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UNITED STATES NUCLEAR REGULATORY COMMISSION

SUBJECT: 10 CRF 2.206 PETITION
TO SHUT DOWN THREE MILE ISLAND
NUCLEAR STATION, UNIT 1

U.S. Nuclear Regulatory Commission
One White Flint North, Room 4 B 13
11555 Rockville Pike
Rockville, Maryland

Wednesday, February 2, 1994

The above-entitled matter came on for public
meeting, pursuant to notice, at 1:30 p.m.

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1612 K Street, N.W., Suite 300
Washington, D.C. 20006
(202) 293-3950

940224-0345-XA

1 ATTENDEES:

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ROBERT W. HERNAN, NRC/NRR/PDI-R, Senior Project
Manager

4

5

ROBERT GARY, PICA, Senior Researcher

6

SCOTT BOYNTON, NRR, PEPB EP Specialist

7

GIOVANNA LANGO, OGC/NRC, Trial Attorney

8

FALK KANTOR, NRC/NRR/PEPB, Acting BC, PEPB

9

JOHN KOPECK, NRC, Public Affairs

10

JOHN F. STOLZ, NRC, Project Director, PDI-4

11

RALPH DESANTIS, GPUN, Public Affairs Manager

12

JEFFERY GRISEWOOD, GPUN, TMI Lead Offsite

13

Emergency Planner

14

DENNIS V. HASSLER, GPUN, TMI Licensing Engineer

15

ALAN NELSON, NUMARC, Senior Project Manager

16

STEVEN AOUKAITIS, FEMA-R-III, RAC Chairman

17

MEGS HEPLER, FEMA HQ, Director, Exercises

18

Division, FEMA

19

STAN WENTZ, FEMA HQ, Team Leader, Exercises

20

Division, FEMA

21

ELAINE I. CHAN, FEMA/OGC, Legal Counsel, Program

22

Law

23

JOHN PRICE, FEMA-R-III, REP Tech. Hazards Program

24

ROBERT POLLARD, UCS, Nuclear Safety Engineer

25

JERRY LAMBERT, PEMA, TMI Offsite Planner

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1 ATTENDEES [continued]:

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MARK GOODWIN, PEMA, Legal Counsel

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MICHAEL BLOOD, AP, Reporter

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P R O C E E D I N G S

[1:30 p.m.]

1
2
3 MR. HERNAN: Go ahead, sir.

4 MR. GARY: I appreciate the opportunity to make a
5 few comments at this public meeting on behalf of PICA, the
6 Pennsylvania Institute for Clean Air.

7 We have three issues to address today: The EPZ,
8 the military, and the money. All of the other matters
9 raised by PICA are either dependent on these three main
10 issues, or they have already been satisfactorily dealt with
11 and don't require further discussion.

12 To begin the discussion on the EPZ issue, I want
13 to talk a little bit about the way that PEMA conceives of
14 emergency preparedness.

15 Mr. LaFleur says, in paragraph 7G of his letter,
16 "In the event that people need to be protected in areas
17 beyond 10 miles, these actions will be extended as far as
18 they are needed. The emergency response organization within
19 10 miles can be extended as conditions warrant."

20 The suggestion is that the EPZ would be extended
21 as needed in an emergency. It is PICA's position that such
22 extension is impossible.

23 In an emergency, there is no time to extend the
24 EPZ. Any plan to evacuate Harrisburg needs to be made now,
25 before the emergency, not in its midst.

1 Any plan that included the evacuation of
2 Harrisburg would be 1,000 buses short, not 50 buses short.
3 The reason that PEMA has enough buses is because they are
4 dealing with the problem of an EPZ which only includes 10
5 percent of Harrisburg.

6 If we agree that emergency preparedness means
7 making plans in advance, not in the middle of an emergency,
8 then if we were to make plans now for the evacuation of
9 Harrisburg, we would either have to find another 1,000 buses
10 or use military trucks.

11 If there is serious radiation within the EPZ,
12 Harrisburg will evacuate. The issue is whether PEMA or the
13 military will be there with a plan, with trucks, with tents,
14 with kitchens, with first-aid stations and field commanders.

15 In California, after the recent earthquake, it
16 took four days for the National Guard to set up tent cities
17 and field kitchens. There was no plan.

18 In Harrisburg, if there is no plan, we can't wait
19 four days for a military response. Without a plan, people
20 will have to evacuate without the assistance of the
21 military.

22 And they will do so, as best they can, as they did
23 in 1979. The delay in evacuating people in 1979 caused 50
24 deaths in the exposed population, according to the testimony
25 of this senior researcher and the U.S. Congress in 1985.

1 My point is that when it is time to move people,
2 it's too late to start figuring out how to do it.

3 The RERP should contain evacuation plans for a
4 contingent planning area, CPA, north of the present EPZ and
5 to include Harrisburg.

6 The information should be specific, with authentic
7 operational data and directions. It probably will need to
8 include military trucks since we know that even with a very
9 sparsely populated EPZ that misses 90 percent of Harrisburg,
10 they are already 50 buses short.

11 The RERP should not contain, as it does now,
12 extensive recitations of jurisdictional responsibilities and
13 descriptions of tables of organization and how inter-
14 governmental agencies interrelate.

15 It should be cut to no more than 50 -- it should
16 be cut to no more than 100 pages. It should be tabbed,
17 water-proofed, color-coded, and set in large type.

18 It should be arranged so that the most junior
19 person in the official chain of emergency command, with no
20 executive guidance, could give appropriate orders and make
21 the emergency process happen by the numbers, by the book,
22 according to the plan.

23 And junior people and everyone in the chain should
24 be drilled for their ability to run a response out of the
25 book.

1 The present RERP passes the weight test. And it
2 may have some public relations value. But it is missing
3 many of the critical elements of a plan, which PEMA says are
4 in the SOPs or would be made up on the spot.

5 To illustrate, one could examine paragraph 1C of
6 Mr. LaFleur's letter, in which we see the general tenor of
7 PEMA's idea of emergency preparedness. He is talking there
8 about Guard units.

9 And he says, "Their specific tasks will be
10 determined when the units become available and the needs of
11 the county EMA have been solidified in light of events as
12 they unfold."

13 In other words, PEMA will administer the emergency
14 response on an ex-tempore basis, figuring out what to do as
15 the situation develops.

16 This is really the opposite of emergency
17 preparedness. If there is one thing we do know in the
18 limited experience we have, it is that you can't plan how
19 you are going to respond to an emergency in the midst of the
20 emergency.

21 People who try either find themselves inundated by
22 data, paralyzed by possibilities, or galvanized into actions
23 that turn out to be mistakes.

24 Now, as we turn to the second main topic, the use
25 of military trucks, we can stay in that same paragraph, 1C.

1 of Mr. LaFleur's letter.

2 And we find that, "The Guard is equipped with
3 combat support vehicles that do not lend themselves to the
4 safe and orderly movement of civilians."

5 PICA disagrees with this point. This point is
6 wrong, in our opinion. Whether it's right or wrong, PEMA
7 has no expertise in this area. And there is no indication
8 that they have done any study on this point.

9 In Bosnia, military trucks have been used to
10 transport civilians, not once but hundreds of times. And
11 there has been no report of people being hurt as a result.

12 If there is a problem in the use of military
13 trucks, that can be studied. DOD or the Guard can let us
14 know whether an extra piece of equipment is needed to help
15 civilians get on or off a military truck, or if there are
16 techniques that would permit one person to help another in
17 this.

18 Similarly, if there are problems maintaining
19 civilians in a safe arrangement while the truck is moving,
20 we would want to know what distinguishes civilians from
21 military personnel in this regard, and what options there
22 are to deal with the safety factor.

23 A peremptory statement by PEMA is not convincing
24 on this point. A due diligence inquiry is required. And
25 PICA suggests that after such an inquiry, it would be four:

1 that military trucks can, indeed, be used for civilians.

2 In the same paragraph, 1C, Mr. LaFleur finds that
3 a plan would not have to include a list of Guard equipment
4 that could be deployed, since that too could be figured out
5 in the midst of an emergency.

6 The third main issue is the money. \$500,000 just
7 doesn't seem like enough money for all nuclear emergency
8 preparedness in the entire Commonwealth of Pennsylvania.

9 We know from paragraph 1B of Mr. LaFleur's letter
10 that, "The revenues from the 911 line charges currently
11 provide \$52 million per year in support of public safety
12 within the state."

13 PICA offers that information only as a rough gauge
14 of levels of expenditure for public safety in Pennsylvania.
15 If we figure that maybe 10 percent of what the 911 line
16 charges provide might be an appropriate budget for nuclear
17 emergency preparedness, that would give us a budget of \$5
18 million statewide, which would mean an assessment of \$1
19 million per site, instead of \$100,000 as is presently done.

20 PEMA says that Senator Schumaker, a member of the
21 Republican Party, doesn't want to burden the ratepayers.
22 PEMA tells us that the utilities say they don't want to
23 burden the stockholders.

24 FEMA says that PEMA has taken reasonable steps to
25 acquire additional resources. It appears to PICA that PEMA

1 has taken no energetic steps to acquire appropriate
2 resources, recognizing that the organization is headed up by
3 the Lieutenant Governor of the state who has been personally
4 aware of PICA's concerns since October of 1992.

5 Many other issues are tied to the money questions.
6 There is no second warehouse because there is no money to
7 pay for it. There are almost no unscheduled drills because
8 the participants are volunteers, because there is no money
9 to pay them; see LaFleur letter, 7H and 9.

10 PICA would like to look at some of the options to
11 deal with the three main issues in a second. But before
12 turning away from Mr. LaFleur's letter, there is a point
13 that needs to be addressed.

14 In paragraph 8C, the suggestion is made that,
15 "Harrisburg believes that they could handle their population
16 if there was a widespread evacuation."

17 This is totally false. It would take a five-
18 minute call to Mayor Reed to verify what PICA says here, or
19 we can look at some correspondence.

20 In his letter of June 24th, 1992, the Mayor says
21 that there will not be sufficient available resources for
22 any evacuation activities beyond the ten-mile radius, unless
23 the NRC adjusts the evacuation boundary.

24 In his letter of July 20, 1992, the Mayor says
25 that a state of emergency would necessitate a mass

1 evacuation for which sufficient resources would not be
2 immediately available.

3 in his letter of September 23, 1992, the Mayor
4 says that the Dauphin County Plan needs to be improved,
5 particularly in the areas of identifying currently available
6 transportation resources.

7 We support your view that military vehicles, of
8 which there are plenty in the immediate Harrisburg area, be
9 part of the Dauphin County Plan.

10 In his letter of December 28, 1992, the Mayor says
11 that the fire chief is writing the COs of the military bases
12 and trying to get the use of the vehicles. He says their
13 availability would be critical to the mass movement of
14 thousands of people.

15 Even Representative Gekas is happy to pass the
16 idea along to the Secretary of Defense on PICA's behalf.

17 Finally, in his letter of February 8, 1993, the
18 Mayor says that in light of the non-cooperation of FEMA and
19 the NRC in extending the EPZ, Harrisburg has identified
20 sufficient resources to accomplish an evacuation. But
21 Harrisburg's plan is not officially recognized by the county
22 or the state or the Federal Government.

23 Under these circumstances, it is hardly fair for
24 Mr. LaFleur to say that Harrisburg believes they could
25 handle their population if there was a widespread

1 evacuation.

2 Mayor Reed has tried to identify resources to fill
3 the gap. But he believes no such thing, as Mr. LaFleur
4 suggests.

5 Identification of resources is one thing. An
6 integrated emergency preparedness plan is another. When we
7 built nuclear power plants, it wasn't with the idea that
8 mayors would go out and try to identify resources.

9 It was with the idea that there was going to be
10 emergency preparedness plans. The heroism of Mayor Reed
11 cannot be used by Mr. LaFleur as a shield to deflect
12 justified observations of Mr. LaFleur's own negligence.

13 Now to examine some options: On the EPZ issue,
14 the option that PICA suggests is that the NRC declare the
15 existence of a contingency planning area, CPA, to the north
16 of the present EPZ and to include Harrisburg.

17 The beauty of this option is that you don't have
18 to extend the EPZ itself. You can make your own rules for
19 what kinds of plans need to be done for a CPA.

20 If there are other places in the country where
21 CPAs are appropriate, they can be handled on a case-by-case
22 basis.

23 The CPA approach allows you to do a layered
24 official evacuation. When it is time to declare an official
25 evacuation of Harrisburg, you will have something to work

1 with. You won't be making it up on the spot in the midst of
2 an emergency.

3 If you have to evacuate the CPA, you will need the
4 military trucks. They are far better in some of the small
5 streets of Harrisburg anyway, than the very bulky passenger
6 buses.

7 You would have to assume that the streets might be
8 blocked by stalled privately-owned vehicles. Military
9 trucks with plenty of clearance and heavy suspensions could
10 get around blockages by going up on the sidewalks, as big
11 passenger buses cannot.

12 We feel that you could use a CPA approach in
13 response to our 2.206 Petition. A rulemaking is not
14 required.

15 This is a contingency planning area. It is a
16 decision to make additional plans. It doesn't take anything
17 away from anybody. It doesn't affect anybody's rights,
18 except perhaps the right to life of the people who live in
19 Harrisburg.

20 There is not the sort of due process issue that
21 would make a rulemaking necessary.

22 On the military issue, PICA would suggest the
23 following option: Military trucks would only be needed if
24 the CPA had to be evacuated. But if they were needed, they
25 would be needed to evacuate the CPA.

1 Mr. LaFleur is already 50 buses short. And his
2 plan only touches 10 percent of Harrisburg. The language of
3 exactly how the Guard will be used is unclear.

4 PEMA doesn't think that military trucks can be
5 used to evacuate civilians. The Guard's role is traffic
6 control; emergency transportation, presumably of officials;
7 emergency fuel; and clearing of roads. See page ten of
8 Kwiatkowski letter, 16 December 1993.

9 Military trucks to evacuate the CPA can't take six
10 hours to assemble and move from their armories; LaFleur
11 letter, paragraph 1C.

12 So maybe someone other than the Guard needs to
13 provide them. There might be an Army unit at Indiantown Gap
14 or a unit at New Cumberland or Mechanicsburg, or somewhere
15 else, that could respond quicker than six hours.

16 It is possible that the Guard could respond
17 quicker than six hours. PEMA's statement should not be
18 taken at face value unless it is backed up by some kind of
19 official statement from the Guard.

20 The NRC wouldn't want the Department of Commerce
21 to tell the White House what the NRC could do. You would
22 want to speak for yourselves. And PICA thinks the Guard
23 should be accorded the same privilege.

24 Our idea of correct procedure for evacuation with
25 military trucks starts with the fact that even with an

1 officially-declared evacuation, you can't force people onto
2 trucks.

3 The military trucks should be deployed to very
4 scattered small neighborhood pickup points. And they should
5 do several in sequence until they are full. And then they
6 should go on to a tent city somewhere beyond the plume.

7 Since the civilian evacuees are not all going to
8 be ready at once, the trucks just need to keep streaming
9 through the city, picking up whoever is ready and getting as
10 many people out as want to go.

11 There should be enough trucks so that there is a
12 seat on a truck for everybody that needs one. This may mean
13 the trucks have to loop back around and make a second or
14 third pass.

15 If radiation levels are such that it is not
16 acceptable to leave any military personnel in place for any
17 purpose, then on their final pass, the trucks need to pick
18 up all deployed military personnel.

19 PICA is operating on the premise that, no matter
20 what the radiation level, it is never acceptable to force
21 any competent adult from their home and into a truck.

22 We also feel that protection of property takes
23 second place to protecting the lives and health of service
24 personnel. We also hold that verbal orders, not amounting
25 to actual force, may be used to induce people into trucks.

1 And finally, we hold that the Commonwealth and the
2 Federal Government is in loco parentis of all unaccompanied
3 incompetents and minors, and that they may be forced onto
4 trucks if radiation conditions are life threatening.

5 The option for NRC at this point is to investigate
6 and find out what military resources are available, what
7 they could do, how fast they could respond, how many people
8 they could handle.

9 If agreements can be made, military participation
10 should be worked into the overall emergency preparedness
11 plan and, most particularly, for the CPA.

12 A commitment to undertake such an investigation,
13 if feasible, and, if feasible, work military resources into
14 the plan would be regarded by PICA as an adequate response
15 to its 2.206 Request.

16 Again, no rights are being taken away from
17 anybody. There is no due process issue. A rulemaking is
18 not required.

19 On the money issue, PICA proposes the following
20 least radical option: The NRC should mandate that the TMI
21 site will remit \$1 million per year, instead of \$100,000, to
22 the Act 147 account, with this \$1 million being earmarked
23 exclusively for use for the emergency planning and
24 protection of the people of the risk counties surrounding
25 the TMI site.

1 PICA believes that \$5 million is the correct
2 figure for the entire Commonwealth, and that any reasonable
3 survey of county executives and mayors would support that
4 view.

5 We would be very pleased if the NRC adopted a
6 stronger option and federalized the collection and
7 distribution of these funds based on a recognition that the
8 Commonwealth, at this time, is structurally and politically
9 unprepared to take any step that might displease big
10 business.

11 If private industry is so strong in a state that
12 the offices and agencies of the state become its
13 instrumentalities, contrary to the public interest, then
14 insofar as the NRC has responsibilities to safeguard the
15 citizens, the issue may be federalized and dealt with by
16 federal mandate.

17 Somewhere between the utility, PEMA, and the
18 Pennsylvania legislation, there seems to be a lack of
19 ability to run TMI-1 in a manner that is consistent with
20 public safety.

21 FEMA has had two years to investigate this and
22 come to appropriate conclusions. Mayor Reed in his letter
23 of January 19, 1994, to Senator Wofford, indicates in the
24 most official way possible that the NRC should do a de novo
25 investigation of the critical points.

1 We feel that this would be acceptable under the
2 rules requiring that FEMA get first bite at the apple. The
3 NRC should contact the appropriate military authorities,
4 find out about military trucks, examine the idea of a
5 contingent planning area, and inquire into the money issues
6 in a meaningful way.

7 We think a de novo investigation of the critical
8 points could be done by the NRC in 90 days. But whatever
9 time it takes, the NRC should order a power-down of TMI-1
10 during the pendency of the investigation.

11 Time has been on the side of the utility, PEMA and
12 the legislature for two years. This time has been used to
13 do nothing of significance. If they have time on their side
14 for the next 20 years, they will do nothing for that long.

15 But if time were not on their side, we would see
16 action. We would see a utility anxious to get a good plan
17 in place, anxious to pay for it, anxious to help organize
18 it.

19 We would see PEMA discovering the possibility of
20 many things that were thought impossible before. And we
21 would see a legislature ready and willing to pass any
22 appropriate law to stave off federalization of safety
23 funding or a broader federalization of nuclear regulation in
24 Pennsylvania.

25 Shifting the time burden would cause a lot of

1 inertia to disappear. No substantive changes can be made in
2 preparedness unless that inertia is overcome.

3 The people need a good plan. Unless the NRC steps
4 in, they are not going to get one.

5 Consistent with the Mayor's letter to PEMA of
6 January 19, 1994, we say that if we can't get a de novo
7 investigation by the NRC on the three critical points and a
8 contingency planning area defined for Harrisburg and
9 completed with a meaningful plan, then you will force PICA
10 to take this pen and call for a Congressional investigation
11 to include the Harrisburg issue, similar issues nationwide,
12 and the NRC's ability to respond to incoming information and
13 willingness to perform its role as a guarantor of public
14 safety.

15 That is what I have for my initial comments. I
16 would be happy to respond to questions.

17 MR. HERNAN: You used the word "power-down" both
18 in your written correspondence and in your presentation.
19 Could you describe what that means? I'm not familiar with
20 the term.

21 MR. GARY: We are interested in the most economic
22 form of power-down, the one that will hurt the utility the
23 least. We are not -- we are not interested in a shutdown to
24 cold metal.

25 We are happy with a natural core cooling mode or

1 with a 10-percent power generation mode, whatever is
2 required to keep the fans and pumps on-site running.

3 We are not interested in unnecessarily causing any
4 expense or degradation in that equipment to the utility.
5 All we want to do is shift the time burden to get some of
6 that inertia to disappear.

7 MR. HERNAN: So it could be a hot shutdown, or it
8 could be reduced power level.

9 MR. GARY: We are happy with a hot shutdown. We
10 have no problem with that. But we would like -- we think
11 probably a reduced power level situation -- power levels
12 consistent with on-site power supply is much more reasonable
13 than some kind of shutdown to cold metal.

14 We are trying to be as reasonable and as
15 responsible as we can be.

16 MR. HERNAN: Okay.

17 [Pause.]

18 MR. BOYNTON: Mr. Gary --

19 MR. GARY: Yes.

20 MR. BOYNTON: -- briefly, you had mentioned there
21 were -- as you described under the EPZ issue, there were
22 some critical elements missing in the radiological emergency
23 response plans. And I assume you are referring to both the
24 state and the Dauphin County plans.

25 MR. GARY: Yes.

1 MR. BOYNTON: Could you elaborate, perhaps, any on
2 those critical elements you are referring to when you say
3 there are critical elements missing?

4 MR. GARY: Well, the plan, the RERP that we
5 reviewed was several hundred pages long.

6 MR. BOYNTON: Okay.

7 MR. GARY: It was -- if memory serves -- and I'm
8 not positive it does here. But I think it was about 400
9 pages.

10 MR. BOYNTON: Okay.

11 MR. GARY: We feel that the RERP is larded down
12 with every form of administrative nonsense, different
13 portions of the Pennsylvania system allocating
14 responsibilities among themselves and giving long
15 recitations of who is responsible for what.

16 In an emergency, you don't need anything like
17 that. You need the same thing that you need on an aircraft
18 carrier for an emergency response manual.

19 You need about a 100-page book that has large
20 print, which is color-tabbed, which is basically a speed
21 book. You know what is going on. You look to the
22 appropriate color tab.

23 You want something that it doesn't take a lawyer
24 to read. You want something that an \$18,000-a-year junior
25 emergency response person who may be the only person in the

1 emergency response center at that time -- you know how
2 things go.

3 In an emergency, the worst thing always happens.
4 The senior guys get a flat tire. They can't get there. So
5 you want something that the most junior person can open up,
6 and that they can start running that emergency out of the
7 book right there on the spot, because that book is so
8 simple, and it's so short, and it's color-coded, and it's
9 tabbed, and it's indexed.

10 And they can respond just like a non-commissioned
11 officer on a ship can respond, if that is the only person
12 available to handle an emergency.

13 MR. BOYNTON: Now, you are saying that these
14 elements perhaps have been shifted to another place. I've
15 heard PEMA refer to standard operating procedures.

16 Do those -- those procedures that implement the
17 plan, do they have the critical elements in them?

18 MR. GARY: According --

19 MR. BOYNTON: Are they just -- go on.

20 MR. GARY: According to the officials, they do.
21 The officials always refer to these notes and these other
22 papers that are somewhere in the back pocket of somebody or
23 in the desk.

24 There are other papers that have all the real
25 information in them. It's not here in the plan, but it's

1 somewhere in other papers somewhere. According to the
2 officials, all of the stuff is really there.

3 PICA's position is that the plan that you put
4 forward as your RERP should be authentic. It should be
5 genuine. It should be the real stuff.

6 If you think there is a security problem with
7 putting the real information in the RERP, then make it a
8 classified document.

9 Limit public access to it. We have no problem
10 with that. But we think the RERP should be something other
11 than a public relations document. We think it should be a
12 genuine, authentic response plan.

13 MR. BOYNTON: Okay.

14 MR. GARY: The beauty of that, by the way, is that
15 we have a concept in this country of consent, consent of the
16 governed.

17 And the beauty of it is that an organization like
18 PICA, through proper channels, and with all of the proper
19 t's crossed and i's dotted could get a copy of that plan.
20 And if it was no good, we could comment on it.

21 We could say, "No. We, on behalf of the public
22 interest, don't give our consent to the plan being set up
23 this way. It's not workable. It's not reasonable."

24 But if it is all done secretly, if it's all notes
25 in somebody's back pocket or something that they are going

1 to make up on the spot, then there can't possibly be any
2 public comment on that.

3 I'm not talking about the general public. But I'm
4 talking about the public interest bar.

5 MR. BOYNTON: So you don't feel that the
6 procedures, then, are usable by members of the emergency
7 response organizations around the site, that there is
8 something they can use readily for --

9 MR. GARY: Well, they --

10 MR. BOYNTON: -- emergency response.

11 MR. GARY: They would have to be speed readers at
12 the graduate school level. I mean, if they could get
13 through a 400-page document that is mostly legalese in the
14 midst of an emergency, when everybody is calling at them and
15 calling them on the phone and yelling orders in their ear,
16 then I guess they might be able to glean something from the
17 RERP. But the --

18 MR. BOYNTON: Well, I'm not referring to the RERP.
19 I'm referring to the operating procedures that the people
20 are supposedly going to be using to implement the RERP.

21 MR. GARY: I haven't seen them. They wouldn't
22 show them to me.

23 MR. BOYNTON: Okay.

24 MR. GARY: And I don't necessarily believe that
25 they are there. I mean, I wasn't timid when I asked for

1 them.

2 MR. BOYNTON: Okay.

3 MR. GARY: And the fact that they weren't
4 forthcoming suggests to me, not decisively, but it suggests
5 to me that maybe they are not there.

6 MR. BOYNTON: Okay. I have one other question.
7 You also mentioned -- just for my understanding, briefly,
8 you said Harrisburg, if you wanted to evacuate it, we would
9 need 1,000 buses to do that. Where did you come up with
10 that number?

11 MR. GARY: Well, you have a -- I mean, that was a
12 very rough figure. It could be anything between 500 and
13 1,000. It depends on the size of the buses. If you use
14 military trucks, it would probably be 1,000. But I'm
15 including --

16 MR. BOYNTON: Did you --

17 MR. GARY: -- the possibility of --

18 MR. BOYNTON: Did you make any assumptions with
19 that, when you came up with that number?

20 MR. GARY: No. But one thing that I did take into
21 account was that the plan, as it is presently constituted,
22 comes out about even. It's 50 buses, plus or minus. But it
23 omits 90 percent of Harrisburg. So put Harrisburg in, and
24 you need some more transportation.

25 MR. BOYNTON: That's all I have.

1 MR. GARY: Okay.

2 MR. HERNAN: In your opinion, should the EPZ also
3 be expanded to include the City of York, Pennsylvania?

4 MR. GARY: Well, now, our position today, sir, is
5 that we are not calling for an expansion of the EPZ. We are
6 calling for the creation of a whole new --

7 MR. HERNAN: Okay. Whatever it is that you are
8 seeking --

9 MR. GARY: The CPA.

10 MR. HERNAN: -- would that also include the City
11 of York, which is in about the same situation?

12 MR. GARY: If that is in the same situation, then
13 the answer would be in the affirmative.

14 MR. HERNAN: Okay. Thank you.

15 MR. GARY: Okay.

16 MR. HERNAN: Any other questions?

17 [Pause.]

18 MR. STOLZ: Mr. Gary, have you had an opportunity
19 to visit any of the emergency planning exercises that have
20 been conducted at TMI?

21 MR. GARY: I haven't. I was at the PEMA emergency
22 control center and had a very brief opportunity to see the
23 inside of that. But I have not been present at an exercise.

24 MR. STOLZ: Okay.

25 MR. GARY: I asked to be invited, but wasn't.

1 MR. STOLZ: Okay.

2 [Pause.]

3 MS. LANGO: Mr. Gary, could you give us an idea of
4 how you arrived at the \$5 million figure?

5 MR. GARY: I talked to Bill Wertz, who is at the
6 EOC in Harrisburg.

7 And I asked him, "How much are you getting, in
8 terms of Act 147 allocations?"

9 He said, "About \$1,000."

10 "Do you need more?"

11 "Yes."

12 I asked -- I talked to Mayor Reed.

13 And I said, "Are you getting -- are you covered
14 for the costs that you are expending for nuclear emergency
15 preparedness?"

16 He said, "No, no. They all come right out of the
17 city's pocket. We are not getting anything."

18 I said, "Well, what about the other mayors?"

19 "Well, they probably feel the same way I do."

20 "Well, how about the county executives?"

21 "The same way."

22 This would be a good time, in response to that
23 question, for me to deliver the additional comments that I
24 have on the money issue, if that's all right.

25 I have about ten minutes of comments on the money

1 issue. And I will take that occasion to go ahead and
2 present them.

3 MR. HERNAN: Okay.

4 MR. GARY: A brief chronology on the money issue
5 might be useful in understanding the position of PEMA, which
6 has been ratified by FEMA.

7 August 2, 1990 -- before I begin this, I want to
8 distribute the pack that contains the letters, because it's
9 fair that you have an opportunity to see these letters, if
10 you want. [Indicating.]

11 MR. HERNAN: Okay.

12 [Pause.]

13 MR. GARY: This letter, the August 2 letter, is in
14 here. [Indicating.]

15 August 2nd, 1990: Mr. LaFleur sends a letter to
16 Governor Casey saying, regarding Act 147 allocations, that
17 although the counties were not receiving sufficient funds
18 under the current fee assessments, federal exercise reports
19 have not identified any major deficiencies which cannot be
20 remedied with the funds available as known at this time; a
21 curious formulation which seems to mean that the counties
22 say that they need more money.

23 But with the money we have, we can meet the
24 federal requirements. This appears to be a kind of
25 "minimalist" approach, rather than a true "adequacy"

1 approach.

2 It raises the question of whether Section 502(c)
3 of the Radiation Protection Act means adequate for
4 radiological protection, or simply adequate to meet the
5 federal requirements as specified in federal exercise
6 reports.

7 August 26th, 1991: Mr. LaFleur sends a letter to
8 Governor Casey with the same language as the letter of the
9 prior year, basically saying we can get by, as far as
10 federal exercises are concerned, with \$500,000, even though
11 the counties say they are not receiving enough money to
12 cover their needs.

13 June 17th, 1992: Robert Gary writes to Mark
14 Goodwin, chief counsel for PEMA, asking if \$500,000 per year
15 isn't a rather small amount for radiological preparedness in
16 Pennsylvania.

17 This letter points out that Mr. Bill Wertz, the
18 Dauphin County operations center chief, says the average was
19 only \$1,000 per county for Act 147 allocations. The letter
20 asks that Robert Gary be permitted to come in and look at
21 the books.

22 June 29th, 1992: Robert Gary writes again to Mark
23 Goodwin, asking if PEMA believes \$500,000 per year is a
24 reasonable amount for radiological preparedness in
25 Pennsylvania to pay for the actual needs of 33 pertinent

1 counties.

2 June 30th, 1992: Permission is granted by PEMA
3 for Robert Gary to come in and look at the books for Act 147
4 allocations. Mr. Gary goes to PEMA, finds the book, but is
5 not permitted to copy the page on which the allocations are
6 listed.

7 If memory serves, the allocation for Dauphin
8 County is in the \$40,000 to \$50,000 range. And there are
9 several other risk counties in that range. All other
10 counties are far below that.

11 July 15th, 1992: Mr. Goodwin writes back to
12 Robert Gary, but on the money issue only addressing the
13 question of how the fees collected under Sections 7320(c)
14 and (d) of the Emergency Management Services Code are
15 expended.

16 He says they are expended on salaries and
17 benefits, including salaries and benefits of PEMA employees
18 who do radiological emergency response and planning
19 activities.

20 August 28th, 1992: Mr. LaFleur sends a letter to
21 Governor Casey. Again, he says that the counties say they
22 need more money, but Pennsylvania can get past the federal
23 exercises without adding money.

24 But now some new language is added. Mr. LaFleur
25 says that the costs are going up. PEMA needs to keep pace

1 with rising costs; perhaps there should be an increase in
2 Act 147 funding.

3 PEMA, therefore, is going to consider forwarding a
4 recommendation that the levy under Act 147 be reviewed and
5 that the utilities are going to participate in that review.

6 Again, we are dealing with very curious language.
7 Mr. LaFleur seems to be making a gesture. And yet, the
8 gesture is so small that it is hard to imagine how he could
9 do less.

10 We are going to begin considering doing some
11 thinking about a review in which the utilities will have
12 input into; this sounds like something that will result in
13 cash money sometime in the next decade or two.

14 October 2nd, 1992: Mr. LaFleur and Mr. Gary meet
15 in the office of State Senator Schumaker, who states
16 forcefully that he would not place a burden on the
17 ratepayers of Pennsylvania to increase Act 147 allocations
18 above \$500,000 per year.

19 July 12th, 1993: Mr. LaFleur reveals in point 7E
20 and F of his letter that, "The utilities have stated that
21 they are reluctant to provide more stockholder or ratepayer
22 funds to PEMA."

23 This is truly remarkable. A corporation says it
24 wants its shareholders to have the money, not the counties
25 who are trying to meet emergency preparedness goals and are

1 short of money for that purpose.

2 Nothing is done. PEMA wrings its hands, goes back
3 to its desk. If the shareholders can't spare it, perhaps
4 the citizens can do without the preparedness.

5 December 16th, 1993: Mr. Dennis Kwiatkowski
6 writes a letter to Mr. Frank Congel -- a copy to
7 Representative Gekas -- saying, "FEMA believes that PEMA has
8 taken reasonable steps to acquire additional resources."

9 February 2nd, 1994: PICA comments on the above
10 series of events as follows: PEMA did nothing to get more
11 than \$500,000 per year for two years before Robert Gary
12 started making noise about the issue.

13 In fact, PEMA wrote letters to the Governor
14 suggesting that all of the federal tests could be passed
15 without increasing the allocation, even though the county
16 said they didn't have enough money.

17 When the issue was joined and PEMA had no other
18 option but to respond in some manner, they responded in the
19 weakest imaginable way by talking about planning to consider
20 doing a review and surveying the utilities for their
21 opinions.

22 When the utilities said they didn't want to
23 deprive their shareholders to increase the allocation, PEMA
24 sent letters through channels and let it go. According to
25 FEMA, this constitutes reasonable steps.

1 PICA disagrees strongly. FEMA's findings are
2 unacceptable by any rational standard and constitute one
3 more point to suggest that nothing short of a de novo
4 investigation by the NRC is needed before any fair or
5 reasoned determination can be made on PICA's 2.206 Request.

6 MR. HERNAN: Okay.

7 MR. GARY: Are there any other questions?

8 Do you have any other questions, counselor?

9 [Pause.]

10 MR. HERNAN: Okay.

11 MR. GARY: I was hoping that there would be some
12 active questions today.

13 [Pause.]

14 MR. HERNAN: Okay. If there are no further
15 questions, we appreciate your time.

16 MR. GARY: Thanks for having me. I appreciate it.

17 MR. HERNAN: You're welcome.

18 [Whereupon, at 2:25 p.m., the above-entitled
19 meeting was concluded.]
20
21
22
23
24
25

REPORTER'S CERTIFICATE

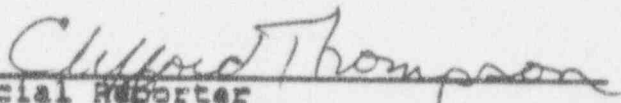
This is to certify that the attached proceedings
before the United States Nuclear Regulatory
Commission
in the matter of:

NAME OF PROCEEDING: 10 CFR 2.206 Petition

DOCKET NUMBER:

PLACE OF PROCEEDING: Rockville, MD

were held as herein appears, and that this is the
original transcript thereof for the file of the
United States Nuclear Regulatory Commission taken
by me and thereafter reduced to typewriting by me
or under the direction of the court reporting
company, and that the transcript is a true and
accurate record of the foregoing proceedings.


Official Reporter
Ann Riley & Associates, Ltd.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

Ivan W. Smith, *Chairman*
Dr. Walter H. Jordan
Dr. Linda W. Little

In the Matter of

Docket No. 50-289-SP
(Restart)

METROPOLITAN EDISON
COMPANY
(Three Mile Island Nuclear
Station, Unit No. 1)

December 14, 1981

APPEARANCES

Licensee, General Public Utilities Nuclear Corporation:

George F. Trowbridge, Thomas A. Baxter, Ernest L. Blake, Jr.,
Robert E. Zahler, Deborah B. Bauser, and Delissa A.
Ridgway, Esquires, Shaw, Pittman, Potts & Trowbridge

Nuclear Regulatory Commission Staff:

James R. Tourtellotte, James M. Cutchin, IV, Joseph R. Gray,
Daniel T. Swanson, and Lucinda Low Swartz, Esquires

Commonwealth of Pennsylvania:

Robert W. Asler and Michele Straube, Esquires; Mr. William
P. Dornsife

Mrs. Marjorie M. Aamodt and Mr. Norman O. Aamodt, *pro se*

Anti-Nuclear Group Representing York:

Ms. Gail B. Phelps

Secretary's lack of nuclear expertise), and presents a potential "for political pressure to be brought to bear to alter, delay, or even withhold crucial information from the public."

1603. Both the Commonwealth and FEMA presented direct testimony on the contention. See *Comey*, ff. Tr. 18,038; *Bath and Adler* (2/23/81), ff. Tr. 18,975, at 24-26. The Commonwealth's current public education and information program — including the role of the Governor's Press Secretary in that program — is described in Appendix 15 to the Commonwealth's Plan. See *Commonwealth Ex. 2.a*, at 15-1 to 15-5. Only the Licensee and Staff presented proposed findings on this contention.

1604. Under the Commonwealth's Emergency Plan, the Governor's Press Secretary is assigned the responsibility to establish policy and procedure for the state government public information program. The Governor's Press Secretary has delegated the responsibility of coordinating public information in an emergency and the role of state spokesperson in an emergency to PEMA. *Comey*, ff. Tr. 18,038; *Commonwealth Ex. 2.a*, at 15-1, §II.B, 15-4, §C. The evidence shows that for purposes of alerting the public and providing emergency instructions on protective actions, the Governor's Press Secretary (in actuality, his designee, the PEMA spokesperson) will not play a critical role because those functions are performed by other means. *Adler and Bath* (2/23/81), ff. Tr. 18,975, at 25; *Commonwealth Ex. 2.a*, at 15-3, §§V.A.1, 2.a.

1605. In any event, the PEMA spokesperson will be located at the media center adjacent to the state EOC. This is the best location for him to be briefed by knowledgeable state personnel, to be kept advised of all events, and to be informed of the status of state preparedness, of county preparedness and of the policy and concerns of the Governor. *Adler and Bath* (2/23/81), ff. Tr. 18,975, at 25-26; Tr. 18,054 (*Comey*). The Commonwealth's Emergency Plan provides that the PEMA spokesperson will exchange information on a regular basis with the spokespersons of all principal emergency response organizations (*Commonwealth Ex. 2.a*, at 15-4, §V.C.4) and provision has been made for coordination between the Licensee and the state to minimize the potential for conflicts in public information provided by the Licensee and the state. Tr. 18,057 (*Comey*).

1606. From the provisions outlined, we see no basis for concluding that designation of the PEMA spokesperson as the sole spokesperson for the state would be an impediment to providing information to the public. Such designation is in accordance with the guidance of NUREG-0654, Criterion G.4.a, which stipulates that the state is to designate a spokesperson who would have access to all necessary information. *Staff Ex. 7*, at 50. That access is provided by the location of the PEMA spokesperson adjacent to the state EOC and should assure that errors in information received and delay in the receipt of information are minimized. Finally, we find no

evidentiary support for the assertion in ECNP Contention EP-12 that the designated state spokesperson may be subject to political pressure to alter, delay or withhold crucial information from the public.

1607. In sum, we find the Commonwealth's provisions for the state spokesperson in an emergency to be adequate and to sufficient to allow the timely dissemination of accurate information to the public. Consequently, the Board rejects ECNP Contention EP-12.

F. Definition of Emergency Planning Zones

1608. With respect to the adequacy of the emergency planning zones (EPZs) adopted for use around TMI, subparagraph 1 of Sholly Contention EP-17(A) asserts, *inter alia*, that "a limited evacuation will lead to problems due to spontaneous evacuation of a much larger area." The Board notes that regardless of where a boundary is set there may be a spontaneous evacuation of a larger area or, on the other hand, there may be resistance to evacuation by a portion of the population within the boundary. Nevertheless, potential problems which could arise should a larger than anticipated evacuation occur were of great concern to the parties, and the issue of whether the affected population would overreact or underreact was litigated at length.

1609. Sholly Contention EP-17(A) states:

Licensee's acceptance, without formal analysis or evaluation, of a circular 10-mile radius for the Plume Exposure Emergency Planning Zone (as designated by the Pennsylvania Emergency Management Agency) does not discharge Licensee's responsibility to ensure that adequate emergency response plans exist to protect the public health and safety in the event of an emergency at TMI-1. Further, acceptance of or designation of a circular 10-mile radius Plume Exposure EPZ for TMI-1 is unjustified because such an EPZ fails to adequately consider local emergency response needs and capabilities as they are affected by demography and jurisdictional boundaries. These considerations, among others, are specified in NUREG-0396, NUREG-0654, and the new emergency planning rule published in the *Federal Register* on August 19, 1980. The following specific local conditions should be reflected in the Plume Exposure EPZ for TMI-1:

1. The proposed 10-mile radius circular EPZ includes within the EPZ portions of numerous jurisdictions at the township, city, borough, and town levels of government. Calling for an evacuation of only a portion of any political jurisdiction due to a hazard which affects a large geographic area and basing emergency plans

and response capabilities on such a limited evacuation will lead to problems due to spontaneous evacuation of a much larger area, with a concomitant increase in traffic and supply requirements at shelters. Therefore, the Plume Exposure EPZ for TMI-1 should include the entire geographic extent of all governmental jurisdictions at the township, city, borough, and town level which are bisected by the proposed circular 10-mile EPZ.

2. There are heavily populated areas in and near the cities of Harrisburg and York represented by the city proper and adjacent continuation of the urban areas into the suburbs. In the event that the wind is blowing toward either of these areas when a large release of radioactivity occurs, such areas would constitute a large percentage of the total population dose (in the case of the TMI-2 accident, for instance, Harrisburg contributed 25% of the total population dose despite the fact that most of the city is more than 10 miles distant from the plant). The urbanized areas in and around Harrisburg and York are concentrations of population for which preplanning for an evacuation is a necessity for successful implementation (for instance, preplanning would have to include evacuation routes, transportation needs, host area requirements, and problems posed by special populations such as prisons). Therefore, the urbanized areas around and including the cities of Harrisburg and York should be included within the Plume Exposure EPZ for TMI-1.
3. Numerous members of the Old Order Amish community reside in relatively close proximity (within 10 miles) of the outer boundary of the Licensee's Plume Exposure EPZ in Lancaster County. Because the Old Order Amish eschew the use of electricity, telephones, and automobiles, they present unique problems with respect to warning, communication of protective action advisories, and transportation. These unique problems warrant the special consideration the inclusion of Old Order Amish within the Plume Exposure EPZ would provide.
4. To the extent that the Licensee relies upon the decision of county officials in the Three Mile Island area to develop and maintain a 20-mile emergency response capability as a substitute for making a determination that the 10-mile circular EPZ is adequate, the adequacy of such a 20-mile capability must be established as a condition to the restart of TMI-1.

1610. Section 50.47(b)(10) of 10 CFR requires that a range of actions be developed to protect the public in an area surrounding nuclear power plants designated as the plume exposure pathway EPZ and, further, that protective actions appropriate to the locale be developed for an area surrounding plants designated as the ingestion exposure pathway EPZ with plans for the ingestion EPZ to focus on protecting the food ingestion pathway (10 CFR 50.54(s)(1)). The plume EPZ is to consist of an area about 10 miles in radius and the ingestion EPZ is to be about 50 miles in radius with the exact size and configuration of each EPZ determined based on local emergency response needs and capabilities as they are affected by demography, topography, land characteristics, access routes, and jurisdictional boundaries. 10 CFR 50.47(c)(2); 10 CFR 50.54(s)(1). Plume and ingestion EPZs have been developed and defined for TMI. Commonwealth Ex. 2.a, Appendix 1, at 1-1 to 1-3; Commonwealth Ex. 2.b.

1611. In the statement of considerations accompanying adoption of the new emergency planning regulations, the Commission identified the regulatory basis for the EPZ concept as a "decision to have a conservative emergency planning policy in addition to the conservatism inherent in the defense-in-depth philosophy." 45 Fed. Reg. 55402, 55406 (August 19, 1980). At that time the Commission also observed that "[t]he exact size and shape of each EPZ will be decided by emergency planning officials after they consider the specific conditions at each site. These distances are considered large enough to provide a response base that would support activity outside the planning zone should this ever be needed." *Id.* A further identification of the factors considered by the Commission and FEMA in defining the geographic extent of the EPZs is set forth in NUREG-0654, Staff Ex. 7, at 10-13.

1612. At the outset, we note that the plume EPZ designated by PEMA is not precisely an area enclosed by a circle 10 miles in radius, but one very roughly 10 miles in radius with irregular boundaries which in most instances extend beyond 10 miles from TMI, in some locations by a mile or more. Commonwealth Ex. 2.b.

1613. The Board's job with respect to definition of the EPZ is to determine whether there has been compliance with the Commission's regulation. We have no jurisdiction to challenge as a matter of policy whether the approximately 10- and 50-mile EPZs are too small or too large. The Board's major area of responsibility is determination of whether "local emergency response needs and capabilities as they are affected by such conditions as demography, topography, land characteristics, access routes, and jurisdictional boundaries" have been properly considered.

1614. The plume exposure pathway EPZ around TMI is shown in the Commonwealth's emergency response plan. Commonwealth Ex. 2.b. Testimony on the adequacy of this EPZ was presented by Licensee, the

Staff and FEMA. See Rogan, *et al.*, ff. Tr. 13,756, at 97-111; Chesnut, ff. Tr. 15,007, at 63-66; Adler and Bath (3/16/81), ff. Tr. 18,975, at 61-63; Chesnut and Bath, ff. Tr. 19,626, at 13-14. No other party to the proceeding presented direct testimony on this subject, and the intervenors' cross-examination in this area was limited for the most part to special provisions made for the Old Order Amish. See Tr. 14,143-57, 14,676-80, 17,575-82, 18,108-09, 18,111-13, 18,288-91, 18,292-94, and 19,661-68.

1615. PEMA determined the geographic extent of the plume exposure pathway EPZ for the TMI site. Initially a circle, with a radius of 10 miles, was inscribed around the TMI site. The boundaries of this circle were then moved to a close, recognizable marker by considering political boundaries, natural geographic features, roads, and other readily identifiable landmarks. The population included within the resulting plume exposure pathway EPZ is about 30 percent greater than the population included within a precise 10-mile circle around the TMI site. Rogan, *et al.*, ff. Tr. 13,756, at 98-99, 107-08; Chesnut, ff. Tr. 15,007, at 65-66. No party has brought to the Board's attention any particular boundary line which it believes is ambiguous, not well defined, or otherwise inappropriate. The Board therefore finds that, in defining the plume exposure pathway EPZ, PEMA gave appropriate consideration to such factors as demography, topography, land use characteristics, access routes, and jurisdictional boundaries.

1616. We next address each of the four specific concerns raised in Contention EP-17(A), noting that underlying this contention is an assumption that the plume exposure pathway EPZ around TMI is a uniform circle. While there may have been some confusion during the prehearing phase of the proceeding as to the shape of the EPZ, the record is now clear that PEMA has tailored the EPZ definition to local conditions. Rogan, *et al.*, ff. Tr. 13,756, at 108-09; Chesnut, ff. Tr. 15,007, at 65-66.

1617. Subparagraph 1 of the contention alleges that the EPZ boundary should include the entire geographic extent of all political subdivisions that are bisected by a 10-mile circle around TMI. The Board notes at the outset that such an extension is not required by Commission regulations.

1618. An examination of the plume EPZ boundaries for TMI reveals that those boundaries have been extended to include the whole of Derry, South Hanover, Fairview, and Conewago Townships, each of which is intersected by a 10-mile radius circle. Rogan, *et al.*, ff. Tr. 13,756, at 108; Commonwealth Ex. 2.b. The same examination also reveals that in every instance in which the EPZ boundary was not extended to include entire municipalities, the boundaries were established at roads or highways. Commonwealth Ex. 2.b. In this way, the plume EPZ boundary in any particular location is a clearly defined marker known to area residents. Rogan, *et al.*, ff. Tr. 13,756, at 108. The use of natural or jurisdictional boundaries for the plume EPZ boundary is important for planning pur-

poses because it will minimize confusion by persons who are unsure as to whether they are located in zones where protective actions have been ordered. Chesnut, ff. Tr. 15,007, at 65-66. While the designated plume EPZ boundaries do not include the whole of all municipalities intersected by a 10-mile radius circle, the evidence shows that the boundaries do coincide with jurisdictional boundaries, natural geographic features, roads, and other readily identifiable landmarks. Rogan, *et al.*, ff. Tr. 13,756, at 98-99; Chesnut, ff. Tr. 15,007, at 65-66. In addition, as Licensee's witnesses noted, extending the EPZ boundary further yet, to include all municipal areas bisected by the EPZ, would not be desirable since it would result in an EPZ boundary with long, nonuniform appendages. During an actual emergency this might result in confusion if protective actions were recommended for areas distant from TMI, while closer-in areas were not covered by the advisory. Rogan, *et al.*, ff. Tr. 13,756, at 108-09. Accordingly, the Board finds that the plume EPZ boundaries for TMI were established taking into consideration the topography, access routes and jurisdictional boundaries. Beyond this, we find no evidentiary basis for requiring that every political subdivision bisected by a circle of 10-mile radius from TMI be included within the plume EPZ for TMI. Thus, subparagraph 1 of Contention EP-17(A) is rejected.

1619. Subparagraph 2 of Contention EP-17(A) seeks to extend the EPZ boundary to include the cities of Harrisburg and York and the urbanized areas surrounding those cities. While the Board is aware that there are urbanized areas on the edges of the EPZ boundaries drawn by PEMA (see Board Physical Ex. A, D, and E), we cannot say on the basis of this record that the boundaries were drawn incorrectly. In Figure 6 accompanying the prefiled testimony of Rogan, *et al.*, ff. Tr. 13,756, Licensee has superimposed the PEMA-drawn EPZ boundary on Board Physical Ex. D. It is clear from Figure 6 that certain of the urbanized areas in and around Harrisburg and York have been included within the plume exposure pathway EPZ, e.g., parts of Lower Paxton, Susquehanna, Harrisburg City, New Cumberland, and Springettsbury. We have no basis for finding that these boundary lines are inadequate.

1620. The Board notes the Commission's observation, 45 Fed. Reg. 55402, 55406 (August 19, 1980), that the about 10-mile radius of the EPZ is large enough to support emergency response outside the planning zone should such response be necessary. We note, further, that the plume EPZ for TMI was defined by PEMA. That agency, responsible for assuring emergency preparedness for the Commonwealth, judged that not all urbanized areas around Harrisburg and York need be included in the plume EPZ to assure an adequate emergency response capability. Rogan, *et al.*, ff. Tr. 13,756, at 109. We find no evidentiary basis for disagreeing with that judgment. The evidence indicates that in the case of adverse meteorol-

ogy, with stable dispersion characteristics and low wind speeds and, therefore, the potential for higher off-site doses, the Harrisburg and York areas not included within the plume EPZ will have from five to eight hours additional warning time relative to areas close-in to TMI. Given the substantial preplanning within the plume EPZ, this additional warning time should be adequate to allow residents in those areas of Harrisburg and York not included in the EPZ to take necessary protective actions. Rogan, *et al.*, ff. Tr. 13,756, at 109-10. Detailed planning within a plume EPZ will provide a substantial base for expanding response efforts beyond the plume EPZ if that proves to be necessary. Staff Ex. 7, at 12. On the other hand, if weather conditions are unstable and plume travel time is fast, the off-site dose is likely to be smaller and the need for protective actions less (Rogan, *et al.*, ff. Tr. 13,756, at 10), particularly in view of the distance of Harrisburg and York from TMI. There is no evidence that the urbanized areas around York and Harrisburg not now included in the TMI plume should be included. Accordingly, we reject subparagraph 2 of Contention EP-17(A).

1621. Subparagraph 3 contends that Old Order Amish residing within 10-20 miles from TMI should receive the same special consideration as if they lived within the "10-mile" EPZ. The Board recognizes that the Old Order Amish face unique problems in the event of an evacuation and on our own we inquired into this matter during the proceeding. The Board finds that the most feasible solution is to assure that adequate means are in place to protect the Old Order Amish in the event of an accident at TMI, rather than to extend the EPZ irregularly in order to enclose them within the EPZ boundary.

1622. Within the 10-mile plume exposure pathway EPZ there are eight families, consisting of 56 persons, that are due special consideration during an emergency at TMI. In this case "due special consideration" means that alternative means of notification would be provided to supplement the notification given the general public. Tr. 18,293-94 (Lothrop). Between 10 and 20 miles from TMI there are an additional 24 families, consisting of an additional 168 persons who are due special consideration. Tr. 18,288 (Lothrop). With respect to these people, PEMA has established procedures with the Mennonite Disaster Service (MDS) to assure that, in the event of an emergency at TMI, they are properly notified and advised of the protective actions they should take. Tr. 18,111-12, 18,289-91 (Lothrop); Adler and Bath (3/16/81), ff. Tr. 18,975, at 61-63. The MDS has its own system for providing emergency information to the Old Order Amish and a written outline, developed during the TMI-2 accident, describing MDS evacuation capabilities. Tr. 18,291 (Lothrop). PEMA has in the PEMA duty officer manual, work and home telephone contact points for key personnel and alternates in the MDS. Tr. 18,289-90 (Lothrop); Adler and

Bath (3/16/81), ff. Tr. 18,975, at 62. During an actual emergency, a representative of the MDs would be stationed in the EOC. Bath, ff. Tr. 22,350, Attachment 3, at 8. During the June 2, 1981 exercise PEMA contacted the Mennonite Disaster Service and the arrival of a representative from this service to the state EOC was simulated. *Id.*, at item 14. Thus, the Board finds that special provisions have been made for the Old Order Amish who might be affected by an emergency and that the relief sought in subparagraph 3 of Contention EP-17(A) has been provided.

1623. Subparagraph 4 contends that, if Licensee relies on the existence of 20-mile evacuation plans to overcome an inadequacy in the EPZ boundary drawn by PEMA, then the 20-mile plans must be demonstrated to be adequate. Neither Licensee nor PEMA relies on 20-mile evacuation plans as a substitute for making an informed judgment as to the extent of the plume exposure pathway EPZ. Rogan, *et al.*, ff. Tr. 13,756, at 111. PEMA or local jurisdictions are free to develop plans going beyond the requirements set forth in 10 CFR Part 50. As discussed above, however, the Board has no responsibility to either review any such plans or determine their adequacy. To the extent that any work has been done on 20-mile plans, that effort provides additional assurance that the planning within the plume exposure pathway EPZ is adequate. Chesnut and Bath, ff. Tr. 19,626, at 14.

1624. In summary, the Board finds that the plume exposure pathway EPZ as drawn by PEMA complies with the Commission's regulations and is adequate to provide reasonable assurance that the public health and safety will be protected.

1625. After consideration of the Board's certification on psychological distress issues (11 NRC 297 (1980)), the four-member Commission denied, in effect, authorization for the Board to admit psychological stress contentions (12 NRC 607 (1980)). (This decision was recently reconfirmed in CLI-81-20, September 17, 1981.) Consequently, there were no specific contentions relating directly to the impacts of psychological stress, either from the TMI-2 accident or from the restart and operation of TMI-1, on the response of the public to an emergency at TMI. On the other hand, we noted in our certification (11 NRC 297, at 308-309 (1980)) that

Even if the Commission does not permit the consideration of psychological stress issues as such, these issues may collaterally relate to other issues which must be considered in the proceeding. Community fears may be a factor in evaluating the effectiveness of the licensee's emergency response plan. The licensee's sensitivity to community fears and licensee's credibility may indirectly relate to its management capability to formulate and implement emergency response plans. Conversely, the effectiveness of plans may rest on the

public's education, its preparation to take action and its confidence in the plans. To the extent that psychological stress may be a factor in these other issues, we do not believe that additional authority from the Commission is required. We are seeking only the authority to address directly and to mitigate fears which may result from the proposed operation of the facility.

1626. Consequently, despite the fact that no contentions on the matter were accepted, questions regarding psychological stress effects on the public's response in an emergency surfaced on recurring basis and were the subject of late-filed testimony, characterized as "rebuttal testimony" by the sponsoring intervenors, which we admitted as a matter of discretion. Witnesses presented by Licensee, Staff (including FEMA personnel), and the Commonwealth of Pennsylvania also testified on this subject. The concerns raised by intervenors basically involve questions as to whether experiences from non-nuclear accidents or disasters are useful in predicting the reaction of the public in a radiological emergency and whether members of the public can be relied upon to follow the directions or requests of governmental authorities in an emergency, even though such governmental direction may be perceived to be contrary to the public's best interest.

1627. Both Licensee and intervenors presented as expert witnesses nationally known sociologists. Testifying on behalf of the Licensee was Dr. Russell R. Dynes, currently executive officer of the American Sociological Association, and previously Chairman of the Department of Sociology at Ohio State University and Co-Director of the Ohio State University Disaster Research Center. Dynes, ff. Tr. 17,120, professional qualifications statement. Testifying on behalf of ANGRY and other intervenors and in rebuttal to Dynes' testimony was Dr. Kai T. Erikson, Professor of Sociology and American Studies at Yale University. Dr. Erikson has chaired several committees of the American Sociological Association and previously chaired the American Studies Program at Yale. Erikson, ff. Tr. 21,686, professional qualifications statement.

1628. Intervenor ANGRY also offered the written testimony of Dr. Donald Zeigler, which was stipulated into evidence without cross-examination. Zeigler, ff. Tr. 21,818. Dr. Zeigler is an Assistant Professor of Geography at Old Dominion University, Norfolk, Virginia. His testimony consisted of an article which he co-authored in the January 1981 Geographical Review entitled, "Education from a Nuclear Technological Disaster."

1629. Dr. Dynes, testifying on behalf of the Licensee, stressed that while he had briefly reviewed the Commonwealth's and the five county

radiological emergency plans¹⁹⁰ and NUREG-0654/FEMA-REP-1, he had "limited acquaintance with this material" and that his purpose was "not to compare the plans against the criteria document and reach some conclusion as to adequacy based on that comparison" but rather to present "an overview of the emergency planning process by identifying those important principles which should guide any developer of emergency plans." (Emphasis in the original). Dynes, ff. Tr. 17,120, at 2; see Tr. 17,176-77 (Smith, Zahler).

1630. Dr. Dynes set forth eight principles for evaluating emergency planning: (1) planning is a process, rather than a product, *i.e.*, a continuous process without a definite end; (2) planning is partly an educational activity and should not be "seen only in the narrow sense of completing written plans"; (3) planning should focus on principles, not details, (4) planning attempts to reduce the unknowns in a problematical situation and "it is unwise to assume that *everything* can be anticipated or that *all* of the unknown can be accurately predicted"; (5) planning should be based on what is likely to happen, not on the worst scenario; (6) planning aims at evoking appropriate actions; (7) planning for emergencies should be based on the patterns of everyday routines; (8) planning must be based on knowledge. *Id.*, at 4-7.

1631. Dr. Dynes explained, in connection with principle (8), that "it is often incorrectly assumed that the immediate problems of emergencies include dealing with uncontrollable behavior and panic" whereas this has been demonstrated to be untrue "over a wide variety of emergency situations." *Id.*, at 7.

1632. On cross-examination Dr. Dynes reiterated that the word "panic" did not, in his opinion, describe what happens in emergencies (Tr. 17,140) and that "the major problem in most types of emergencies . . . is not . . . that people behave irrationally; it is to get them to do anything." Tr. 17,141; see also Tr. 17,150-151 (Dynes, Smith). In later cross-examination, he expressed his opinion that "emergencies are interesting times" (Tr. 17,204), that "it is sort of fun to get involved with something like this" (*id.*), and that any type of emergency situation "is an exhilarating experience." Tr. 17,205. However, Dr. Dynes did not know of any studies of the TMI area communities showing an increase in cohesion or morale at the time of the accident. Tr. 17,216-17; see also Tr. 17,205-07. During lengthy cross-examination Dr. Dynes reiterated his belief that even following an event such as the TMI-2 accident there would

¹⁹⁰At Tr. 17,174 he disclaimed reviewing the five county plans.

not be created in a significant part of the population a psychological condition which would tend to impede them from acting correctly in another emergency. Tr. 17,223 (Smith, Dynes).

1633. In Dr. Dynes' opinion, whether or not emergency workers will fail to carry out their emergency duties because of conflicts with family responsibilities "is a non-problem" and people work out such conflicts. Tr. 17,197 (Dynes). See in general Tr. 17,195-98. However, Dr. Dynes had no specific knowledge of the reactions of emergency workers during the TMI-2 accident. Tr. 17,201; 17,235-38 (Dynes).

1634. In Dr. Dynes' opinion, if sheltering were presented as a rational safety measure, along with the consequences of not observing an instruction to shelter, there would be "pretty high compliance" by the population. Tr. 17,139 (Dynes).

1635. On cross-examination Dr. Dynes indicated that he did not think it very useful to designate radiological emergencies as a class apart from all other emergencies. Tr. 17,128, 17,184 (Dynes). Further, he did not consider that the fact that radiation is an invisible threat, not readily perceived by the public, makes radiological events unique. Tr. 17,131-32 (Dynes). He further did not consider emergency planning for radiological events at nuclear facilities to be different from any other kind of emergency planning. As he put it, "my feeling is emergency planning is emergency planning." Tr. 17,171 (Dynes).

1636. Dr. Erikson, testifying on behalf of the intervenors, stated that it was his "opinion that planning for emergencies in human situations that involve the threat of radiation or some other form of contamination is at least potentially very different from other kinds of disaster," and that he used the term "potentially" "only because we have too little experience with events of this kind to say anything with real confidence." [emphasis in original]. However, he stated that his knowledge of sociology and psychiatry led him "to expect that nuclear accidents should be considered a class apart." Erikson, ff. Tr. 21,686, at 2-3.

1637. Dr. Erikson stressed three points that in his opinion might limit the usefulness of experience from nonradiological or noncontaminating emergencies in predicting reactions in, or planning for, radiological emergencies: (1) events involving contamination (such as radiation) constitute "an invisible threat . . . for an indeterminate amount of time" so "the incident is never quite over", (2) because of previous exposure to a traumatizing event (the TMI-2 accident), some of the population in the TMI area may respond to another event by overreacting or underreacting, and (3) "any emergency evacuation plans that (a) rely on people taking shelter when instructed to do so, or (b) rely on civilian emergency workers to remain at their posts under any circumstances run a high (and probably unacceptable) risk of failure." *Id.*, at 3-5.

1638. In regard to sheltering, Dr. Erikson considered that plans which rely on people to take shelter when so instructed and at the time to isolate themselves from contact with others by telephone (to avoid overburdening the telephone lines) are apt to fail. Tr. 21,758 (Erikson).

1639. Witnesses for the Commonwealth were cognizant of the limitations of the sheltering option but also cognizant that sheltering might be the only available option. General DeWitt Smith, director of PEMA, noted that for planning purposes PEMA does consider sheltering as a protective action because in the real world "there are some circumstances which would hardly leave you any alternatives." Tr. 17,734 (Smith). Bureau of Radiation Protection division chief Margaret A. Reilly recognized that the true basements and forced ventilation systems which would be ideal for sheltering are not universally available (Reilly, ff. Tr. 18,125, at 8) but also pointed out that in the case of sudden discharges projected to be in the PAG range evacuation would be impossible and that sheltering would be better than nothing, regardless of the isolation capability of the building. *Id.*, at 9.

1640. In careful review of the testimony of Dr. Dynes and Dr. Erikson, we noted many instances of basic agreement. For example, despite his thesis that nuclear events are very different from other types of emergencies, Dr. Erikson, in describing emergencies which pose invisible threats for indeterminate time periods, cited as examples not only "nuclear events" such as TMI and Hiroshima but also chemical contamination events at Minamata (Japan), Seveso (Italy), and Love Canal (New York). Erikson, ff. Tr. 21,686, at 3; Tr. 21,701-04 (Erikson). Dr. Dynes, whose opinion is that radiological emergencies are not a class apart, noted that other types of emergencies are also wholly or in part imperceptible to the senses and indeterminate in length, for example, epidemics; or also occur with lack of warning, for example, tornados and earthquakes. Tr. 17,128-31 (Dynes).

1641. In the Board's opinion, radiological emergencies cannot be deemed unique on the basis of susceptibility to detection by the unaided senses or on the basis of their lasting for some indeterminate time or on their potential for having effects (for example, carcinogenesis) at some time in the distant future. Whether or not the public at large perceives that radiological emergencies are unique in other ways is another question entirely. While this question cannot be lightly dismissed, it is not one which can be answered within the context of this proceeding. The evidence before us shows us that the only significant difference between radiological events and, for example, nonradiological chemical contamination events, is simply that in the former the potential contaminant is radioactive.

1642. As we noted in our certification on psychological stress issues, we had the jurisdiction and the responsibility to determine whether this public perception would impact on the ability or the desire of the public in the TMI area to undertake evacuation or other emergency measures in the event of another accident at TMI. The Board did not find the testimony of either witness to exert sufficient weight to discount the weight of the other. The Board, concerned about this very point, at the end of Dr. Erikson's testimony specifically asked Dr. Erikson whether in disagreeing with Dr. Dynes' testimony:

Are you confident that you know Dr. Dynes estimate of how people would react in this area in the event of another emergency at TMI is incorrect; or is it your opinion that he has insufficient information on which to make an accurate estimate of how people would react; or is it your opinion that you do not feel that anyone at the present time has the necessary information to make an accurate estimate?

Tr. 21,807 (Little).

1643. Dr. Erikson indicated that if he had to pick one of those three, his answer would be that "neither Dr. Dynes nor I have sufficient information about this area to speak confidently about the situation plans, that we are both speaking from the general experience, which is the way in which sociologists approach subjects like this. I have not seen information to make me feel that there are any studies which would be helpful on the subject of evacuation." Tr. 21,808 (Erikson).

1644. The Board agrees and finds that based on the evidence before us, we accord weight to those areas where there is agreement but we can place little or no weight on the testimony of either witness in the areas of disagreement.

1645. We noted above that the question of the public's perception of the severity of an emergency is quite distinct from the question of its actual severity. We think this distinction must be noted in weighing testimony of Dr. Erikson on the potential for "psychic numbing" in the TMI area. The Licensee (PF ¶ 235) would have us find that "psychic numbing" is not particularly relevant to the TMI area since the phenomenon "is characterized by a close relationship to death and the death encounter." See Tr. 21,711-20 (Erikson). Licensee's counsel quoted a passage from the work of Dr. Robert Lifton stating, in regard to psychic numbing, "What has been insufficiently noted, and what I wish to emphasize as basic to [the] process, is its relationship to the death encounter." Tr. 21,714 (Trowbridge). Dr. Erikson agreed with that definition. *Id.* (Erikson). We note the fact that no deaths occurred during the TMI-2 accident is not

equivalent to saying that there was no *perception* by some members of the public that they were in a death encounter. The ensuing cross-examination of Dr. Erikson in regard to the potential for psychic numbing in the population two or more years after the TMI-2 accident, and its potential for interfering with emergency plans, concluded with Dr. Erikson's admission that he did not know for a fact that psychic numbing existed in the area but that he was testifying that there was no information that it did not exist. Tr. 21,717-18 (Erikson).

1646. In later cross-examination Dr. Erikson explained that he did not consider "psychic numbing" to be the term of choice for describing possible residual effects in the TMI area and suggested the term "disaster syndrome" instead. Tr. 21,756 (Erikson). With this qualification he then stated that he believed that evidence suggests "that there is a high likelihood of the disaster syndrome occurring in any disaster" and that emergency plans should "take into account the likelihood that that response is likely to happen." *Id.* His opinion was that the "disaster syndrome" could cause a slow response to a subsequent emergency and that those having suffered once from the "disaster syndrome" would be sensitized so that they would be more likely to succumb a second time. However, he admitted that these were guesses as he knew of no occasion in which it could be or had been tested. Tr. 21,757 (Erikson).

1647. Dr. Erikson also believed that part of the population might exhibit the opposite response, *i.e.*, overreaction or hypervigilance. Erikson, *ff.* Tr. 21,686, at 4-5. His point is that the populace may over-react because of an alleged increase in their level of fear following the TMI-2 accident and because of a lower level of trust in the authorities who would be issuing instructions. Erikson, *ff.* Tr. 21,686, at 4. Dr. Erikson reviewed various studies that have been conducted since the TMI-2 accident. Tr. 21,705 (Erikson). This review included an evaluation of the studies to determine whether in any study the questions asked were unduly suggestive of the answer. It was Dr. Erikson's view that none of the studies he relied upon were disqualified on this ground, including a study done by Dr. Raymond Goldsteen. Tr. 21,707-08 (Erikson). Prior to Dr. Erikson's appearance, the Board itself had reason to review the Goldsteen study and, contrary to Dr. Erikson's view, we found that the questions asked were unduly suggestive. Tr. 20,991-93 (Smith). Therefore, the Board has reason to question the standards used by Dr. Erikson in concluding that the studies were not defective. We do not know how much weight Dr. Erikson placed on the Goldsteen study in drawing his conclusions. Moreover, in at least one of the studies relied on by Dr. Erikson, one measure of heightened stress levels (the so-called Langer scale) showed no difference between populations close to TMI and the control group beyond 40 miles. Tr. 21,723-25 (Erikson).

1648. However, as set forth in Staff's PF ¶ 206, there does appear to be some evidence to support Dr. Erikson's assertion that a substantial proportion of the population could overreact¹⁹¹ in the event of an emergency at TMI. In part this evidence consists of the testimony (stipulated into evidence) set forth in an article by Dr. Donald Zeigler in *The Geophysical Review*, ff. Tr. 21,818. During the TMI-2 accident, nearly 144,000 people within 15 miles of the site evacuated when only about 2500 persons (pregnant women and pre-school age children) had been advised to evacuate. Zeigler, ff. Tr. 21,818, at 7. The fact that the major part of the TMI-2 evacuation occurred on Friday night, March 30, 1979, when serious consideration by government authorities of a full evacuation became public and when the work week and school week constraints on relocating were removed (Zeigler, ff. Tr. 21,818, at 12), suggests that the voluntary evacuation was, to some extent, a matter of convenience to the evacuees. Nevertheless, that voluntary or spontaneous evacuation in the absence of explicit governmental recommendations to evacuate represents the type of overreaction which Dr. Erikson believes could occur in any future TMI emergency. Several potential problems with regard to implementing protective actions in an emergency could result from such overreaction. Persons advised to temporarily shelter could, instead, attempt to evacuate thereby putting themselves at greater risk. In addition, persons outside the plume EPZ could spontaneously evacuate in large numbers, thereby complicating a previously ordered evacuation within the plume EPZ itself and affecting the time it would take to evacuate the plume EPZ in the absence of traffic control provisions beyond the EPZ. Tr. 19,147-49 (Urbanik). Voluntary evacuation by persons within the plume EPZ prior to the time that an evacuation is ordered would reduce the number of vehicles on the road during a subsequent directed evacuation and would thus reduce evacuation times. Tr. 17,486-87 (Podwal).

1649. Dr. Erikson expressed his view that the degree of overreaction by the public in a TMI emergency could be reduced and the likelihood that the public will appropriately respond could be increased by improving the credibility of government and by providing accurate information to the public. Tr. 21,753-54; 21,773-75 (Erikson). This is consistent with the

¹⁹¹ Overreaction is not synonymous with panic. Extensive research covering a wide variety of emergencies indicates that uncontrollable behavior or panic is a very rare phenomenon and is, in essence, negligible for most types of emergencies. Dynes, ff. Tr. 17,120, at 7; Tr. 17,140 (Dynes); Tr. 17,638 (Podwal); Staff Ex. 18, at 1-1. The evidence indicates that panic generally occurs only under special circumstances in which individuals are faced with a highly visible and immediate threat to survival with escape routes cut off. Staff Ex. 18, at 101. Such circumstances should not obtain in a radiological emergency at TMI, as evidenced by the evacuation attendant to the TMI-2 accident. That evacuation was calm and orderly and did not involve hysterical flight. Zeigler, ff. Tr. 21,818, at 7; Staff Ex. 18, at 1-1.

views of other witnesses who have indicated that the most important elements in predicting behavior and eliciting appropriate public response in an emergency are public education and the communication of accurate information to the public. Staff Ex. 18, at 1-1. To be effective and credible in this regard, according to FEMA witnesses, the information and instructions given to the public must be complete and continuous (Tr. 22,718 (Jaske); Tr. 19,290 (Pawlowski)) and should come from a source that the public normally looks to for instructions rather than from multiple, unusual and unexpected sources not normally relied upon. Tr. 22,730-31 (Jaske). This is consistent with studies which showed that the reasons for the large scale spontaneous evacuation during the TMI-2 accident, apart from individuals' concerns for their own safety, were lack of knowledge and confusing and conflicting information from governmental sources and the Licensee. Tr. 21,775-76 (Erikson); Zeigler, ff. Tr. 21,818, at 5-6.

1650. Dr. Dynes was cross-examined extensively about his views on public information and instructions and on the effect of the credibility of the source of the instructions on the public's inclination to take action. See Tr. 17,146-54. Neither the intervenors nor the Board were able to elicit any definitive statements from Dr. Dynes on this topic. However, as best we can determine, Dr. Dynes does advocate providing information from multiple sources (Tr. 17,152) which is full and complete without being overburdening (Tr. 17,153) and which will give people sufficient material on which they can make decisions of what preventive action to take. *Id.*

1651. In this regard our conclusion is that appropriate public education reduces fear and mistrust in authority and increases the likelihood that people will do as instructed during an emergency. See, e.g., Tr. 17,189-92 (Dynes); Tr. 19,275-78, 19,290-91, 19,294, 19,297 (Pawlowski); Tr. 19,279-80, 19,285-86, 19,307-10 (Adler); Staff Ex. 19, at 3-1 (Jaske).

1652. We have discussed elsewhere, to some extent, the public education programs of the Commonwealth and the Licensee. Under the Commonwealth's Emergency Plan, the State will disseminate pre-emergency educational materials designed to provide to the public a basic understanding of the nature of radiation, of the hazards from radiation, and of measures which can provide some degree of protection from the hazards. Commonwealth Ex. 2.a, at 15-1, 15-2. Materials to be disseminated will provide information on State, county and municipal planning, how the public alert/notification procedures will be implemented, procedures for implementation of protective actions, including evacuation, and contacts for additional information. *Id.*, at 15-2. The Commonwealth's emergency public information program provides for disseminating, at the time of an accident through the emergency broadcast system (EBS), detailed instructions to the public in the plume EPZ on protective actions and the response of governmental agencies and the Licensee. *Id.*, at 15-3. The

Licensee's public information program entails meetings with government officials and citizens to acquaint them with the Licensee's siren alert system, general radiation education seminars, and the distribution of emergency information pamphlets. Staff Ex. 23, at 11-5. By the Fall of 1981, Licensee will distribute throughout the plume EPZ the Commonwealth's emergency information pamphlet (Commonwealth Ex. 3) describing the nature and hazards of radiation, protective measures, and the manner in which the public will be informed of an emergency, along with the county emergency information pamphlets (e.g., Commonwealth Ex. 5) which provide instructions on sheltering and evacuation and specific evacuation routes and maps. Tr. 22,878-79, 22,917 (Chesnut). We find that these public education programs, when implemented, will provide substantial information to the public on the nature of radiation and its hazards, and on protective actions and their importance. In addition, we find that provision has been made for communication to the public, through the emergency broadcast system at the time of an emergency, continuous emergency information and instructions from authoritative governmental sources. These provisions for pre-emergency public education and for emergency information and instructions will, we believe, tend to reduce the tendency for overreaction and a refusal to follow instructions during an emergency.

1653. Beyond this, we have no evidence from which we could conclude that public overreaction and refusal to follow protective action instructions will occur to any substantial degree where clear instructions and directions on protective actions are provided. We reiterate our observation that the point made by Dr. Erikson in his testimony was that neither he nor Dr. Dynes (the witness whose testimony Dr. Erikson was to rebut) have sufficient information on the population in the TMI area to speak confidently on how that population will react in a radiological emergency. Tr. 21,808 (Erikson). PEMA's experience with emergencies in the Commonwealth is that the public displays an outward discipline in emergencies, awaiting instructions and heeding instructions when given. Tr. 17,850 (Lamison). Similarly, FEMA's experience and research indicates that most evacuees will respond to instructions when the bases for those instructions have been established. Staff Ex. 18, at 3-1; Tr. 19,276, 19,462-63 (Pawlowski); Tr. 19,277-78 (Bath); Tr. 19,278, 19,285-86 (Adler). We have no basis to find to the contrary for the TMI area. The Commonwealth is of the view that proper planning for evacuation flow has now been accomplished and that such planning will allow the spontaneous evacuation of persons outside the EPZ to be properly managed so that it will not impact evacuation of the EPZ itself. Tr. 17,718-20 (D. Smith); Tr. 17,853 (Lothrop). In this regard, both York and Dauphin Counties, the two counties most directly impacted by an emergency at TMI, have

pre-arranged for traffic control for areas outside the EPZ. Tr. 20,904 (Curry, Wertz). PEMA and the Pennsylvania State Police are in the process of upgrading the Commonwealth's traffic control plan and developing an access control plan for the plume EPZ. Bath, ff. Tr. 22,350, Attachment 3, at 7. With traffic control and access control at the plume EPZ periphery, spontaneous evacuation by persons beyond the plume EPZ should have little or no impact on the time it takes to evacuate the EPZ itself. Tr. 17,544-46 (Podwal).

1654. The impact of spontaneous evacuation beyond the EPZ on the need for post-evacuation support should not be significant. Research shows that spontaneous evacuees generally have planned their evacuation and have places to which they can relocate. Staff Ex. 18, at 3-1.

1655. Finally, we recognize that the extant public information is neither perfect nor final and that its revision and improvement should be an ongoing process. In the context of this proceeding numerous suggestions were made for improving the public information process. We believe it would be a gross misinterpretation of the intent of NUREG-0654 if any public information plan were to be considered beyond further improvement. We find that substantial efforts have been made by Licensee, the Commonwealth, and the counties to improve the public information process. We find that these efforts are adequate to support restart of TMI-1, but implicit in this finding is our expectation that the public information process will be an ongoing dynamic one.

G. Protective Action Decisionmaking

1656. Four major issues and an variety of subissues, relating generally to protective action decisionmaking, were litigated by the parties. We address each issue in turn. The first issue deals with the general criteria used by Licensee and the Commonwealth in the protective action decisionmaking process, including information needed to assist in that process and a mutually consistent set of criteria that will be used as a planning basis for protective action decisions. Next we review the adequacy of the evacuation time estimate prepared for Licensee to be used by all response groups as a planning and implementation tool. The third part of this section deals with the manner in which a range of contingencies will be handled, both in the protective action decisionmaking process and during an actual emergency. The final issue addressed in this section is an objection raised to a particular ingestion pathway protective action guide.

1657. Extensive testimony on these subjects was presented by Licensee, Staff, and the Commonwealth. Intervenors participated extensively in cross-examination. Licensee, Staff, and intervenors submitted proposed and

City of Harrisburg
Pennsylvania

Office of the City Council

REZDAN B. MOORE
President

CALVIN E. GILCHRIST
Vice-President

HARRIET E. BRAXTON
O. FRANK DeGARCIA
EARL F. GOHL, JR.
A. JANE PERKINS
WILLIAM A. ROBINSON



CITY GOVERNMENT CENTER
10 NORTH MARKET SQUARE
HARRISBURG, PA 17101
PHONE (717) 255-3060

May 30, 1984

Mr. Harold Denton
Director of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

RE: GPU Nuclear/Three Mile Island Restart
Request for Institution of Proceedings
Pursuant to Section 2.206

Dear Mr. Denton:

Pursuant to Section 2.206 of the Nuclear Regulatory Commission Regulations, you are hereby requested to institute proceedings pursuant to Section 2.202 of the same regulations to suspend indefinitely the license of GPU Nuclear to operate the Three Mile Island Nuclear Reactor Plant.

This request is based upon our belief that there is no reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency. The evacuation plan proposed to the Pennsylvania Emergency Management Agency was rejected by the Council of the City of Harrisburg pursuant to Resolution No. 59 of 1984 for the reason that said plan was inadequate. As of February 24, 1984, emergency plans affecting thirty-six (36) municipalities had been submitted to the Pennsylvania Emergency Management Agencies from the risk counties surrounding TMI. Of these thirty-six municipalities, twenty (20) governing bodies had not approved the proposed plans.

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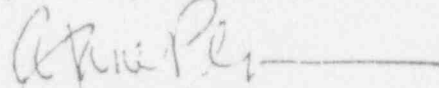
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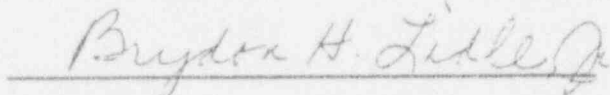
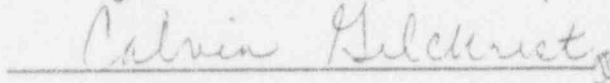
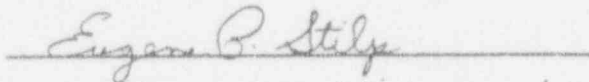
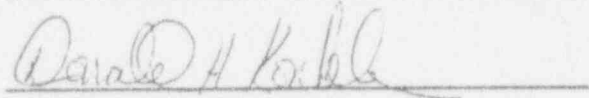
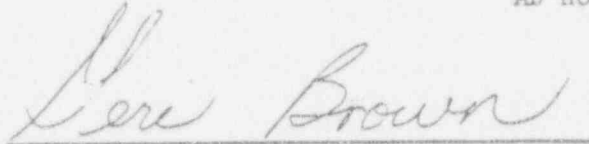
Mr. Harold Denton
May 25, 1984
Page Two

It is respectfully submitted that no authorization to restart Unit 1 at Three Mile Island should be granted unless and until all the municipalities located in the counties surrounding TMI have adopted and approved emergency plans.

Respectfully submitted,



Jane Perkins, Chair
Harrisburg City Council
AD HOC Committee on TMI Evacuation



President, Harrisburg City Council

RESOLUTION NO. 72 - 1984, as amended

I offer the following Resolution and move its adoption:

/ REIDAN B. MOORE

WHEREAS, Harrisburg City Council adopted Resolution No. 59-1984 on March 6, 1984 which rejected the Emergency Evacuation Plan for the City of Harrisburg relating to incidents at Three Mile Island; and

WHEREAS, the City Council concluded that the Plan submitted did not adequately provide for the evacuation of the citizens of Harrisburg in the event of a nuclear accident; and

WHEREAS, Council shall assume a leadership role and shall work with City officials, State and County emergencies management officials as well as leaders of other affected municipalities to find an alternative emergency evacuation plan which shall protect all of the citizens of Harrisburg by creating an Ad Hoc Committee whose business shall be the pursuit of such a Plan;

NOW, THEREFORE, BE AND IT IS HEREBY RESOLVED BY THE COUNCIL OF THE CITY OF HARRISBURG that the Council establishes an AD-HOC COMMITTEE ON EMERGENCY EVACUATION PROCEDURES, whose function shall be to make recommendations on an evacuation plan that will provide the best possible protection for the citizens of Harrisburg in the event of a nuclear accident, and encourage neighboring municipalities to do the same.

BE IT FURTHER RESOLVED that the composition of said Committee shall be as follows:

- two (2) members of City Council
- one (1) member to be appointed by the Mayor
- citizen members

The power of appointment of Council representatives and citizen members shall be vested in the President of City Council.

I second the Resolution:

/ O. FRANK DeGARCIA

YEAS		NAYS
✓	BRXTON	
✓	DeSANCIA	
✓	GILCHRIST	
✓	GOHL	
✓	PERKINS	
✓	ROBINSON	
✓	MOORE	
Yea	7	
Nay	0	

Passed the City Council March 27, 1964

Raymond B. Moore
President of City Council

Attest: Frances Berry
City Clerk

ATTESTED →

YEAS		NAYS
✓	BRXTON	
✓	DeSANCIA	
✓	GILCHRIST	
✓	GOHL	
✓	PERKINS	
✓	ROBINSON	
✓	MOORE	
Yea	6	
Nay	0	

Passed the City Council July 15, 1964

Raymond B. Moore
President of City Council

Attest: [Signature]
City Clerk

RESOLUTION NO. 59-1984

I offer the following Resolution and move its adoption:



WHEREAS, on March 28, 1979 the worst accident in the history of the United States commercial nuclear power program occurred at the Three Mile Island Nuclear Powerplant located in the County of Dauphin of the Commonwealth of Pennsylvania; and

WHEREAS, it is estimated that more than fifty percent of the citizens of the City of Harrisburg evacuated their homes during that accident, being fearful of harm from radioactivity and frightened of the devastating power of nuclear energy; and

WHEREAS, on July 2, 1979 the United States Nuclear Regulatory Commission ordered the Three Mile Island Unit 1 Reactor remain shutdown until the hearings certifying the safe operation of the plant could be proven; and

WHEREAS, on August 9, 1979 the United States Nuclear Regulatory Commission appointed an Atomic Safety and Licensing Board to determine whether there was reasonable assurance TMI-1 could be operated without endangering the public's health and safety; and

WHEREAS, on August 27, 1981 the Atomic Safety and Licensing Board ruled that the Three Mile Island management had the requisite competence and integrity to safely operate TMI-1; and

WHEREAS, on October 2, 1981 the Atomic Safety and Licensing Board reopened the management hearing to investigate allegations that cheating had occurred on TMI operator licensing areas; and

WHEREAS, in December of 1981 the State Emergency Planning Agency revised its plan for future evacuation in Harrisburg to eliminate 85% of the City's population from the emergency evacuation plan, and

WHEREAS, many elected officials, citizens, citizen groups, teachers, clergy and other good citizens protested these changes in the emergency evacuation planning for the City by the State and County governments at Public Hearings on the matter; and

WHEREAS, on April 28, 1982 ASLB's reopened proceeding's Special Master concluded that a number of management personnel at Three Mile Island had engaged in cheating and wrongdoing, that the overall integrity of the operations staff was inadequate, that the company response to certain cheating incidents was inadequate, that the company submitted a "false material statement" to the Nuclear Regulatory Commission; and

WHEREAS, on May 18, 1982 voters in a nonbinding referendum in three Counties surrounding Three Mile Island expressed their opposition to the restart of TMI by a 2-1 margin; and

WHEREAS, on May 19, 1983 the United States Nuclear Regulatory Commission's staff withdrew its support for General Public Utilities' management; and

WHEREAS, on November 7, 1983, the United States Department of Justice indicted Metropolitan Edison Corporation for falsifying leak rate data and destroying documents before the accident, in violation of their license, NRC regulations and the Federal criminal code; and

WHEREAS, on December 5, 1983, the NRC staff recommended that the NRC Commissioners permit restart of TMI-1 at 25% power on February 1, 1984, and unresolved management competence and integrity issues be decided at a later date; and

WHEREAS, in February 1984 only three Legislative Bodies in three communities in all of Dauphin County have approved the emergency evacuation plans for their communities; and

WHEREAS, the proposed plan for the City of Harrisburg is currently before the Council of the City of Harrisburg for adoption; and

WHEREAS, approved emergency evacuation plans for affected communities for nuclear power are required by the NRC generating stations prior to licensing for operation; and

WHEREAS, no responsible government agencies have revised the Emergency Evacuation plans for the City of Harrisburg despite testimony and pleadings to that effect and therefore threaten the health and safety of 85% of our City's population:

NOW, THEREFORE, BE AND IT IS HEREBY RESOLVED THAT THE COUNCIL OF THE CITY OF HARRISBURG rejects the Emergency Evacuation Plan as proposed by the County and State agencies and officially calls upon Mayor Reed, Public Safety Director Alfred W. Dean and Chief Konkle to take whatever steps necessary to cause the County and State Emergency Preparedness officials to reverse the Emergency Plan for the City of Harrisburg to include protection for all of our citizens.

BE IT FURTHER RESOLVED that the City of Harrisburg take whatever legal action is possible to prevent any Restart of nuclear power generation at TMI until such time as the City is assured that a workable emergency evacuation plan is in place which will protect the health and rights of each of our citizens; and

FURTHER, that these sentiments be conveyed by letter to the Commissioners of the Nuclear Regulatory Commission, the President of the United States, the Governor of Pennsylvania, the entire Pennsylvania Congressional Delegation and all elected officials in the County of Dauphin.

I second the Resolution:

Edw. F. J. P.
William R. Robinson
Reigler B. Moore
Chas. W. Brown
Calvin S. Helms
Harriet A. Reister

YEAS		NAYS
✓	BRAXTON	
✓	DeGARCIA	
✓	GILCHRIST	
✓	GOHL	
✓	PERKINS	
✓	ROBINSON	
✓	MOORE	
Yeas	<u>7</u>	
Nays	<u>0</u>	

Passed the City Council March 6, 1984

Reginald B. Moore
 President of City Council

Attest Prunella Berry
 City Clerk

Subject LICENSEES RESPONSE TO 10 CFR 2.206

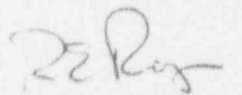
Date January 6, 1993

From R. E. Rogan - TMI Licensing Director

Location OSF, 2nd Floor
C311-93-1004

To DISTRIBUTION

Forwarded for your information is our response to the 10 CFR 2.206 Petition of Mr. Robert Gary requesting suspension of the TMI-1 operating license pending resolution of certain alleged deficiencies in Emergency Planning for Dauphin County, PA. This response was prepared by Ms. Delissa A. Ridgeway of Shaw, Pittman, Potts & Trowbridge, Counsel for GPU Nuclear.



R. E. Rogan
Extension 8048

DVH/mkk

Attachment

DISTRIBUTION:

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T. BROUGHTON - DIRECTOR, TMI-1
J. FORNICOLA - LICENSING AND REGULATORY AFFAIRS DIRECTOR
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F. YOUNG - NRC RESIDENT INSPECTOR