency to close in a barn big enough to keep in all those
13 people -- all those animals?

14 A (WITNESS LYTLE) No. You could do it. It
15 would take an army to move everything around. Plus the
16 animals would be in it just as fast as they can.

17 Q It is fair to say that the Commonwealth's
18 suggestions on sheltering are not practical?

19 A (WITNESS LYTLE) Yes, sir.

20 Q With regard to coming in on a periodic basis to
21 feed -- that is, coming in daily to feed -- how many
22 man-hours are required per milking to milk? And, of course,
23 per milking also means per feeding? Right? You feed at the
24 same time as you milk?

25 A (WITNESS LYTLE) Yes, sir.

1 Q That is the same time frame there. How many
2 man-hours are needed to milk, feed, and provide only minimal
3 other care to your livestock per milking?

4 A (WITNESS LYTLE) It would take a minimum of four
5 hours per milking, which would have to be done twice a day.

6 Q One person four hours could do it?

7 A (WITNESS LYTLE) No, sir; that is our full
8 employment of four.

9 Q So that would be a total of 16 man-hours would be
10 required per milking to only adequately care for your
11 cattle?

12 A (WITNESS LYTLE) Yes, sir.

13 Q And if you came in about on a 24-hour day, only
14 person were allowed, that would be pretty hard to do?

15 A (WITNESS LYTLE) Yes, sir.

16 Q Mr. Vance Fisher, you described selenium
17 deficiencies. The selenium deficiency results from the
18 chlorine combining with the selenium in the soil, thereby
19 providing the deficiency; is that true?

20 A (WITNESS V. FISHER) That is right. It is
21 converted to --

22 Q That is a mechanism for causing chlorine
23 deficiency in your soil. Was that been established?

24 A (WITNESS V. FISHER) Yes. Yes, a dispute among
25 some people as to where it came from. But it is so general,

1 there had to be a common cause.

2 Q And is it true that in that valley where you live
3 -- if I remember correctly, your father died young, and you
4 farmed earlier with your mother, so you have a long-time
5 experience with your mother and with the family, with the
6 people around there farming. Have you heard of any cases of
7 selenium deficiency that is by -- as you might diagnose as a
8 result of symptoms which are very clear; are they not?

9 A (WITNESS V. FISHER) Yes.

10 Q Had you noticed any symptoms in the valley prior
11 to the Unit 1 going onstream?

12 MR. ZAHLER: Objection.

13 CHAIRMAN SMITH: What basis?

14 MR. ZAHLER: We have had a lot of testimony. I am
15 not sure it is relevant to this proceeding or the
16 Contention.

17 CHAIRMAN SMITH: I cannot identify any relevance
18 at all to either the proceeding or the Contention.

19 MR. AAMODT: There was discussion --

20 CHAIRMAN SMITH: You are talking about chlorine
21 being produced through the cooling tower causing a selenium
22 deficiency on neighboring farms; is that right?

23 MR. AAMODT: And that is established. The only
24 point I wanted to ask, Mr. Smith, is: Is it true that when
25 it rains -- where I was driving was: Is it true when it

1 rains, the rains generally comes from that direction, and
2 that is why the chlorine settles there?

3 CHAIRMAN SMITH: All right. You might just as
4 well have the full package in to know what the objection
5 is. But that is the nature of your objection -- I mean that
6 is the nature of your --

7 MR. AAMODT: Yes, sir.

8 CHAIRMAN SMITH: -- proof? How do you explain
9 that relates to your Contention?

10 (Mr. and Mrs. Aamodt conferring.)

11 MR. AAMODT: Let me be careful how I answer this.

12 (Mr. and Mrs. Aamodt conferring.)

13 MR. AAMODT: Mr. Smith, the response lies in the
14 follow-up, the next-to-the-last paragraph of Mr. Fisher's
15 testimony where he indicates a lack of ability to believe
16 that the Licensee will provide him with truth should there
17 be succeeding health effects. That is all.

18 (Board conferring.)

19 MR. AAMODT: So that he has those health effects.
20 They have not been addressed, he feels, by local
21 authorities. And he is concerned should there be other ones
22 they will not be either.

23 CHAIRMAN SMITH: That is too far remote to your
24 Contention.

25 MR. AAMODT: All right, sir.

1 CHAIRMAN SMITH: So we will sustain the
2 objection.

3 MR. AAMODT: All right, sir.

4 CHAIRMAN SMITH: And strike the answers, the last
5 three questions and answers, the last three answers.

6 MR. AAMODT: All right.

7 (Mr. and Mrs. Aamodt conferring.)

8 MR. AAMODT: I think this would be appropriate --

9 CHAIRMAN SMITH: Incidentally, on the stricken
10 answers --

11 MR. AAMODT: Yes, sir?

12 CHAIRMAN SMITH: -- he misstated or you misstated
13 that selenium causes a chlorine deficiency. You meant to
14 have the reverse?

15 MR. AAMODT: (Nodding in the affirmative.)

16 BY MR. AAMODT: (Resuming)

17 Q I would like to ask all three of the panel members
18 whether or not they have been provided any information
19 concerning action levels, what various types of emergency --
20 emergencies mean; what the definitions are, for example, of
21 a site alert, a general emergency?

22 Have you received any information in that regard,
23 Mr. Lytle?

24 A (WITNESS LYTLE) Just in the last week I have.

25 Q Mr. Vance Fisher?

1 A (WITNESS V. FISHER) No, I do not recall anything
2 at all of that nature.

3 Q Mr. Jerry Fisher?

4 A (WITNESS J. FISHER) I do not recall seeing any.
5 They may have come through the mail and I misplaced it or
6 something, I do not know.

7 Q Thank you. Are -- and also, of all three, are you
8 aware of the legal limitations of liability of the Licensee,
9 the Price-Anderson Act?

10 MR. ZAHLER: Objection.

11 MR. AAMODT: Mr. Chairman, I think that is
12 perfectly valid. I think the action that a person might
13 take is very dependent on whether or not -- what he feels
14 his losses might be.

15 CHAIRMAN SMITH: Yes. His impression, his
16 impression of it, would be relevant. Of course, he is not
17 being asked to testify as to the legality of it, the actual
18 legality of the liability.

19 MR. AAMODT: That is right.

20 CHAIRMAN SMITH: But his perception of it.

21 MR. AAMODT: His question is whether or not he
22 knows what he will lose should his farm be lost.

23 CHAIRMAN SMITH: The question really should be
24 what he believes would be his loss, not what he knows,
25 because he is not qualified to testify.

1 MR. AAMODT: There is the law of the land, Mr.
2 Smith, the Price-Anderson Act.

3 CHAIRMAN SMITH: If you are going to offer it that
4 way, we will sustain the objection.

5 MR. AAMODT: All right, we will pursue it as you
6 allow.

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1 BY MR. AAMODT: (Resuming)

2 Q Are you -- I would like to address the panel
3 generally. What is your impression relative to the
4 liability of the Licensee or the Federal Government or their
5 obligation to cover your losses, should there be a severe
6 accident.

7 CHAIRMAN SMITH: This is not follow-on
8 cross-examination. This is not follow-on direct
9 examination, just something you thought of that you had not
10 thought of before.

11 (Mr. and Mrs. Aamodt conferring.)

12 MR. AAMODT: Yes, it does follow. And I believe,
13 Mr. Smith, with regard to the communication with the state,
14 where the state is to provide the farmer with a program that
15 says, this is what you do, which also has to have in it
16 why.

17 CHAIRMAN SMITH: Okay.

18 MR. AAMODT: I mean, it does not do much good to
19 ask someone to take action --

20 CHAIRMAN SMITH: I am not saying it is not
21 relevant. I just could not identify it to anything that has
22 happened before today.

23 MR. AAMODT: Oh, all right. Well, may --

24 CHAIRMAN SMITH: Go ahead. There is no
25 objection.

1 MR. AAMODT: All right.

2 CHAIRMAN SMITH: I just wanted to identify it for
3 what it is.

4 BY MR. AAMODT: (Resuming)

5 Q Well, I -- I think I have asked the question.
6 Perhaps I will restate it this way. Have you ever read the
7 provisions of the Nuclear Assurance Liability Law, the
8 Price-Anderson Act?

9 A (WITNESS LYTLE) No, sir.

10 CHAIRMAN SMITH: Do you believe that if you suffer
11 losses because of a nuclear emergency at Three Mile Island,
12 that you will be reimbursed by some form of insurance other
13 than insurance that you carry? Is that what you are getting
14 at?

15 MR. AAMODT: Yes, sir. Do they have any basis to
16 believe that or not believe it. And Mr. Chairman, the point
17 of my question --

18 CHAIRMAN SMITH: All right.

19 MR. AAMODT: The Act that I specified denies
20 liability. And it is one thing -- you know, that is the
21 question, do they know that liability has been denied them.

22 CHAIRMAN SMITH: And we ruled on that.

23 MR. AAMODT: Yes, sir.

24 (Mr. and Mrs. Aamodt conferring.)

25 CHAIRMAN SMITH: We ruled that you cannot get

1 these gentlemen to testify as to the legal adequacies of the
2 law or inadequacies. It is only how they perceive it to be
3 and how they would act, based upon their perception.

4 MR. AAMODT: That is exactly right, sir.

5 CHAIRMAN SMITH: Now, what is a -- so I mean --
6 well, that is our ruling.

7 MR. AAMODT: Their perception that they will not
8 get -- all right.

9 CHAIRMAN SMITH: All right.

10 Now, do you want -- if you do not want them to
11 answer the question, that is fine.

12 MR. AAMODT: I do, sir.

13 CHAIRMAN SMITH: Do you understand the question?

14 WITNESS VANCE FISHER: Not exactly. You said we
15 will be reimbursed or something? I believe we are due
16 reimbursement for our losses, because if our cattle get out
17 and do a little damage on our neighbor's farm, if we spray
18 the weeds --

19 CHAIRMAN SMITH: I understand that. But the
20 question was not do you believe that morally or legally that
21 you are due reimbursement. The question is, do you actually
22 believe that you will receive reimbursement.

23 WITNESS VANCE FISHER: No.

24 CHAIRMAN SMITH: All right. Would that affect
25 your decision to remain and tend your livestock or to

1 evacuate?

2 WITNESS VANCE FISHER: I feel we have got to do
3 the best we can to take care of ourselves.

4 CHAIRMAN SMITH: Is that what you were getting
5 at?

6 MR. AAMODT: Yes, sir, it is.

7 And then finally --

8 (Mr. and Mrs. Aamodt conferring.)

9 BY MR. AAMODT: (Resuming)

10 Q Mr. Lytle, would you also answer?

11 A (WITNESS LYTLE) Yes, sir, I feel the same.

12 Q Mr. Fisher?

13 A (WITNESS JERIMIAH FISHER) I feel basically the
14 same. The provisions of what I have read and heard, in the
15 past accident, why you would -- the insurance agents had --
16 they figured you would only get one or two percent of your
17 investment anyhow. So basically, I do not think you would
18 get anything.

19 Q Thank you.

20 MR. AAMODT: And then finally, Mr. Chairman, I
21 would like to move to have the evidence that we presented
22 admitted in testimony.

23 CHAIRMAN SMITH: All right. I think it would
24 probably be more orderly if we had, since it is all together
25 -- well, we can separate it. Would you prefer to offer it

1 as a package with Dr. Weber's or do you want to separate
2 it?

3 MR. AAMODT: I agree, it would be more orderly --
4 we have -- whatever is the Board's convenience. I do not
5 think it matters much.

6 CHAIRMAN SMITH: I think it is clearly separable.
7 So at this time, let's receive into evidence as if read into
8 the transcript the written testimony of Vance Fisher,
9 Jeremiah K. Fisher, and Paul M. Lytle, Jr., leaving hanging
10 the last page, which says "evacuation planning."

11 What is the purpose of that document? We are not
12 receiving it in.

13 MR. AAMODT: That is the document, Mr. Chairman,
14 that we wish to have supported by the letter from the Humane
15 Society.

16 CHAIRMAN SMITH: Oh, all right. We will receive
17 now the three pages of the respective testimony of the
18 present witnesses.

19 MR. AAMODT: Thank you, sir.

20 (The documents referred to, the written testimony
21 of Messrs. Lytle, Jerimiah Fisher and Vance Fisher, follow:)

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United States of America
Nuclear Regulatory Commission

Before the Atomic Safety and Licensing Board

In the Matter of
Metropolitan Edison Co., et. al.
(In the Matter of Three Mile Island
Unit 1 Nuclear Generating Station)

Locket 50-289
(Restart)

Testimony of

~~XXXXXXXXXXXX~~ Paul M. Lytle, Jr.

Jeremiah K. Fisher and Vance Fisher

and PEA Document in
Support of Aamodt Contention

EP-2

Paul M. Lytle, Jr., 915 E. Harrisburg Pike, Middletown, Pennsylvania

I have resided in Londonderry Township all of my life and am presently a member of the Planning Commission. For the past 30 years, I have farmed between 450 and 500 acres located approximately three miles north of the TMI-1 nuclear generating station.

With the help of my son and nephew, I milk twice each day 100 head of dairy cows. They are a lifetime investment, but they are more than that to me. Each one is known to me by name and I consider them my employees. I have never missed a milking during the entire time I have been farming.

During the TMI-2 accident, I stayed to take care of my cows, however I had lined up three trailer trucks to remove my cows if I judged that it was needed. I would not have abandoned my cows for two reasons -- my attachment to them for the service they have given me over the years and the financial investment that they represent.

I am concerned that adequate planning for livestock has not been made in the event of a nuclear accident at TMI-1.



Jeremiah A. Fisher, 183 Valley Road, Etters, R. D. 3, Pennsylvania

I am 48 years old and farm 154 acres on which I reside and rent an additional 40 acres. The crops I grow are corn, hay, oats and wheat, all of which are used to feed approximately 77 dairy cows, heifers, calves and beef cattle.

My family has lived on this farm since 1752. I farmed with my mother until I began my own operation in 1956.

If an emergency was declared at the plant (TMI-1), which is 3½ miles from my home, I would leave my cattle, although they and my farm represent my total real assets. Since my primary concern would be for my family. There are no local truckers, I am not sure that I could depend on a trucker coming in, so that I would not have a choice of taking my cattle with me. I am the sole caretaker of my livestock, so that they would be abandoned.

During the TMI-2 accident, I evacuated my family to a place fifty miles away, and I returned once a day to care for the livestock. My livestock are fed outside, so they were not protected from radiation. My animals are also pastured.

I do not believe that we will be given the truth, and if there is a bad accident that there will be time to take action to protect our animals.

Lack of plans to evacuate livestock of farmers who live close to the TMI plant will make it impossible to save the livestock in case of a real disaster. We may also lose our lives in trying to return to care for our animals.

Vance Fisher, 109 Valley Road, R. D. 3, Eblers, Pennsylvania

My farm of 160 acres is located approximately three miles from the TMI-1 nuclear generating plant. I keep between fifteen and twenty-five beef cattle which are fattened from the crops of corn, wheat, oats and hay raised on my farm. The balance of the crops are sold for cash. I was raised on the adjacent farm and began my own farming operation thirty years ago at its present location.

During the TMI-2 accident, I remained on the farm to attend the animals while my family evacuated. It did not seem right to go off and abandon the animals.

I am concerned about the nuclear generating plant and about the effect it can have on my animals' health. I am also concerned about the possibility of a catastrophic accident, and that I would not get out in time in trying to care for my animals.

Since three or four years after the opening of TMI, my neighbors and I, who raise all of our own feed for our livestock, have experienced health problems with our livestock that were never known before in our or our families' lifetimes. Although the problem has been identified, we are not satisfied that the explanation is complete. We feel that the plant is to blame, however we would have a hard time proving our case. I feel that if my cattle remained through an accident and then had health problems, it would be the same.

I am not satisfied that the planning done for livestock in case there would be an accident at the nuclear plant is correct or sufficient.

1 BOARD EXAMINATION

2 BY CHAIRMAN SMITH:

3 Q Any of you gentlemen can answer. Do you
4 ordinarily have daily milkings or twice daily milkings?

5 A (WITNESS LYTLE) Twice a day milking.

6 Q Do you think under evacuation conditions it would
7 be adequate to have someone come in for a daily milking,
8 rather than a twice daily milking? Or do you think this
9 would be a problem?10 A (WITNESS LYTLE) The cow is an animal of habit,
11 and you disrupt her whole day and that is it, you are in a
12 loss right then by going one day or once a day or anything.
13 You still have to maintain your 12-hour schedule.14 Q Do you think there would be any advantage in
15 having once a day over not having any at all?

16 A (WITNESS LYTLE) Beg your pardon?

17 Q Do you think a once a day milking would be better
18 than having no milking at all?

19 A (WITNESS LYTLE) I never experienced it.

20 Q Never tried it.

21 CHAIRMAN SMITH: All right, thank you.

22 Anything further of this panel?

23 (No response.)

24 CHAIRMAN SMITH: All right, gentlemen. Thank you
25 very much for taking the trouble to come here today. You

1 are excused.

2 (Witnesses excused.)

3 CHAIRMAN SMITH: We will adjourn until 1:00 p.m.

4 MR. CUNNINGHAM: Mr. Chairman, over here.

5 CHAIRMAN SMITH: Yes?

6 MR. CUNNINGHAM: As aiding Ms. Bradford in
7 preparation of the cross-examination plan, unbelievable as
8 it may sound, last night our law office suffered a
9 burglary. One-quarter of the dictated cross-examination
10 plan of Mr. Adler and Mr. Bath on March 16 testimony has
11 either been mislaid, stolen or misplaced.

12 Now, I can reconstruct that, and that is what I
13 intend to do. The only thing I was going to ask you was, it
14 is my understanding that I think last Thursday it was, or
15 Friday, the testimony is to come in from FEMA. That is
16 after Mr. Furrer this afternoon. And the February 23
17 testimony will be the first part of the testimony
18 introduced, and then March 16 will be taken into
19 consideration after that.

20 Is that correct?

21 CHAIRMAN SMITH: Yes.

22 MR. CUNNINGHAM: Okay. Then that will not pose a
23 problem. We can reconstruct.

24 CHAIRMAN SMITH: I just want to commend you for
25 constructing such a valuable cross-examination plan.

1 (Laughter.)

2 MR. CUNNINGHAM: Thank you.

3 CHAIRMAN SMITH: All right. We will adjourn until
4 1:00 p.m.

5 (Whereupon, the hearing was adjourned, to
6 reconvene at 1:00 p.m. the same day.)

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1 AFTERNOON SESSION

2 (1:05 p.m.)

3 CHAIRMAN SMITH: All right. Before we begin with
4 the witnesses afternoon, I have two preliminary matters.
5 One is, I have provided to the parties present today a copy
6 of a letter to me from Chairman Morris K. Udall of the
7 Committee on Interior and Insular Affairs of the House of
8 Representatives, as a courtesy. We will serve it on the
9 record of this case later this week.

10 We received the letter April 9, 1981, from Mr.
11 Blake, with the chart and affidavit of Mr. Luten. And while
12 the Aamodt's are present, we thought it would be an
13 appropriate time to hear if you have any problems with this
14 approach, if this satisfies the open question that you
15 have.

16 Now, if you have not received it and have not had
17 a chance to look at it, we will take it up at a more
18 appropriate time.

19 MS. AAMODT: Mr. Smith, I would prefer we take it
20 up at another time. I just received it and have not had a
21 chance to look at it.

22 CHAIRMAN SMITH: All right. Anything else
23 preliminarily?

24 MR. CUNNINGHAM: Mr. Chairman, I just wanted to
25 make a statement, because I did not realize before we broke

1 the press was in the room. I in my last comments did not
2 want to intimate in any way, shape or form, that I was
3 pointing an accusative finger at anybody, Met Ed or
4 anybody.

5 CHAIRMAN SMITH: I am sorry?

6 MR. CUNNINGHAM: I was not trying to point an
7 accusative finger at the Licensee. We are quite, quite --
8 we had an incident yesterday in our office that we think may
9 have triggered the loss of this tape. Other tapes were
10 missing.

11 And after we had left and after we had broke, I
12 realized that there may have been left some type of
13 implication on the record. I do not even think that that is
14 the situation, and I want the record to reflect that.

15 (Pause.)

16 CHAIRMAN SMITH: Anything further?

17 (No response.)

18 CHAIRMAN SMITH: All right. Mr. Aamodt?

19 MR. AAMODT: Mr. Chairman, I would like to call
20 Dr. Lawrence Samples to the stand. Mr. Lawrence Samples.

21 Mr. Chairman, apparently Dr. Weber has not been
22 able to get here.

23 Whereupon,

24 DR. LAWRENCE SAMPLES,

25 called as a witness, having first been duly sworn by the

1 Chairman, was examined and testified as follows:

2 DIRECT EXAMINATION

3 BY MR. AAMODT:

4 Q Dr. Samples, would you -- you are a doctor of
5 veterinary medicine living in Hummelstown?

6 A Right.

7 Q You are a graduate of the University of
8 Pennsylvania Medical School?

9 A I have my veterinary degree from the University of
10 Pennsylvania.

11 Q And a graduate of Penn State before that?

12 A I have a bachelor of science in animal science
13 from Pennsylvania State or Penn State.

14 Q You have -- you are active in a number of
15 committees and numbers of various organizations. Would you
16 summarize these for us?

17 A Too many.

18 I am currently a member of the Capital City
19 Veterinary Medical Association. I am a trustee to the state
20 veterinary association, the Pennsylvania Veterinary Medical
21 Association. On the state level, I am a member of the
22 Radiation Protection Emergency Management Committee which
23 has just been formed as a result of the Three Mile Island
24 incident.

25 And I a member of the senior student liaison

1 committee. I am also a member of the legislative committee
2 on the state and local level.

3 I am a member of -- I cannot think of the proper
4 name -- the committee, I am a member of the National
5 Committee on Bovine Practice, American Association of Bovine
6 Practitioners. And I a member of the American Association
7 of Equine Practitioners.

8 Q Would you describe for us briefly your practice.

9 A I am engaged in a large animal -- or, I should
10 say, farm animal practice, because it is not necessarily
11 large. Lambs and little pigs are not necessarily that
12 large. But I do an exclusive large animal practice out of
13 Hummelstown.

14 I work at, I would say, somewhere up into around
15 the 40 to 45-mile radius of the -- of Hummelstown.

16 Q Would you --

17 A I do no small animals whatsoever. I stopped the
18 small animal practice.

19 Q How far is Hummelstown from Three Mile Island?

20 A I can tell you, I know where the five mile line is
21 drawn through a house, and I believe I drive two miles from
22 there to my house. So I think -- somebody told me, on an
23 aerial photograph I am seven miles from Three Mile Island.
24 Now, it is difficult, driving of course, you get around
25 curves and whatever.

1 Q Would you describe a typical dairy operation that
2 you would see in your practice?

3 A I would say a typical dairy operation in my
4 practice would probably run between -- typical, I mean on
5 the average. There are exceptions to this. Just speaking
6 of dairy, I would say the average dairy operation in my area
7 would probably run where they are milking in the range of 70
8 to 75 head of cattle.

9 That is milking. That would mean they most likely
10 are running a total, counting dry cows and so forth, they
11 would probably run a total of up around 120 head of cattle.
12 Now, I do have some herds milking up to 130 and more. But I
13 would say the average goes 70 to 75 head milking cows.

14 Q Would you describe an average -- well, I guess an
15 average would be difficult. Would you describe what might
16 be a typical horse operation?

17 A Horse operations. Well, the majority of the horse
18 clients that I deal with are what is classically known as
19 backyard horses. And what I mean by backyard horses is that
20 someone has one or two, three horses in the backyard, and
21 they take care of them in that respect.

22 I do handle -- as a matter of fact, this morning,
23 a couple of breeding operations where we get into, you know,
24 thoroughbred racehorses. I have worked on a couple of
25 standard bred farms, and within my range it's Hempt Farms.

1 I don't know if anybody knows this, but that is one of the
2 largest standard bred breeding farms in the world. That is
3 over in Mechanicsburg, and I have done some work in Hemp
4 Farms.

5 Q The average farm, the average dairy farm that you
6 described, would have lactating cows of about what dollar
7 value?

8 A Well, on the basis of -- well, that is difficult.
9 The price, of course, with inflation and everything else,
10 has gone up. I would say that the average dairy cow today,
11 speaking of Holstein predominantly, which is what we are
12 dealing with mostly, would run I would say \$1800 to \$2000,
13 some more than that, some less.

14 MR. ZAHLER: Mr. Chairman, it seems clear to me
15 that Dr. Samples' testimony is going to extend substantially
16 beyond the two sentences that constituted Dr. Weber's
17 testimony.

18 (Pause.)

19 MR. AAMODT: Mr. Chairman, I would like to respond
20 to that by saying that we are -- that Dr. Samples said the
21 plan was inadequate, and we are going -- we would like to
22 describe in what way -- in some ways in which it is
23 inadequate.

24 CHAIRMAN SMITH: The direct written examination of
25 each of your witnesses has been inadequate, and I think that

1 this is particularly inadequate. It is just not even an
2 outline. It is a statement of what it is about.

3 And we have allowed the testimony beyond the
4 direct written testimony by way of correction, by way of
5 some demonstration, if there is lately received evidence, or
6 by way of anticipatory rebuttal or rebuttal. But you have
7 far exceeded the range of any of those things that I can
8 see.

9 MR. AAMODT: Mr. Chairman, we have two particular
10 thrusts that we think are important to --

11 CHAIRMAN SMITH: I understand importance.

12 MR. AAMODT: Yes, sir. Perhaps I can -- perhaps I
13 can prevail on the Board from this point of view. It is
14 exceedingly difficult to catch Dr. Samples or Dr. Weber.
15 They work extremely long days. And perhaps that -- if they
16 described what a day was like, they would explain why it was
17 difficult to get together and form testimony.

18 CHAIRMAN SMITH: No, no.

19 How do you address the problem that you, contrary
20 to the rules that have been longstanding in this case, the
21 rules as to what you have taken advantage of, that the other
22 parties will have no opportunity to prepare for
23 cross-examination when most of his direct testimony comes in
24 oral form?

25 Ms. Bradford, did you want to --

1 MS. GAIL BRADFORD: Sir, I was wondering if it
2 would be possible -- I do not know whether the veterinarian
3 or Mr. Aamodt would be willing, whether we could put in the
4 testimony now and give the licensee an opportunity to
5 cross-examine later if they felt that there were some --
6 something that they could prepare for, and that they had not
7 had the opportunity to prepare for.

8 CHAIRMAN SMITH: We have approached it that way.
9 But we usually require some showing.

10 MS. AAMODT: Mr. Smith, I had the contacts with
11 Dr. Samples and Dr. Weber, and I believe that I have placed
12 many, many telephone calls. I think perhaps the Board does
13 not realize that Dr. Samples and Dr. Weber work from 7:00 in
14 the morning until 11:00 at night seven days in the week. I
15 have no idea -- and they have been very generous. Dr.
16 Samples has been able to give me more time than Dr. Weber,
17 in meeting with me twice, and that we have only but these
18 times.

19 It was difficult to get the testimony together
20 from this. And we felt that he simply is going to address
21 how the plan is inadequate. And we are trying to set the
22 stage for that.

23 CHAIRMAN SMITH: We understand the purpose. There
24 is no question that has been raised about the relevance or
25 the purpose or the appropriateness of the testimony, simply

1 that it has simply ignored the rules that you have observed
2 throughout this hearing that direct testimony be in written
3 form.

4 Now, you are asking that, as a matter of Board
5 discretion, we waive the rule for the reasons you have
6 given. And we will take that into consideration, if you
7 want.

8 MS. AAMODT: I wanted to say that Dr. Samples has
9 even a call right now, and he -- Dr. Weber evidently has had
10 a call, because I spoke with him last night very late and he
11 said he would be here today. So --

12 CHAIRMAN SMITH: That is not relevant to the --

13 MS. AAMODT: Dr. Samples has to make a further
14 adjustment in his schedule to accommodate us.

15 CHAIRMAN SMITH: All right. As a matter of Board
16 discretion, we will allow limited direct testimony from Dr.
17 Samples on the inadequacies of the evacuation plan. But a
18 thorough examination into the economics of the dairy farms
19 and the farming industry around here will be clearly beyond
20 the discretion of the Board to grant.

21 The Commission -- the Commission's rules
22 themselves provide that direct testimony be in written
23 form.

24 MR. AAMODT: We appreciate that, Mr. Smith.

25 CHAIRMAN SMITH: But limited to the inadequacies

1 of the plan. All right, proceed.

2 MR. AAMODT: All right.

3 CHAIRMAN SMITH: Dr. Samples, do you understand
4 that ruling? It is not that your testimony is not
5 appropriate or somehow incorrect. It is just that under our
6 procedures witnesses present their direct testimony in
7 written form in advance of the appearance, so that the other
8 parties will have an opportunity to study it and be prepared
9 for it.

10 THE WITNESS: I could come back. I could meet
11 with you again if you want.

12 CHAIRMAN SMITH: Mr. Aamodt --

13 THE WITNESS: I will make the time, if you wish,
14 to get cross-examined.

15 CHAIRMAN SMITH: Okay.

16 THE WITNESS: I have made time for everything else
17 in my life. I can do that, too.

18 BY MR. AAMODT: (Resuming)

19 Q Dr. Samples, the -- do you have a copy -- you have
20 received a copy of the emergency plan?

21 A Yes, I did.

22 Q The plan deals largely with sheltering,
23 ventilation, feeding, water and so on. I would like to
24 cover some of these specific recommendations of the plan, to
25 ask you whether you -- in your judgment, they are

1 adequate.

2 Perhaps in beginning here, how did you receive the
3 plan, first?

4 A Well --

5 CHAIRMAN SMITH: Before you proceed, the Board as
6 a matter of discretion will allow Mr. Aamodt to produce on
7 direct testimony additional information. But as to other
8 Intervenor asking follow-on cross-examination, we will have
9 to make an adjustment there, because no other Intervenor has
10 provided cross-examination plans. And we would expect you
11 to work with Mr. Aamodt in producing questions that you want
12 requested.

13 Do you understand the point I'm making here?

14 MR. AAMODT: Yes, sir.

15 CHAIRMAN SMITH: This would be called
16 bootstrapping, you know, if we allow him to go without
17 direct written examination and then allow building upon that
18 by other Intervenor. It just would not be consistent at
19 all with the Commission procedure and rules.

20 BY MR. AAMODT: (Resuming)

21 Q Dr. Samples --

22 A Am I to answer that question?

23 Q Yes.

24 A I received this, I guess -- well, I received that
25 from your wife. That is who I originally received it from.

1 Q Thank you.

2 I note that -- that in the wintertime, which is
3 relatively where oxygen requirements are relatively low for
4 dairy cattle, it is recommended, if I recall correctly, it
5 is recommended that they be provided with -- it is
6 recommended that they need about 150 cubic feet a minute to
7 stay alive in a barn.

8 Is that -- would you say that is roughly about
9 right?

10 A I really cannot argue with those statistics. To
11 be honest with you, I have -- you know, if I have
12 ventilation problems, to be honest, I have to refer them to
13 a ventilation expert.

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1 Q The plan specifically calls, in the case of
2 sheltering where there is an average herd like yours as you
3 mentioned of perhaps 75 cows, that one fan moving air at a
4 velocity of 150 feet a minute, which would provide roughly
5 maybe 1000 cubic feet a minute, would be adequate to keep
6 the cattle in that barn healthy.

7 Do you agree that that is so, one fan in a dairy
8 barn of 75 cows otherwise totally sealed?

9 A I think we first -- it is difficult to say. I
10 think we first have to look at the type of barns we are
11 dealing with and the type of herd we are dealing with.
12 Number one, today we do not have people who in most cases
13 are capable of putting 75 animals in a barn. I mean, you
14 know, we do not have that kind of barn anymore. There are a
15 few around but not very many.

16 Okay, we are dealing with loafing pens, free
17 stalls. We bring cattle in many times in parlors, and then
18 the cow is brought in and they are milked -- they are put
19 back out into the free stall or loafing pens. You do not
20 generally see barns like the old classic was that, you know,
21 you bring the cows and they all stand in a stanchion and
22 then you milk them. That is a thing that is not a very
23 common thing to find with large milking herds today.

24 So we are dealing with mainly open air
25 arrangements, and not only are we dealing with open air

1 arrangements. The thing when I read the plan that bothered
2 me was the fact that one of the recommendations was to cut
3 the ventilation down to a minimum.

4 Now, they also said to try to shut off fans
5 somewhere in here. That can be very difficult because I
6 find that when I cut the ventilation down on my dairy cows
7 that I have tremendous respiratory problems, and this is
8 just in my own experience. This is where we find tremendous
9 problems in herds from a lack of ventilation.

10 Now, the period of time, I know if I have cows in
11 most barns, in the old-type barns where they are tied in and
12 in general that if I shut the fans off, the ventilation
13 fans, within 24 hours those cows are sick. They are
14 coughing. And this is problems. Milk production goes down,
15 the cow gets very sick and we lose cows at time. So we have
16 to keep this ventilation going.

17 It is one of the most important things going,
18 ventilation. It is probably more important in many cases
19 than the food. So that is where I think I have to relate
20 that to, the ventilation.

21 Q I think, then, that -- could I infer from what you
22 said that in your judgment it is not possible to shelter the
23 largest percentage, a majority of the dairy herds that you
24 come in contact with in this area?

25 A You cannot shelter them as I see written in this

1 plan. I am just relating to this plan. You know, I am
2 reading about the types of shelters. We could probably put
3 roofs above them, put roofs above most of them, but I do not
4 know of any dairy farms I go to, or very few of them, let's
5 put it that way, that could close them in where they could
6 really be protected from the environment outside or what
7 would be in the air.

8 Q Thank you.

9 You deal with chickens also.

10 A I do not deal very often with chickens. I try not
11 to deal with chickens. But I know about them.

12 (Laughter.)

13 Q We would appreciate an expert opinion. Chickens
14 are raised in big chicken houses today, perhaps 40,000 birds.

15 A Well, poultry are raised in very confined -- and
16 we also have the same type of things with hogs. They are
17 raised today in many cases in very confined areas, with
18 ventilation being the thing. We ventilate from one end, and
19 needless to say, it draws from the other end.

20 These places, these farmers and whatever, if the
21 electricity goes off and the fans go off, there are alarm
22 systems that go off and they have to get emergency
23 generators hooked up immediately because in a matter of a
24 few hours they will have all their chickens dead. I mean
25 this is how important ventilation is.

1 Now, if they are talking here like shutting fans
2 down, I do not know how we could possibly shut fans down and
3 expect the poultry to live. I just -- because of the
4 experience. If we got emergency generators hooked up,
5 possibly we could supply. I am saying the electricity goes
6 out as expected in this plan also, apparently.

7 Q It is suggested that the farmer should make
8 provisions for leaving his cattle at least 48 hours. If
9 dairy cattle in high lactation are left unmilked for 48
10 hours, what would be the likely health effects on the herd?

11 A I think -- this is just my opinion because I do
12 not know anyone who has left their cows for 48 hours
13 unmilked. I think the high-producing cows, of course, would
14 be even a bigger problem. You get a cow milking 110 pounds
15 a day and all of a sudden there is nothing coming out, you
16 will have a problem. I think mastitis is one potential
17 problem.

18 Cows will tend, when they get an extremely large
19 and full udder, they will tend at times to reabsorb their
20 milk, and a cow is allergic to her own milk many times. They
21 would get allergic-type reactions. It could really knock it
22 quite a bit. I am not positive because I have never seen
23 cows left 48 hours unmilked. I know when we have a time and
24 try and go and dry cows off and miss milkings, we have at
25 times run into problems.

1 Q When the teats leak, then there is a much larger
2 tendency towards mastitis, is there not?

3 A You would probably have some leaking because of
4 the pressure building up in the quarters. It is very
5 difficult to say. I would expect to find mastitis. We
6 would have found it at other times. A percentage I could
7 not give you.

8 Q These kinds of problems that we have discussed as
9 attending, leaving the cattle for 48 hours or reducing the
10 air supply, would these problems, in your judgment, have any
11 significant effects on the farmers reaction to a call for
12 evacuation?

13 A Well, the farmer's reaction to call for evacuation
14 I can relate on the basis of this past incident that we
15 had. All I can do -- this is just from discussion with the
16 farmers. As a matter of fact, I asked a couple this morning
17 would they go, and basically the older farmers are no, they
18 would not go. This is just my experience.

19 Some of the younger fellows -- you have to
20 remember the average farmer maybe has a high school
21 education. He does not know: if he has to go he might never
22 come back. I mean some of these fellows -- and I can
23 understand. I could go somewhere else and work, use my
24 degree. That man, everything he has ever worked for in his
25 whole life is there, and to walk out on that --

1 Q If he did leave the cattle for two weeks, I mean
2 two days or, say, up to a week and then returned and then
3 started milking his cattle and trying to put the herd back
4 in production, would his herd be less valuable, would there
5 be a less productive herd than they had been before?

6 A Oh, I would imagine I could surmise that the
7 production would be down. I don't think anybody could argue
8 if we left cows 48 hours unmilked, okay, that the production
9 could be down. A 48-hour period, the part that gets me even
10 more than anything -- and you know, I am not trying to be
11 funny about this -- is who is going to water them over a
12 48-hour period. You can go without food, but how do you go
13 without water?

14 Q Well --

15 A A milking cow will drink 10 to 20 gallons of water
16 a day. Now, I get a 70-cow herd, and say we cut it down to
17 9, which is what they mention in here, nine sevens are what,
18 630 gallons of water. So I have to have that for 48 hours
19 in 55-gallon drums stored in the barn. I figured it out
20 once. For a 100-cow herd it would have 36 55-gallon drums
21 or something, 33 of them in the barn, which is a problem
22 because I would not know when to tell the cows to open them
23 and drink them.

24 That is the biggest problem I would find, is the
25 water more than anything else. Water and ventilation I

1 think are your two biggest problems.

2 C I have one other area with regard to the value of
3 the cattle. Is it not true that a substantial part of the
4 average high-producing dairy herds' income is the sale of
5 heifers.

6 A On our top breeding herds, yes, and we have a
7 couple of them in this area.

8 MR. AAMODT: Oh, I am sorry.

9 Mr. Smith, Dr. Weber has arrived also, if he might
10 join Dr. Samples.

11 CHAIRMAN SMITH: Dr. Weber, would you take the
12 witness stand?

13 If you want to object to it. You are looking
14 expectantly.

15 MR. ZAHLER: I do not know what is happening now.
16 I would oppose cumulative testimony. We have Dr. Samples'
17 testimony. I am not sure what is added by putting in Dr.
18 Weber's testimony.

19 CHAIRMAN SMITH: We will not go back over the
20 testimony of Dr. Samples, but it may be that on questions
21 coming up, that Dr. Weber can be helpful.

22 Whereupon,

23 DR. ROBERT WEBER,
24 called as a witness by Intervenors, Norman Aamodt and
25 Marjorie M. Aamodt, having first been duly sworn by the

1 Chairman, took the stand, joining
2 DR. LAWRENCE SAMPLES,
3 the witness on the stand, and as a panel of witnesses they
4 were examined and testified as follows:

5 DIRECT EXAMINATION

6 BY MR. AAMODT:

7 Q Dr. Weber, I have here your testimony. I do not
8 think you have it there, do you, or do you? A page
9 beginning "Dr. Robert Weber, 20 West Simpson Street," and it
10 ends "since 1947."

11 A (WITNESS WEBER) Yes, sir.

12 Q Dr. Weber, do you acknowledge this testimony as
13 your testimony?

14 A Yes, sir.

15 Q What I would like to do here is simply introduce
16 you very briefly and go back and complete the line I am
17 going on with Dr. Samples, and then I will come back to a
18 few specific questions for you, if I may.

19 Dr. Weber, your practice is on the west side of
20 the Susquehanna River generally?

21 A (WITNESS WEBER) Yes, sir.

22 Q Dr. Weber, where is your practice? Where do you
23 live? How far from the Island?

24 A (WITNESS WEBER) Mechanicsburg, Pennsylvania.

25 Q And the bulk of your practice is in what

1 geographic area?

2 A (WITNESS WEBER) From that area I extend into four
3 counties, just the edge of it.

4 Q And your practice is primarily with large animals?

5 A (WITNESS WEBER) Seventy-five percent.

6 Q And you have been in practice how long there?

7 A (WITNESS WEBER) Since 1947.

8 Q Thank you very much, Dr. Weber. I will return.

9 (Mr. and Mrs. Aamodt conferring.)

10 Q Dr. Samples -- Dr. Samples.

11 (Pause.)

12 DR. LITTLE: Mr. Aamodt, I believe the last
13 question you asked had to do with the sale of heifers.

14 MR. AAMODT: Beg your pardon?

15 DR. LITTLE: I believe the last question you asked
16 before Dr. Weber came in had to do with the sale of heifers.

17 MR. AAMODT: Yes. Thank you.

18 BY MR. AAMODT: (Resuming)

19 Q Dr. Samples, as we indicated, the dairy farmer
20 derives money from three principal sources: crops, milk and
21 the sale of heifers. The sale of heifers is a significant
22 -- in the dairymen you deal with, that is important.

23 A (WITNESS SAMPLES) The sale of heifers in the
24 majority of dairy farms is probably not as significant as --
25 you have to remember dairy farmers' money mainly comes in

1 off their milk. Now, we do have a few farms that I deal
2 with that are high quality breeding herds and they do sell
3 bulls and heifers, probably more bulls than they do as
4 heifers, as far as that goes.

5 Q Just a word, if I might, to the Board on this
6 one. I do want to ask a simple single question relative to
7 value because this impacts so severely on -- I would like to
8 demonstrate so severely on how some people would react to
9 taking emergency plans, a fact that I think is not widely
10 known that I think ought to be.

11 Dr. Samples, is there a single particularly
12 outstanding -- oh, one portion of your practice is fairly
13 unique. Don't you have to do with some exporting of cattle?

14 A (WITNESS SAMPLES) Yes. I am the veterinarian for
15 the Pennsylvania Holstein Association. I handle almost all
16 export animals that leave this area.

17 Q Are there more cattle exported from this region
18 than from most others?

19 A (WITNESS SAMPLES) Well, at one time and I think
20 we are still there, we were the world's largest
21 international export station for cattle in Middletown,
22 Pennsylvania.

23 Q Where is the world's most valuable cow?

24 A (WITNESS SAMPLES) In York County there is a cow
25 that is probably ranked as the top cow that ever lived in

1 this area. It is owned by a fellow down in York,
2 Pennsylvania, York County. She is in Airville.

3 CHAIRMAN SMITH: Mr. Aamodt, I really regret,
4 because this testimony is interesting to the Board members
5 too, but we did rule that we will not go into -- except as
6 it directly relates to the evacuation or sheltering or
7 emergency plans -- we will not go into the economic base of
8 the dairy industry around here.

9 MR. AAMODT: Mr. Chairman, I am not going to
10 discuss the values for themselves. This is the point that I
11 am driving at.

12 BY MR. AAMODT: (Resuming)

13 Q Dr. Samples, these people who live in this area
14 who provide these cattle for the world market, this is their
15 principal livelihood.

16 A (WITNESS SAMPLES) This is in most cases their
17 only livelihood. They are farmers.

18 Q Are they more likely to risk their own lives to
19 protect that investment than, say, you to protect your
20 veterinary practice or someone else to protect their --

21 A (WITNESS SAMPLES) Completely on an opinion here,
22 my personal feeling is that these farmers, the only thing
23 that would make these farmers leave, if you are talking of
24 that, would be if they were absolutely convinced -- this is
25 only some of them -- absolutely convinced that if they

1 stayed, they would die. This is just my personal feeling,
2 you know, from my association with these people.

3 Q And is it also true that these same farmers for
4 the most part do not have the capability to shelter the
5 animals?

6 A (WITNESS SAMPLES) In most cases that is correct.

7 MR. AAMODT: That completes my questions of Dr.
8 Samples.

9 CHAIRMAN SMITH: Mr. Zahler.

10 MR. ZAHLER: Mr. Chairman, I do want to indicate
11 that there was substantial testimony that was not covered by
12 the written testimony. I would like the opportunity to at
13 least review the transcript to determine whether I would
14 like to do additional cross examination at a later date.

15 I do have about two or three questions which I
16 think would help develop the record and assist in that
17 determination on my part that I would like to ask at this
18 time.

19 CHAIRMAN SMITH: Yes. This will have to be a
20 condition of receiving the oral testimony, that either the
21 witness returns for cross examination or the testimony will
22 have to be stricken.

23 So we will have to take you at your word, Dr.
24 Samples, that you will have to be free to come back if you
25 are requested to come back to answer questions on the direct

1 testimony that you have given.

2 Do you understand that?

3 MR. AAMODT: Yes, I do, Mr. Smith.

4 I was mistaken here. There was one other question
5 that I missed asking relative to the emergency plan
6 specifically.

7 BY MR. AAMODT: (Resuming)

8 Q It is suggested here that the high lactating cows
9 can be effectively protected by finding newborn cows and
10 putting them on these lactating cows. Is that a practical
11 method to protect these cows from damage from not being
12 milked?

13 A (WITNESS SAMPLES) Well, if the cow will allow the
14 calf to milk her, if it is her calf.

15 Q If it is someone else's calf?

16 A (WITNESS SAMPLES) She will probably kick its
17 brains in.

18 MR. AAMODT: That's right.

19 Thank you, Dr. Samples.

20 WITNESS SAMPLES: There are exceptions, but not
21 many.

22 BY MR. AAMODT: (Resuming)

23 Q Then I have another question of Dr. Samples that
24 was given me that I would like to ask also.

25 This is not really part of the plan. May I read

1 the question, Mr. Smith? If it is acceptable, then I can
2 have it answered.

3 CHAIRMAN SMITH: Certainly.

4 BY MR. AAMODT: (Resuming)

5 Q For Dr. Samples. It is lengthy. Cows concentrate
6 iodine in the milk when the iodine dosage is received
7 through the ingestion pathway, do they not? And they do.
8 Is that true?

9 A (WITNESS SAMPLES) What was that?

10 Q Do cows concentrate iodine in the milk when the
11 iodine dose is received through the ingestion pathway?

12 A (WITNESS SAMPLES) They do put the iodine in the
13 milk, yes.

14 Q If two cows on the same farm are exposed to the
15 same plume --

16 CHAIRMAN SMITH: I want a representation from the
17 party presenting those questions that this is a good faith
18 effort to cross examine on this contention. If it is not,
19 then ask for an exception.

20 MS. GAIL BRADFORD: I am not convinced that it is
21 on the Aamodts' contention. It is a question I wrote.

22 CHAIRMAN SMITH: But you cannot represent, I do
23 not believe, to us that this is --

24 MS. GAIL BRADFORD: I do not believe it relates to
25 the Aamodts' contention.

1 CHAIRMAN SMITH: Then your remedy would have been
2 to ask for an exception, don't you believe?

3 MS. GAIL BRADFORD: Yes, sir.

4 CHAIRMAN SMITH: Okay.

5 MS. GAIL BRADFORD: I am sorry. I will withdraw
6 the question unless --

7 MR. AAMODT: Mr. Smith, may we ask for the
8 exception? I also find this a very interesting question.

9 CHAIRMAN SMITH: Sure. You can ask for the
10 exception and then wait for objections.

11 MR. AAMODT: Would that be all right?

12 CHAIRMAN SMITH: Yes. The problem is not reading
13 the question or the problem is not asking for it. The
14 problem is putting it before us. Go ahead and ask whichever
15 you want, and then we will hear objections and rule.

16 MR. AAMODT: Thank you.

17 If two cows on the same farm are exposed to the
18 same plume which contains iodine, and one cow is sheltered,
19 eating protected food and protected water while the other
20 cow is out in the field during the exposure and for several
21 weeks thereafter eating contaminated foods and contaminated
22 ater, how much more iodine would you expect to find? In
23 other words, what would the ratio be of iodine found in the
24 milk of the two cows?

25 CHAIRMAN SMITH: All right. Before we debate it,

1 are you capable of answering that question?

2 WITNESS SAMPLES: No. I would have to hear it
3 again. You know, all I could say is if one cow is -- I can
4 tell you this much. If one cow is getting -- well, say we
5 are probably talking about iodine-131.

6 MR. AAMODT: Yes.

7 WITNESS SAMPLES: If one cow is eating iodine-131
8 and another cow is not eating iodine-131, the one eating it
9 will push it in her milk, the other one will not.

10 CHAIRMAN SMITH: I think that is about the best he
11 can do, isn't it?

12 WITNESS SAMPLES: It is the simple way.

13 MS. GAIL BRADFORD: That is not really the thrust
14 of the question because we did not finish it, but I can see
15 this witness probably cannot answer it. Thank you.

16 (Mr. and Mrs. Aamodt conferring.)

17 BY MR. AAMODT: (Resuming)

18 Q Dr. Weber, I would like, if you would, just a few
19 questions here.

20 (Mr. and Mrs. Aamodt conferring.)

21 I would just lik to clarify one question I did ask
22 earlier, Dr. Weber.

23 Is the bulk of your business related to dairy cows?

24 A (WITNESS WEBER) Yes, sir.

25 Q What percentage of the herds would you say do the

1 farmers have closed barns?

2 MR. ZAHLER: Objection. Mr. Smith, this is
3 cumulative testimony. The same question was posed to Dr.
4 Samples and he answered it.

5 MR. AAMODT: Mr. Smith, it is a different
6 population on the other side of the river.

7 CHAIRMAN SMITH: It is not cumulative because he
8 is asking it of two different people covering two areas.
9 Now, I do not know how far you can go from the judgment of
10 these two gentlemen, but it is not cumulative in that
11 sense. It does not produce the same answer.

12 BY MR. AAMODT: (Resuming)

13 Q Dr. Weber --

14 CHAIRMAN SMITH: It does not produce the same --

15 MR. ZAHLER: I am not sure we ever identified the
16 fact that Dr. Samples practices only on the east side of the
17 river. He said it was 40 miles from Hummelstown, which
18 would include the west side of the river also, and I do not
19 know whether those factors went into his testimony the first
20 time.

21 MR. AAMODT: Mr. Smith, I would be glad to clean
22 that up if I might.

23 BY MR. AAMODT: (Resuming)

24 C Dr. Samples, what percentage of your practice is
25 east of the river?

1 A (WITNESS SAMPLES) That is a difficult thing to
2 say because you talk about east of the river and that river
3 swings around, you know.

4 Q Well --

5 A (WITNESS SAMPLES) Let's put it this way. If we
6 are talking about the dairy practice, my equine practice,
7 the majority of my practice, the majority of my practice is
8 on the north, okay, west and more so east. You know, it is
9 -- I work more Dauphin County than Dr. Weber does, let's put
10 it that way. So it would be more north, you might say,
11 however you deal with east and west versus that. I do not
12 get down in the area south of the island very much.

13 CHAIRMAN SMITH: Let's take the assumption that
14 the Susquehanna runs from a north to south direction
15 regardless of the immediate direction that you are talking
16 about, are you the east or the west. I think your answer
17 then would be --

18 WITNESS SAMPLES: If it runs north and south then
19 I guess I am on the east side. But -- okay.

20 BY MR. AAMODT: (Resuming)

21 Q More importantly, you two gentlemen do not overlap
22 very much in your territories.

23 A (WITNESS SAMPLES) Not in the dairy. No, we do
24 not overlap that much, I believe.

25 Q All right.

1 Now Dr. Weber, returning to the question, in your
2 -- among the farmers that you serve, what percentage would
3 you say of the dairy farms have closed barns?

4 A (WITNESS WEBER) When you talk about closed,
5 though, it mean none.

6 Q So that according to the emergency plan, the
7 cattle could not be sheltered that there would not be air
8 movement into the cattle from outside.

9 A (WITNESS WEBER) I do not think they could because
10 of the windows and open fronts and open areas.

11 Q It is suggested in the emergency plan that bails
12 of hay and bags of feed or bucketloads of dirt could be
13 piled up in front of the open areas to seal off the barn.
14 In your judgment, is that an appropriate emergency response
15 procedure for the dairymen in your area?

16 A (WITNESS WEBER) Depends when the emergency would
17 arise. This material would only be available in the peak of
18 the season.

19 CHAIRMAN SMITH: I think there is an element of
20 fairness here. First we established this morning that you
21 wanted to have two veterinarians so you would have two
22 chances of having one here, which was very prudent but, as
23 it turned out, unnecessary. Now you have had a chance to
24 put them on as a panel and the questions could have been
25 asked once and then you could have gotten the answer from

1 both of them on differing points of view.

2 But now we are going through the same presentation
3 two times.

4 MR. AAMODT: I will not duplicate anymore.

5 CHAIRMAN SMITH: If you really think it is
6 necessary to you point, go ahead and do it but make it as
7 efficient as you possibly can.

8 MR. AAMODT: I shall.

9 (Mr. and Mrs. Aamodt conferring.)

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1 BY MR. AAMODT: (Resuming)

2 Q Dr. Weber, you made the statement in your
3 testimony that the care for livestock described in the plan
4 is inadequate to protect the health and safety of the
5 livestock and the caretakers, saying this poses the
6 alternatives of the evacuation of livestock or closing of
7 the farm if an adequate plan for farmers cannot be
8 resolved.

9 There are two points to that that I -- perhaps it
10 would be helpful if you would amplify: first, why the
11 alternative; and secondly, what would you consider an
12 adequate plan if -- I mean, it is a very difficult question.
13 ?

14 A (WITNESS WEBER) State that again. State that
15 again, kind of slow like.

16 CHAIRMAN SMITH: Wait a minute.

17 MR. AAMODT: Yes?

18 CHAIRMAN SMITH: Start -- let Dr. Weber start
19 again without your interposition.

20 WITNESS WEBER: Let me have one question at a
21 time.

22 MR. AAMODT: Yes, sir.

23 WITNESS WEBER: All right.

24 BY MR. AAMODT: (Resuming)

25 Q You have stated that the emergency plan is

1 inadequate. How is it inadequate, in your opinion? What
2 makes it inadequate?

3 A (WITNESS WEBER) In the first place, it states
4 that we should have ample water supply to supply these
5 animals for 48 hours. We should not have fans running or
6 ventilation into the building, which we have closed. This
7 would mean that all the animals would have pneumonia within
8 24 to 48 hours. And I do not think that that is quite
9 adequate.

10 CHAIRMAN SMITH: I think if you want to ask this
11 question, to avoid cumulative testimony, you should ask him
12 to give you any additional bases upon which he believes that
13 the plan is inadequate, other than what he has already
14 testified to.

15 MR. AAMODT: Yes, sir.

16 BY MR. AAMODT: (Resuming)

17 Q And also, Dr. Weber, you heard some of Dr.
18 Samples' responses. Are there any additional things you
19 would like to add?

20 A (WITNESS WEBER) Well, in my area -- in my area,
21 we have many farmers that do plan on getting their
22 livelihood from the crops and from the young animals and
23 young offspring from the herd. And this in some instances
24 more than what they do from the milk supply, and in this
25 particular area these farmers are pretty well put down if

1 they are to just take care of the milking herd.

2 That would mean a disaster, because many of these
3 people have borrowed money to supply these farms, and these
4 heifers, these heifer crops and these calf crops are their
5 interest payers.

6 CHAIRMAN SMITH: Are their interest payers?

7 WITNESS WEBER: Yes, sir.

8 BY MR. AAMODT: (Resuming)

9 Q That is to say, that is where they get the money
10 to pay the interest on their mortgage?

11 A (WITNESS WEBER) (Nods head in the affirmative.)

12 Q You made the statement that this inadequacy poses
13 the alternative of evacuation of livestock or closing of the
14 farms. Would you care to amplify that?

15 A (WITNESS WEBER) Well, these -- these farmers, as
16 I have talked to them, most of them do not want to leave and
17 let the care of the livestock to another person or to an
18 authority, because these animals are taken care of. Just
19 the same as though you were driving a team of horses down
20 the road. They are 100 percent in control of those cattle
21 at all times, and that makes for good production and good
22 heifer crops.

23 And if those people are taken away from there, I
24 think that most times they would rather die than leave their
25 animals there, and I think they would stay. So you are

1 putting the farmer in jeopardy if he has to go back and --
2 or stay there and take care of his cattle, unless he has an
3 adequate way to do the same.

4 Q In your judgment, is the farmer discriminated
5 against relative to the balance of the population in the
6 area surrounding Three Mile Island with regard to his
7 ability to protect himself if there is an accident because
8 of these inadequacies?

9 A (WITNESS WEBER) I would think it would seem that
10 way, because definitely there -- there would be and is plans
11 for human evacuation. But when it comes to animals, they --
12 it appears to be not too adequate.

13 Q And I have one last question, if I might, Dr.
14 Weber. We heard this morning from a dairy farmer, and if I
15 remember correctly, during this conversation earlier from
16 Dr. Samples, that both -- the farmers view their cattle so
17 much like people that they find it difficult to leave them
18 if there is an emergency. Do you concur with that?

19 A (WITNESS WEBER) Yes, sir. I have farmers that
20 will not leave even for a vacation and let the herd men milk
21 one milking. He will not let the hired man even milk one
22 milking.

23 Q And in your experience, do most of the dairy
24 farmers you know know their cows individually by name?

25 A (WITNESS WEBER) Yes, sir.

1 MR. AAMODT: May I have just a moment, Dr. Smith?

2 CHAIRMAN SMITH: What do they do with unproductive

3 dairy cows?

4 WITNESS WEBER: Pardon?

5 CHAIRMAN SMITH: What do they do with unproductive

6 dairy cows?

7 WITNESS WEBER: Unproductive?

8 CHAIRMAN SMITH: Yes. They are too old to

9 produce, for example.

10 WITNESS WEBER: Well, some of these good old cows,

11 all they do is use them for heifer transplants. And then

12 when they cannot any longer be productive in that capacity,

13 then they are slaughtered.

14 CHAIRMAN SMITH: Slaughtered?

15 WITNESS WEBER: Yes, sir.

16 (Mr. and Mrs. Aamodt conferring.)

17 MR. AAMODT: Mr. Chairman, we are in a bit of a

18 dilemma here. I would appreciate advice, if I might have

19 it, from the Board. Dr. Weber has experienced -- this is

20 off the record.

21 CHAIRMAN SMITH: Wait a minute. It is not off the

22 record.

23 MR. AAMODT: May I make it off the record? I do

24 not think it fits, and you can tell me what to do.

25 CHAIRMAN SMITH: If there are no objections, we

1 will go off the record.

2 (Discussion off the record.)

3 CHAIRMAN SMITH: Back on the record now.

4 MR. AAMODT: Back on the record, yes.

5 Mr. Smith, should I go ahead and ask the question
6 first, is that it?

7 CHAIRMAN SMITH: I think it probably would -- that
8 is one approach. However, I do think, in the absence of a
9 compelling reason, we should review for the record what the
10 discussion was off the record.

11 MR. AAMODT: Yes, sir.

12 CHAIRMAN SMITH: And let me state it. If I am
13 incorrect, I will invite corrections. But you stated that
14 Dr. Weber would be prepared to testify as to the health
15 effects. And I imagine that is health effects in farm
16 animals, although you did not state that; is that correct?
17 And you asked our advice as to whether we would take such
18 testimony as appropriate, and I stated -- and since then, I
19 might tell you that the Board has conferred, that we do not
20 think it would be appropriate, for several reasons, all
21 related.

22 Essentially, it is too late. It is not covered by
23 the direct testimony. It is not covered by -- only remotely
24 by the contention, and that is, I would understand the
25 health effects might have an impact upon the evacuation or

1 sheltering, and it is of very remote relevance, inadequate
2 to allow -- to allow it to be inquired into, considering the
3 very lateness of it, among other reasons.

4 Therefore, you can anticipate objections, you can
5 anticipate objections, I am sure, and you can anticipate the
6 Board sustaining the objections when you inquire along that
7 line.

8 All right, let me review. It is very late. It is
9 not covered by the direct testimony. It is so far remote
10 from the direct testimony that we cannot imagine or cannot
11 identify any reason why we should allow it in nevertheless.

12 And I guess that summarizes our ruling.

13 MR. AAMODT: I have one other question I wanted to
14 ask.

15 (Mr. and Mrs. Aamodt conferring.)

16 CHAIRMAN SMITH: Oh, Mr. Aamodt, maybe we have
17 made too broad an inference as to what the health effects
18 you are talking about are, if you are talking about health
19 effects of sheltering, health effects of abandonment, health
20 effects of anything else. Now we assume you are talking
21 about health effects from radiation; is that correct?

22 What health effects are you --

23 MR. AAMODT: More generally, Mr. Chairman, health
24 effects resulting from any earlier operation of the plant.

25 CHAIRMAN SMITH: As it affects the willingness of

1 the farm population to believe information provided to it,
2 is that the relevance that you had?

3 MR. AAMODT: That, that in part and the other in
4 part. The very thought that one might anticipate a
5 particular kind of problem, regardless of what anyone says,
6 can have an impact on what one does. So there is --
7 although certainly whether or not one can believe
8 Metropolitan Edison or something like that.

9 But quite beyond that, I think there is the
10 factor, is if you think certain kinds of things might happen
11 you might yourself, do take certain actions.

12 CHAIRMAN SMITH: I think on the basis alone that
13 it was not covered by the direct testimony and it is very
14 late, there was no opportunity for -- it is not a part of
15 the contention which would be inferrable from the plain
16 language of the contention. It is very late for discovery
17 on it.

18 I think that you are just too late for this type
19 of testimony, and in addition to the fact it was not covered
20 in the direct written testimony.

21 MR. AAMODT: I would pursue it particularly from
22 the point or from the vantage point of Vance Fisher's
23 testimony where he described health effects that he had.

24 CHAIRMAN SMITH: Yes.

25 MR. AAMODT: And this is a veterinarian, and that

1 --

2 CHAIRMAN SMITH: The relevance in Vance Fisher's
3 testimony was questionable.

4 MR. AAMODT: This veterinarian treated some
5 of them.

6 CHAIRMAN SMITH: I can tell you, based upon what I
7 understand your representation making about this testimony
8 and the basis for it, that the objections properly made, if
9 that is the purpose of the testimony, would probably be
10 sustained.

11 MR. AAMODT: Well, I --

12 (Mr. and Mrs. Aamodt conferring.)

13 CHAIRMAN SMITH: As we stated --

14 MR. AAMODT: Let me go ahead and ask my question
15 and we will see what happens.

16 CHAIRMAN SMITH: All right. You will incorporate
17 into your question the purpose that you just stated. You
18 are asking questions now for the purpose that you just
19 recited to the Board.

20 MR. AAMODT: Mr. Chairman, I mentioned a lot of
21 purposes.

22 CHAIRMAN SMITH: That is right.

23 MR. AAMODT: I would appreciate it if what we do
24 at this point is hear the question and take it on its
25 merits. If it is acceptable, we let it go; and if it is

1 not, we do not.

2 CHAIRMAN SMITH: All right.

3 BY MR. AAMODT: (Resuming)

4 Q Dr. Weber, does your experience practicing
5 veterinary medicine among farmers within ten miles of Three
6 Mile Island suggest that their ability to take protective
7 action is inhibited because of earlier experiences with
8 emissions from or information given out by the plant, the
9 Three Mile Island or its operators?

10 MR. ZAHLER: Objection. Aside from the previous
11 discussion, I do not understand how this witness -- I mean,
12 I do not understand the question. I do not understand how
13 this witness can answer the question, which is whether other
14 people are going to take action or not take action.

15 CHAIRMAN SMITH: Well --

16 MR. ZAHLER: In addition to what the Board has
17 previously described, I guess I am making, in a technical
18 sense, a hearsay objection. I do not know how this witness
19 can answer that question, and I cannot inquire into the
20 basis of it, then, because I do not have the people here.

21 CHAIRMAN SMITH: There are so many reasons to
22 object to the question that it is difficult to know where to
23 start. But start with the one on hearsay.

24 Now, true that these gentlemen are here as
25 specialists in veterinary medicine. But an argument can be

1 made that they have developed a sub-expertise in their
2 dealing with many, many farmers and the problems of farmers,
3 just from experience alone, that if it is true it gives them
4 some expertise on what the reactions might be, beyond the
5 hearsay rule.

6 I mean, they could not testify, for example, that
7 a particular farmer might not -- might not -- might do a
8 certain act or refuse to do a certain act, based upon what
9 they perceive to be emissions from the plant. That would be
10 hearsay.

11 But if in the course of their practice they come
12 into contact with a large number of farmers and they develop
13 a body of information, that could be a type of expertise
14 which would be admissible. It is a sort of a cross between
15 expertise and summary testimony.

16 There are many, many problems associated with it.
17 But on that reason alone, we could not -- we could not deny
18 it. This might be reminiscent of the problem in the Agnew
19 case, where the legislators tried to testify as to his
20 sentiment in the legislature, if you recall.

21 It is a narrow area. I think that reason alone
22 does not do it. But let's go on. There is no use taking
23 this piecemeal and making it all afternoon.

24 You see, we began with the premise that the Board,
25 as a matter of discretion, would allow you to go beyond the

1 direct written testimony, so long as they talked about the
2 specifics of the inadequacy of the plan. That was a very,
3 very large stretching of the Board's discretion. As a
4 matter of fact, I think it could be argued that we exceeded
5 our discretion in allowing that.

6 But since you are the only farm Intervenors and
7 this is the only opportunity we have to look at farmers, we
8 thought we would stretch it very far.

9 Now you are going into an area which is arguably
10 not within their professional expertise, which even though
11 it may be technically competent is marginally reliable.
12 There has been no opportunity for any other party in this
13 case to have any idea that this testimony was coming
14 forward.

15 So you begin to accumulate a number of reasons why
16 I just do not think you are going to be able to produce this
17 testimony from these people at this stage, if ever. But
18 when you add them all up together, you have so many problems
19 with it I do not believe you can do it.

20 Now, with respect to that question, I think the
21 question itself is almost unanswerable. If you recall it,
22 as to farmers, you have an alternative. It is from
23 information from the plant and radiation from the plant.

24 MR. AAMODT: Both.

25 CHAIRMAN SMITH: In the first place, I do not know

1 -- so you are asking for a double hearsay, now. You are
2 asking for them to tell what farmers heard about the plant
3 and what the judgments are they made on it. I think we will
4 sustain the objection. I think the Board would almost enter
5 its own objection to keep the record clean.

6 Objection sustained.

7 BY MR. AAMODT: (Resuming)

8 Q Dr. Weber, it is suggested in the emergency plan
9 that irradiated cattle will still be of some value to the
10 farmer, because it can be sent to market and sold as meat in
11 the event of an accident. Is that true?

12 A (WITNESS WEBER You mean they are going to be used
13 as food if they are irradiated?

14 Q Yes. Is that -- is that --

15 A (WITNESS WEBER I do not think that would be
16 approved.

17 Q No.

18 (Mr. and Mrs. Aamodt conferring.)

19 Q Oh, yes, there was the question relative -- Dr.
20 Weber, there was a question relative to what happens to
21 non-producing or poorly producing cows.

22 (Mr. and Mrs. Aamodt conferring.)

23 Q Is slaughtering them inconsistent with being
24 attached to them?

25 A (WITNESS WEBER Is slaughtering?

1 Q Is the --

2 A (WITNESS WEBER Slaughtering is the end result of
3 the dairy animal, for beef.

4 Q But it is not inconsistent with someone being
5 attached to their cattle?

6 A (WITNESS WEBER I do not --

7 Q What I am saying is, Bessy has been with us since
8 she was a calf, you know how one becomes attached to a cow.

9 A (WITNESS WEBER Yes.

10 Q Then when the useful life is over, someone hauls
11 the calf off -- the old cow off to market and it is sold as
12 beef.

13 A (WITNESS WEBER Yes.

14 Q Is that inconsistent with having -- with
15 attachment to the cow?

16 CHAIRMAN SMITH: Attachment for the cow.

17 WITNESS LYTLE: There are a few cows that are --
18 that have been outstanding, that that farmer will bury it on
19 his farm and put a monument up, and the same way with his
20 horse. And the lesser -- down the ladder are sent to
21 slaughter.

22 BY MR. AAMODT: (Resuming)

23 Q But that is not inconsistent with them having a
24 close attachment with that cow during its producing life?

25

1 The fact that you send it off to market does not imply that
2 he -- that he did not have that close attachment to the cow
3 that would cause him to stay behind, even if he jeopardized
4 his own life?

5 A (WITNESS WEBER No.

6 MR. AAMODT: Right. Thank you, Dr. Weber.

7 (Mr. and Mrs. Aamodt conferring.)

8 MR. AAMODT: That concludes our questions.

9 MR. ZAHLER: Mr. Smith, I have the same request
10 with respect to Dr. Weber. After review of the transcript,
11 if I find it necessary to do additional cross-examination, I
12 would request Dr. Weber be produced for that purpose.

13 CHAIRMAN SMITH: Yes, you are quite correct in
14 that request.

15 MR. AAMODT: Mr. Smith, should I move that that be
16 entered into evidence?

17 CHAIRMAN SMITH: Well, the direct testimony, the
18 direct oral testimony is in evidence. The only thing that
19 is not in evidence is a half a page direct written testimony
20 of Dr. Weber, and it is time to move it.

21 MR. AAMODT: I move it.

22 CHAIRMAN SMITH: All right. If there are no
23 objections, we will receive it.

24 (The document referred to, the written testimony
25 of Dr. Weber, follows:)

(2)
4/14
10.755

United States of America
Nuclear Regulatory Commission

Before the Atomic Safety and Licensing Board

In the Matter of

Metropolitan Edison Co., et. al.

(In the Matter of Three Mile Island

Unit 1 Nuclear Generating Station)

Docket 50-289

(Restart)

Testimony of

Dr. Robert Weber

in Support of Aamodt Contention

EP-2

Dr. Robert Weber, 10 W. Simpson Street, Mechanicsburg, Pennsylvania
Relative to SI-2, evacuation and care of livestock

The caring for livestock described in Department of Agriculture
Plan for Nuclear Power Generating Station Incidents is inadequate
to protect the health and safety of the livestock and the caretaker.

This poses the alternatives of evacuation of livestock or
closing of the farms if an adequate plan for farmers cannot be
resolved.

Dr. Weber is a graduate of the University of Pennsylvania
School of Veterinary Medicine, 1943. He served as a
veterinarian in the U. S. Army from 1943 until 1947. He
has practiced in the area of the TMI generating stations since
1947.

1 CROSS-EXAMINATION

2 BY MR. ZAHLER:

3 Q Dr. Samples, at the beginning of your testimony
4 you described a group which I think is called the radiation
5 protection emergency management group. Is that the correct
6 title?

7 A (WITNESS SAMPLES) I can tell you exactly here in
8 a second. The Committee on Radiation Protection and
9 Emergency Management, Pennsylvania Veterinary Medical
10 Association.

11 Q And who is that group composed of? Is that
12 veterinarians?

13 A (WITNESS SAMPLES) Veterinarians. We are all
14 members of the Pennsylvania Veterinary Medical Association,
15 right.

16 Q And what is the charter of this group. What are
17 they attempting to do?

18 A (WITNESS SAMPLES) This group was set up to try to
19 get information out to veterinarians as to, you know, what
20 to do in times of emergency, you know, how to handle
21 emergency medicine. The timing of the thing, I guess we are
22 talking about here, of what to do.

23 You know, in time of national disaster the
24 veterinarian's job is triage. So I think many of us as
25 veterinarians do not realize where we sit in the order of

1 importance in the time of a true disaster.

2 And you know, it has also been found that our
3 medical facilities, all of our things are now taken over in
4 the time of a disaster by emergency management. So we had
5 better be aware of what, you know, we are involved with, and
6 that is the reason it was originally set up.

7 Q Is this group aimed at looking at assistance that
8 could be provided to the human population or to the animal
9 population?

10 A (WITNESS SAMPLES) Well, it is both. I am myself
11 poison information and antidotes, I am sort of in charge of
12 that group. And I am trying to get information. That is
13 the type of thing we deal with, with the toxic chemicals and
14 the poisons that are available on farms with animals. And I
15 relate this also to the human lives, the farmers, the
16 farmers' children and so forth, that would be subjected to
17 those things. So we are talking about emergency medicine,
18 period.

19 Q Has your group met with any State of Pennsylvania
20 officials?

21 A (WITNESS SAMPLES) Yes, we have.

22 Q With whom have you met?

23 A (WITNESS SAMPLES) I have met with -- oh, I would
24 have to ask Dr. Cable. Dr. Cable is also on the committee
25 with me. We have met with some people in the Department of

1 Health in the past.

2 Q The committee is a joint committee, then? It has
3 state officials on it also?

4 A (WITNESS SAMPLES) No. Our committee does not
5 have state officials on it. This is a local committee. We
6 have representatives on the state committees, though.

7 Q Have you been able to identify --

8 A (WITNESS SAMPLES) Wait a minute, I can give you
9 an example. Dr. David Cronenfeld, who is chairman of our
10 committee at the present time, is a member of the
11 Pennsylvania Department of Health Professional Radiation
12 Education Advisory Committee. All right, and so that is an
13 example. We do have members who are on other statewide
14 committees.

15 Q Have you, in your review of the Pennsylvania
16 Department of Agriculture plan, come up with any suggestions
17 for improving that plan?

18 A (WITNESS SAMPLES) I think it is a difficult
19 thing. It depends on what we are dealing with. And I think
20 that if -- you know, there is so much of a tremendous range
21 of what we were dealing with, what we could be dealing
22 with.

23 I look back to the time of the initial accident
24 and I try to evaluate what would happen, what could have
25 happened, and you know, what would have happened at that

1 point. And of course, now that is looking back, and I hope
2 we have learned from it.

3 I look at the plan and I see tremendous
4 difficulties unless we get animals out. I can tell you this
5 much. I did the initial -- the scare on the 28th and the
6 30th, I can give you a bit of the history as to what
7 happened. On the night of the 30th I was on the phone. I
8 guess it was, well, maybe the morning of the 31st. It was
9 4:00 o'clock in the morning. I was talking to a radiation
10 physicist in Washington, D.C. I do not know who it was at
11 this time.

12 I am saying, what am I supposed to do? I would
13 like to get in touch with other veterinarians so we could be
14 consistent on what to tell our clients. And the man said:
15 Doctor, we are talking about -- we are thinking about
16 evacuating a million people. We have not even thought of
17 animals.

18 Now, I understand that, because the animal life
19 comes number two to the human. But this is the type of
20 thing we were dealing with at that time. And I -- depending
21 on the type of contamination we have, whether anybody would
22 come back, anyway. Sure, I agree with that.

23 But I think that the big thing, if nothing else, I
24 mean, of the things that should be done, is we have to get
25 this information out. That is number one. Whether it is

1 good or bad information, if we are going to sit by
2 something, we had better at least let the people know what
3 we plan on them doing.

4 I can say, follow the procedure. But they say,
5 what procedures, see what I mean? That is one of the
6 problems, number one.

7 Q Is it your view that it would be feasible to
8 actually evacuate livestock from the ten-mile area?

9 A (WITNESS SAMPLES) I personally do not think it
10 would be feasible to evacuate human beings, if you want my
11 personal feeling. Now, the reason I say that is because I
12 live in this area and I drive a truck, and I have my dog
13 with me, I have my degrees, everything. You've got to
14 think.

15 See, I was up in Newport, Pa.; I would never have
16 come back toward Halifax or toward Hummelstown, because all
17 roads at that time were leading in one direction and I was
18 not going to buck that traffic, as you know.

19 I, you know -- now, a lot of people did move
20 animals, by the way. Horses did move. Most people moved
21 their horses ten miles up the road, which was -- well, they
22 felt a little better, you know.

23 Q But do you think it is feasible to move dairy
24 herds?

25 A (WITNESS SAMPLES) I think you will have to

1 contend with farmers trying to move top dairy cows.

2 Q That would be particular cows or groups of cows,
3 not the entire herd?

4 A (WITNESS SAMPLES) And horses, period. I think
5 people will tend to try to move horses. I mean, if it comes
6 to them versus the horses, sure, maybe. You know horse
7 people. But I do not think it is feasible. But I think
8 that is the type of thing you are going to have to deal
9 with.

10 Q But in your view it is not feasible to plan for
11 moving large -- well, moving dairy herds in the whole area;
12 is that what you are saying?

13 A (WITNESS SAMPLES) Well, okay. But I think that,
14 you know, whether we plan for it or not, it is all right for
15 you and I or whoever to sit down and say, this is what we
16 should do, but the question is can it be done when it gets
17 down to it, and I do not think it could be done if that is
18 what you mean. That is just my personal opinion.

19 MR. ZAHLER: I have no further questions of this
20 witness at this time.

21 CHAIRMAN SMITH: Ms. Straube?

22 BY MS. STRAUBE:

23 Q Dr. Samples, do you have any expertise relating to
24 the effect of radiation on livestock, any specific
25 expertise?

1 A (WITNESS SAMPLES) Like radiation sickness, that
2 type of thing? Direct expertise?

3 Q Yes.

4 A (WITNESS SAMPLES) No, I do not, I have had
5 nothing I have seen --

6 Q Do you have any health physics background?

7 A (WITNESS SAMPLES) Nothing any more than what I
8 have had in school.

9 CHAIRMAN SMITH: Ms. Straube --

10 WITNESS SAMPLES: The radiation -- you know.

11 CHAIRMAN SMITH: Did Dr. Samples go into this
12 subject matter on the direct?

13 MS. STRAUBE: I am about to tie it up with one
14 last question, if that would be all right.

15 CHAIRMAN SMITH: All right.

16 BY MS. STRAUBE: (Resuming)

17 Q It is to relate the extent of his testimony on
18 sheltering.

19 CHAIRMAN SMITH: Okay.

20 MR. AAMODT: Mr. Smith, I would like to correct
21 something here. Dr. Samples does have experience in
22 veterinary school and radiation medicine.

23 WITNESS SAMPLES: In veterinary school, yes, yes.
24 Radiation biology, you know.

25 CHAIRMAN SMITH: The correct approach -- yours was

1 as efficient as any. I guess the correct approach would
2 have been to ask the question on redirect, but --

3 (Laughter.)

4 WITNESS SAMPLES: We do a lot better if we just
5 ask questions and get around to the other stuff.

6 CHAIRMAN SMITH: Dr. Samples, I appreciate your
7 legal advice.

8 WITNESS SAMPLES: I get all mixed up.

9 (Laughter.)

10 BY MS. STRAUBE: (Resuming)

11 Q The testimony that you gave earlier today on
12 sheltering and whether it can be done or not, I assume
13 therefore that you are talking about whether sheltering is
14 feasible or not, and not whether it was effective in
15 protecting against radiation; am I correct?

16 A (WITNESS SAMPLES) I am talking about feasibility,
17 yes.

18 Q And also a --

19 A (WITNESS SAMPLES) If it is not feasible, it is
20 probably not effective if we cannot do it.

21 Q Okay. You were talking about ventilation, and you
22 said that the plan, the Pennsylvania Department of
23 Agriculture plan, said that people should not use fans for
24 ventilation. The plan also provides that if you are going
25 to use fans, you are to set them at a low speed, and I am

1 quoting, quote: "set them at a low speed to reduce air
2 intake velocity to below 150 feet per minute."

3 In your opinion would that be adequate
4 ventilation?

5 A (WITNESS SAMPLES) I have to say that if some --
6 if there had been ventilation experts that have dealt with
7 that amount of ventilation, you know, know where it is, in
8 that range, I would have to agree with that. I -- I have no
9 specific as to what is proper.

10 I can walk in a barn and smell, though, and tell
11 you in a hurry.

12 Q With respect to water being provided for the
13 animals during an evacuation, are most of the barns that you
14 see, do they have water piped right into the barns?

15 A (WITNESS SAMPLES) Yes.

16 Q So would there be water continually available in
17 the barns, without the need for storing it?

18 A (WITNESS SAMPLES) Without what?

19 Q The need for storing it?

20 A (WITNESS SAMPLES) With electrical power or
21 without electrical power?

22 Q Start with electrical power.

23 A (WITNESS SAMPLES) With electrical power, yes,
24 probably.

25 Q Okay. And I assume, then, without electrical

1 power, what would be your answer without electrical power?

2 Would the water be continually available in the barn?

3 A (WITNESS SAMPLES) No.

4 Q Okay.

5 We had some testimony from farmers earlier today
6 that any disruption in the milking schedule, or in fact any
7 disruption in the schedule of the cows, would have an effect
8 on productivity. I was wondering -- well, would you agree
9 with that statement, to start with?

10 A (WITNESS SAMPLES) Yes.

11 Q Okay. Would evacuation of the animals have an
12 effect on productivity?

13 A (WITNESS SAMPLES) Yes.

14 Q And what amount of an effect, if you can quantify
15 it at all, would it have?

16 A (WITNESS SAMPLES) I -- it is difficult to say.
17 If you have animals that have not been moved and all of a
18 sudden you load them on a truck and try to move them, you
19 are going to have various effects. They are going to drop
20 off, they will drop down in production.

21 But they will come back in most cases. They will
22 come back up.

23 You can knock the production down one day just by
24 having a stranger walk in the barn many times. I am not
25 saying they will stop milking, but you will knock the

1 production down. They will come back up.

2 Q Okay. Thank you.

3 Now I have just a few questions for Dr. Weber. Do
4 you have any specific expertise relating to the effect of
5 radiation on livestock?

6 A (WITNESS WEBER No, ma'am.

7 Q Do you have any health physics background?

8 A (WITNESS WEBER No.

9 Q Okay. So the testimony that you have given on
10 sheltering, am I also correct in assuming it relates to
11 feasibility of sheltering?

12 A (WITNESS WEBER Yes.

13 Q And it does not relate to whether the sheltering
14 would be adequate to protect against radiation; is that
15 correct?

16 A (WITNESS WEBER Say that again, please?

17 Q The testimony that you gave about sheltering would
18 not relate to the adequacy of the sheltering to protect from
19 radiation; is that correct?

20 A (WITNESS WEBER Well, it would relate to whatever
21 would be distributed over the area.

22 MR. AAMODT: Mr. Chairman, I object to this.

23 CHAIRMAN SMITH: Wait a minute, Mr. Aamodt. I
24 think there is going to be some need to clarify the record
25 here.

1 I think that you have developed some answers here
2 that are not intended by the witnesses. But go ahead, and
3 then we will address it. Let's make sure that we know what
4 you are dealing with.

5 You have gone from their answers that they are not
6 specialists in radiation effects and they are not health
7 physicists, to the conclusion that their discussion of
8 sheltering was not to the effectiveness of -- I mean, the
9 effectiveness of sheltering, but the feasibility of
10 sheltering. Is that what you are trying to do?

11 MS. STRAUBE: Yes.

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1 CHAIRMAN SMITH: Gentlemen, do you have an opinion
2 based on being veterinarians as to the effectiveness of
3 sheltering as a shield against radiation? Assuming that it
4 was feasible, do you have an opinion based upon your
5 training and experience as to whether it would be effective?

6 WITNESS WEBER: Yes, sir.

7 CHAIRMAN SMITH: What would be your -- what would
8 be your opinion? What is your opinion?

9 WITNESS WEBER: The opinion would be that the plan
10 is not quite feasible.

11 CHAIRMAN SMITH: I am not talking about whether
12 you are able to shelter. But assuming you are able to
13 shelter, is sheltering an effective shield against
14 radiation? Does your expertise cover that area?

15 WITNESS WEBER: Yes. We have to use X-ray
16 equipment, and we know how to protect ourselves and our
17 assistants.

18 CHAIRMAN SMITH: All right. This is a dispute now
19 between the two parties here. So you are not saying that
20 you do not have the expertise to comment upon the
21 effectiveness of sheltering in protecting animals?

22 MR. AAMODT: May I interject here, these are our
23 witnesses, after all. I do feel something has gone awry
24 here. We are not questioning the effectiveness of
25 sheltering as the State says. If they say that doing this

1 kind of sheltering provides this amount of shelter, we are
2 not arguing, and they are not asked to testify in that area.

3 CHAIRMAN SMITH: I understand that. But Ms.
4 Straube has created the impression on the record -- please
5 do not interrupt me -- has created the impression on the
6 record that these witnesses have said that they are not able
7 to give their testimony. And I want to see the record
8 correct no matter who presents the witnesses and no matter
9 who asks the questions.

10 MR. AAMODT: Thank you, Mr. Chairman.

11 CHAIRMAN SMITH: Okay. Now I think you can take
12 on from there.

13 MS. STRAUBE: Do you feel it is clear? Because I
14 did not intend to -- I intended only to clarify the extent
15 of the witnesses' testimony.

16 CHAIRMAN SMITH: I think what is involved here is
17 not so much their expertise as to how they intended to limit
18 the factual aspects of their testimony. And that is what
19 you are trying to do.

20 MS. STRAUBE: Do you feel it has been clarified?

21 CHAIRMAN SMITH: I think so, yes.

22 MS. STRAUBE: I have no further questions.

23 CHAIRMAN SMITH: Do you agree now --

24 MR. AAMODT: (Nodding in the affirmative.)

25 CHAIRMAN SMITH: All right.

1 MS. STRAUBE: I have no further questions.

2 CHAIRMAN SMITH: Okay.

3 Mr. Gray.

4 BY MR. GRAY:

5 Q Dr. Weber, in response to Mr. Aamodt's questioning
6 on the provision in Pennsylvania's emergency plan to the
7 effect that cattle or livestock that has been irradiated
8 might nevertheless be sold. You indicated that that would
9 not happen, because it would not be approved. What -- what
10 did you mean by that?

11 A (WITNESS WEBER) That depends on how much time you
12 gave this animal after it was exposed. For instance, if
13 there were an accident and the animals, some were sheltered
14 and some were exposed, and the farmer went back there and
15 says to himself, "Well, I can no longer continue. I will
16 have to get these on to slaughter," I would assume that they
17 would be turned down because during the last accident we had
18 samples taken continually from milk and meat and so forth in
19 order to find out if it was safe to use. And, of course, I
20 assume that they would be taking sample again if there were
21 an accident.

22 Q So your testimony about sale for slaughter and not
23 being approved is to the effect that in the event the
24 animals are contaminated, it would not be approved?

25 A (WITNESS WEBER) Yes, sir.

1 MR. GRAY: No further questions.

2 (Board conferring.)

3 BOARD EXAMINATION

4 BY DR. LITTLE:

5 Q Dr. Samples --

6 A (WITNESS SAMPLES) Yes.

7 Q -- were you contacted by the Department of
8 Agriculture, either federal or state departments, in
9 relationship to your experiences during the accident and
10 whether or not you had any input into the development of an
11 adequate plan for an agriculture plan for nuclear power
12 generating station incidents? Did you have an opportunity
13 to have any input into the Appendix 7, Department of
14 Agriculture Plan?

15 CHAIRMAN SMITH: Hold up your answer for just a
16 second, Dr. Samples.

17 (Board conferring.)

18 BY DR. LITTLE: (Resuming)

19 Q Did you yourself -- the agriculture plan for the
20 Commonwealth of Pennsylvania --

21 A (WITNESS SAMPLES) No, I was not on any group or
22 asked about that.

23 Q Do you know of any other veterinarians in the area
24 who expressed the problems after the last accident who were
25 contacted for input in the development of an adequate plan?

1 A (WITNESS SAMPLES) I do not know of any private
2 practitioners. There may have been a couple that work for
3 the state or federal I do not know about.

4 Q Were you supplied any draft copies of the plan
5 after it was put together by whoever put it together?

6 A (WITNESS SAMPLES) The only thing that I got
7 really in relationship to this, other than being on my
8 committee which I happen to be on, you know, with that
9 emergency management committee, was I got a copy of the
10 article -- of the thing written by Dr. Cable, and that group
11 about the health effects and some of the reports of some of
12 the things that had occurred at the studies that they had
13 done.

14 Q A NUREG document?

15 A (WITNESS SAMPLES) Pardon me?

16 Q A NUREG document on that?

17 A (WITNESS SAMPLES) Yes, it was a blue-covered
18 document, that's all I can tell you. It was a blue folder
19 document.

20 Q Dr. Cable?

21 A (WITNESS SAMPLES) Dr. Cable; I picked it up at
22 his office one time. That is the only thing I have really
23 gotten.

24 Q You have not received a plan which would actually
25 aid in implementation?

1 A (WITNESS SAMPLES) No. I have this plan,
2 Department of Agriculture Plan for Nuclear Power Generating
3 Station Incidents, Annex E. I have that, which I just got
4 from Mrs. Aamodt.

5 Q It was supplied by Mrs. Aamodt through no formal --

6 A (WITNESS SAMPLES) No.

7 Q -- organization?

8 A (WITNESS SAMPLES) (Nodding in the negative.)

9 (Board conferring.)

10 Q How do you see the role of the veterinarian in the
11 ten-mile ETZ areas or the 50-mile ingestion pathway areas
12 around nuclear power plants; what role do you see would be
13 appropriate for the veterinarians, and what information do
14 they need from the State in order to fulfill that role?

15 A (WITNESS SAMPLES) Well, that is -- that is a heck
16 of a question. I think that the information that they need,
17 the role of a veterinarian has to be -- I think the
18 information we would need -- let's start with that first --
19 we have to become aware as to what is expected if we are
20 going to go with a plan. You know, no matter what the plan
21 is, we have to have a consistency in what we all know.

22 That was the problem during the accident. I can
23 relate to during the accident. I was in touch with all the
24 veterinarians in the area, Dr. Weber, and so forth. I got
25 them on the phone. I just tried to get ahold of what we

1 were going to tell clients. That is the reason I ended up
2 getting in touch with the feds, and I could not figure out
3 what to tell the clients. They did not know what to tell me
4 to tell them. They were worried about other things.

5 Now, I have clients who were trying to find out.
6 So we have to have a consistency. I might not necessarily
7 believe in it, but let's all go by the same thing if that is
8 what we are going to do. And I think that is the number one
9 thing. We have to come out with a plan or something that is
10 thought by "experts" to be the thing. And let's all know
11 about it, inform us about it, inform the farmers. Let us
12 know. You know, we are in the dark.

13 And then when these incidents occur, when the
14 things happen, you know, it is hard to plan for things like
15 this. This is not like a storm. You know, there has to be
16 some plan; there has to be some feasible plan. It is not an
17 everyday instance, an everyday occurrence. There are very
18 few experts in the world that know what would have happened
19 at that island.

20 So I -- that is just my feeling. We have to get
21 this information out somewhere to all veterinarians, not
22 just those, you know, that do large animals either. There
23 are small animals out there, also.

24 Q There is a statewide organization of veterinarians
25 which could interface with the Commonwealth or with USDA; is

1 that correct?

2 A (WITNESS SAMPLES) Correct. But there is a
3 problem there: All veterinarians in the state are not
4 members. We do have some problem there. All veterinarians
5 are not members, so I guess we have to go with all licensed
6 veterinarians in the state would be maybe the best way.

7 DR. LITTLE: All right. Thank you.

8 WITNESS SAMPLES: All right. Thank you.

9 CHAIRMAN SMITH: Anything further with these two
10 gentlemen? Follow-on?

11 MR. AAMODT: I do have.

12 REDIRECT EXAMINATION--Resuming

13 BY MR. AAMODT:

14 Q Dr. Samples, you made the point that the cattle
15 could not get out on trucks.

16 A (WITNESS SAMPLES) Yes, I believe that.

17 Q In the event of a serious accident, after all this
18 discussion, do you have any recommendations as to how we
19 might handle this problem, the problem of cattle that some
20 people want to take out, some people that will abandon, some
21 cattle that some people will not abandon?

22 A (WITNESS SAMPLES) I think that if you are talking
23 about an incident, at the time I look back and we still
24 discuss what would we have done -- now, this is looking at
25 the worst. I was asked by the veterinarians and farmers,

1 "What do you think we would do if 'a meltdown'?"

2 My contention at that point was, "Probably, if it
3 was my animals and I cared about them, I would either one of
4 two things: I would either kill them, humanely destroy
5 them, or I would turn them loose and say, just, you know, 'I
6 am sure not going to leave them in the barn, because my
7 chances of getting back, I would think in that case, would
8 be almost zero, and they would end up starving. At least
9 give them some shot at something.'"

10 This is just the way I feel. I would tend to just
11 say, "Turn them loose," if that is what you are going to
12 do.

13 Q Doctor --

14 A (WITNESS SAMPLES) I am saying we are all
15 leaving. At that time they were saying that no one would
16 stay. You see, there was a problem, too, with the county
17 commissioners, you know, the township commissioners, with
18 what is going to happen at the time of evacuation. No one
19 stays, because they are responsible for all the property in
20 that township in a case like that.

21 And I -- the girl that works for me, her father is
22 a commissioner, and there was a problem with that: there
23 was a legal responsibility as to --

24 CHAIRMAN SMITH: Wait a minute. Mr. Aamodt is not
25 asking you to get into that.

1 WITNESS SAMPLES: But you are talking about a time
2 of evacuation whether you require people to go or not.

3 CHAIRMAN SMITH: You are getting into an area now
4 beyond your competence, Dr. Samples.

5 BY MR. AAMODT: (Resuming)

6 Q Doctor -- Dr. Samples, would you think, or would
7 it be your opinion, that a plan might include limited
8 evacuation of livestock, that perhaps a plan would be set up
9 that in some areas some particular herds might be moved
10 because of their larger value or whatever? Would that be
11 perhaps an appropriate addition to the plan?

12 A (WITNESS SAMPLES) It would probably be an
13 improvement over this. But the problem is: Who determines
14 which herds? You know, my cow only might be worth \$100 and
15 that one might be worth a million dollars, but she is worth
16 -- she might be worth as much to me. And that is a
17 difficult thing to evaluate. And you would love to get
18 everything out if the time occurred, but how can you do it?

19 Q Dr. Weber, this problem of -- do you concur that
20 it would be impossible to move all the dairy cattle out in
21 the event of an accident? Is that an opinion you hold
22 also?

23 A (WITNESS WEBER) I believe it would be impossible
24 to move everything in short notice. Over a period of days,
25 you could do it.

1 Q Would -- would you recommend --

2 CHAIRMAN SMITH: You are talking about the
3 ten-mile EPZ?

4 MR. AAMODT: Yes.

5 BY MR. AAMODT: (Resuming)

6 Q Would you --

7 CHAIRMAN SMITH: We are talking about a ten-mile
8 radius?

9 WITNESS WEBER: Yes, sir.

10 BY MR. AAMODT: (Resuming)

11 Q Would you recommend a restructuring of the plan
12 that planned on phased removal of cattle; that is, in an
13 orderly fashion, taking them step by step, as long as you
14 can and then run?

15 A (WITNESS WEBER) I think that you could approve a
16 plan where you could make it in steps; in other words, the
17 closer ones go first, or in the more dangerous zone area --

18 Q Would you prefer -- would you think that -- let me
19 back up. I know I am redundant in this, but I think it is
20 important. You have testified that you feel that the plan
21 is inadequate. Would an addition like this -- is there
22 anything that can be done, in your mind, by way of
23 sheltering that would make the plan adequate or would making
24 it adequate require actually removing the cattle?

25 A (WITNESS WEBER) I do not see how that we can plan

1 a shelter under our regulations, because, in the first
2 place, this would have to be something that could be put
3 into motion within a short time -- in other words, a couple
4 of hours -- and that shelter would have to be either a
5 permanent structure all the time, which would not be
6 approved by milk inspectors and townships' supervisors, what
7 have you.

8 So, therefore, the sheltering does not seem to be
9 the right thing. And I know the last time some people took
10 their animals with them, and others just turned them loose.

11 CHAIRMAN SMITH: All right, Mr. Aamodt, I am going
12 to ask you to conclude now. We have just given you extreme
13 latitude in your presentation of your witnesses, and I do
14 not indentify this as follow-on.

15 MR. AAMODT: Well, I -- I have two -- two elements
16 -- it was follow-up on the --

17 CHAIRMAN SMITH: You are just -- really, your
18 testimony is occurring to you right now, as far as I can
19 see. It is not follow-on.

20 MR. AAMODT: I will leave that. I have two more
21 questions which are follow-on.

22 CHAIRMAN SMITH: All right.

23 BY MR. AAMODT: (Resuming)

24 Q Dr. Weber, Dr. Little asked Dr. Samples if he was
25 consulted in the construction of the emergency plan. Were

1 you consulted?

2 A (WITNESS WEBER) No, sir.

3 Q Was -- were any doctors of veterinary medicine who
4 you know consulted?

5 A (WITNESS WEBER) No.

6 Q And then, lastly, there was in cross examination
7 discussion by the Commonwealth, discussion related to the
8 adequacy of ventilation in the barn. And it was addressed
9 to you, Dr. Samples. And the answer could not be arrived
10 at. And I would like to help instruct an answer. I think
11 it is appropriate, because it defines another inadequacy in
12 the plan.

13 The plan, on page 6, says that an 800-pound --
14 well, a 1600-pound dairy cow, which is a much more
15 appropriate number -- do you agree, Dr. Sample, that
16 1600-pound Holsteins in high lactation are more common than
17 1000-pound?

18 A (WITNESS SAMPLES) Yes. For -- yes, Holsteins.

19 Q Now, we will accept -- accepting the fact that in
20 the wintertime -- and let's take the winter, because it --

21 CHAIRMAN SMITH: No, I am not going to permit you
22 to proceed. You could have done this on your original
23 direct examination. You could have had it in your written
24 examination. We have given you more latitude than we have
25 given any participant in this case, by far. Now you are

1 just taking advantage of us by that attitude. Why could
2 this not have been asked when you originally put this panel
3 on, these witnesses on?

4 MR. AAMODT: The -- yes, and I did inquire in this
5 area, Mr. Smith -- Mr. Chairman. But then it was -- in
6 cross examination it was brought out, and the impression
7 that was left was that in spite of the earlier response that
8 I gave, that ventilation was adequate, and that was the last
9 piece of testimony --

10 CHAIRMAN SMITH: The low-power ventilation.

11 MR. AAMODT: That is right. And it was -- the
12 impression clearly left in that testimony was that that
13 slowly running fan was adequate. Dr. Samples was --

14 CHAIRMAN SMITH: The answer was he simply does not
15 know.

16 MR. AAMODT: That is right.

17 CHAIRMAN SMITH: All right. So --

18 MR. AAMODT: Therefore, one could imply he
19 certainly -- the question was --

20 CHAIRMAN SMITH: Ask your question. You have worn
21 me down.

22 MR. AAMODT: Okay.

23 BY MR. AAMODT: (Resuming)

24 Q My question is simply this: The fan would move
25 150 feet per minute; if the average fan, something like this

1 big, maybe (indicating), in the dairy barn --

2 CHAIRMAN SMITH: You cannot answer.

3 BY MR. AAMODT: (Resuming)

4 Q -- is it about three feet in diameter?

5 A (WITNESS SAMPLES) Three to four feet in
6 diameter.

7 Q Something like that?

8 Q So, say, you have ten cubic -- ten square feet,
9 that would give you only -- well, knowing that, that that
10 fan then is moving in 1150 cubic feet a minute --

11 CHAIRMAN SMITH: Mr. Aamodt, you are testifying
12 here. I will not permit it.

13 BY MR. AAMODT: (Resuming)

14 Q What I am asking is if 1150 cubic feet a minute
15 are moving in through the window, is that adequate to keep
16 50 cows alive?

17 A (WITNESS SAMPLES) If I had my calculator, I could
18 tell you. If you divide 1150 by 30, what do you get?

19 Q About ten.

20 A (WITNESS SAMPLES) Then it will not keep 50 cows
21 alive for a long period of time, if that is the minimum
22 requirements.

23 Q That is the --

24 A (WITNESS SAMPLES) If that is the proper
25 ventilation required, then if that is the case, then no.

1 CHAIRMAN SMITH:

2 Are we ready to proceed?

3 We wanted to indicate to Dr. Samples, too, that we
4 appreciate his appearance here and his efforts to inform the
5 Board concerning areas that he felt that we may not be
6 cognizant of, and wanted to extend to him the opportunity,
7 if he wishes, to make a limited appearance statement in
8 areas where he felt he was frustrated in testifying because
9 of the strictures of the case and the Contention, the
10 testimony, and all the other technical problems that we face
11 with respect to his contention. That also goes to Dr.
12 Weber, but Dr. Samples is present.

13 All right, are we ready? Not now.

14 (Board conferring.)

15 CHAIRMAN SMITH: Well, if you are here and there
16 are no objections, we will let you complete your statement
17 as a limited appearance statement, if you wish, if you feel
18 that there is something that you were frustrated in telling
19 us, but not -- if there are no objections. How long do you
20 think it would take?

21 DR. SAMPLES: About a minute.

22 CHAIRMAN SMITH: All right, let's do that, if we
23 can accommodate him. Now, this, you understand, ladies and
24 gentlemen, is not testimony under oath. This is not as Mr.
25 Aarodt's witness. It is not citable as proposed findings or

1 as findings. This is his right as a member of the public to
2 express his views about the issues in the case. It was
3 brought to our attention that he did have issues that he did
4 not feel he was able to express fully as a witness.

5 DR. SAMPLES: What I wanted to mention is the fact
6 that I think the majority of us here are not really
7 cognizant of what goes on on a farm and how we deal with
8 farmers. I myself was born and raised in Philadelphia,
9 which, you know, here I am out on a farm, a veterinarian,
10 and I got a whole new education as to how these people exist
11 in these farms.

12 And I think that the one thing you have to think
13 about -- I am a veterinarian; I am fortunate, if something
14 would happen and I had to leave an area, completely leave an
15 area, I have my degree, I can always go back and practice
16 veterinary medicine. The attorney can always practice his
17 profession or whatever it is.

18 Now, you have to realize why a farmer is so
19 reluctant to leave his farm and what it means to him. And
20 to get this, I think you have to try to put yourself in a
21 situation such as this. Give yourself an average high
22 school education, okay, an average education with high
23 school, nothing more, no degrees.

24 Now you are probably 40 to 50 years old, maybe up
25 into the 60s. All you ever worked for in your life is a

1 farm. And you have been asked to leave it and start with
2 nothing all over again.

3 That is how you sort of have to equate that. It
4 is difficult for us, because I could go out and do something
5 else. This is why some of these farmers actually told me
6 they would die on the farm, because all they ever had in
7 life was that farm, they had nothing else, and to go out and
8 start over again, it just will not work.

9 And I think this is just something I wanted to put
10 across, because I never realized until I started working on
11 the farms. And I guess the more you think about it, the
12 more you can see it. That is it, they have nothing else,
13 that is their whole life.

14 Thank you very much.

15 CHAIRMAN SMITH: Okay. That is very helpful. I
16 am not so sure that it could not be part of his testimony.

17 MR. AAMODT: Mr. Smith, I would ask it be included
18 as testimony. It seems appropriate to me.

19 CHAIRMAN SMITH: If there is no objection, we will
20 just include that as elaboration on his testimony. I think
21 it was consistent with his testimony.

22 I did not hear any objections.

23 All right, Mr. Furrer.

24 MS. STRAUBE: Before we start, I would just like
25 to point out that obviously there is no prefiled direct

1 testimony for Mr. Furrer. He is being called as a witness
2 essentially to talk about the agriculture plan to the extent
3 people want to ask about it. I have just a couple of
4 introductory questions, if I could.

5 Whereupon,

6

ROBERT C. FURRER

7 called as a witness by counsel for Commonwealth of
8 Pennsylvania, having first been duly sworn by the Chairman,
9 was examined and testified as follows:

10

EXAMINATION

11

BY MR. STRAUBE:

12

Q Mr. Furrer, would you please state your full name
13 and position for the record?

14

A Robert C. Furrer. I am a management analyst for
15 the Department of Agriculture.

16

Q Okay. I have previously distributed this morning,
17 I believe, a copy of the professional qualifications or the
18 resume for Mr. Furrer.

19

Mr. Furrer, is this resume testimony that you
20 would like to put in regarding your professional
21 qualifications as your testimony in this record, in this
22 proceeding?

23

A Yes.

24

Q I would also like to make reference to an
25 organization that is for the Department of Agriculture, which

1 I had handed out to the parties on Friday, I believe. Do
2 you have that in front of you, Mr. Furrer?

3 A Yes, I do.

4 Q Could you please identify where it is that you fit
5 into this organization chart?

6 A Near the center of the chart, the view of
7 administrative services, and under that block you will find
8 a division, Management and Office Services Division. I am
9 in the Management and Office Services Division as a
10 management analyst.

11 Q Okay. Could you please tell us where Dr. Van
12 Buskirk, who testified previously, fits into this
13 organization chart?

14 A Dr. Van Buskirk, who testified previously, is the
15 director of the Bureau of Animal Industry.

16 Q Okay. Could you please tell us where Dr. Cable,
17 who testified previously, fits into the organization chart?

18 A Dr. Cable is the chief of the Horse, Swine, Sheep
19 Health Division.

20 Q And that is under the Bureau of Animal Industry?

21 A That is under the Bureau of Animal Industry.

22 Q Okay. And could you please tell us where Leroy
23 Corbin, who will testify tomorrow, fits into this
24 organization chart?

25 A Yes. Leroy Corbin is part of the Bureau of Foods

1 and Chemistry, and he is the chief of the Food Control
2 Division.

3 Q Mr. Furrer, could you please describe briefly your
4 role in developing the Department of Agriculture Plan for
5 Nuclear Power Generating Station Incidents, which is
6 Appendix 7 of Commonwealth's Annex E?

7 A One of the duties that I have as a staff officer
8 is the development of disaster planning for all disasters
9 for the Department of Agriculture. The event described as
10 the "TMI incident," I was employed by Agriculture at that
11 time.

12 I was aware of the planning that we had in place
13 to handle that type of incident. And working with those
14 initial plans that we had that we executed satisfactorily,
15 we developed additional planning to incorporate areas that
16 we felt might be beneficial. One of those areas, of course,
17 is described and discussed as our Annex B.

18 Q Okay. I have one last question which the Board, I
19 believe, had asked you to answer, which is: How did the
20 information in the Plan get from the Department of
21 Agriculture to the farmer?

22 A The Annex B is designed in the form of factsheets,
23 and I do not know. If you would like, I would read the
24 titles. They are tailored for reproduction on the part of
25 any of the media, newspapers, radio, or television; and they

1 can be used in providing guidance to the public and to the
2 farmer.

3 They are also organized so they can be reproduced
4 in hard copy and distributed at almost every or any level,
5 political level. For example, the county could reproduce
6 these and distribute them. The township could reproduce
7 them and distribute them.

8 The plans are in the hands of the county. I would
9 hesitate to say that they are in the hands of the township.

10 MS. STRAUBE: I would like at this point to offer
11 the professional qualifications and the organization chart
12 into evidence.

13 MS. GAIL BRADFORD: Excuse me, we do not have a
14 copy over here. At least we cannot discover it in this mess
15 of papers. Do you have an extra?

16 MS. STRAUBE: What is it you do not have a copy
17 of?

18 MS. GAIL BRADFORD: Of his qualifications.

19 (Counsel handing documents to parties.)

20 CHAIRMAN SMITH: If there are no objections, we
21 will receive Mr. Furrer's professional qualifications and
22 the table of organization of the Pennsylvania Department of
23 Agriculture into evidence and bind it into the transcript at
24 this point.

25 (The documents referred to, the professional

1 qualifications of Mr. Furrer and the organization chart of
2 the Pennsylvania Department of Agriculture, follow.)

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ROBERT C. FURRER

BUSINESS ADDRESS: Bureau of Administrative Services
Pennsylvania Department of Agriculture
2301 North Cameron Street
Harrisburg, PA 17110

EDUCATION: University of Maryland
B. S. 1958-1962

George Washington University
M. S. 1963-1967

EXPERIENCE: 1974 to Date - Management Analyst, Bureau of
Administrative Services, Pennsylvania Department
of Agriculture. Duties and responsibilities in-
clude emergency planning, management studies,
operations audits, development of procedures and
manuals, and preparation of correspondence.

1944-1973 - Member of the United States Army
holding various command and staff positions from
the level of enlisted rank to Lieutenant Colonel.
Duties and responsibilities of the last position
held prior to retiring are described below.

Responsible for the design and development of
systems functional programs to improve and stand-
ardize logistics functions Army-wide within the
areas of material requirements, distribution and
maintenance, services and transportation. Ana-
lyzed the current concept of operations and appli-
cable policies as defined in statutes and other
directives and maintained detailed functional
descriptions of the systems as a base line for the
development of improved procedures. Reviewed and
recommended proposed changes to existing systems
and to Army Regulations based on functional re-
quirements of management and/or operating infor-
mation systems. Prepared comprehensive reports
and studies recommending courses of action on
systems development. Organized and conducted
high level meetings on systems functional require-
ments. Guest lecturer at the U. S. Army Logistic
Management Center and School on logistic system
development.

1 CHAIRMAN SMITH: Mr. Furrer, could you tell us
2 what your degrees are at Maryland and George Washington?

3 THE WITNESS: Sir, the Maryland degree is a
4 bachelor of science in military affairs, and the MS degree
5 from George Washington is in personal administration. I am
6 giving you, of course, my majors.

7 MS. STRAUBE: This witness is now available for
8 cross examination.

9 CHAIRMAN SMITH: Ms. Bradford?

10 MR. CUNNINGHAM: Mr. Smith, at this point, since I
11 handled Mr. Cable -- Dr. Cable -- and Dr. Van Buskirk's
12 testimony, I will be using the same cross-examination plan,
13 since many of their questions had to go unanswered because
14 of their lack of knowledge, and they referred to Mr.
15 Furrer. That is why I believe he is here today.

16 Also, of course, there was no direct testimony
17 presented, so we may deviate somewhat from the
18 cross-examination plan submitted.

19 CHAIRMAN SMITH: All right. Proceed.
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21
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1 CROSS-EXAMINATION

2 BY MR. CUNNINGHAM:

3 Q Mr. Furrer, is it my understanding that, from Dr.
4 Cable, that your involvement in the agriculture emergency
5 plan was to coordinate all aspects of the plan, and is that
6 what your input was?

7 A I am having trouble hearing your question,
8 please.

9 Q Okay. I will try -- can you hear now?

10 A Yes. Thank you.

11 Q Was your input in developing the agriculture and
12 emergency plan to coordinate various aspects of drafting the
13 plan and putting it together in one comprehensive document?

14 A I would answer that in the affirmative, or yes,
15 the plan includes elements of several bureaus and the type
16 of work that they do in support of emergency planning. And
17 this pertains not only to this appendix to annex F, but to
18 other type disaster planning that we participate in.

19 Q Okay. On page 1 of the plan itself, you state
20 that this annex draws heavily on material contained in the
21 disaster handbook for extension agents. Do you know who
22 publishes that handbook?

23 A Again, I am having a little trouble hearing you,
24 sir.

25 Q Okay. On page 1 of the --

1 A Annex B?

2 Q -- Annex B it states: "Material included in this
3 annex deals heavily with materials contained in the disaster
4 handbook for extension agents," on page 1.

5 Do you know who publishes that handbook?

6 A The disaster handbook? I have got my notes here.

7 (Pause.)

8 A It is the Cooperative Extension Service, Penn
9 State University, as a joint effort with the United States
10 Department of Agriculture. It was last revised in April
11 1976, and the revision was distributed shortly after that
12 date.

13 Q Okay. Now, when you state in the plan that it
14 draws heavily upon the materials, are you saying that it
15 relies exclusively upon that document?

16 A If you are asking me to say it is 98 percent that
17 document and 2 percent something else, I cannot be exact.
18 But for the most part, it includes almost all of the
19 disaster handbook that pertains to nuclear radiation. And I
20 might say that the disaster handbook is distributed
21 throughout the 50 states and used in Mexico and Canada for
22 this purpose.

23 Q Okay. Do you know whether that document has
24 within it the calculations for sheltering that have been
25 referred to in this document, the space and ventilation

1 statistics, the feed and water statistics, the survival
2 statistics with regard to dairy cattle? Is that type of
3 information included within that document?

4 A Yes.

5 Q Okay. So is it fair to say that the calculations
6 relied upon by the Department were those which were
7 contained in that manual and not something the Department
8 generated from independent sources?

9 A I am not sure of what your question is. If you
10 are asking, did we use the calculations found in the U.S.
11 disaster manual --

12 Q That is the first part of the question.

13 A We did.

14 Q Did you verify whether those calculations were
15 correct?

16 A That is an interesting point. The manual is under
17 revision now at Penn State and they are working on the
18 calculations and expect to publish a revised disaster manual
19 in 1982.

20 Q Do you know personally as a fact that they are
21 reworking the calculations which you have relied upon for
22 ventilation, feed and dairy cattle survival?

23 A If you are asking if I personally verified that, I
24 have not.

25 Q Okay. Do you have any knowledge or information

1 about what aspects they are looking at with an eye towards
2 revision?

3 A Personal knowledge, no. Telephone conversations
4 with them, they have advised me that they are doing it and
5 it is under way.

6 Q Okay. Well, that would be your personal
7 knowledge. Somebody you spoke to at Penn State, correct?

8 A Yes.

9 Q Do you know what parts of the plan that they are
10 working on?

11 A I do not want to give you a misconception here.
12 The entire disaster manual is being considered for revision,
13 not just the portion pertaining to the nuclear aspects.

14 Q Let me ask you a question, whether you know or
15 not, based upon these conversations you had with Penn State,
16 is their eye towards revision based upon the basic tenets of
17 the plan itself, whether sheltering should be considered
18 versus abandoning the sheltering position in the disaster
19 manual?

20 Is it that type of revision or is it just a
21 technical revision as to calculations made within the plan?

22 A That is kind of a lengthy question. I am not sure
23 I understand all of it. Can you shorten it?

24 Q I will try. Are they -- are they revisions
25 towards principles which are stated within the disaster

1 plan? In other words, is there a change in the thought
2 process that originally went into the plan or are they
3 revisions simply towards calculations made within the plan
4 itself?

5 A I cannot give you a positive answer in this area,
6 because it is my understanding that this is still being
7 staffed with people such as Dr. Bell at the University of
8 Tennessee and others who have made contributions in this
9 area in the past and are again reviewing the data.

10 Q Okay, very good.

11 Just so the record is clear, is it your statement
12 and your testimony that the Department of Agriculture did
13 not hire a health physics expert or somebody who had
14 expertise in the area of ventilation of farm animals in
15 order to make these calculations? You are relying strictly
16 upon that handbook; is that correct?

17 A If the question is directed specifically, did we
18 hire a health physicist, we did not.

19 Q Did you hire anyone with expertise to make a
20 determination or a calculation as to the ventilation
21 statistics used or the feed and water statistics used within
22 the plan?

23 A The direct answer is no.

24 Q Now, within the direct testimony of Dr. Cable,
25 there was a statement that the economic interests of the

1 local farmers, on page 3 of his testimony, are not met or
2 are not approached by the five county plans, and that the
3 Department has an interest in this. But they never did
4 state whether it was the position of the Department of
5 Agriculture, whether the county emergency plans must provide
6 for the evaluation of livestock -- evacuation of livestock
7 in order to be acceptable.

8 Are you of the opinion that the county plans must
9 have some type of provision within them for the evacuation
10 of livestock?

11 MR. ZAHLER: Objection. Mr. Cunningham, can you
12 identify where on page 3 there is discussion about the
13 county plans?

14 MR. CUNNINGHAM: In -- on page 3 of Dr. Cable's
15 testimony, first paragraph, there is the statement: "EP
16 contention 4A and to a degree EP contention 2 appear to have
17 as a main thrust protection of property, livestock, in the
18 economic sense."

19 And it goes on: "Since precautionary evacuation
20 of livestock as an across the board option throughout the
21 potential hazardous area are not provided for in the plan,
22 the economic interest of farmers in the emergency planning
23 zone may not necessarily be protected. Recovery for such
24 losses after an accident is a legal question. Pennsylvania
25 supports measures to protect all businessmen in the vicinity

1 of TMI, including agriculture businessmen."

2 And I believe that the plans being referred to by
3 Dr. Cable's testimony are the county plans.

4 THE WITNESS: The last part, sir --

5 CHAIRMAN SMITH: Wait a minute, Mr. Furrer.

6 THE WITNESS: I am sorry.

7 MR. ZAHLER: I do not recall Dr. Cable or Dr. Van
8 Buskirk testifying that the plans referred to there were the
9 county plans. I will confess, on reading, that that is not
10 what I thought the reference was.

11 And maybe to lay a foundation for this, the
12 question we should ask of Mr. Furrer is whether the
13 Department of Agriculture has any position on what should be
14 in the county plans or not with respect to this matter.

15 MR. CUNNINGHAM: Well, I -- I simply think that is
16 a rephrasing of the question. But if that is acceptable to
17 Mr. Zahler, it is to me.

18 BY MR. CUNNINGHAM: (Resuming)

19 Q Do you believe -- is it the Department of
20 Agriculture's position that the county plans should include
21 any provision for evacuation of livestock?

22 A I have reviewed the county plans personally, and
23 in all of the plans I found three provisions that I thought
24 were essential. One was that they would make the county
25 extension agent either a member of that staff or they would

1 establish a liaison with him in dealing with farmers.

2 The second one that was considered essential from
3 my point of view is that communications equipment and
4 dosimeters for agriculture people that might be working in
5 the area would be made available.

6 Q But directly to answer the question, from your
7 position within the Department of Agriculture, can you state
8 whether the Department has a position whether evacuation of
9 livestock plans should be included within the county plans
10 themselves?

11 A That is the point I was getting to. The third
12 thing was the contact between the farmer and either the
13 emergency operations center or the county agent, so that
14 information could be collected. And if the situation
15 deteriorated to the point where evacuation of livestock
16 could be done or would be advisable, then with this
17 knowledge you could, on a case by case basis, do something
18 constructive for the farmers and their livestock.

19 Q Okay. Dealing directly with that question that wa
20 brought up with Dr. Cable, who is responsible for making the
21 decision on a case by case basis as to which animals should
22 be evacuated and which should not on this particular plan
23 that is presently pending before us?

24 A If I could go in a small circle to get to that
25 answer. The agricultural allows for planning, allows the

1 farmer to avail himself of transportation that he arranges,
2 and to move his livestock to a location of his choosing if
3 he so desires.

4 The only problem there is with the farmer that has
5 a herd with disease problems and we know of it. In some
6 cases this particular herd and this farm would be
7 quarantined, and so he would not have the latitude of
8 getting the trucks and moving.

9 The agriculture plan provides for a farmer leaving
10 his livestock behind, advising the county agent or the
11 emergency operations center of his location and status as
12 early as he can. And the agriculture plan also provides for
13 a farmer staying with his livestock.

14 Again, we ask him to report his status and
15 location to the emergency operations center or the county
16 agent, so that if assistance is required or the situation
17 deteriorates we will know his status.

18 Q Now, as I understand your plan from Dr. Cable's
19 testimony, the thrust of the plan is a sheltering concept,
20 is that correct?

21 A Yes. The thrust of the plan is it envisions the
22 facility having some prognosis of what is expected
23 throughout the area, based on the incident.

24 C Now --

25 A And the first response, in the absence of this

1 information on the part of people and the livestock, is to
2 avail themselves of shelter. If the situation deteriorates,
3 then you either -- well, you have a couple of alternatives
4 from the planning viewpoint.

5 One is it is going to take some period of time to
6 do this, and you can on a case by case basis, which is what
7 I promised to answer, you can arrange for an evacuation of
8 livestock.

9 Have I answered your question?

10 Q Yes.

11 Does the Commonwealth -- let's take the example
12 that a farmer has decided and has sought your aid in moving
13 a herd, and let's say the herd is not quarantined, so we do
14 not have a procedural problem in moving it. Has the
15 Commonwealth studied what haulers, cattle haulers or
16 livestock haulers, are available to that farmer on a case by
17 case method?

18 A The -- if you are talking about a formal study,
19 there is none to my knowledge.

20 Q Okay. Now let's say that we have ore than one
21 farmer who wants to remove his animals. Let's say there are
22 12 cases pending before you. Is it the Department's
23 position that that farmer must individually, independent of
24 the Department, arrange for his transportation and then
25 later pasturing?

1 A I would like to maybe help you set the stage for
2 this a little bit, in the sense that when you reach the
3 point that you agree that the cattle must be evacuated based
4 on a deteriorated condition, at that time you have other
5 agencies besides the county and the state involved in this
6 whole incident.

7 And you can bring some of those people to bear in
8 assisting in a logistics problem, which is what we are
9 describing when we talk about moving substantial numbers of
10 livestock. Now, to come up with a plan to use commercial
11 livestock vehicles to do this and then find the hazards in
12 the area as announced over the radio and television and as
13 assessed by the Environmental Protection Agency and others,
14 were it pretty substantial, you may not get those people to
15 go in.

16 So you are involved then in talking to the ones
17 with specific data, the haulers, and asking them to do this
18 and giving them firm designations of farms and numbers of
19 cattle and this sort of thing. You have to take into
20 consideration his commitments that are already ongoing at
21 the time this thing happens.

22 In other words, it is no good for me to get a
23 commitment for a cattle truck when the cattle truck is,
24 let's say, hauling cows to New York markets or Boston or
25 wherever it might be. The transportation would not be

1 available. And we do not see any clearcut way of
2 establishing these relationships on a standby basis.

3 Now, it has taken quite a bit of verbiage to
4 answer your question.

5 Q I think you have answered it quite well. My only
6 follow-up on that is: Have you determined whether that, in
7 the event that that condition did deteriorate to the point
8 we are referring to, whether the haulers would be willing to
9 come into the area? Has anybody looked into that situation
10 at all?

11 A I would have to say -- and this is my own opinion,
12 but I do not think we have communicated what the risks are
13 to this particular industry in specifics. In other words,
14 you could go in with a certain dose reading and stay for a
15 couple of hours and come out without endangering yourself,
16 and so forth.

17 These kinds of things would probably be
18 important.

19 Q So that your testimony would be at this time, as
20 far as the Department is concerned, we would have to say
21 that we do not know whether haulers would be available; is
22 that correct?

23 A I would say in response that it would depend upon
24 the conditions and specifics of that particular incident, as
25 to whether haulers would be available and willing to make

1 these trips.

2 Q Okay. Let me move down now to another point. I
3 think we are done with that area. Let me move to one of
4 your sheltering concepts within the direct testimony of Dr.
5 Cable.

6 On page 2 and 4 of the direct testimony of Dr.
7 Cable, it is stated that in the event that the population is
8 ordered to evacuate, the farmer can look to -- I assume it
9 is the Department or his local agent for assistance that,
10 quote, "can be arranged in terms of livestock."

11 Now, Dr. Cable and I think it was Dr. Van Buskirk
12 indicated that you would have information as to who would
13 assist the farmer, whether there were any formal plans for
14 this assistance, and whether anybody has been assigned to
15 this task.

16 Could you give us any information in that area?

17 A The -- no one has been assigned to this task in
18 what might be considered the normal sense. In other words,
19 should such a situation pertain, all of the Department of
20 Agriculture would be working on assisting in these
21 arrangements, locating, for example, transport, if that is
22 what appeared to be appropriate, locating sources of feed
23 for the animals. And I think that is about it.

24 Q So is it fair to say that there is not an actual
25 formal agreement with anybody to aid the farmer if he needs

1 physical assistance on the farm at this time?

2 A It is the -- there is no formal agreement except
3 for the fact that U.S. Department of Agriculture has
4 programs to provide feed for animals that need it, and they
5 have lost their feed source through any type of disaster,
6 including this.

7 Q Well, that --

8 A So that assistance is there. It is in writing.
9 The same thing, of course, pertains to control of animal
10 diseases.

11 Q For purposes of this hearing, I do not believe --
12 or you may have been here when a farmer by the name of Mr.
13 Lytle testified, and he indicated that to milk his 90 head
14 of cattle it would take 16 man-hours.

15 Now, my question to you is -- that was using
16 employees, of course. Now, with that as a specific example
17 and assuming that there was a general evacuation, where
18 would Mr. Lytle, within your plan, receive the extra three
19 people that he would need within that four-hour period? Is
20 there or is there not an understanding who would aid him?

21 A I do not know that Mr. Lytle testified that he
22 handled all the work on his farm by himself.

23 Q He testified he did not. He had employees who
24 aided him. Four people milk cows.

25 A So are you assuming that the people he normally

1 has, he will not have access to those?

2 Q That is my assumption.

3 A Well, I cannot answer your question. I have -- I
4 would not make a similar assumption.

5 Q Well, what if Mr. Lytle did call upon your
6 department for assistance. What would he be able to receive
7 in the way of manpower assistance, if he needed it, from
8 your agency?

9 A Your point is, if he called on the state
10 Department of Agriculture?

11 Q Well, as set forth in Dr. Cable's testimony, it
12 would indicate that that is who --

13 A Yes.

14 Q -- would provide the assistance.

15 A I would like to refer you to specific testimony,
16 and it reads: "Assistance can be arranged in caring for
17 livestock." You are saying assistance can be provided. I
18 say we cannot provide it, but we can arrange it. We might
19 arrange it with the county emergency board people, the U.S.
20 Department of Agriculture assistance, with the emergency
21 management center people, and their assistance.

22 Q Okay. But your testimony today would have to be
23 that at this time you may attempt to arrange it, but there
24 is absolutely no way you could tell a farmer like Mr. Lytle
25 that you could provide feed to him? I mean, you do not have

1 a pool to draw from at this time; is that correct?

2 A I understand what you are trying to get to, and
3 the point is, we do have a pool to draw on. We have some 57
4 law enforcement officers. The bulk of those people are
5 farmers and we can divert their effort. They are located in
6 the seven regions throughout the state. But we can divert
7 their effort to support any disaster, and we have in the
8 past.

9 We have used them for such things as food that has
10 been damaged through floods and controlling what happens to
11 that food after we condemn it so that it is not pilfered in
12 a dump somewhere and resold on the market. These are -- so
13 I am not -- I really do not like to belabor this, but we do
14 have some resources, but our resources can be exhausted.

15 Q Okay. Within the ten-mile EPZ area, do you have
16 any idea of how many farms are located within that area?

17 A Agriculture has in an automated format dairy herd
18 records. We keep these records up to date with data on the
19 health of the dairy animals. And this includes information
20 on the farmer and his address. We have to admit that we do
21 not have his phone number. We are in the process of adding
22 that. I am in the process of seeing if we cannot do that.

23 Now, for beef cattle we do not have as complete a
24 record. We do not have the same health problems in beef
25 cattle. Does that answer your question?

1 Q No, it does not.

2 Do you know how many farms there are within the
3 ten-mile EPZ area at TMI, within the five risk counties?

4 A No.

5 Q Okay. Do you know how many head of cattle, both
6 beef and dairy, are located within that ten-mile EPZ area?

7 A I am away from the printout and I do not have
8 those figures available, but we do have them and they are a
9 matter of record.

10 Q Okay. So you would -- any more questions in that
11 area, you would not have an independent knowledge of without
12 referring to your sheet?

13 A On numbers? I would like to point out to you,
14 when you talk about the number of farms, that I have a
15 farm. It consists of seven acres. It is just fruit trees,
16 and it is probably not on anyone's record it is a farm. So
17 that clouds the issue of how many farms there are.

18 Q You are absolutely correct. I am referring to
19 actual working farms where the farmer makes his living out
20 of agriculture business, agribusiness.

21 A All right. The next part of my response is, then,
22 that there may be people in our Department or in the
23 counties, the county agent level, who can answer your
24 question on the number of farms. I personally cannot.

25 Q Okay. Do you know whether anybody has an idea

1 within the Department that if assistance was requested by
2 farmers within the ten-mile EPZ, what you could expect
3 realistically to be the type of assistance and number of
4 personnel requested would be in the event of an emergency
5 situation where they would be required?

6 A I would like to give you an answer, but bear in
7 mind that the agricultural part of the plan is part of Annex
8 E and it includes all of the planning that the Commonwealth
9 has to handle this kind of a disaster. And you are asking
10 me of the resources of the Department have a finite number,
11 without giving me the option of saying there are other
12 resources unknown to me in the Commonwealth that would be
13 brought to bear on this problem.

14 I cannot do that. I --

15 Q So your response to that question would be you
16 just do not have the information?

17 A Yes, sir.

18 (Pause.)

19 Q Now, Mr. Furrer, Mr. and Mrs. Aamodt, who were and
20 are Intervenors in this particular hearing, sent to the
21 Commonwealth interrogatories. One of the questions,
22 question number 6 of the interrogatories, was how many farms
23 are located within the ten-mile radius around TMI; how many
24 acres does this comprise; what is the estimate of the total
25 value of the land; what is the estimate of the value of farm

1 products; and what is the estimate of value of milk
2 produced?

3 The response was: "Agricultural statistics are
4 not compiled in radial units. The smallest level of
5 statistics data available to the Agricultural Department are
6 county statistics for major commodities. Subcounty
7 statistics may be available for a township from tax
8 records. However, township borders and boundaries do not
9 coincide with radial distance boundaries."

10 Is that testimony inconsistent with what you are
11 telling this Board today?

12 A That is quite a bit to absorb. I believe that the
13 Amcndt's are referring to correspondence that I prepared in
14 response to an interrogatory, that points out that the dairy
15 herd information, for example, does not conform to a
16 ten-mile circle. The dairy herd information is by township
17 and by county. And the other information is by township and
18 by county.

19 And where the circle would encompass a small
20 portion of the township -- well, we do not collect
21 statistics that way. I think that is probably the gist of
22 the thing. We just do not.

23 Now that is not to say that we could not.

24 Q But you do not at this particular time?

25 A We do not at this particular time.

1 (Pause.)

2 Q I have some general questions that come out of the
3 -- that come out because of the testimony of the last two
4 witnesses. And my first question was, did the Department
5 seek any input from veterinarian groups with regard to the
6 plan that it drafted, this Appendix B, I believe?

7 A I know the testimony has been presented that we
8 did not. I also know that I personally visited Dr. Weber
9 and talked to him at length. But I have to admit that I did
10 not detail or outline the plan to him during our
11 discussion.

12 Q In other words, is it your testimony that there
13 was no effort -- and I do not mean that in a pejorative way;
14 I just mean that it was not -- the Commonwealth did not
15 solicit the insight of a veterinarian to say, do you believe
16 the statistics that are provided for the ventilation,
17 whether they are correct or feasible or even possible? Did
18 the Department --

19 A You are -- you are -- first I would like to say,
20 we have veterinarians on the Department staff and in the
21 field. But then I would like to say, you are really asking
22 for an answer in an area that I am not qualified to answer.
23 I have no expertise on ventilation or anything like that.

24 Q Well, yes, I realize that. But my question was,
25 do you know whether you sought the input or whether somebody

1 on your staff sought the input of veterinarians in order to
2 make a determination of whether the statistics used in your
3 plan were valid and feasible?

4 A You mean from veterinarians other than our staff,
5 is that right?

6 Q Any veterinarian.

7 A Our veterinarians have reviewed the annex.

8 Q Were they specifically requested to review the
9 data regarding ventilation, feed, water and survival rates?

10 A In replying to your question, I do not like to
11 assume what the point of view was. But I would like to
12 point out that when you talk about ventilation and shelter,
13 and you put them in the same breath, ventilation brings what
14 might be described as a radio contaminated hazard into the
15 shelter, and so you want to reduce the ventilation in order
16 to protect the animal.

17 Now, to the extent that you reduce the ventilation
18 to the animal's jeopardy, you have overdone it. And there
19 is -- I do not know exactly where the line falls as to
20 whether the figures we provided are adequate or not. I
21 reiterate, they are the ones that are in the disaster
22 handbook and in common use throughout the United States.

23 (Pause.)

24 Q Now, I understand that the handbook which you have
25 referred to was revised in 1976, but that handbook was

1 originally drafted in the late 50's; is that correct?

2 A I have no idea.

3 Q Okay. Do you know anything about whether this
4 book had been distributed to farmers on a general basis
5 prior -- or at any time prior to the incident at TMI-2?

6 A The handbook is the county agents' handbook, and I
7 doubt very much whether it would be distributed to farmers.
8 However, the contents of the handbook -- and the entire
9 handbook is organized as fact sheets -- the fact sheets
10 could very easily be reproduced by the county agent and
11 handed to farmers in any particular subject area of
12 interest.

13 Q Okay.

14 A I have no knowledge, no personal knowledge that
15 this was done by any county agent at any level.

16 Q Prior to TMI-2 incident, correct?

17 A Or even subsequent.

18 Q Okay. So even today, as far as -- according to
19 your testimony, the plan that has been developed by the
20 Agricultural Department has not been -- has or has not been
21 distributed to the county extension agents?

22 A This -- this is -- you are into a function of the
23 USDA staff. I provided some 50 copies to the staff over a
24 period of time. I probably provided as much as 75 or even
25 80 copies. I do not remember. It went into two printings.

1 It was -- copies were sent to various states,
2 other states that did not have a plan, as a starting
3 document or whatever you might want to call it. The
4 question pertains to whether the U.S. Department of
5 Agriculture state emergency board people -- and that is the
6 Agricultural Stabilization and Conservation Service -- Mr.
7 Carl Kaufman, as to whether he further distributed them
8 copies of just the agriculture annex, now, to other agents.

9 I cannot answer whether he did or not.

10 Q Then is it a correct statement to make that at
11 this time you do not know whether as a matter of fact
12 farmers within the ten-mile EPZ have been distributed the
13 steps they are to take in order to protect their animals
14 from radiological effects of an incident at this time; is
15 that correct?

16 A There is one exception to that, and that is the
17 matter of dairy herds and the protection of dairy animals
18 and the use of some shelter and protected foods and
19 protected water. I believe that that was in -- either you
20 might call it a flyer or a brochure, but it was distributed
21 to the population, not necessarily to the farmer but to
22 almost everyone or everyone.

23 That would be the exception. The rest of the fact
24 sheets that we have prepared, we have not distributed them
25 to farmers. They are in the hands of the county emergency

1 management people.

2 And, as I stated before, in reviewing those county
3 emergency plans, they have under consideration and are
4 included in their plan a county agent as part of their
5 staff. I would assume that they would give him access to
6 the agricultural part of the plan, because it would be of
7 vital interest to him.

8 Q To wrap up this area of the question, does the
9 Department take the position that the information contained
10 within Appendix B regarding the steps that a farmer can take
11 in order to protect his livestock, which represents his
12 investment, are critical to the farmer and should be
13 distributed to the farmer prior to the onset of an emergency
14 situation?

15 A I -- let's see whether we can put this in proper
16 perspective. If you are saying that the Department of
17 Agriculture could be considered at fault for not
18 distributing to the farmers, the population, the fact sheets
19 as we have them now, we will -- I personally -- and I cannot
20 really be sure the Secretary would back me up, but I would
21 say -- that is, we should accept that criticism and possibly
22 we should have them distributed to the farmer as of now.

23 Now, one of the considerations in taking this
24 approach of holding them back is the fact that shortly after
25 TMI, at a meeting with U.S. Department of Agriculture,

1 county emergency board and state emergency board people, we
2 entered into a discussion of the updating or revision of the
3 manual. And at that meeting I was led to believe that it
4 would be a matter of six months or nine months. It has
5 taken longer than that.

6 So we may be criticized for not putting out what
7 we have now and waiting on this new material. We accept
8 that criticism, and that is it.

9 Q Okay. One final set of questions. One would be:
10 Prior to, or maybe even up to today's present date, does the
11 Department know, have any idea, whether any of the farmers
12 have taken and effected any of the advice contained in the
13 emergency plan regarding sheltering, storing of emergency
14 feed, water, and taking those protective actions suggested
15 within the plan?

16 A If I might preface my answer to that question with
17 a couple of remarks, the annex is designed to tell the
18 farmer what the precautions might be and the advantages of
19 taking those precautions. That is the whole thing. Now, to
20 the extent that he does not take this advice, we have no
21 feedback.

22 Q Okay. So there is not --

23 A Is that the answer to your question?

24 Q What you are saying is the Department has not made
25 any studies to determine if these emergency procedures are

1 Being taken by the farmers? Is that what you are saying?

2 A You are talking now about the fact sheets?

3 Q The fact sheets, whether farmers are storing the
4 feed, the emergency feed, the water, et cetera.

5 A Well, in the exact sense you are probably
6 addressing a reasonable statement, that from the statistics
7 that we have, we are aware of what percentage of the dairy
8 farms, for example, have generating equipment on their farm
9 and have their own source of electricity.

10 Now, this is principally in the dairy farm area.
11 And we also have some feeling for the number of people that
12 have well water and a protected water system, and with a
13 combination of electricity and a well you have in effect
14 water for your cattle.

15 Now, that does not mean that they will all have
16 access to this water or that you can get all the animals
17 under shelter or anything like that. But those are the
18 kinds of things that we look at statistically and we have a
19 feel for that.

20 MR. CUNNINGHAM: Thank you. I have no further
21 questions.

22 CHAIRMAN SMITH: Mr. Aamodt?

23 MR. AAMODT: I would just, before asking our own
24 question, you raised something of what I have no knowledge.
25 I want to be sure I understand that.

1 BY MR. AAMODT: (Resuming)

2 Q Is it true that the plan on which you relied so
3 heavily, that this whole thing you have given us is
4 structured on something that is going to change? Do I
5 understand that correctly?

6 A Let me say this, sir. Planning is a continuing
7 process in all types of actions, and particularly as it
8 pertains to planning for disasters. And in that sense, we
9 are continuing to review the plans that we have printed and
10 before you now, and taking into consideration any
11 technological or scientific or professional data that we
12 have.

13 Does that answer your question?

14 Q In part. I only questioned whether it makes any
15 sense to ask any questions about a plan that is going to
16 change. Let me -- perhaps you might help me understand this
17 way.

18 This document upon which you relied so heavily to
19 provide the plan that is to protect the farmers is being
20 changed because of, you know -- you know of inadequacies in
21 it, or it is perfectly good the way it is?

22 A The phrase that you are using, "relied so heavily"
23 --

24 Q That is your phrase, sir.

25 A I am not so sure that we used that. Didn't we say

1 we drew on it?

2 Q No, you used the --

3 A Or did we say "rely"? If it says "rely," "rely"
4 is all right with me.

5 I am sorry, I lost the trend of your question.

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1 Q Well, what I am asking is I was struck by the fact
2 that when I read this, that the statement -- perhaps I can
3 find it -- that -- I am sorry -- draws heavily, and you
4 mentioned earlier perhaps 80 -- 98 percent of what is in
5 here came from there. Now you are saying it is being
6 changed. I am saying, is it being changed because something
7 was wrong with it or was it just change for form? If
8 something was wrong with it, how much was not good? What is
9 the point of our questioning you if it is being changed?

10 A All right --

11 MR. GRAY: Mr. Chairman, I would like to break
12 in. I believe Mr. Aamodt has mischaracterized this witness'
13 testimony. This witness did not say he could testify that
14 the plan draws 98 percent of its substance from the disaster
15 operations -- the disaster handbook. He said he could not
16 make a specific estimate of what percentage was drawn from
17 that handbook.

18 CHAIRMAN SMITH: Okay. That is a good
19 observation. Let's go to the next step. I think you are
20 asking this witness to explain to you what is the point of
21 questioning him. I do not think he cares if you question
22 him or not.

23 (Laughter.)

24 MR. AAMODT: I acknowledge that. My point is that
25 we are contending -- we are concerned with a plan which will

1 protect the farmers. You are providing us with a plan that
2 you state is the best plan you can provide to protect the
3 farmers. And now you are saying that the plan you have
4 given us is about to change.

5 BY MR. AAMODT: (Resuming)

6 Q I am just wondering how that impacts on our trying
7 to make a judgment.

8 CHAIRMAN SMITH: Wait a minute, wait, wait.

9 Ms. Straube.

10 MS. STRAUBE: I think the witness is capable of
11 answering the question without all of us arguing about it.
12 But I also wanted to say we should probably ask whether this
13 plan is going to change whenever it is the handbook
14 changes. That has not actually been established yet.

15 MR. AAMODT: That is --

16 CHAIRMAN SMITH: Well, you see, the questions are
17 not being put to him in the form that he can answer.

18 MR. AAMODT: I am sorry, sir.

19 CHAIRMAN SMITH: So the last question he answered
20 was -- you gave him an alternative -- and the answer was
21 "Neither." Now, there has been no question put to him since
22 then.

23 MR. AAMODT: I will adopt the Commonwealth's
24 question, Mr. Chairman.

25 CHAIRMAN SMITH: Would you comment then, do you

1 plan to change the Department plan if the other plan
2 changes?

3 THE WITNESS: With specific reference to Annex B,
4 if the U.S. Department of Agriculture and the Extension
5 Service revise their guidance in handling disasters to
6 include low-level radiation and its effects on livestock and
7 the response that they recommend for farmers, we will
8 probably incorporate that in our plan.

9 (Mr. and Mrs. Aamodt conferring.)

10 THE WITNESS: Could I address one other point?
11 And that is, when you talk about the Annex and the plan and
12 you deal in specifics as to whether 130 cubic feet per
13 minute or 135 cubic feet per minute is adequate, I am just
14 not going to be able to deal with that and help you.

15 However, when you talk in terms of the general
16 concepts of whether sheltering is beneficial or not, then I
17 am on -- I feel that that is the purpose of our planning.
18 We were interested in benefits to the livestock as
19 conditions existed --

20 BY MR. AAMODT: (Resuming)

21 Q Well --

22 A -- in the field.

23 Q Then I have questions here that I wanted to ask
24 you relative to the availability of water in the drums.
25 Those are questions which you do not feel you have the data

1 to respond to?

2 A The answer to the drums lies in the fact that a
3 farmer with no other alternative to supply his cattle or his
4 livestock with some water would gain some protection for the
5 livestock by doing this.

6 Q All right.

7 A That is the whole thing on the drums.

8 Now, to the extent that it becomes unmanageable,
9 his problem is magnified and his livestock may not be able
10 to be sheltered with protected water. His physical plant,
11 his facilities, he will have to make that assessment, and
12 that is one of the introductory phrases in the sentences in
13 the Annex.

14 Q Well --

15 A And we advise that he try to assess these things
16 in advance of being forced to use them.

17 Q Based, Mr. Furrer, on the comments you have heard
18 today and the experience you have had on your own, are we --
19 do you, in your expert opinion, do you feel that we have a
20 basis to believe that the recommendations you provide in
21 this will be followed by the farmers in the event of this
22 kind of emergency we are discussing, about radioactive
23 release?

24 A The question of how the farmers will respond when
25 they get an advisory that a hazard exists, as was stated

1 here, depends to a large extent on the degree of the hazard
2 identified to the farmer. And I know it sounds like
3 quibbling, but I feel that if the farmer is advised that his
4 health and his family and everybody in that area is in
5 serious personal jeopardy, that he would probably evacuate,
6 he will probably advise the county agent and others of his
7 location and express his concern about his livestock.

8 And there is more than one purpose in this. One
9 is, of course, to get assistance. But the second one could
10 well be to try to establish a basis for any claims that he
11 feels he might have in the future time. Now, that one is --
12 I do not know whether he would do that or not. I personally
13 would if I had to abandon my livestock.

14 Q Does the state --

15 A I would see to it that the county agent knew I
16 left a bunch of those cows back there and why, and I would
17 probably be talking to others, too, along those lines.

18 Q To your knowledge, does the state have provision
19 to compensate the farmer for his loss in a case like this?

20 A Within the -- what you are asking is -- leans
21 heavily on the idea of an emergency fund and this sort of
22 thing. The state does not have that kind of money set
23 aside, but they do appeal to the legislature for funds to
24 cope with disasters, and they are usually successful.

25 Depending on the scope of the disaster, we will

1 have, of course, the Federal Government backing us up and
2 assisting us.

3 (Mr. and Mrs. Aamodt conferring.)

4 Q You suggest in the plan that in the event of an
5 impending disaster that the farmer might go out and seal his
6 otherwise -- or protect his otherwise unprotected buildings
7 by stacking bales of hay, stacking bags of feed, or loading
8 dirt over the openings.

9 Do you expect that the farmers will take that kind
10 of -- do that kind of thing? Do you think that is a
11 realistic thing to ask the farmer to do?

12 A You are -- you are -- your question is one of his
13 perception of how severe this thing is and his needs. I
14 think some farmers will.

15 Q My question was not that, sir, Mr. Furrer; it was
16 a question of whether or not he could -- whether or not he
17 actually could do it if you have a 60-foot opening across
18 the barn, if you -- you know, would the farmer look at that
19 60-foot opening and say, "No, I am going to haul around hay
20 and cover it up"? Do you think he will do that kind of
21 thing? Is that a practical thing? You see, the --

22 A I understand. I do not mean to interrupt.

23 Q Well, I only wanted to explain to say the reason I
24 am asking this question is that I think a farmer will take
25 -- will follow a plan only if it looks reasonable and will

1 -- looks reasonable to him.

2 A Well, you see, it is -- it is -- when you talk
3 about the straw and you talk about other materials to close
4 an opening, generally, in the farmer's operation it will be
5 something he will do to small openings.

6 I do not think it is likely that a fellow with a
7 three-sided shelter with one side completely open would
8 attempt to do this, unless -- and I qualify this -- unless,
9 in his opinion, he had a few days, and then he might try to
10 do this to improve the shelter he was offering to his
11 animals for a period of time.

12 Q Does the Commonwealth -- does the Department of
13 Agriculture of the Commonwealth anticipate the introduction
14 of legislation to help pay the farmer to do some of these
15 things ahead of time, provide a sealed facility so he could
16 have shelter available?

17 A There is none, to my knowledge. The answer, I
18 would say, is "No."

19 (Mr. and Mrs. Aamodt conferring.)

20 Q Now, the dilemma that I am having here, trying to
21 see how a plan could be worked out that would be suitable,
22 we are talking about things that are potentially very
23 expensive and very time-consuming and/or very
24 time-consuming. And it would seem that if sheltering were
25 to work at all, that it would have to be provided for before

1 an accident occurred. And I was wondering what provisions
2 might be made to encourage the farmer to take -- do these
3 precautionary things ahead of time, recognizing also his
4 financial limitations?

5 A I am going to -- I am not a lawyer and do not
6 pretend to be one -- but I am going to say that within the
7 basic concepts of emergency plans, this does not really fall
8 into that. And it might just be a separate thing that you
9 could address to the Secretary of Agriculture, to the U.S.
10 Department of Agriculture, to the Nuclear Regulatory
11 Commission, or anyone else, as to whether they know of any
12 funds that could be brought to bear on the problems you
13 cite.

14 But within the -- the idea of protecting people
15 and protecting livestock, we are dealing with conditions as
16 they exist now in the plan. And I believe we are addressing
17 the plan, principally.

18 (Mr. and Mrs. Amodt conferring.)

19 Q I guess -- will this plan have merit, in your
20 judgment, in the event of a most severe type of accident, a
21 Class 9 type, roughly speaking, accident?

22 A I believe that the plan is basically sound. I
23 believe the plan has merit. And I am not addressing
24 strictly the Agriculture plan. I am talking about Annex E
25 and the State's planning.

1 Q My interest is only the Agriculture plan.

2 A I include the Agriculture in that. I believe it
3 has merit; and I believe in the event that we had another
4 incident -- and I would hope not -- that this plan would be
5 effective.

6 (Mr. and Mrs. Aamodt conferring.)

7 MR. AAMODT: I am afraid, Mr. Chairman, that I am
8 just going to be taking everybody's time for nothing here.
9 What I am trying to get is I am just concerned about the
10 fact that the -- I am concerned about the fact that the farm
11 -- anyone is unlikely to take an action that they -- that
12 seems to them unreasonable, will not work. I do not know
13 how in the world to get to this with this plan, and I do not
14 know if it is -- if it should be pursued.

15 CHAIRMAN SMITH: Well, I think you have to put it
16 in perspective. In the first place, the Commonwealth has
17 not -- did not come forward as a part of its case-in-chief
18 in this proceeding and present this witness to support any
19 particular point of view. It was simply to make him
20 available to ask questions on their agricultural plan. He
21 repeatedly stated that the plan addresses the situation as
22 it is.

23 You can argue through this witness and other
24 witnesses that it is inadequate. But you cannot postulate a
25 position that he is not taking. And you cannot go beyond

1 what he is able to do for you. You have to accept him as he
2 is, too, and the presentation as it is given and the purpose
3 of it.

4 (Mr. and Mrs. Aamodt conferring.)

5 CHAIRMAN SMITH: Understand, the Commonwealth has
6 no obligation whatever in this proceeding to take any
7 position or even be a participant if it does not wish to.
8 It has no burden.

9 MR. AAMODT: Yes.

10 (Mr. and Mrs. Aamodt conferring.)

11 CHAIRMAN SMITH: Although, the Commonwealth has
12 taken some type of position as to the adequacy of its
13 plans.

14 MR. AAMODT: Yes. Well, that -- do -- on page 5,
15 the last paragraph, shielding.

16 BY MR. AAMODT: (Resuming)

17 Q In your judgment, does that provide adequate
18 shelter?

19 A I am sorry, on page 5? Where?

20 Q Yes.

21 A Let me see if I can find it.

22 (Pause.)

23 A Of the Annex or of the basic plan?

24 MS. STRAUBE: Annex B.

25 BY MR. AAMODT: (Resuming)

1 Q Annex B.

2 A The attenuation factors.

3 Q You are -- what you are saying is they can provide
4 additional shielding for inadequate shelters or remodeled
5 buildings. They can place berths -- is this an action that
6 you -- in your judgment, will enhance the safety of the
7 farms around this ten-mile ETZ? Will something happen that
8 will be beneficial because of that recommendation? Will
9 something happen that will be beneficial because of that
10 recommendation in your plan?

11 A The data that is above it tells you what the
12 attenuation factors are for the various type shelters. The
13 worst possible condition, as you see at the top of the page,
14 is: no significant shelter, free-running or grazing
15 animals; they are out in the open or under sparsely wooded
16 area. To the extent that you can get them any shelter at
17 all, you have improved their condition.

18 Q But --

19 A To the extent that you can further improve the
20 buildings and other shelters that you have by using the
21 earth, the hay, stacked feed, fertilizer, anything that you
22 can put in there, you again further enhance their shelter
23 possibilities. Now, that is the point of the whole --

24 Q Does -- pardon me?

25 A All right.

1 Q Do you fear that perhaps suggesting to the farmer
2 actions which he perceives himself unable to take could
3 demoralize him to the point where he will not do anything?

4 A Obviously, I do not feel that way, that he would
5 be demoralized. I have been -- I should state that I farmed
6 until I was about 12 or 13 years old in Illinois. And we
7 had a family farm. So I have some experience there.

8 And it is my opinion that farmers are not that
9 easily demoralized.

10 Q No. Could I -- should we look then at this plan
11 that you have provided as in the sense of just, "Here are
12 some recommendations for things you can do, but we have no
13 expectations that anyone will do them"? Is that a fair
14 summary of what you have given us as a guide for the
15 farmers?

16 A No. When you say we have no expectations that
17 people will do them, we are putting out advice to the public
18 and the farmer pertaining to livestock. He is intimately
19 familiar with the problems associated with livestock by
20 virtue of the fact he is a farmer, or at least one might
21 take that position that he is familiar with it. And when he
22 weighs the suggestions that we make, he will decide in his
23 own mind whether he is going to take them or not. He will
24 decide whether, in his own mind, whether he thinks they are
25 worth taking. These things are going to go on.

1 Now, to the extent that we could take an active
2 interest in this process, we could, in visting the dairy
3 farms, for example, explore this. Our agents visit all the
4 dairy farms and check their milk and so forth, pick up
5 samples. We could explore the extent to which some of this
6 advice has been accepted by dairy farmers. At this point in
7 time, we have not.

8 MR. AAMODT: I think that completes our
9 questions. Thank you.

10 CHAIRMAN SMITH: Mr. Zahler?

11 BY MR. ZAHLER:

12 Q Mr. Furrer, on page 11, the body of the plan
13 itself -- I am not talking about Annex B now -- there is a
14 reference to USDA County Emergency Boards. Can you identify
15 for me what that board is and explain its function?

16 A Yes, sir. The County Emergency Board is organized
17 in each county. And their primary purpose is to assess the
18 damage caused by disasters of any kind. Its membership
19 normally consists of the agricultural and stabilization,
20 conservation service representative in the county, the Soil
21 Conservation Service, the Farmers Home Administration
22 representative in the county, and the county agents, who are
23 the information and educational arm of the U.S. Department
24 of Agriculture. They work under the general coordination
25 effort of the State Emergency Board director, who is Carl

1 Kaufman, at the present time.

2 Q And it is to Mr. Kaufman that you have distributed
3 copies of this plan?

4 A Yes, sir.

5 Q Do you meet with either the State or the County
6 Emergency Boards?

7 A That is -- I only meet with them at the direction
8 of the Secretary of Agriculture. He meets with them more
9 often than I do. When I meet with them, it is with a
10 specific purpose; for example, discussing or describing our
11 emergency plan.

12 Q Have you, in fact, met with either the State or
13 the County Emergency Boards to discuss this Agriculture
14 plan?

15 A Yes. And I do not have any notes. But I believe
16 it was March of 1980 was the last meeting for that purpose.

17 Q Did they have any comments or suggestions with
18 respect to the plan?

19 A I am not sure where it originated, whether it
20 originated from my side of the house or theirs. But
21 everyone present was pleased with the idea that there would
22 be a cooperative effort between Pennsylvania Department of
23 Agriculture and the records we had on livestock and the
24 county agents in the particular county with a nuclear
25 facility in that county.

1 Q Have you discussed this plan with personnel who
2 perform similar functions as you do in other states?

3 A I guess the critical word is "discussion." There
4 have been other states, some of them to the U.S. Department
5 of Agriculture, who have asked for copies of Pennsylvania's
6 plan. Some of them have called me directly and just asked
7 if they could have a copy.

8 I furnished those copies, but we did not have a
9 discussion.

10 Q Have you reviewed similar plans prepared by other
11 states?

12 A I have not. Do you want me to expand on that a
13 little bit?

14 Q Do you know whether such plans exist or what the
15 state of planning is?

16 A I am of the opinion they do and I would like to
17 defer to -- well, let me say what I think Mr. Lothrop would
18 say if he was here. I approached this subject four or five
19 months ago, and at that time -- and it may have been longer
20 than that -- we were in the process of working out
21 agreements with the other states, the neighboring states, on
22 the 50-mile ingestion pathway and that sort of thing.

23 And if I am correct, the suggestion was that I not
24 directly contact Maryland, Ohio and the others until such
25 time as those agreements were worked out. That was my

1 understanding of what we were going to do, and that is the
2 way I acted.

3 I should say, there is nothing that precluded me
4 from contacting neighboring states. I understood that.

5 Q You indicated earlier that it might be a fair
6 criticism to point out that this plan had not been
7 distributed to farmers.

8 A Well, I think we were addressing specifically
9 Annex B and the fact sheets as to whether they had been
10 distributed to farmers. I do not know as the -- as the
11 farmers would need the whole plan. For example, the
12 guidance pertaining to how we are going to use, let's say,
13 our food inspectors and the guidance pertaining to the
14 number of people that we have to devote to this effort and
15 the fact that they are self-sufficient in transportation and
16 so forth.

17 I do not know as that needs to be part of what we
18 distribute to the farmers.

19 Q Does the Pennsylvania Department of Agriculture
20 intend to distribute Annex B to farmers?

21 A To the extent that it is possible for me to make a
22 decision right here and now, some parts of Annex B will
23 probably be distributed. I am going to try this on for size
24 with the Secretary, but I feel relatively confident that he
25 will approve it.

1 Q Let me ask you to turn to page 8 of the plan
2 itself.

3 A Yes.

4 Q At the top there it states: "It is the
5 responsibility of the Department to provide the interface
6 with the agricultural community as to the need to take
7 protective actions to minimize radiation hazards associated
8 with food ingestion pathways and to protect livestock."

9 Would you view distribution of Annex B as
10 fulfilling that type of responsibility?

11 A When you talk about fulfilling, I am not sure of
12 the scope of that. But it would certainly be part of
13 fulfilling that obligation, particularly as it pertains to
14 livestock.

15 I might also say that in the body of the plan we
16 have information pertaining to foodstuffs and vegetables
17 that will probably be included in the fact sheet for that at
18 some point in time and be distributed also.

19 MR. ZAHLER: I have no further questions.

20 CHAIRMAN SMITH: Mr. Gray?

21 BY MR. GRAY:

22 Q My questions will be primarily in the areas
23 deferred by Doctors Cable and Van Buskirk with regard to
24 their testimony.

25 On page 2 of Doctors Cable and Van Buskirk's

1 testimony, it is indicated that assistance can be arranged
2 for caring for livestock in the event of a public
3 evacuation. I know you have discussed assistance to some
4 extent, but would you please indicate precisely what sort of
5 assistance the Department of Agriculture's emergency plan
6 contemplates?

7 A The gamut of things that could be involved in this
8 is pretty broad, which I presume you understand. The first
9 thing would be, in talking to the county agent and the
10 emergency operations center and their coordination efforts,
11 what actions they have taken to assist any farmers located
12 in their areas that have expressed a need for assistance.
13 If that called for some degree of expertise, or they had
14 unmet needs, then the Agricultural Department would be
15 involved in meeting those unmet needs and assisting in
16 either hiring or arranging for some of our own personnel to
17 assist the farmer in doing some of these things we are
18 talking about.

19 Have I answered your question?

20 Q What are some of the things that we are talking
21 about that you would assist the farmer in doing?

22 A As a hypothetical situation, the farmer might, in
23 providing for his livestock, be approaching -- and this is
24 more Maggie Reilly's area than mine, but -- approaching a
25 dose, a total dose that would preclude his continuing to

1 support his livestock, and he would like to have someone
2 else to pick this up so he does not jeopardize his own
3 health.

4 We could assist. The county could assist. The
5 township could assist this fellow in resolving this
6 problem. Normally, he would be wanting to pick somebody of
7 his own choosing, rather, as you pointed out -- or has been
8 pointed out -- pick a neighbor who is familiar with his
9 cattle.

10 And if it was a question of transportation, we
11 would furnish the transportation. If it was a question of
12 equipping the man we could assist him in doing that. That
13 is the kind of thing we are talking about.

14 As I said, the gamut here is so broad. For
15 example, you could use, if you mobilize the guard, you could
16 use some of the guards that were familiar with livestock to
17 assist this man. That is kind of a last ditch desperate
18 type situation.

19 I am not sure what you are pointing at.

20 Q The farmer would arrange for such assistance
21 through contacting his county agent or his county emergency
22 director, is that your intent?

23 A If -- yes.

24 Q And --

25 A And we would be monitoring what the conditions

1 were, which would pick up where these people have unmet
2 needs in this area if it were possible to pick them up.

3 Now, if the nature of the accident was such that
4 it precludes re-entry, then that is a separate -- separate
5 kind of action. We cannot prejudge that.

6 Q I am sorry, what was -- you said, if the nature of
7 the accident were such that it would preclude what?

8 A Re-entry or going back into the area to handle
9 your livestock.

10 Q That is another question. Will the farmers be
11 permitted, farmers who have been evacuated, been permitted
12 to re-enter the evacuated area ahead of other evacuees to
13 care for livestock?

14 A I am personally not involved in this. You are
15 into the Bureau of Rad Protection's area, and they determine
16 the parameters for re-entry. And they will, of course,
17 inform the public, including farmers, of the re-entry type
18 criteria.

19 There will definitely be some controls, in my
20 mind. There will definitely be some re-entry checkpoints
21 established if the situation needs those.

22 Q Do you know if the county agents are considered to
23 be emergency workers under the state's planning?

24 A They are not -- the emergency worker status of the
25 county agents I would not have any information on. You will

1 have to address that to the U.S. Department of Agriculture
2 people. And you are addressing not only -- you are
3 addressing those members -- those county agents that are
4 involved in damage assessment as to whether they would
5 re-enter.

6 I just cannot answer your question specifically.

7 Q When do you expect that the county agents within
8 the plume exposure pathway EPZ and the ingestion exposure
9 pathway EPZ will be informed of the responsibilities which
10 they have under the Department of Agriculture plan?

11 A Your question is better directed -- and I
12 understand that we cannot do this in this forum very well.
13 But that part of the planning is in the hands of the county
14 emergency management coordinators, and the communication of
15 what their plan includes for county agents is between the
16 county emergency management coordinators and the county
17 agents.

18 And we are not, in Agriculture, we are not part of
19 that.

20 Q Is that true even insofar as the Department of
21 Agriculture's own plan appears to assign responsibilities to
22 county agents?

23 A It may appear to assign responsibilities to county
24 agents. That was not the intent. It was to acknowledge
25 that the county plans plan to use county agents in an

1 important role and to simply document it.

2 Q Do you know of any specific training that may be
3 provided to county agents with regard to their
4 responsibilities, even though this may be a matter for the
5 county?

6 A I just have no idea of what training programs
7 there are for county agents.

8 (Pause.)

9 MR. GRAY: I believe the rest of my questions have
10 been covered. The staff has no further questions.

11 BOARD EXAMINATION

12 BY DR. LITTLE:

13 Q Mr. Furrer -- I'm up here.

14 A Oh, I'm sorry.

15 Q Can you tell me where the Pennsylvania Department
16 of Agriculture is physically located?

17 A The Department of Agriculture is at 2301 North
18 Cameron Street, Harrisburg, Pennsylvania.

19 Q Is that within the ten-mile EPZ or outside it?

20 A It is outside the ten-mile EPZ.

21 Q So you expect that that Department would be fully
22 manned during a ten-mile evacuation from TMI?

23 A Yes.

24 Q The people would be available for work?

25 A Yes.

1 Q Looking at Appendix 7, which is the Department of
2 Agriculture's plan, first of all, on page 14, ingestion
3 pathways, producers, processes and so on. We were provided
4 information or we were provided some maps from the
5 Department of the Interior, U.S. Department of the Interior
6 Geological Survey, and you will see those around here. And
7 I understand that the State of Pennsylvania is somewhat
8 ahead of most states in that it has extensive -- an
9 extensive digital data base on land use and land cover
10 related to specific subunits, political subunits,
11 hydrological subunits, et cetera, and this was the result of
12 a cooperative effort between the State of Pennsylvania
13 Department of Environmental Resources and the U.S.
14 Department of the Interior, completed in '78.

15 And there appears to be very extensive itemized
16 information on land use, land cover, for Pennsylvania, much
17 much what is beyond what is available for other states.

18 My question then is, is whether or not this data
19 base is utilized by the Department of Agriculture in looking
20 at land use in small units, less than the county, for
21 example? Are you aware of this data base and is it used by
22 the Department of Agriculture in planning?

23 A Dr. Little, I've admired that map several times
24 since I have come into this room. We do not have a copy of
25 that, but we believe it might be useful. We did not

1 participate in developing the data that went into it, to my
2 knowledge. That is about all I can say to it.

3 Our ingestion pathway information is based on
4 inspection of food processors, with the specific exclusion
5 of slaughterhouses and meat processors. But our food
6 inspection people visit these businesses and inspect them,
7 principally from the standpoint of sanitation. And we have
8 in our records lists of food processors throughout the state
9 of Pennsylvania.

10 We would draw on that as part of our ingestion
11 control, pathway control effort. We also have information
12 on retailing and warehousing of foodstuffs, and we would
13 draw in that as part of our control.

14 I am not sure I have answered your question.

15 Q You do have access to this very expensive data
16 base from the state, then, on land use in the whole state of
17 Pennsylvania and specifically the Three Mile Island area? I
18 was wondering if that takes part in your -- if you use that
19 data base at all in estimating the percentage of the
20 ten-mile EPZ that would be involved in dairy farming,
21 percentage in open pastureland, feedlot conditions, et
22 cetera.

23 A All right. I cannot give you a direct answer, but
24 I would like to say Pennsylvania and Federal Joint Crop
25 Reporting, which is a service that we have, they are located

1 at the Agriculture Building. I would like to pose your
2 question for Wally Evans, who is the chief of that activity,
3 and see if he had used it in any of his statistical base
4 that he has.

5 Q Just as an aside, I think the Department of
6 Interior is quite interested in seeing that this type of
7 information is fed back in dealing with matters relating to
8 emergency planning around nuclear power plant sites.

9 A Yes, I believe it would be beneficial.

10 Q On page 16 of the plan, there is a description of
11 administration of potassium iodide. It is just a very
12 general paragraph. But since it appears within the
13 agriculture plan, I wonder if the Department of Agriculture
14 has any idea that farmers in particular would have potassium
15 iodide available or whether emergency agricultural personnel
16 would be able to have access to it, since it was included in
17 the plan?

18 A Can you tell me why it was included in the plan?

19 A Yes. It is included in the plan, you might say
20 for two reasons. One is our personnel that are going to be
21 doing the sampling in these various areas, that is one way
22 of telling them that this KI thyroid prophylaxis might be
23 available.

24 And the other, of course, is inviting their
25 attention -- the second purpose, inviting their attention to

1 the fact that Pennsylvania Department of Health is
2 responsible for distribution of KI. That was the means of
3 putting it out to our own people and anybody else involved
4 with our part of the plan.

5 Q So this would be the personnel from the Department
6 of Agriculture who would be going out during an incident to
7 take samples?

8 A Yes.

9 Q They would be considered emergency workers and
10 fall under the category of those who would be --

11 A They could well fall into the category of
12 emergency workers.

13 (Pause.)

14 Q On page 13, Annex E, there is a suggestion that
15 emergency power sources might be considered by the farmer
16 and in protecting himself from damage to his livestock
17 during an emergency. And the gist of the paragraph to me
18 indicates that this expects that not only will the livestock
19 be sheltered, but also that a farmer and family be sheltered
20 as well.

21 It indicates that the emergency generators should
22 be located close to the family shelter, so that it would not
23 be dangerous to operate it. Is there an assumption here
24 that the family will indeed stay on a farm?

25 A That is not the assumption. It is a recognition

1 of the fact that some of these generators are not equipped
2 with transfer switches which turn them on automatically,
3 that many of these generators are -- you switch from --
4 switch the power on, use your generator manually. And the
5 suggestion is simply that if your generator is located near
6 the house and you have to switch to this alternate source of
7 power, you can do it with a close by facility.

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1 Q You mean before the farmer leaves?

2 A It could well be before you leave. Or if you
3 decide to stay, it still might be something that you would
4 want to do relatively quickly.

5 Q Another section of the Pennsylvania plan, which is
6 Appendix 10 -- not the Agriculture plan, but Appendix 10 --
7 which deals with training, and it is page 10-3 --

8 A Excuse me. Are we talking about the
9 Commonwealth's plan now?

10 Q Yes, you are.

11 A I did not bring a copy of that.

12 Q All right, just a moment.

13 A Maybe you could --

14 (Counsel handing document to witness.)

15 Q It is Appendix 10, on training, page 3 of that, a
16 paragraph labeled "C. Pennsylvania Department of
17 Agriculture." Describes the training seminars to be held
18 for county agents and other agricultural community leaders
19 dealing with the nature of radiation plans and actions for
20 lessening and preventing radioactive contamination of
21 agricultural dairy and food products, et cetera.

22 Are you familiar with what division of the
23 Department of Agriculture is responsible for implementing
24 that part of the training plan?

25 A The -- it would include personnel from more than

1 one bureau. In other words, with respect to animals, it
2 would be the Bureau of Animal Industry and our veterinarians
3 that would be discussing these things with the county agents
4 and talking about our planning. In plant industry, it would
5 be the Bureau of Plant Industry that would be talking about
6 the hazards to vegetation and specifically -- well, all
7 types of vegetation, but we are also into entymology.

8 Q Do you know whether or not the training seminars
9 have been initiated yet or when? If not, when they are
10 projected to begin? I understand from this that it is
11 expected that they will be held annually.

12 A I do not have a schedule for one right now. It is
13 an item I will discuss with the U.S. Department of
14 Agriculture. We did have a scheduled training exercise, a
15 joint training exercise, with the U.S. Department of
16 Agriculture -- and if I remember correctly, it was scheduled
17 for March of this year -- in which they had -- and I am not
18 sure, because I did not do this -- counseling, but I
19 understand to PEMA representatives that the travel money of
20 the U.S. Department was severely curtailed and that they
21 could not bring their agents in for this training seminar.
22 And so they canceled it. One has not been rescheduled, to
23 my knowledge.

24 Q In view of the fact that the travel plans were a
25 problem, has there been an effort to accomplish somewhat the

1 same thing by distribution of training materials by mail or
2 in other fashions to the county agents?

3 A No. No. I might point out that the concept
4 envisioned covering Annex E and all the Commonwealth's plans
5 with these people, it was -- although the agricultural
6 agents are important, we also felt it was important that
7 they see the overall plan and then concentrate -- we would
8 concentrate in the agricultural areas of interest. So it
9 was a joint effort, particularly this first one, with PEMA.

10 DR. LITTLE: Thank you very much.

11 (Board conferring.)

12 CHAIRMAN SMITH: Ms. Straube, do you have
13 questions?

14 MS. STRAUBE: No.

15 CHAIRMAN SMITH: Does anybody else have
16 questions?

17 (No response.)

18 CHAIRMAN SMITH: All right, Mr. Furrer, thank you
19 very much for coming. You are excused, sir.

20 (Witness excused.)

21 CHAIRMAN SMITH: We have a limited appearance
22 statement scheduled this evening with Mrs. Georgianna Myce
23 -- am I pronouncing it correctly?

24 MRS. MYCE: Yes.

25 CHAIRMAN SMITH: Mrs. Myce, would you take a seat

1 at a microphone? I think Ms. Bradford is preparing for you
2 there.

3 LIMITED APPEARANCE STATEMENT

4 BY GEORGIANNA MYCE

5 CHAIRMAN SMITH:

6 Before you begin, do you have an extra copy of
7 your statement?

8 MRS. MYCE: I have just one. I have just this
9 copy with me. You may have it when I am finished.

10 CHAIRMAN SMITH: Well, the -- it is helpful -- off
11 the record.

12 (Discussion off the record.)

13 CHAIRMAN SMITH: We will ask for your statement if
14 it is going to be helpful. In the meantime, however, would
15 you please keep the microphone very close to your mouth -- I
16 mean very close, like I am doing it. Make the microphone
17 comfortable; otherwise, you will tend to draw away from it.

18 MRS. MYCE: All right.

19 CHAIRMAN SMITH: Closer. You will have to move
20 the microphone all the way to the front edge of your table.

21 MRS. MYCE: All right. I cannot very well see you
22 doing this, but okay.

23 I am Georgianna Myce. My husband and I and two
24 children live in Paxton Borough, which is about ten miles
25 from Three Mile Island. I have a number of concerns to

1 present, which I feel are relevant to the question of
2 whether TMI-1 should be allowed to go back on line.

3 My first concern is with the criteria for
4 preparation and evaluation of radiological emergency
5 response plans, NUREG-0654. I feel that the criteria they
6 are using to judge the adequacy of emergency response plans
7 is not satisfactory.

8 According to the criteria, the highest class of
9 emergency action levels is the general emergency. And I
10 quote from this document:

11 "The general emergency class involves actual or
12 imminent substantial core degradation or melting, with
13 potential for loss of containment. The immediate action
14 suggested is sheltering rather than evacuation until an
15 assessment can be made that, one, an evacuation is
16 indicated" -- and I have a comment on this: How could it
17 not be indicated at this point? -- "and, two, an
18 evacuation, if indicated, can be completed prior to
19 significant release and transport of radioactive material to
20 affected areas."

21 For sequences where significant releases are not
22 yet taking place and containment failure leading to a direct
23 atmospheric release is likely in the sequence but not
24 imminent, and large amounts of fission products in addition
25 to noble gases are in the containment atmosphere, it states

1 that "One should consider a precautionary evacuation to five
2 miles and downwind ten miles."

3 Nowhere in this criteria do I see that the plans
4 must provide for more than an evacuation of five miles
5 surrounding the plant and ten miles downwind, even for the
6 most severe accidents.

7 It is my conclusion that emergency plans approved
8 on the basis of this criteria would be wholly inadequate and
9 lead to loss of life and serious injury in the case of
10 accidents causing significant atmospheric releases.

11 Next, I would like to discuss a number of items
12 directly concerned with the safety of the power plant. Unit
13 1 should not be placed back on line due to the following
14 reasons:

15 We have been misinformed regarding the dangers of
16 the plant. The Kemeny Commission Report assured people that
17 the reactor, for instance, could not explode like an atomic
18 bomb. Dr. Edward Teller, one of the leaders in the
19 development of nuclear power plants, assured us the same
20 thing as he visited this area.

21 Both sources, however, failed to clarify that what
22 was being referred to was the nature of the explosion, how
23 quickly the energy can be released, for instance. This has
24 misled people, causing them to believe that the reactor
25 cannot explode.

1 Dr. Teller in one of his books explains that a
2 reactor can explode, if mishandled, like a hydrogen bomb.
3 He also makes the following statement: "Radiation may hurt
4 the individual. It may also be harmful for our children and
5 hurt the race. There can be no doubt that radiation does
6 produce some harmful changes in our children. These may
7 surface in future generations."

8 He states, "Radiation is surely destructive. It
9 does cause mutations. Mutations can be caused by any small
10 amount of radiations. Most mutations are harmful."

11 We had assumed that, as responsible individuals,
12 they had considered carefully -- I am getting into something
13 else now -- all types of accidents that could occur before
14 building reactors so close to heavily populated areas. This
15 does not seem to be the case.

16 As Mr. Teller explains, "It is virtually
17 impossible to enumerate all the things that might
18 conceivably go wrong with a reactor, even if we discount
19 folly, the variety of possible accidents and malfunctions
20 remains too great."

21 When describing how he and his colleagues
22 questioned designers and licensees as part of the licensing
23 procedure, he states the following regarding the question,
24 "What is the maximum credible accident, and what would the
25 consequences be?"

1 He says regarding the consequences, "Of course,
2 the answer to the second question" -- the consequences
3 question -- "was always favorable. A designer of a reactor
4 would never describe events that could lead to unfavorable
5 consequences. It was nevertheless important that the
6 questions be asked and answered. The designers were at
7 least forced to evaluate in detail what might follow from
8 their actions."

9 We are told that the containment building, if it
10 does not fail, will contain the dangerous radiation, that it
11 has shielding for that purpose. However, in the accident at
12 Three Mile Island, the files show that radiation was pumped
13 out of the containment through various pathways and caused
14 releases of radiation.

15 According to documents I saw, it took about 27
16 days until they were able to begin to return radiation to
17 the containment building. It has been stated that Unit 1
18 was not affected by the accident. However, the files show
19 that certain areas of Unit 1 were affected, particularly the
20 auxiliary building and nuclear sampling room and the primary
21 chemistry lab.

22 In the IE investigatory interviews with Met Ed
23 personnel, there is testimony given that the Unit 1 control
24 room had to use respirators at times and was evacuated. In
25 Mr. Zalinger's interview, he states, "The control room

1 became uninhabitable." Radiation was obviously released
2 from Unit 1 as well as 2.

3 The Kemeny Commission group did not find any
4 serious computer problems. However, according to the
5 records I have seen, there is a serious problem of computer
6 malfunction triggered by a loss of power which leads to
7 erroneous signals, a lack of control over the plant.
8 Erroneous signals provide faulty information to the control
9 room and integrated control system, causing equipment to
10 operate without regard to actual conditions and leading to
11 operator error due to the fact that the operators are
12 receiving invalid readings on their instruments.

13 According to my reading, no procedure can cover
14 all possible combinations of failures. Obviously, if one is
15 relying on instruments to provide correct information to
16 operate something as potentially dangerous as a nuclear
17 power plant, one cannot tolerate the gamble that is taken in
18 not realizing the significance of this type of occurrence.

19 The last concern I have is regarding the validity
20 of the thinking -- regarding the benefit analysis, the
21 risk/benefit analysis the NRC and the company and the
22 industry uses.

23 I believe the nuclear risk is significantly
24 different from the risks that one takes in life. The risk
25 cannot be voluntarily taken by some individuals without

1 violating the rights of others. Thus, many are forced
2 against their wills to take the risk by the utility, Federal
3 Government, stockholders, bankers, and others when you
4 decide to take the risk of smoking or a chest X-ray or an
5 airplane flight, you make a personal choice. Others do not
6 make it for you.

7 Secondly, in most common risks of life, either you
8 or a person you have chosen are in control of your life. If
9 you are driving, for instance, you know that you are alert,
10 capable, and well prepared. Or if you decide to undergo
11 surgery, you choose the surgeon who will have your life in
12 his hands. In a nuclear risk, your life is in the hands of
13 people unknown to you. You have not personally chosen these
14 people. You have no idea what the physical, mental, or
15 professional capabilities of these people are.

16 Thirdly, the nuclear risk never ceases. The risk
17 exists as long as the plant is operational. In contrast,
18 most common risks do not exist 24 hours a day on a constant
19 basis. Thus, the stress and risk associated with nuclear
20 power extends over a lengthy period and does not cease.

21 Lastly, when a serious accident occurs, if you
22 survive, you are still taking the risk and you receive no
23 benefits.

24 Most importantly, the decision to take a risk
25 involving life and death should be in the hands of the

1 individual, between himself and his God. No one else should
2 make decisions involving what others will die for, if
3 necessary. This involves a person's faith, his value
4 system, and his view of the world, and reality -- the very
5 essence of a person.

6 If I look at some of the most basic principles on
7 which this country was founded -- I am sure you have heard
8 it many times, but I am going to say it again -- the words
9 and ideas expressed in the Declaration of Independence are
10 of the utmost importance:

11 "To ensure justice and freedom in this country, we
12 hold these truths to be self-evident that all men are
13 created equal, that they are endowed by their Creator with
14 certain inalienable rights, among these are life, liberty,
15 and the pursuit of happiness. And that to secure these
16 rights, governments are instituted among men."

17 The restart of Unit 1 would violate in the highest
18 degree the right to life and liberty, rights that we have
19 recognized to be inalienable. They cannot be given away nor
20 taken away. The risk/benefit analysis should never be
21 applied to human life by others. This, in a very real
22 sense, results in a form of slavery. Control of many lives
23 falls into the hands of a particular group in society to the
24 point where people are forced to take a risk by others who
25 have assumed the power to which they have no right under our

1 system of government.

2 It results in a form of repression which is subtle
3 but real. When human life becomes a commodity to be traded
4 off, we as a people have reached the point of spiritual
5 death which will lead to the eventual death of our
6 civilization.

7 In conclusion, the comparison of natural disasters
8 and nuclear accidents to justify the possible results of
9 such accidents is a strong signal that we are not thinking
10 clearly. I am sure that most criminals use this type of
11 justification as they prepare to commit their crimes. This
12 is a destructive philosophy which, if continued to be
13 applied, will in my view lead to intentional
14 self-destruction.

15 Thank you for that opportunity to speak.

16 CHAIRMAN SMITH: Thank you very much, Mrs. Myce.
17 Anything further this evening?

18 (No response.)

19 CHAIRMAN SMITH: All right, we will --

20 MR. GRAY: Mr. Chairman, are we -- I can call the
21 FEMA witnesses.

22 CHAIRMAN SMITH: Do you want to begin with your
23 witnesses this evening? Why don't we -- why don't we go
24 through the preliminaries and then begin the cross
25 examination tomorrow and take advantage of this

- 1 opportunity?
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1 MR. GRAY: Okay. At this time I would call
2 Frederick Bath, Vernon Adler, and Michael Pawlowski, on
3 behalf of the NRC staff.
4 Mr. Chairman, at this time I would also like to introduce
5 Mr. Daniel Cosker of the Office of General Counsel for the
6 Federal Emergency Management Agency. He is sitting at my
7 right hand here. He may be able to assist in the
8 presentation of this panel.
9 Whereupon,

10 FREDERICK J. BATH
11 VERNON ADLER
12 MICHAEL S. PAWLOWSKI,
13 called as witnesses by counsel for the Regulatory Staff,
14 having first been duly sworn by the Chairman, were examined
15 and testified as follows:

16 DIRECT EXAMINATION

17 BY MR. GRAY:

18 Q Mr. Adler, would you state your business address
19 for the record and give a brief description of your
20 employment responsibilities?

21 A (WITNESS ADLER) I am Vernon E. Adler. I am the
22 Director of the Division of Plans and Preparedness at Region
23 III of the Federal Emergency Management Agency, located at
24 the Curtis Building, Sixth and Walnut Streets, in
25 Philadelphia, Pennsylvania.

1 Q Mr. Bath, would you state our name and business
2 address and give a brief description of your employment
3 duties?

4 A (WITNESS BATH) My name is Frederick John Bath or
5 Frederick J. Bath. I am employed at the Federal Emergency
6 Management Agency, Region III in Philadelphia. I am within
7 the Division of Mr. Vernon Adler.

8 Q And what is your job title?

9 A (WITNESS BATH) My job title is emergency
10 management specialist. I am or have been assigned as the
11 state liaison for the regional assistance committee, site
12 specific TMI.

13 Q Mr. Pawlowski, would you state your name and
14 business address for the record and give a brief description
15 of your employment duties?

16 A (WITNESS PAWLOWSKI) Okay. My name is Michael S.
17 Pawlowski. My present assignment is physical scientist
18 administrator with the Federal Emergency Management Agency,
19 FEMA national headquarters. My office is located within
20 the GSA Building, Washington, D.C. I am within the
21 Radiological Defense -- that is RADEF -- and Technological
22 Hazard Branch.

23 Presently my responsibilities involve
24 administering the engineering, procurement, reliability
25 assurance, storage, distribution, maintenance and

1 calibration programs of the operational radiological
2 defense system and radiological emergency response systems
3 for peacetime radiation -- for peacetime incidents.

4 MR. GRAY: Mr. Pawlowski is offered as a member of
5 this panel to provide technical expertise in the area of
6 radiological emergency planning and health physics, as
7 questions may arise in that regard with regard to the
8 written testimony filed in this proceeding by the -- by Mr.
9 Adler and Mr. Bath.

10 A statement of his professional qualifications has
11 been distributed to the Licensing Board today and were
12 previously distributed to the parties with emergency
13 planning interests last Friday.

14 BY MR. GRAY: (Resuming)

15 Q Gentlemen, do you have before you a document
16 entitled "Testimony of Frederick J. Bath and Vernon E. Adler
17 of the Federal Emergency Management Agency on Certain
18 Offsite Emergency Planning Contentions," dated February 23,
19 1981?

20 A (WITNESS BATH) I do.

21 A (WITNESS ADLER) I do.

22 Q Mr. Bath and Mr. Adler, did you prepare this
23 testimony?

24 A (WITNESS BATH) I did.

25 A (WITNESS ADLER) Yes.

1 Q Do you have additions or corrections to make to
2 the written testimony?

3 A (WITNESS ADLER) Yes. Additions and corrections
4 are noted on pages 46 and 49 of that February 23 testimony.

5 Q Those corrected copies of pages 46 and 49 of the
6 February 23 testimony have been distributed to the Board and
7 parties, and the copy of the written testimony provided to
8 the reporter contains the corrected pages 46 and 49.

9 Mr. Adler, do you also have an addition to make to
10 your statement of professional qualifications attached to
11 that testimony?

12 A (WITNESS ADLER) Yes. I would like to add the
13 statement that I have received from the Federal Emergency
14 Management Agency specific training in radiological
15 emergency preparedness during a one-week course given at
16 Emmetsburg this past winter.

17 Q With these additions and corrections, is this
18 testimony true and correct?

19 A (WITNESS ADLER) Yes.

20 A (WITNESS BATH) Yes.

21 Q Do you adopt it as your testimony in this
22 proceeding?

23 A (WITNESS BATH) Yes.

24 A (WITNESS ADLER) I do.

25 Q Gentlemen, do you have before you a document

1 entitled "Testimony of FEMA's Vernon E. Adler and Frederick
2 J. Bath on Contentions Related to Offsite Emergency
3 Preparedness," dated March 16, 1981.

4 A (WITNESS ADLER) I do.

5 A (WITNESS BATH) I do.

6 Q Mr. Bath and Mr. Adler, have you prepared this
7 testimony?

8 A (WITNESS ADLER) Yes.

9 A (WITNESS BATH) Yes.

10 Q Do you have any additions or corrections to make
11 to that testimony?

12 A (WITNESS ADLER) Yes. Additions and corrections
13 are noted on pages 12, 17, 26, 28, 45, 50, 55, 60 and 61.

14 Q Copies of those corrected pages have been
15 distributed to the Board and parties and are also contained
16 in the copy of the written testimony provided to the
17 reporter.

18 With these corrections, is this testimony true and
19 correct?

20 A (WITNESS ADLER) Yes.

21 A (WITNESS BATH) Yes.

22 Q Do you adopt it as your testimony in this
23 proceeding?

24 A (WITNESS ADLER) Yes.

25 A (WITNESS BATH) Yes.

1 MR. GRAY: At this time I would offer the February
2 23 testimony entitled "Testimony of Frederick J. Bath and
3 Vernon E. Adler of the Federal Emergency Management Agency
4 on Certain Offsite Emergency Planning Contentions," and the
5 "Testimony of FEMA's Vernon E. Adler and Frederick J. Bath
6 on Contentions Related to Offsite Emergency Preparedness,"
7 dated March 16, 1981, as testimony presented on behalf of
8 the NRC staff and ask that it be incorporated into the
9 record as if read.

10 CHAIRMAN SMITH: Are there any objections?

11 MS. GAIL BRADFORD: Yes, sir.

12 CHAIRMAN SMITH: I believe there might be -- if
13 there are objections -- there are objections. She is going
14 to have some voir dire, and it might -- I think it might be
15 inappropriate -- appropriate to wait until tomorrow to hear
16 it, and also, in any event, to receive the testimony,
17 because it will be then in the same -- assuming that the
18 testimony prevails, it will be the same day as the
19 cross-examination. It makes it easier to have it all
20 together.

21 If there are no objections, we can adjourn this
22 evening and you can begin your voir dire first thing in the
23 morning. Is there any objection to that procedure?

24 MR. ZAHLER: Mr. Smith, I do not have an
25 objection. There are two preliminary matters that I think

1 CHAIRMAN SMITH: Anything further?

2 MR. ZAHLER: One thing further. The end of last
3 week, the NRC staff handed out to the parties the one-page
4 SECY memorandum 80-257A, dated March 26th, 1981, attached to
5 it Chairman Hendrie's letters to the FDA and to the Federal
6 Emergency Management Agency. I would request the Board to
7 take judicial notice or official notice of this material,
8 and to incorporate it into the record.

9 CHAIRMAN SMITH: Are there any objections? Do you
10 have any questions? I think you should ask questions about
11 it if you are in doubt about what is happening here.

12 MS. GAIL BRADFORD: I am not sure why -- may I ask
13 Mr. Zahler why he wants to do that? What difference does it
14 make or what difference is made by not doing it?

15 CHAIRMAN SMITH: That is very appropriate. What
16 use would you make?

17 MR. ZAHLER: These documents indicate the current
18 position of the NRC Commission with respect to the use of
19 potassium iodide. In one respect, for example, they modify
20 evaluation criteria in NUREG-0654, which indicates that
21 potassium iodide should be considered for the use of certain
22 institutionalized members of the public.

23 I understand from this SECY memorandum in item 3,
24 the Commission has now requested the staff to reevaluate
25 that position. I think in that respect it therefore

1 modifies that particular evaluation criteria.

2 More generally, it sets forth the current position
3 of the NRC with respect to potassium iodide, and I would
4 intend to rely on this information for that position in
5 findings.

6 CHAIRMAN SMITH: This is a very important matter
7 to your contention. It could very well -- it could very
8 well be the controlling factor in the findings on that
9 contention.

10 MS. GAIL BRADFORD: I guess I was not clear when
11 Mr. Gray presented this information that it was sure that
12 this was the most recent position.

13 CHAIRMAN SMITH: Oh, he has since -- he has
14 received the actual SECY paper and the actual copies of the
15 actual letters. These are actual communications and actual
16 letters -- I do not have them before me -- to FDA and FEMA.
17 Is that your understanding, Mr. Gray?

18 MR. GRAY: Yes.

19 CHAIRMAN SMITH: Yes.

20 (Pause.)

21 MS. GAIL BRADFORD: Could I comment on this
22 tomorrow morning?

23 CHAIRMAN SMITH: Sure.

24 MS. GAIL BRADFORD: Thank you.

25 CHAIRMAN SMITH: All right. Anything further this

1 evening?

2 (No response.)

3 CHAIRMAN SMITH: All right. We will adjourn,
4 then, until 9:00 a.m. tomorrow morning.

5 (Whereupon, at 5:34 p.m., the hearing was
6 adjourned, to reconvene at 9:00 a.m. on Wednesday, April 15,
7 1981.)

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