

OUTLINE

TESTIMONY OF FREDERICK J. BATH AND VERNON E. ADLER OF THE FEDERAL EMERGENCY MANAGEMENT AGENCY ON CERTAIN OFFSITE EMERGENCY PLANNING CONTENTIONS

This testimony addresses 27 contentions directed to State and local emergency plans and offsite emergency preparedness.

The testimony is subdivided into the major areas of emergency planning of: (A) Initial Notification of Governmental Units; (B) Protective Action Decisions; (C) Public Warning and Emergency Instructions; (D) Implementation of Protective Actions; (E) Post Evacuation Support; (F) Exercises and Drills; and (G) Audit and Review of Plans insofar as these areas relate to offsite emergency planning and State and local emergency plans.

The provisions of the York County emergency plan with regard to notification of county emergency response personnel are described and it is shown that the means for such notification are acceptable and consistent with emergency planning criteria.

The State's criteria for the selection of protective actions are shown to be consistent with those of the licensee and the State's protective action criteria are shown to be in accord with regulatory guidance. However, a deficiency due to lack of evacuation time estimates prepared in accordance with NUREG-0654 for use in the protective action decision making process is identified. The testimony in this area also addresses the asserted need for special nuclear science education and training for certain county emergency response personnel.

In the area of public warning and emergency instructions, the testimony identifies deficiencies in offsite preparedness with regard to a system and plans for providing prompt notification to the public in the event of an emergency. Siren alerting signals are described and it is shown that the signal scheme to be used in the plume EPZ is acceptable and will not result in confusion to the public. It is also shown that backup power systems for the siren alert system are neither required nor necessary. The Emergency Broadcast Station for York County is identified and it is shown that an alternate EBS is not needed. The State's provisions for providing information to the news media during an emergency are described and shown to be consistent with emergency planning guidance.

The need for alternate county emergency operations centers is addressed as are the Dauphin County plans for providing for hospital patients who may have to be evacuated during an emergency. The matter of the provisions of medical supplies for the treatment of persons exposed to radiation during an emergency is addressed. The use and distribution of thyroid blocking agents is addressed and it is shown that the State's planning is adequate in this regard although local emergency plans should be revised to be made consistent with the State's latest planning. Concerns raised by certain contentions with regard to distribution of thyroid blocking agents to the public are shown to be without merit. The provisions of the State plans with regard to the protective action of sheltering are addressed as are the provisions of the York County plan for the decontamination of vehicles used in evacuation.

Assumptions in emergency plans on the length of time evacuees will remain out of the evacuated area and on the number of evacuees who will require sheltering at mass care centers are addressed and shown to be appropriate. The asserted need for backup power and heating systems at mass care centers is also addressed.

Finally, the asserted need for mandatory paid leave from employment for emergency workers to participate in exercises and drills and the provisions in the Dauphin County plan for maintaining school evacuation plans are addressed.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)	
METROPOLITAN EDISON COMPANY, <u>ET AL.</u>)	Docket No. 50-289
(Three Mile Island Nuclear Station,)	(Restart)
Unit 1))	

TESTIMONY OF FREDERICK J. BATH AND VERNON E. ADLER
OF THE FEDERAL EMERGENCY MANAGEMENT AGENCY
ON CERTAIN OFFSITE EMERGENCY PLANNING CONTENTIONS

ANGRY CONTENTIONS	IIIB(D)	(EP-5A)
	IIIB(G)(2)	(EP-5D(2))
	IIIB(H)(1),(2),(3),(4),(5)	(EP-5E(1),(2),(3),(4),(5))
	IIIB(J)	(EP-5G)
	IIIC(11)	(EP-6E)

ECNP CONTETIONS	2-36	(EP-12)
	2-38	(EP-13)

NEWBERRY TMI STEERING COMMITTEE CONTENTIONS

York Plan	1	(EP-14A)
	2	(EP-14B)
	3	(EP-14C)
	5	(EP-14E)
	6	(EP-14F)
	7	(EP-14G)
	13	(EP-14M)
	14	(EP-14N)
	25	(EP-14Z)
	30	(EP-14DD)
	32	(EP-14FF)
	36	(EP-14JJ)

DAUPHIN PLAN	1	(EP-16A)
	4	(EP-16D)
	9-2	(EP-16J)
	10	(EP-16K)
	11	(EP-16L)
	13	(EP-16M)
	16	(EP-16P)
	19	(EP-16S)

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Q.1 State your name and title.

A. (Mr. Bath) I am Frederick J. Bath, an Emergency Management Specialist for the Federal Emergency Management Agency (FEMA), assigned to FEMA Region III, Philadelphia, Pennsylvania.

(Mr. Adler) I am Vermon E. Adler, Director, Division of Plans and Preparedness for FEMA Region III in Philadelphia, Pennsylvania.

Q.2. Do you have statements of professional qualifications?

A. Yes. Our statements of professional qualifications are attached to this testimony.

Q.3. What involvement have you had with regard to emergency planning for Three Mile Island, Unit 1 (TMI-1)?

A. (Mr. Bath) In my capacity as an Emergency Management Specialist for FEMA, Region III, I have been responsible for the review and evaluation of the Pennsylvania State emergency planning for fixed nuclear facilities (FNF) in general and, in particular, for the review and evaluation of State and local emergency planning for TMI-1. In this regard, I have reviewed and evaluated the fixed nuclear facility planning in the State Disaster Operations Plan (DOP), particularly

Annex E, as well as the emergency plans of Dauphin, York, Lancaster, Lebanon and Cumberland Counties. These plans are in various stages of development. Formal submission for FEMA's official evaluation has not taken place as yet. I am a member of FEMA's Regional Assistance Committee (RAC) which is conducting reviews and evaluations of these plans. This process is pursuant to the FEMA proposed rule (44 CFR Part 350) which will lead to formal plans submitted to FEMA for findings and determinations on the adequacy of offsite emergency planning. As a result of my responsibility in the review of State and local emergency offsite planning for TMI-1, I was directed to answer those contentions in the TMI-1 restart hearing, identified by NRC, requiring FEMA input.

(Mr. Adler) I am Mr. Bath's supervisor and am responsible for directing Mr. Bath in his review and evaluation of offsite emergency planning for TMI-1. This testimony was prepared by Mr. Bath and me or by Mr. Bath under my direction and supervision.

Q.4. What is the purpose of this testimony?

A. The purpose of this testimony is to address selected contentions in the TMI-1 restart proceeding which can be reasonably answered at this time. State and county emergency plans are currently undergoing revision, modification and upgrading, based on RAC/FEMA comments, as part of the informal review and assistance process. The contentions which we are able to address at this time are categorized in various major emergency planning areas as follows:

- A. Initial Notification of Governmental Units
Newberry Contention York Plan 14 (EP-14N);
- B. Protective Action Decisions
ANGRY Contention IIIB(H)(1), (2), (3) and (4) (EP-5E(1), (2), (3) and (4)); Newberry Contentions York Plan 6 (EP-14F), 7 (EP-14G), and 30 (EP-14DD); Newberry Contention Dauphin Plan 16 (EP-16P);
- C. Public Warning and Emergency Instructions
ANGRY Contention IIIB(G)(2) (EP-5D(2)); ECNP Contention 2-36 (EP-12); Newberry Contentions York Plan 1 (EP-14A), 2 (EP-14B) in part, and 32 (EP-14FF) and Newberry Contention Dauphin Plan 13 (EP-16M);
- D. Implementation of Protective Actions
 - (i) Communications
Newberry Contentions York Plan 5 (EP-14E) and Dauphin Plan 4 (EP-16D);
 - (ii) Support Services
Newberry Contentions York Plan 3 (EP-14C) in part, and 36 (EP-14JJ) and Newberry Contention Dauphin Plan 10 (EP-16K);
 - (iii) Thyroid Blocking
ANGRY Contentions IIIB(D) (EP-5A) and IIIC(11) (EP-6E) and Newberry Contentions York Plan 3 (EP-14C) in part, and 13 (EP-14M);
 - (iv) Other Matters Related to Implementation of Protective Actions
ANGRY Contentions IIIB(H)(5) (EP-5E(5)), and IIIB(J) (EP-5G); Newberry Contentions York Plan 2 (EP-14B) in part, and 25 (EP-14Z), and Newberry Contentions Dauphin Plan 1 (EP-16A), and 19 (EP-16S);
- E. Post Evacuation Support
ECNP Contention 2-38 (EP-13); and Newberry Contention Dauphin Plan 11 (EP-16L);
- F. Exercises and Drills
Newberry Contention York Plan 3 (EP-14C) in part; and
- G. Audit and Review of Plans
Newberry Contention Dauphin Plan 9-2 (EP-16J) in part.

A. Initial Notification of Governmental Units

Q.5. Newberry Contention York Plan 14 (EP-14N) states:

Annex B of the York County Plan indicates that the order of notification from York County is to executive group members and then to local coordinators within the risk

area with priority to those nearest the facility, then to school superintendents and then to Emergency Operations Center staff. Nowhere in the Plan is it indicated how these people would be notified of the impending emergency. Intervenors again raise the issue that in the event of an incident at TMI, members of these organizations should be able to be reached without dependence upon telephone communications. Until and unless it is indicated that these individuals can be contacted without dependence upon telephone communications, the plan is deficient.

What provisions have been made for notifying York County emergency response personnel?

- A. After the York County emergency operations center (24-hour emergency dispatcher) has been notified of the declaration of an emergency at TMI-1, the York County Plan identifies and provides for the notification of all key personnel in the York County emergency response organization who properly are to be contacted in the event of an accident. These key personnel include the Executive Group comprised of the Emergency Management Director/Coordinator, the Operations Group Director, the three County Commissioners and the Public Information Officer. Under the York Plan, the intention appears to be to contact these key personnel concurrently. The persons in this executive group will be those that are first informed prior to other components of the County emergency response organization.
- Q.6. What is FEMA's recommendation with regard to further notifications for emergency response personnel in York County?

- A. FEMA recommends that, after notification of the Executive Group, the County consider notification of the next group of key personnel, namely emergency management coordinators of municipalities and boroughs whose jurisdictions are within the plume exposure pathway emergency planning zone (EPZ). In fact, to this end, the State, through the Pennsylvania Emergency Management Agency (PEMA), asked York County, on December 15, 1980, to modify its procedures to provide a sequential notification list separating the municipal emergency management coordinators within the plume EPZ from those beyond the plume EPZ.

Q.7. What means of notifying key emergency management personnel at the county level may be used?

- A. Under the guidelines of NUREG-0654, Revision 1, Planning Standards E and F, key personnel in the emergency response organization may be notified by telephone and/or radio as a minimum. If there were a rapidly developing accident situation requiring siren activation and activation of the Emergency Broadcast System (EBS), these key personnel would, of course, receive notification in this manner as well.

All emergency response personnel will receive notification at the earliest possible time. The notification should be given to the Executive Group during the first 15 minutes following notification

of the county. In certain cases, this will mean notification concurrent with notification of the public at large.

Q.8. What are the deficiencies in the York County Plan with regard to the means of notifying key personnel in the emergency management organization?

A. Key personnel in the York County emergency management organization will be notified by either telephone or radio. As previously mentioned, these means of notifying emergency response personnel are in accordance with NUREG-0654. Consequently, the York Plan is not deficient in this regard.

B. Protective Action Decisions

Q.9. ANGRY Contention IIIB(H) (EP-5E) states in part:

There is no reasonable assurance that appropriate protective measures will be taken in the event of a nuclear accident with off-site radiological consequences for the following reasons:

1. The Commonwealth's criteria for appropriate protective action choice, as set forth in Sec. VIII of its BORP plan, are inconsistent with those of the licensee (EP, p. 6-13). According to the licensee, evacuation is the appropriate protective action if dose projections approach the lower limits of EPA PAGs. According to BORP this would not be the case unless the upper limits of the PAGs were approached. Although the licensee indicates that sheltering is the appropriate choice for atmospheric releases of short duration, the BORP plan proposes evacuation for "sudden severe accidents". The licensee would not recommend evacuation in the event of a continuous release if "evacuation cannot be well underway prior to plume arrival", while BORP would order an evacuation in such a case regardless of wind speed and warning time.

2. The BORP plan fails to quantify protective action selection criteria such as "time to onset of release ... time required to effect relocation", and the definition of "puff release". Such quantification of criteria is a necessary ingredient in effective planning and is required by N. 0654 Sec. J10(m).
3. The Commonwealth does not comprehend the distinction between "core-melt" and "melt-through" accidents as those terms are employed in NUREG CR-1131.
4. The Commonwealth declines to employ "state-of-the-art" calculational methodology, as set forth in EPA 520/1-78-001B, in turn referenced in N. 0654 at p. 55, n.1(3), in conjunction with hypothetical accident release characteristics to assist it in making appropriate protective action selection.

As to part (1) of this contention, compare the criteria used by the State for protective action decisions to the licensee's protective action criteria for projected doses approaching EPA Protective Action Guides (PAGs), for sheltering, and for evacuation as referenced in the contention.

- A. The State of Pennsylvania is amending its DQP, Appendix 8 to Annex E and numerous implementing procedures in this regard. Under the amended plan, the Bureau of Radiation Protection (BRP) will consider evacuation if projected doses approach or exceed 1 Rem whole body and 5 Rem to an infant thyroid. This is now in full agreement with the provisions of the licensee's emergency plan. Similarly, under the amended State plan, sheltering will be considered when the release time is expected to be short (i.e. a puff release or a release of less than two hours duration). This too is fully consistent with the licensee's plan. Finally, under the amended State plan, evacuation will be considered when evacuation could be well

underway before plume arrival, based on wind speed and travel conditions. Sheltering, on the other hand, will be considered when evacuation could not be well underway prior to expected plume arrival due to short warning time, high wind speeds and/or foul weather. This is also fully consistent with the licensee's plan. In short, the inconsistencies asserted in part (1) of this contention do not exist under the modified State emergency plan.

Q.10. As to part (2) of this contention, what provision is made in the BRP plan for quantifying protective action selection criteria such as the time to onset of release, the time required to effect relocation, and the quantitative definition of a "puff release".

A. Modifications to the State plan have been provided to FEMA which do, in fact, account for the time to the onset of release in the protective action decision-making process. Apart from this, the BRP purposely does not seek to quantify protective action selection criteria. In lieu of such quantification, they provide a framework of philosophies, the collection of off site readings, the interface of PEMA judgment of readiness status, the effects of weather elements on release parameters and the assessment and recommendations of the licensee and, when available, of DUE. The State has demonstrated a concern that quantifying selection criteria would or could lead to decisions made without full consideration of all such elements. The lack of further quantification in this regard will not prevent prompt and adequate protective action decisions with one exception.

Evacuation time estimates prepared in accordance with the guidance of NUREG-0654 are not yet available or a part of the State's protective action decision-making process. Such time estimates should be useful in determining whether evacuation should be ordered in particular circumstances. Thus, the sole reservation we have regarding quantification of the State's protective action criteria is that a useable time-motion study of evacuation, performed in accordance with the guidelines of NUREG-0654, has not been completed and resulting evacuation time estimates are not available. We understand that the licensee will shortly complete an evacuation time estimate study. The results of that study should be made available to, and be utilized by, the State as part of its protective action decision-making process.

Q.11. What is your view as to the State's understanding of the distinction between "core-melt" and "melt-through" accidents as those terms are employed in NUREG CR-1131?

A. The State's useage of these terms in its Plan makes it clear that the State is fully aware of the proper useage of these terms. NUREG CR-1131 provides that there are two categories of core melts - those resulting in an atmospheric release by some mechanism and those involving a melt-through. The State Plan precisely reflects each of these. As set forth in Section VIII of BRP Appendix 8, Annex E of the State DOP as revised in January of 1981, evacuation will be considered as a protective action option when, among other things, a

core melt is underway which involves or is expected to involve a loss of containment integrity by melt-through or by direct release to the atmosphere by some other mechanism.

Q.12. As to part (4) of this contention, what is EPA 520/1-75-001B?

A. EPA 520/1-75-001B, "Protective Action Evaluation Part II, Evacuation and Sheltering as Protective Actions Against Nuclear Accidents Involving Gaseous Releases", is one of three reports cited on page 64 of NUREG-0654, Revision 1 as a document that "may be considered in determining the protection afforded" by local residential units or shelters for the sheltering option of protective actions. Use of this document is not mandatory.

Q.13. What is the significance of the State's failure to use EPA 520/1-75-001B in making protective action decisions involving sheltering?

A. As mentioned previously, use of this document for decisions on sheltering is not required; it merely provides some guidance which emergency planners may utilize if they desire. Based on our review of BRP Appendix 8, Annex E of the State DOP, as revised in January 1981, and in discussion with BRP, it was found that in accident assessment and protective action decisions, BRP will follow the thought process as shown in Figure 14A of this document. The State's failure to apply mathematically the formal methodology in

EPA 520/1-75-001B is not a deficiency.

Q.14. Newberry Contention York Plan 30 (EP-14DD) states:

The Evacuation Plan contained in the York County Plan does not contain any sensitivity analysis or differentiation between the time of day, the seasons of the year or weather conditions at the time of the evacuation. In light of these deficiencies, it is Intervenor's contention that the Plan is deficient.

Similarly, Newberry Contention Dauphin Plan 16 (EP-16P) states:

The Dauphin County Plan as set forth does not provide for differentiation of time of day or seasons or weather conditions at the time of evacuation. There is no sensitivity analysis as to these factors, and the Plan is based upon an assumption of best-case analysis. Therefore, it is Intervenor's position that without taking these factors into consideration, the Plan remains deficient as concerns the time needed to effect an evacuation.

Whose responsibility is it to make decisions on, and order, protective actions?

- A. NUREG-0654 Planning Standard Criterion J-10-M specifies that the procedures for determining the protective actions to be taken during a radiological emergency are a State responsibility and are not required in the County Plans. In point of fact, for TMI-1, BRP has the responsibility for developing and maintaining these procedures. Thus, the absence from the York and Dauphin County Plans of evacuation time estimates accounting for time of day and weather conditions at the time of evacuation is not a defect in the County Plans.

Q.15. What is the status of present State protective action criteria with regard to accounting for time of day and weather conditions for evacuation.

- A. At the present time, the State does not have available for utilization in its protective action decision-making process evacuation time estimates prepared in accordance with the guidance of NUREG-0654 and accounting for time of day and weather conditions at the time of evacuation. Such an evacuation time estimate study is currently being prepared by the licensee. Upon its completion, the results should be provided to the State for use in its protective action decision-making.

Under the State's present Emergency Action Options Philosophy in BRP Appendix 8, as revised in January 1981, the State does take into account the advisability of evacuation based on the ability to evacuate. The interface for this decision would be between PEMA (coordinating other State agencies) and BRP and would be based on the best available information at the time of the decision. Pending completion of an adequate evacuation time estimate study, it is the State's plan to direct emergency resources to correct such impediments to evacuation as may exist (e.g. snow plowing evacuation routes) and to continually assess the situation so that the status of preparedness to effect protective action is a known factor and not just a scientific guess. Provisions for and plans to carry out the command and control interface between State (PEMA) and County

Emergency Operations Centers demonstrate an ability to accomplish this.

Q.16. Newberry Contention York Plan 6 (EP-14F) states:

Appendix 2, Section I, Subsection B of the York County Plan provides that the Emergency Management Coordinator will insure that briefings are presented to the Commissioner and he will interpret displays and technical reports for the Commissioners. There is no statement in the Plan that the person occupying the position of Emergency Management Coordinator will have educational requirements sufficient to insure that he will be able to interpret any displays of technical reports for the Commissioners. It is Intervenor's contention that unless the Emergency Management Coordinator is required to have an expertise in the area of nuclear science, he will be unable to sufficiently and accurately interpret the displays and technical reports for the Commissioners and thus may leave the Commissioners who ultimately are responsible for the safety and welfare of the people of York County uninformed or misinformed of actual events taking place at TMI.

Similarly, Newberry Contention York Plan 7 (EP-14G) states:

Appendix 2, Section II, of the York County Plan provides that the Situation Analysis Group will receive reports of plant safety degradation, potential/actual radioactive release and radiation intensity. Again, there are no job requirements for persons who sit on a Situation Analysis Group to qualify them to make such reviews and, therefore, again, without qualified people to sit on such a group, their advice to the county's commissioners may be misinformed and unenlightened which could again then lead to chaos and confusion.

What requirements are there with regard to local emergency response organizations having radiological hazards assessment capability?

- A. The NUREG-0654 evaluation criteria require that an adequate offsite radiological assessment capability should exist offsite. This function may be performed by either the State or local emergency

organizations. The current Pennsylvania Emergency Plan provides that technical support and technical assessment functions will be conducted by PEMA/BRP. The State (PEMA) will then recommend protective actions and provide the counties with these recommendations and any information necessary to effectively implement such protective actions. Thus, a technical radiological assessment capability is not necessary at the county level, since the technical functions are provided by the State. Accordingly, neither York County nor any other county in the plume exposure EPZ for TMI-1 need have technical assessment capability.

- Q.17. What is the purpose of the Accident Assessment Group (Situation Analysis Group) in the York County Plan?
- A. That group will record conditions and maintain plots of radioactive releases based on information provided by PEMA/BRP and the licensee. It need not perform accident assessments to make protective action decisions as those functions are to be performed by the State. Accordingly, PEMA has suggested that York County revise its plan to make it clear that the county will rely on PEMA for accident assessment.
- Q.18. What technical training for county officials is required?
- A. In order to assure that accident assessment information and protective action advice to be communicated by the State to the counties

can be understood without technical background, PEMA is preparing a training program for county coordinators related to protective actions and describing what is expected from all parties in response to a radiological emergency at a nuclear facility. Since BRP through PEMA will interpret the reports on plant safety degradation, potential/actual radioactive release and radiation intensity, in coordination with the licensee, highly specialized training should not be required in support of the York County Radiological Emergency Plan. Of course, since the State will undertake the accident assessment, and since the State planning provides that the State will interpret and communicate technical information to the counties, training as a nuclear scientist and nuclear science capability is not necessary for the county coordinators.

C. Public Warning and Emergency Instructions

Q.19. ANGRY Conter. IIIB(G)(2) (EP-5D(2)) states:

The Commonwealth's DOP fails to identify the time required to warn the public within the plume EPZ under present circumstances as required by the aforementioned provision of N. 0654. Such estimates as the Commonwealth has provided elsewhere are founded upon a totally inadequate data base and are thus not credible. Although the Pa. DOP App. 13, Sec. IID states that "the primary means of emergency warning is outdoor siren systems", the York County plan reveals that less than 1/2 of the population in York County within 10 miles of TMI are capable of being warned by sirens (Annex C). Information as to the time required for implementation of "back-up" notification measures of mobile "public address systems" and "knocking on doors" (Annex G, App. 1) is to be provided in local emergency plans which do not as yet exist.

Similarly, Newberry Contention York Plan 1 (EP-14A) states:

Section VI, Concept of Operations, Subsection 7(a) is deficient in that there is an assumption that notification by siren can be heard throughout Newberry Township and surrounding communities. It is questionable at best whether this is, in fact, true in that at least in the York County Plan there is an assumption of one Civil Defense siren being in place in Newberry Township which does not exist. Oversights such as this may still exist within the Emergency Plan drafted by York County and verification of all sirens must be required in order to insure at least minimum siren coverage of the county. Therefore, it is Intervenor's position that there are not sufficient numbers of Civil Defense warning sirens in place in the county in order to adequately insure that all members of the community are within hearing distance of a siren. It is Intervenor's contention that until the Emergency Plan specifically states that a siren alert system is in place and that the warning emitted by the system can be heard at any point in the county surrounding the plant site, that the Emergency Plan as drafted is unacceptable.

Finally, Newberry Contention York Plan 2 (EP-4B) states, in part:

Section VI, Subsection 7(b). The York County Plan as drafted indicates that selective evacuation of pregnant women and pre-school children and their families would be effected upon order of the Governor. Again, the notification would be by a five (5) minute steady siren which cannot be assured will be heard in all points within the affected areas. Moreover, the Plan assumes that there will be appropriate EBS announcements followed by door-to-door notification which would be conducted by appropriate boroughs and townships. Again, the Intervenor raises the contention that the time factor required in order to recruit volunteers to man vehicles and the many miles of road which are located in the various rural communities which would have to be traveled in order to ensure notification of all members of the population of the impending emergency conditions would render the Plan as written inoperable.

Each of these contentions challenges the adequacy of the systems for prompt notification of the public within the plume exposure EPZ.

What provisions are in the current emergency plans with regard to

the time required to alert the public in the event of an emergency at TMI-1 and the methods for accomplishing such alerting.

- A. Currently, State and county plans do not state the time required to notify the public in the plume exposure EPZ. Protective action decisions are dependent, in part, on the time required to alert the public and, lacking an estimate of this time, the plans are deficient in this regard. As to the method for alerting the public in York County, as referenced in several of these contentions, York County currently plans for the use of existing "Civil Defense" sirens to be sounded with the "Attention Alert" signal and for municipalities, boroughs and townships to direct door-to-door or mobile warning operations to accomplish notifications. This present capability for alerting the public in York County is not acceptable because of the large number of persons who are not within hearing range of the existing "Civil Defense" sirens and the length of time it would take to complete notification of such persons by mobile warning operations.

Q.20. What would constitute an adequate public notification system for alerting the public in the plume exposure EPZ.

- A. An adequate public notification system would be one complying with the NRC's new emergency planning regulations. Specifically, 10 CFR 50 requires that a public notification system, conforming to the guidance of NUREG-0654, planning criteria E-6 and the design

criteria of Appendix 3 to NUREG-0654 be in place by July 1, 1981. As discussed in the NRC Staff's Testimony of Stephen H. Chesnut on Onsite Emergency Planning, filed on February 9, 1981, the licensee has conducted a study for a prompt notification system for the plume EPZ and has contracted to procure sirens for such a system. Upon completion of such study, it should be submitted to FEMA for review. In addition, the State and Counties will have to develop appropriate implementation and activation procedures for such a system. If such a system meeting the requirements of the NRC's new emergency planning regulations is installed, such a system should allow essentially all of the public within the plume exposure EPZ to receive notification within about 15 minutes of the time that the decision to activate the new system has been made. In the meantime, existing prompt notification systems could alert only a fraction of the public in the plume EPZ in a short period of time.

Q.21. Newberry Contention York Plan 3 (EP-14C) states, in part:

Section VI, Subsection 7(c). This section of the York County Plan is deficient in that it depends upon the York County Chamber of Commerce to notify and pass on the general evacuation information to business and industry. There is no assurance that the Chamber of Commerce has the necessary manpower, equipment, and training to pass on such information to the general public. For example, does the York County Chamber of Commerce possess necessary trunk lines to advise all industry within an affected area? What happens in the event that telephone communications are jammed or overloaded and that notification of industries cannot be effected by the York County Chamber of Commerce? Furthermore, does the York County Chamber of Commerce and all industry within the possible affected area have radio communication capabilities?

What role would the York County Chamber of Commerce play with regard to prompt notification of business and industry in York County?

- A. Under the NRC's new emergency planning rule and NUREG-0654, Planning Standard E, Appendix 3, a warning system which will alert essentially 100% of the public within the plume exposure EPZ is to be in place by July 1, 1981. The capabilities of this system would include the capability to warn business and industry. With the installation of such a system, the Chamber of Commerce would not play a critical role in prompt notification. Where an accident develops slowly and time permits the full mobilization of county and state emergency response resources, the selective notification of business and industries could be useful. Consequently, FEMA would not object to the Chamber of Commerce notification role but does not view it as being either necessary or critical when the prompt notification system is installed.
- Q.22. What need is there for the York County Chamber of Commerce to set aside manpower and equipment, establish communications links with area industry and train personnel, all to perform a notification function.
- A. Once the prompt notification system required by NRC regulations has been installed, there will be no need for the York County Chamber of Commerce to perform a notification function or undertake any of those actions to that end. It would be wholly unnecessary and

inefficient to rely on the Chamber of Commerce to notify business and industry in York County with the existence of a prompt notification system that will provide nearly immediate and authoritative notification and directions to the public.

7.23. Newberry Contention York Plan 2 (EP-14B), also states, in part:

Moreover, it is contended by the Intervenor that the selected evacuation notification is initially effected by the same type of notification that would be required in a general evacuation. Both evacuations are initiated by a five (5) minute steady siren tone, then followed by appropriate EBS announcements. It is Intervenor's contention that similarity and warning evacuation tones may lead to confusion on behalf of the public and that orderly evacuation of the affected areas could not be effected.

In much the same vein, Newberry Contention Dauphin Plan 13 (EP-16M) states:

The Dauphin County Plan does not specifically state a differentiated commonly recognized evacuation signal that could be recognized by the Citizenry throughout the county. The Plan does not indicated whether the alarm system that is to be used is to be driven by a regular power system and if the source was terminated, whether the system would still work. The Plan does not indicate whether all areas within the county are within hearing distance of the sirens. Such deficiencies render the Emergency Response Plan inadequate.

Both of these contentions raise a concern regarding the kind of siren signal which is to be used to alert the public of a radiological emergency. What are the emergency planning provisions in this regard?

- A. The only signal planned for use in a fixed nuclear facility incident is the "Attention Alert" signal. As indicated in a public education

brochure prepared for distribution in Dauphin County, the "Attention Alert" signal is a steady three to five minute siren blast. The signal has only one meaning no matter how many times it is used - namely "Turn on your radio or your TV. Your government has an important message which may affect your health and safety". Consequently, when this sole siren signal to be used for radiological emergencies is sounded, it should not result in confusion to the public but merely result in persons turning on their radios or TVs, at which point further instructions will be given over the Emergency Broadcast System (EBS) on the protective actions to be taken. Thus, there will not be separate siren signals for different protective actions (such as a general evacuation versus a selective evacuation). Differentiation in the protective actions will be made through the instructions to be given over the EBS, not through different siren signals. Through the public education program, still to be implemented, the public will be educated on what to do any time they hear the sole siren alerting signal.

Q.24. As previously indicated, Newberry Contention Dauphin Plan 13 (EP-16M) asserts that the failure of the Dauphin County Plan to provide for a backup power system for the siren alert system is a deficiency. What are the requirements for powering the siren alert system?

A. The warning system is not required to have emergency power capability but may be powered by the normal commercial power source.

Q.25. Is there a need for an emergency power source for the radiological emergency warning system?

A. Apart from the fact that there is no requirement for an emergency power source, we do not believe that one is necessary. Commercial electric power is considered to be dependable as evidenced by the fact that fire sirens generally do not have emergency power and that the Nuclear Attack outdoor warning system throughout the United States does not require emergency power.

Q.26. In a similar vein, Newberry Contention York Plan 32 (EP-14FF) states:

The York County Plan contains only one EBS station, that being WSBA in York, Pennsylvania, and lists no other secondary station in the event that WSBA loses power or in some other way is placed out of operation. It is Intervenor's contention that the Plan is deficient in that a secondary EBS station is not included in the Plan.

What are the requirements with regard to an alternate or backup emergency broadcast station?

A. NUREG-0654 does not call for or require a backup or alternate emergency broadcast station.

Q.27. What are your views as to the need for an alternate or backup emergency broadcast station for York County?

A. We can see no such need. The designated York County emergency broadcast station, WSBA, is located outside the plume exposure EPZ and would not need to be evacuated in the event of an emergency at TMI-1. In addition, WSBA has a backup emergency power supply and will continue to operate in the event of a conventional power outage.

Q.28. ECNP Contention 2-36 (EP-12) states:

ECNP contends that the routing of all information through the Governor's Press Secretary to the public adds unnecessary complexities to the entire plan. For example, since the Press Secretary of the Governor can reasonably be expected to be a political appointee and not necessarily knowledgeable at all in the area of nuclear accidents and their consequences, or the nature of radiation injury, the designation of the Governor's Press Secretary as the official and sole spokesperson adds one more pathway for and perhaps impediment to information in the cumbersome and circuitous route between an event or accident at TMI and the public. There is no need for this extra step. In addition, this extra step offers one more opportunity for errors and omissions to be introduced into the information and only adds further delay. It is not expected that this extra step will result in the removal of errors from the messages. Furthermore, the possibility exists, with this extra, unnecessary step, for political pressure to be brought to bear to alter, delay, or even withhold crucial information from the public.

What is the function of the Governor's Press Secretary under the State Emergency Plan?

A. NUREG-0654 planning criteria G 3a and 4a require each principal response organization to designate a spokesperson and a point of contact with the news media at a designated location. The Commonwealth's plan designates the Governor's Press Secretary as this principal spokesperson for the State.

Q.29. What will the Governor's Press Secretary's role be with regard to informing the public on protective actions during an emergency?

A. The Governor's Press Secretary will play no direct role either in alerting the public of an emergency or informing and instructing the public on protective actions. Those functions are performed by other means. The Press Secretary's statements and announcements are not of a critical nature and the critical information to the public is provided by the alerting and notification system.

Q.30. What are your views as to the adequacy of the State plan in designating the Governor's Press Secretary as the State spokesperson with the media?

A. The provisions of the State plan are wholly adequate in this regard. The multiple and conflicting sources of information to the media during the TMI-2 accident resulted in much confusion and led to the mandate in NUREG-0654 that there be a single, coordinated public media information source for all state level emergency response organizations. Under the State plan, the Governor's Press Secretary

will be uniquely located at the media center adjacent to the State Emergency Operations Center (which is coordinating the State emergency response) and will be in the best position, as called for by procedures in the State plan, to be briefed by knowledgeable personnel from the State on the status of the emergency and actions taken. In this situation, the Press Secretary should be kept advised of all events in a radiological incident and should be familiar with the status of State preparedness, the condition of the plant as assessed by State technical personnel, the status of county preparedness through PEMA, and the policy and concerns of the Governor.

D. Implementation of Protective Actions

(i) Communications

Q.31. Newberry Contention York Plan 5 (EP-14E) states:

Annex A of the York County Plan provides that the alternate EOC site will be the new Hanover Borough Building in Hanover, Pennsylvania. Intervenors again raise the contention that there still is no indication at this time that trunk lines have been laid for the transfer of the Emergency Operations Center to the Hanover location, and, as such, it renders the Plan inadequate.

Similarly, Newberry Contention Dauphin Plan 4 (EP-16D) states:

Appendix 4 of Annex E of the Dauphin County Plan provides that the alternate EOC office will be located in the Millersburg Borough Building. Nowhere in the Plan is it indicated that the Millersburg Borough Building is presently in an emergency readiness condition. In short, the Plan does not indicate whether, as a matter of fact, the Millersburg Borough Building can accommodate the

requirements of the EOC with regard to telephone trunk lines, radio communications, and other EOC requirements. Until and unless this information can be verified, it is Intervenor's position that the Plan is inadequate and deficient.

What are the requirements with regard to the establishment of an emergency operations center (EOC) for counties in the plume EPZ?

- A. NIJREG-0654 provides that an EOC is to be established for use in directing and controlling emergency response functions. An alternate location for the EOC is not required.

Q.32. How do the York and Dauphin County emergency plans compare to this requirement?

- A. Through the establishment of the York County EOC, which happens to be in the City of York, outside the plume exposure EPZ, and the establishment of the Dauphin County EOC, both York County and Dauphin County comply with this requirement.

Q.33. What defects have you identified in the York County and Dauphin County plans as a result of the plans' failure to explicitly indicate that communication lines have been laid for York County's alternate EOC in the Hanover Borough Building and for Dauphin County's alternate EOC in the Millersburg Borough Building?

- A. None. Under the planning guidance and requirements, an alternate EOC is neither required nor necessary. In these circumstances, the

presence or absence of trunk lines to, and other provisions for, an alternate EOC has no bearing on the adequacy of York County and Dauphin County emergency preparedness.

(ii) Support Services

Q.34. Newberry Contention Dauphin Plan 10 (EP-16K) states:

Appendix 13 of Annex E of the Dauphin County Plan indicates that there are approximately 4,000 long-term patients that would require relocation in the event of a general evacuation. The Appendix also includes a listing of hospitals that would be amenable to accepting long-term patients in the event of an emergency. While the Plan indicates the total number of beds available at hospitals, there is no statement as to the number of beds which would be available on an average at any set time. Until and unless the Plan indicates the number of possible available beds that could be afforded to Dauphin County in the event of an emergency, it is submitted that the Plan is deficient.

Describe the provisions of the Dauphin County plan related to the availability of hospital beds for Dauphin County patients who may have to be relocated.

- A. Dauphin County has listed all hospitals and long-term care facilities and their approximate distances from TMI in attachments to Appendix 13 of Annex E which are working documents for the Dauphin County Medical Officer who will be located at the County EOC. Appendix 13 provides standby and alert actions to be accomplished at hospitals and long-term care facilities. Standby and alert actions to be accomplished by Relocation (receiving) Hospitals and long-term care facilities are also provided. During the standby and alert status, the Dauphin County Medical Officer will provide an updated census by

specific patient group at both sending and receiving facilities in order to match patients for an evacuation. This is consistent with the State Department of Health Plan through which assistance in matching up ambulance services with sending facilities will be provided. The procedures in the Dauphin County plan will facilitate the identification and transportation of patients to be relocated by ambulance to relocation facilities.

Q.35. Is the failure of the Dauphin County plan to identify the number of hospital beds available for relocated patients on an average day a defect in the plan?

A. No. Under the Dauphin County Plan, there is an established information system through which the County can determine bed availability, patient allocation and serviceability and the need to obtain additional hospital beds where necessary, all in a timely manner and for the specific time when the need arises. As a practical matter, daily hospital bed occupancy varies from day-to-day as does the seriousness of illnesses being treated. In these circumstances, establishment of a fixed number of available beds for patients to be relocated simply cannot be done. Nevertheless, Dauphin County has established a system for determining bed availability on any particular day and for relocating patients based on needs on that day.

Beyond this, it should be noted that State level preparedness provides, in Appendix N of Appendix 9 of Annex E of the State DOP, in addition to established hospitals, numerous package disaster hospitals with provisions for erection if, during an evacuation, available hospital beds do not fully meet the hospital bed needs.

Q.35. As to the York County Plan, Newberry Contention York Plan 36 (EP-14JJ) states:

The York County Plan provides that there would be care provided for victims of radiation exposure; however, there is no statement that there are supplies on hand for radiation care or that there are sufficient numbers of supplies on hand to take care of a large mass evacuation in the event that there was a radiation leak. It is Intervenor's contention that, in order to provide sufficient medical care for the populace at risk, it is necessary that the Plan contain statements that inventories are available and are presently in place. Without such statement, the Plan remains defective.

Is it York County's responsibility to provide medical supplies and resources for caring for victims of radiation exposure?

A. No. The York County Plan, Annex J, indicates that it is the responsibility of the Pennsylvania Department of Health for the overall coordinating and providing of medical services and care. Therefore, it is not a requirement of the County to provide these resources. PEMA is responsible for the inventories and their verification.

Q.37. What need is there for an inventory of medical supplies for treatment of radiation victims?

A. There is no need for specific and explicit inventories of such supplies to be set out in emergency plans. Care for victims of large doses of radiation exposure is very specialized in nature and would be accomplished at those medical facilities identified in the State Plans which have this capability. These facilities have the supplies and equipment necessary to provide this treatment. If a large mass evacuation occurred, the purpose of the evacuation would be to limit the exposure to the general public. Therefore it is not anticipated that large numbers of people would be exposed to those levels of radiation which would require specialized treatment and the consumption of specialized supplies. Consequently, it is not necessary that the inventory of these specialized supplies be maintained anywhere except at the facilities capable of treating personnel who have experienced large doses of radiation. Procedures to treat persons who have received significant but not large doses of radiation would require the consumption of medical supplies that are normally available to any medical facility. This treatment would normally be limited to blood tests and the collection of urine and feces samples for analysis. Medical supplies for these purposes would be available at any hospital.

Q.38. Newberry Contention York Plan 3 (EP-14C) states, in part:

The Plan is also defective in that it is anticipated that the Pennsylvania National Guard will provide tow trucks and gasoline along evacuation routes; however, nowhere in the Plan does it indicate that the Pennsylvania National Guard has the necessary tow trucks and fuel trucks to effect such a plan. Finally, it's noted that there is no reaction time indicated in the Plan in order to assure that such tow trucks and fuel trucks could even arrive within the evacuation area due to traffic flow on the interstate and access highways.

What reliance is there on the Pennsylvania National Guard with regard to the provision of gasoline and tow trucks?

A. The Department of Military Affairs has plans under which it will augment the Pennsylvania Department of Transportation and commercial fuel distribution with fuel trucks. Also, the Department of Military Affairs has vehicles which are planned to be used to augment other services to clear roads of impediments such as stalled vehicles. In both instances, the purpose and planning for the National Guard is for augmentation of existing services. PEMA will coordinate these Military Affairs resources directing them to augment existing resources as needed.

Q.39. What defect arises in the York County Plan from the failure of the plan to list the number of gasoline and tow trucks to be provided by the National Guard?

A. There is no explicit requirement that augmentation resources of this sort be listed in the local plans. Since the resources of the State

can be brought to bear in this regard, the failure of the York Plan to explicitly list the number of gasoline and tow trucks available to the National Guard should not be considered a defect.

(iii) Thyroid Blocking

Q.40. What are the federal regulatory requirements and guidance for the use of thyroid blocking agents such as potassium iodide (KI)?

A. NUREG-0654, Section J.10.e and f specify that emergency plans are to contain provisions for the use of radioprotective drugs, particularly for emergency workers and institutionalized persons in the plume EPZ who are difficult to relocate, and that State and local plans are to include the method by which decisions on distributing such drugs to the general public during an emergency are to be made.

Q.41. Is distribution of KI to the general public in the plume exposure EPZ required?

A. No. General distribution of KI to the public is not now contemplated by NUREG-0654, although guidance concerning use of KI by the general public is under consideration by the Department of Health and Human Services as indicated in NUREG-0654, p.53, note 1.

Q.42. What is the present status of Pennsylvania planning with regard to the use of KI?

A. According to the latest revision to the State Department of Health's plan, as reflected in "Supplement 1 to the Commonwealth of Pennsylvania's Position Report on Emergency Planning Contentions" filed with the Licensing Board on January 30, 1981, distribution of thyroid blocking agents will be made to emergency workers and institutionalized persons. This is consistent with NUREG-0654. The Department of Health's Potassium Iodide Distribution Plan provides a listing of all hospitals, nursing homes and prisons within ten miles of TMI where institutionalized persons would be housed. In addition, this plan lists the distribution points for KI to emergency workers and institutionalized persons (all fire companies, ambulance services, hospitals, prisons, nursing homes, the emergency management agencies for each county, Fort Indiantown Gap for the National Guard and the Pennsylvania State Police Headquarters for the State Police). Distribution will be made from these listed points. The Pennsylvania Department of Health has ordered the KI for these distribution points and it will be stockpiled at each when received.

Q.43. What provisions have been made for distribution of KI to the general public?

A. The State plan does not provide for distribution of KI to the general public. According to the State Plan, KI will not be

supplied to the general public because of the lack of complete guidance provided by the FDA regarding distribution, the potential side effects and allergic reactions associated with general distribution of the drug, and due to the short shelf life of the drug. The BRP will not rely on KI as a protective action option for the general public and will therefore rely on other protective options for public protection, such as sheltering or evacuation.

Q.44. How does the State's decision to not distribute KI to the general public compare to the guidance of NUREG-0654?

A. Since the State does not rely on KI as a protective action option, and since Federal guidance is not complete with regard to the use of KI for the general public, the provisions in the Pennsylvania plan are not inconsistent with Federal guidance and the planning standard in 10 CFR 50 Appendix E with regard to Protective Response; that is, there is a predetermination that KI will not be used for the general public and this is consistent with the requirement of the NUREG-0654 planning standard.

Q.45. ANGRY Contention IIIB(D) (EP-5A) states:

The Commonwealth's plan for distribution of a thyroid blocking agent to persons at risk in the event of a nuclear accident with offsite radiological consequences (Pa. Dept. of Health RERP, App. I) is deficient for the following reasons:

1. The plan assumes an advance warning time (1 hour, p.2) that is in excess of that which NUREG-0654

concludes may be available before an initial release of radioactive materials to the environment.

2. The postulated warning time is that which is deemed the minimum necessary to enable Dept. of Health officials "to move ahead of evacuees in their distribution efforts". However, the plan is silent with respect to the much more critical time period that would actually elapse between the initial notification of the Commonwealth of an emergency situation and the availability to the public of the medication. ANGRY submits that given the logistics of the distribution process as set forth in the plan such a time period would be well in excess of one hour. The "assumption" stated in Sec. IVA(1), p.13, of the distribution plan is unsupportable as a planning basis.
3. In the case of York County, the movement of large numbers of people to the single designated distribution point for the medication, the County Courthouse, would require complete departure from predetermined evacuation routes, particularly for residents of Fairview and northern Newberry Townships. It would also cause massive traffic congestion in the center of York.
4. The plan would be useless in the event of a nuclear emergency for which sheltering was the chosen protective action. It is also useless to those farmers who "consider evacuation unfeasible and elect to seek or use sheltering for themselves ..." (Pa. Dept. of Agriculture Plan, p.17). The stated condition to the advice to "take prescribed dosage of SSKI" (Ex. 9 to App. 1, Sec. 3(c)), namely, its availability, would of course not be met under the plan as presently outlined.

For all the foregoing reasons ANGRY submits that the only method of distribution capable of insuring the availability of a thyroid blocking agent is its pre-distribution to all potentially affected households and businesses, and that such pre-distribution should be accomplished prior to the restart of TMI-1.

As to part 1 of this contention, what deficiencies exist in the State plan due to the assumptions on the time available to distribute KI?

A. None. As previously indicated, distribution will not be made to the general public. The State Department of Health has drafted a TMI site specific procedure for distribution to emergency workers and institutionalized persons. KI has been ordered by the State and, upon receipt, will be stockpiled at the distribution points. The State's plan does not assume an advance warning time and does not recognize value, although diminished, in taking the drug after exposure.

Q.46. As to parts 2, 3 and 4 of this contention, what problems are presented in distribution of KI to the public?

A. None. Planning now excludes the general public from the administration of KI and the use of KI or other radioprotective drugs for the public is not now a protective action option. Thus, evacuees will not be held up or directed to specific locations to receive KI. The State plan does not consider the farmers to be a special group but, instead, treats them as part of the general public for which KI administration is not a protective action option. Similarly, since KI will not be administered to the public, the public will not be asked to leave shelters to receive the drug.

Q.47. Newberry Contention York Plan 13 (EP-14M) states, with regard to the York County plan:

Appendix 3, Annex A, Health Medical Operations, provides that that group would be prepared to assist the State Department of Health in the distribution of thyroid

blocking and other radiological health materials. Nowhere in the Plan is it stated that these materials are readily available and until and unless the Plan specifically designates that these materials are located within the York County area, it is Intervenor's contention that the Plan is deficient.

What provision is made for the stockpiling of thyroid blocking agents in York County.

A. As previously mentioned, the State has determined that thyroid blocking agents will be distributed to emergency workers and institutionalized persons only. The State has listed distribution points for all emergency workers and institutions within ten miles of TMI including fire and ambulance companies, hospitals and other institutions in York County within ten miles of TMI, and will stockpile KI at these places when the drugs now on order are received.

Q.48. Again with regard to the stockpiling of thyroid blocking agents in York County, Newberry Contention York Plan 3 (EP-14C) states, in part:

Subsection (c) of this Plan also provides that a County Medical Officer will coordinate with the Pennsylvania Department of Health the distribution of thyroid blocking agents and other radiological health materials. The assumption is that these materials would be stored in an area in close proximity to the affected area without any assurance that such thyroid blocking agents and other radiological health materials are even available and could be delivered to the Exit 6 area of I-83 within a time frame that would be sufficient to effect the plan.

What provisions need be made with regard to delivery of thyroid blocking agents to Exit 6 of I-83?

- A. Again, since thyroid blocking agents will not be distributed to the general public, delivery of such drugs to this point, which was a distribution point for members of the public, is not necessary.

Q.49. ANGRY Contention IIIC(11) (EP-6E) states:

The provisions in the York County plan for thyroid blocking agent distribution (Annex A, App. 3, Health-Medical Operations) are not coordinated with the state plan.

Is the York County plan presently coordinated with the State plan with regard to the distribution of thyroid blocking agents?

- A. No. In view of the fact that the State plan has been modified to provide for distribution to emergency workers and institutionalized persons only, the York County plan is presently inconsistent with the State plan in that York County calls for the distribution of KI to the general public. On December 15, 1980, all counties were requested by the State to modify county plans in accordance with the State Department of Health decision on KI and the distribution plan of the State.

(iv) Other Matters Related to Implementation of Protective Actions

Q.50. ANGRY Contention IIIB(H)(5) (EP-5E(5)) states:

The Commonwealth's discussion of the sheltering option is inadequate in that it fails to emphasize the importance of the use of building basements (see NUREG CR-1131) or of ventilating the shelter at the appropriate time (see WASH-1400, App. VI, Sec. 11.1.2) as means to maximize the effectiveness of this measure. This inadequacy is

carried through to instructions to be provided the public as set forth in County plans.

When is basement sheltering the appropriate protective measure?

- A. This is the appropriate protective measure when the radioactive release involves high level gamma emitters such that normal residential structures above ground do not provide adequate shielding. This is possible in a high level particulate release.

Q.51. Why does the State not call for sheltering in basements?

- A. The State protective action philosophy is that the measure of protection afforded by a basement for releases where basement sheltering is called for would be insufficient to assure that the EPA PAGs would not be exceeded. Hence, rather than order basement sheltering in such circumstances, the State will order evacuation. Consequently, the State does not have prepared, in its public information releases (both Emergency Broadcast System messages and public information and education materials) any direction to take shelter in basements.

Q.52. When is ventilation of a sheltering structure called for?

- A. Ventilation, that is - opening windows and doors to allow the free flow of air - is called for when the sheltering has been in effect

for such a length of time that there is a concentration of radioactive gases inside the structure greater than outside the structure or following plume passage.

Q.53. Why does the State not call for or provide for the ventilation of sheltering structures?

A. The use of sheltering is not planned beyond the period of time for which ventilation might reasonably be required (two hours). In the event that sheltering would be projected for more than this period of time, the State would not order sheltering in the first instance but would order an evacuation. Thus, ventilation need not be ordered. Beyond this, the capability will exist for directing and instructing the public on ventilation (and, for that matter, sheltering in basements) by means of the EBS in the event this is found to be desirable or necessary.

Q.54. Newberry Contention York Plan 2 (EP-14B) states, in part:

Furthermore, this section of the York County Plan anticipates parents and/or families evacuating the area will be able to pick up children at schools. This again would lead to confusion within the Plan in that if a selected evacuation was ordered and pre-school children were to be removed from the area, the Plan anticipates that action would be taken by school superintendents in the evacuation of the children from schools and that there may be interference or lack of effective execution of the Emergency Plan set forth for the school systems.

What provision is made for the evacuation of school children?

A. The State plan provides that, as part of a general evacuation, school children within the plume exposure pathway EPZ will be evacuated on a group basis from their schools. The York County Plan deals with limited, selective evacuations as well as general evacuations. In a selective evacuation within five miles of the TMI site, the York Plan allows parents to pick up children at school during school hours without parents having to rely on State or County resources.

Q.55. Is this provision a defect in York County planning?

A. No. In this regard, the York County plan goes beyond the response preparation dictated by the State plan and provides contingency planning to effect a limited evacuation of a select group of people. Since the York Plan explicitly provides for both pick up of children by parents and school evacuation actions by the school superintendents in such circumstances, the confusion referred to in the contention should not occur - that is, the precise actions of both parents picking up children and school officials providing for evacuation of children is being anticipated and planned for.

Q.56. Newberry Contention York Plan 25 (EP-14Z) states:

The York County Plan provides for the decontamination of personnel and vehicles and Subsection C of that Plan provides that all vehicles passing through a designated reception center will be decontaminated and also that all vehicles that will be on major routes leaving the county will be decontaminated. The inclusion of this in the Emergency Plan of York County renders the Plan deficient

and inoperable. It is Intervenor's position that, by decontaminating vehicles and personnel at the designated locations as set forth in the Plan will only cause the projected traffic flows to be severely diminished as a result of the decontamination. The Plan is deficient also because there is no projection as to the number of cars that would be able to travel on the evacuation routes after the initial jam-up occurs at the decontamination routes. In other words, the decontamination areas will provide a bottleneck for the evacuation of area residents out of risk areas that will effectively render the evacuation plan inoperable. Unless the decontamination points are removed to some other point besides the major evacuation arteries, it is submitted that the Plan is deficient.

What requirements are there for the decontamination of private vehicles used in evacuation?

- A. Such decontamination is not required and NUREG-0654 does not provide for the decontamination of private vehicles.

Q.57. Under the York County plan, where would vehicles used in evacuation be decontaminated?

- A. Such vehicles would be decontaminated at relocation centers. All such centers for York County are located outside the plume exposure EPZ and, as shown on p.H-5 of the York County Plan, are more than ten miles beyond the outer boundary of the plume exposure EPZ.

Q.58. How will decontamination of vehicles as provided for in the York County Plan affect evacuation from the plume exposure EPZ?

A. We do not expect that egress from the plume exposure EPZ will be affected at all. First of all, the relocation centers, where decontamination operations are planned, were selected to provide, among other things, sufficient parking for evacuees so that traffic congestion and bottlenecks at the centers from decontamination operations should be avoidable. Moreover, the relocation centers where decontamination will take place are sufficiently distant from the plume EPZ, being over ten miles from the outer boundaries, that any bottleneck and congestion at the relocation centers should in no way affect egress from the EPZ. Finally, traffic coordination will be conducted by the State Police who are responsible for assuring that traffic congestion will not occur within the plume EPZ.

Q.59. Newberry Contention Dauphin Plan 1 (EF-16A) states:

The Dauphin County Plan, in Section V, makes the assumption that persons evacuated from a risk area will only have to remain outside of the risk area for a period of three (3) days and that adequate lead time will be available to implement the provisions of the Plan. It is Intervenor's contention that a plan based upon these assumptions is inadequate based upon past experience. In the past it has been recognized that a five (5) day selective evacuation was ordered by the Governor of Pennsylvania and that basing an assumption upon a three (3) day sheltering is a defect within the Plan itself. Moreover, there is no definition as to adequate "lead time" and whether or not a definition of that term would mean a short period of time or a relatively long period

of time, and until or unless the term is specifically defined, the Plan is deemed to be inadequate.

Similar concerns are raised in Newberry Contention Dauphin Plan 19 (EP-16S) which states:

The Dauphin County Plan is deficient in that there is no long-term management provision in the event of an evacuation which would last greater than three days. Without such long-term planning, there is a possibility and a probability that confusion would reign after an evacuation of three days and it is submitted that in the March 1979 incident, the evacuation lasted for five days. Therefore, until and unless there is greater long-term management planning provided for in the emergency plan, the Plan remains deficient.

What is meant by "lead time" as that term is used in the Dauphin County Plan?

- A. Lead time is the time needed to implement the plan. The meaning of this statement in the plan is that for various elements of the plan, some period of time is required to fully implement the plan.
- Q.60. Does the need for lead time render the Dauphin County Plan inadequate?
- A. No. The indication in the plan that some lead time will be needed to fully implement the plan is only a reflection of the practical realities of emergency planning. For example, traffic control for evacuation requires the placement of police officers at traffic control points to assist in an orderly evacuation. Obviously those police personnel are not in-place now and it would take time to put them in place. The absence of those personnel for some period of time will not preclude an evacuation. Similarly, the fact that a

full and orderly implementation of the plan will require lead times for various parts of the plan will not prevent the plan from being implemented.

Q.61. With regard to the Intervenor's concern about the three-day period of time being planned for evacuees to be out of the evacuated area, what period of time is planning required to account for?

A. Neither the NRC's emergency planning regulations nor NUREG-0654 specify a period of time for which persons are to be excluded from an evacuated area.

Q.62. What defect exists in Dauphin County planning because of the assumption that evacuees will be kept out of the evacuated area for three days.

A. None. It has been FEMA's experience that an evacuation of the scale planned in the TMI area would not necessitate any special planning or identification of resources to sustain the evacuated population. FEMA's experience in other evacuations indicates that the three days of evacuation that has been planned for provides sufficient time to arrange for any additional resources needed for an extended evacuation. With evacuees housed at mass care centers, any additional resources for sustaining the evacuated population may be brought in for whatever period of time is found to be necessary.

Q.63. ANGRY Contention IIIB(J) (EP-5G) states:

The Commonwealth's Department of Agriculture Plan is inadequate for the reason that it provides no information on measures for the self-protection of farm personnel who "consider an evacuation unfeasible and elect to seek or use sheltering for themselves ..." (p.17). The plan offers the farmer no choice between the two extremes of exposing himself to potentially dangerous levels of radiation or complete abandonment of his investment in his livestock.

What requirements are there for the protection of property such as livestock in the event of a radiological emergency?

- A. Neither the NRC's emergency planning regulations nor NUREG-0654 set forth requirements for the protection of property, including livestock, during a radiological emergency. Rather, the focus is on protecting the health and safety of persons with the protection of property left to ad hoc measures with no preplanning.

Q.64. What choice then is left for a farmer with livestock?

- A. Under the existing emergency planning regulations, farmers may be left only with the choice of abandoning their livestock or exposing themselves to potential dangers from a radiological accident. This choice is similar to that faced by farmers in the event of natural disasters such as floods, volcanoes and hurricanes. The farmer's investment should be covered by insurance and, in the event that it is , he need not remain to protect his investment.

Q.65. What emergency planning provisions are made for farmers who face such a choice?

A. The State Department of Agriculture extension agent (an emergency worker) will endeavor to work closely with farmers in providing needed guidance for their evacuation should this be required and for earliest return of the farmers to their property and livestock. If a farmer chooses to remain rather than to evacuate, advice on how to best protect himself and how to properly shelter his livestock can be obtained from the county emergency officer and from the State BRP. The Commonwealth's Department of Agriculture Plan provides for thorough instructional materials for the farmer to protect his livestock. It also instructs that, irrespective of the option selected by the farm operator, he should report his status and location to his county agent and to his county emergency management officer so that he can obtain advice and assistance.

E. Post Evacuation Support

Q.66. ECNP Contention 2-38 (EP-13) states:

The evacuation plans for Cumberland, York, and Lebanon Counties are based, at least in part on the assumption that many if not most, evacuees will stay with friends or relatives outside the evacuation zone. This assumption is highly questionable, since during the early days of the still-ongoing TMI-2 accident, after women and children were ordered out of the area within five miles of TMI, many tens of thousands of people outside this area themselves evacuated voluntarily. In the event of another accident at TMI which causes a twenty-mile evacuation, for which each of the five counties expresses preparedness, the resultant voluntary evacuations of persons beyond the 20-mile radius might well mean that

there will remain no friends and/or relatives for the 20-mile evacuees to reside with temporarily.

Do the evacuation plans for Cumberland, York and Lebanon Counties contain the assumption that some evacuees will stay with friends or relatives outside the evacuation zone?

- A. Such an assumption is implicit in these plans and the State plan because these plans provide for shelter for about half the potential evacuees from the plume exposure EPZ rather than for all such evacuees.

Q.67. Does the fact that these plans provide for shelter for only half of the potential evacuees render the plans deficient?

- A. No. In our view, based on past experience in disasters where evacuation has taken place, provisions for sheltering about half of the potential evacuees should be sufficient. It has been demonstrated that, as a general rule, less than 20% of evacuated population has availed itself of mass care centers (Defense Civil Preparedness Agency Technical Report, "Disaster in Perspective", 1975 (survey of over 100 disasters)). During Hurricane Carla, 23% of the evacuees took refuge in public shelters and this figure is characterized as extraordinarily high. During the TMI-2 accident itself, with the large number of people who voluntarily evacuated, very few mass care centers were utilized. Present planning provides for many more mass care centers to support 50% of the total population

in the plume exposure EPZ. This figure is conservative because it is not adjusted for emergency workers or persons who will receive special shelter such as medical or long-term care patients. In short, present planning for mass care sheltering should be more than adequate.

Q.68. Newberry Contention Dauphin Plan 11 (EP-16L) states:

Appendix 14 of Annex E indicates that within a 5 mile radius there are 24,426 individuals who would require evacuation from the area and there is an assumption made that 50% of the individuals would require sheltering. The total number of positions available for sheltering in the Plan equals 6,800. There is an obvious deficiency in the number of sheltering site positions available within the County Plan and until and unless there can be some type of acceptable levels of sheltering, the Plan will remain deficient. Moreover, it is Intervenor's position that there is an error in the addition that appears within this Appendix concerning the total capacity of the shelters and that the figure of 7,625 is in error. Furthermore, it is Intervenor's position that until and unless the Plan of Dauphin County indicates that there are auxiliary emergency power systems located in each one of the sheltering systems and emergency auxiliary heating systems at such sheltering locations, the Plan will remain deficient.

Describe the provisions of the Dauphin County plan for sheltering evacuees.

- A. The Dauphin County Plan, in Appendix 1, provides for seven support or host counties with eight reception centers. The shelter figure referenced in this contention (6800) is for the Upper Dauphin County Reception Center only and does not include the sheltering positions provided by any of the other reception centers. PEMA coordinates the sheltering needs with the host counties which are to collectively

provide for relocation sheltering for at least 50% of the evacuated population.

Q.69. What are the requirements with regard to auxiliary emergency power and auxiliary emergency heating systems for mass care centers?

A. Auxiliary power and heating systems for mass care centers are not required and, in fact, NUREG-0654 does not require any provisions for the mass care of evacuees.

Q.70. In your view, are auxiliary power and heating systems needed for the mass care centers provided for in the Dauphin County emergency plan?

A. No. In the event that loss of power or inadequate heat is encountered at a particular mass care center, sufficient numbers of centers have been planned for that relocation of persons from the affected center to unaffected centers could be undertaken. Nor is there anything to preclude the establishment of additional mass care centers and further relocation of persons. It should be pointed out that if there were a power outage in the hosting area, all persons in the area (residents, commercial enterprises) will be similarly disadvantaged and common corrective measures to restore power would be taken.

F. Exercises and Drills

Q.71. Newberry Contention York Plan 3 (EP-14C) states, in part:

Moreover, Section VI, Subsection (c)(4) provides that there will be an exercise and training of emergency service forces to include at least one annual exercise conducted in connection with PEMA. It is submitted that this part of the Plan is deficient because it does not require mandatory participation of all of the local emergency service forces. A most recent test conducted by PEMA in July of 1980 did not include the participation of a majority of the local townships and boroughs because the persons who would have been involved in that training exercise are volunteers and would not or could not obtain leave from their employers to participate in such a training exercise. It is contended that the Plan is still deficient in this area unless and until the Commonwealth of Pennsylvania through its police powers provides that those who are considered to be emergency service forces within the local boroughs and townships are given nonprejudicial paid leave time by their employers in order to participate in such an exercise.

What are the requirements for local participation in drills and exercises?

- A. The emergency planning rule 10 CFR 50 requires annual participation of the local governments or emergency management agencies within the plume exposure EPZ. The number of people involved in any exercise should be sufficiently large to demonstrate that needed resources and procedures are adequate to demonstrate preparedness. This does not mean that every element of each county response organization must be tested in each exercise, but that the counties are capable of providing a coordinated emergency response.

Q.72. What were the results and purpose of the July 16, 1980 exercise referred to in the Newberry contention quoted above?

A. From the standpoint of numbers of personnel and response organizations responding to the July 16, 1980 exercises, FEMA is of the view that the criteria were met. On the other hand, despite the participation of adequate numbers of personnel and organizations which participated, all aspects of emergency response that might be called upon during an exercise were not, in fact, demonstrated or tested. This exercise was conducted for practice only and was not intended as a full restart exercise, nor was it evaluated as such. Such a restart exercise will be conducted for compliance with the Nuclear Regulatory Commission's August 9, 1979 Order.

Q.73. What are the requirements for providing non-prejudicial leave or pay to emergency workers participating in exercises?

A. There are no such requirements in NRC or FEMA regulations for providing non-prejudicial leave or compensation to emergency workers who participate in exercises.

Q.74. What is FEMA's experience concerning participation levels by local emergency response workers in exercises held to date.

A. FEMA experience on other nuclear power plant exercises which have been conducted is that sufficient representative emergency response

personnel did participate, despite the fact that in some instances people did have to take leave from their work. Although some exercises have been conducted on weekends and in the evenings, others were performed during the work day. In FEMA's experience, no significant difference existed among participation at those exercises.

Q.75. Was there difficulty in obtaining local emergency response participation in York County during the July 16, 1980 exercise?

A. No. There was no difficulty in finding participation by York County sufficient to meet the needs and the scope of the exercise scenario. The scope of the exercise was not limited by the lack of persons available to participate. It was a York County decision to exercise at the level of their participation in July 1980.

The state required only two municipalities - namely Highspire and Middletown in Dauphin County - to participate. The other participants at the municipality level was a decision of the County.

G. Audit and Review of Plans

Q.76. Newberry Contention Dauphin Plan 9-2 (EF-16J) states, in part:

Finally, Section J of this part of the Plan indicates that evacuation plans of the various school districts will be on file with the County Emergency Preparedness Agency. It is Intervenor's contention that the plans of the school districts should mandatorily be on file and reviewed periodically by the County Emergency Preparedness Agency. Until or unless this deficiency is

corrected, it is Intervenor's position that the Plan is defective.

What requirements are there for maintaining and updating school evacuation plans at the county emergency management agencies?

- A. The new emergency planning rule provides that responsibilities for plan development and review and for distribution of emergency plans are to be established. The criteria established by NUREG-0654 in this regard are that each emergency response organization shall update its plan as needed, certify it to be current on an annual basis, and forward approved changes to organizations and individuals with responsibility for plan implementation. In addition, each plan is to contain a detailed listing of supporting plans and their source.

Q.77. What are the provisions of the Dauphin County Plan with regard to school evacuation plans?

- A. The Dauphin County plan provides a general description of evacuation of schools. The school evacuation plans are currently being developed. The Dauphin County plan further provides that the school evacuation plans will be on file with the County Emergency Preparedness Agency. While NUREG-0654 does not specify that implementing procedures such as the school evacuation plans are to be maintained on file by the county, it does require that a listing of such procedures be maintained and that the response organizations be charged to maintain

them. Nevertheless, the Dauphin County plan goes beyond the guidance of NUREG-0654 and specifically requires these procedures to be on file at the County Emergency Preparedness Office. Thus, what is sought by the Intervenor in the quoted contention is explicitly provided for in the Dauphin County Plan.

PROFESSIONAL QUALIFICATIONS

Frederick John Bath
Emergency Management Specialist
Federal Emergency Management Agency
Plans and Preparedness Division
Region III, Philadelphia, PA

I am an Emergency Management Specialist in the Plans and Preparedness Division of the Federal Emergency Management Agency, Region III, Philadelphia, PA and a Radiological Emergency Response Plans State Liaison project specialist to Pennsylvania. I am also a FEMA representative on the Regional Assistance Committee (RAC) and the point of contact for TMI site-specific planning both for the RAC and FEMA Region III.

I was a principal author of the December 24, 1980 FEMA Report on offsite preparedness for TMI, presented to the Board in January 1981.

I participated in the NRC/FEMA week-long conference on the Interim NUREG-0654 which was conducted to insure that these criteria were understood and applied uniformly across the nation.

I participated in a five-person ad hoc committee of Regional personnel to assess and react to public comment on NUREG-0654 for the FEMA National Office. I attended the Southern State Atlanta Conference also on NUREG-0654.

I received a Bachelor of Visual Arts Degree from Auburn University, Auburn, Alabama in 1963.

In January 1964, I was drafted into the U.S. Army and was honorably discharged December 1965. During my military service I was trained as a Radio Relay Carrier Operator and served in Germany in the 93rd Signal Battalion Headquarters as battalion draftsman and a carrier operator for the Command Staff.

My civilian government service began in July 1966 with the Air Force as an illustrator for the Inter-American Air Force Academy at Albrook AFB, Panama Canal Zone. I transferred from that position and location to a position as the illustrator for the Office of Civil Defense Region II, Olney, Maryland, in August 1969. In this position I supplied all the graphic support necessary to prepare the Emergency Public Information newspaper supplement for the Region's Community Shelter Program. I also worked closely with other Regional and State officials in Regional programs in my subject matter area.

In January of 1975, I transferred from the Administrative Office to the Field Service Office of the Defense Civil Preparedness Agency (DCPA) as a Regional Field Specialist and held that position until January 1980. During this period I served with a Regional Field Officer as a two-person

liaison team implementing Federal policy and assisting State and local government in the development of Civil Preparedness for Nuclear Attack. Since 1976, my assignments have been specific to Pennsylvania. Over the years I developed a thorough knowledge of DCPA programs and a positive working relationship with State and County officials in what is now called the Pennsylvania Emergency Management Agency (PEMA).

In January 1980 I was transferred to the Government Preparedness Division of FEMA Region III as an Emergency Management Specialist as part of the Reorganization Plan 3, which established FEMA. I served in this position until June 1980. I held a lead role in the planning and coordination with other Federal agencies and the military with regard to Continuity of Government for Nuclear Attack and Resource Management in a national emergency. I applied the National exercise scenario with other regional staff in conduct of a full-scale Regional exercise during REX-80 ALPHA in March 1980.

My in-service experience, roles and responsibilities since August 1969 and more specifically since 1975, have provided unique training and experience in Civil Preparedness including emergency response functions. The following are examples of such experience: participated at Regional Headquarters level during Tropical Storm Agnes in the logging and tracking of the devastation of property, and the effects and actions of the people brought by that storm; served as a Public Assistance one-Stop-Center Manager in the aftermath of Hurricane Eloise at a Center in Danville, PA; and provided staff support to the DCPA report on the Southwestern Pennsylvania Flood. Also, I served as Regional DCPA Representative at the State EOC in Harrisburg during the Three Mile Island-2 accident.

Apart from my formal undergraduate education, I have received the following additional training applicable to REP work:

- Radiological Monitoring, OCD; 7/70; Training to utilize Civil Defense radiological meters and report findings.
- Revised Fall-Out Forecast Procedures; Estimation and analysing shelter yield; RADEF Exercise Generator; and Electromagnetic Pulse - 1971 - Examples of In-Service Training provided by Region II OCD/DCPA Technical staff to field personnel in which I attended and participated.
- Civil Preparedness Career Development Program Phase I - 6/73 and Phase II 9/74; conducted by DCPA Staff College with Federal, State and County Civil Preparedness Officials jointly participating.
- Crisis Relocation Planning; DCPA Region II; 1/74 Planning Principles and Parameters for Crisis Relocation Planning.

- Nuclear Civil Protection Planner Course; DCAP Staff College, 7/76 Planning Principles and Parameter of Crisis Relocation Planning and In-place Shelter Planning. To provide base for required planning and Program Management attended by State Nuclear Civil Protection Planners and Federal Program Managers.
- NUREG-0654/FEMA REP Conference - 2/80; Emergency Management Institute in Emmitsburg, Maryland conducted by NRC and FEMA to present NUREG-0654 Interim for use. Attended by RAC participants and FEMA personnel assigned to REP role nationwide.

PROFESSIONAL QUALIFICATIONS

VERNON E. ADLER

Vernon E. Adler joined the Federal Emergency Management Agency, Region III, as Director, Division of Plans and Preparedness in early January of this year. He came to FEMA directly from the U. S. Department of State where he served a five year appointment worldwide. His principal responsibilities were in the areas of international nuclear safeguards, nuclear non-proliferation and nuclear export controls. Mr. Adler served overseas as Counselor for Scientific and Technological Affairs at the U. S. Embassy in Warsaw, Poland and as Science Attache in Tehran, Iran.

Mr. Adler has more than 20 years of industrial experience with an emphasis in nuclear power. He was employed by Combustion Engineering Inc. from 1965 to 1976 during which time he worked as Technical Assistant to the Corporate Vice President for Nuclear Power, and from 1973 to 1976 as Manager of Washington Nuclear Operations. In this last position he had the primary task of assisting his company to obtain regulatory approvals through the NRC review process, for the construction and safe operation of Combustion Engineering designed nuclear steam supply systems.

Mr. Adler is a graduate Metallurgical Engineer with a Master's degree in Business Administration. He taught marketing management on the faculty of Western New England's Graduate School of Business in Springfield, Massachusetts. Mr. Adler's background in nuclear power includes work for the Westinghouse Atomic Power Division and the U. S. Atomic Energy Commission during the mid and late 1950's.