

048

DOCKETED  
USNRC  
85 MAR 14 P3:05

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety and Licensing Board

In the Matter of )  
 )  
Philadelphia Electric Company ) Docket Nos. 50-352 02  
 ) 50-353 02  
(Limerick Generating Station, )  
Units 1 and 2) )

APPLICANT'S REPLY FINDINGS OF FACT AND CONCLUSIONS  
OF LAW RELATING TO OFFSITE EMERGENCY PLANNING CONTENTIONS

Philadelphia Electric Company, Applicant in the captioned proceeding, in accordance with 10 C.F.R. §2.754 and the Atomic Safety and Licensing Board's Orders of January 28, 1985 and March 4, 1985, hereby submits reply findings on the offsite emergency planning contentions in response to the proposed findings of fact and conclusions of law submitted by Robert L. Anthony/Friends of the Earth (collectively "FOE"), Limerick Ecology Action ("LEA"), the Commonwealth of Pennsylvania ("Commonwealth"), and the Nuclear Regulatory Commission Staff ("NRC Staff" or "Staff"). The reply findings are in the form of insertions to "Applicant's Proposed Findings of Fact and Conclusions of Law in the Form of a Partial Initial Decision," dated February 19, 1985 ("Applicant's Proposed Findings").

Many of the proposed findings filed by the other parties to this proceeding were anticipated in the Applicant's proposed findings and, as to those findings, no further reply is necessary. It is also noted that many of the proposed findings, especially those filed by FOE and LEA, are immaterial to the issues before this Board or unsupported by the

record. Thus, the Board should adopt Applicant's proposed findings, as amended herein, and reject those of the other parties as unsupported by the record evidence or as immaterial to its decision.

1. On page 12 of Applicant's Proposed Findings, add footnote 29A to the end of the first sentence of the first full paragraph on that page:

29A/ The Commonwealth's statement at page three of its proposed findings that its "[f]ailure to address each and every Applicant proposed finding herein does not necessarily signify acceptance of such finding on the Commonwealth's part" is legally incorrect. It is well settled that parties who fail to file proposed findings of fact and conclusions of law on a matter have waived any right to pursue the issue. 10 C.F.R. §2.754; Metropolitan Edison Company (Three Mile Island Nuclear Station, Unit 1), ALAB-772, 19 NRC 1193, 1213 n.18 (1984); Florida Power & Light Company (St. Lucie Nuclear Power Plant, Unit No. 2), ALAB-280, 2 NRC 3, 4 n.2 (1975). Thus, the failure of a party to contest the previously filed contentions of another party clearly constitutes acquiescence in those findings.

In his written testimony, Mr. Hippert preceded his response to each contention with a number of questions on the subject. Although LEA attempted to frame certain issues in terms of the questions, Mr. Hippert testified that those questions were formulated simply as an aid to him in organizing his thoughts (Hippert, Tr. 19616). As such, they have no evidentiary value and have been disregarded by the Board.

2. On page 14 of Applicant's Proposed Findings, add the following text after the first full paragraph:

Time Constraints on Examination and  
Cross-Examination of Witnesses

Before turning to the Board's findings, we address the claim by FOE that time constraints imposed by the Board for the parties' examination and cross-examination of witnesses were unduly restrictive. Initially, the Board imposed no such restrictions. It became increasingly apparent, however, as the hearing progressed that some limitation was necessary. For example, LEA's cross-examination of Applicant's witness

panel, the first witnesses, consumed five hearing days (Tr. 12766-13536).<sup>30/</sup> From the examination of subsequent witnesses, it became increasingly apparent that LEA was taking a disproportionately lengthy time.<sup>31/</sup> On that basis, the Board suggested that LEA had not demonstrated an effective use of its time and that time restrictions for further examination might be imposed (Tr. 14242-43).

As a result of those concerns, the Board later conducted an off-the-record discussion with counsel and representatives of the parties as to the schedule for hearing future witnesses and the parties' estimate of the time needed to fairly examine and cross-examine the approximately 60 witnesses which LEA intended to call (Tr. 14727). The

---

<sup>30/</sup> FOE's only admitted contention in the area of offsite emergency planning covered the same allegations raised by LEA with respect to the Valley Forge National Park/King of Prussia locale. Under those circumstances, the Board admitted and consolidated both the LEA and FOE contentions (LEA-24/FOE-1) and designated LEA as the lead intervenor. FOE was directed to coordinate its litigation of this contention with LEA. See Limerick, supra, LBP-84-18, 19 NRC 1020, 1069 (1984). The Commission has expressly endorsed this approach. See Statement of Policy on Conduct of Licensing Proceedings, CLI-81-8, 13 NRC 452, 455 (1981). See also Portland General Electric Company (Trojan Nuclear Plant), ALAB-496, 8 NRC 308, 310 (1978); Cleveland Electric Illuminating Company (Perry Nuclear Plant, Units 1 and 2), LBP-81-35, 14 NRC 682, 687-88 (1981). Accordingly, the Board would have been justified in insisting that LEA conduct all examination of witnesses on behalf of the consolidated intervenors with regard to their joint contention. Nonetheless, the Board permitted the FOE representative, Mr. Anthony, to cross-examine separately those witnesses with testimony relevant to LEA-24/FOE-1. The apportionment of cross-examination time permitted intervenors between FOE and LEA was a matter for their representatives to decide between themselves.

<sup>31/</sup> Thus, Applicant presented the direct testimony of Mr. A. Lindley Bigelow, the Montgomery County Director of Emergency Preparedness, which took only 33 transcript pages, while LEA's cross-examination took approximately 165 pages.

limitations thereafter imposed on the basis of the parties' representations were clearly more lenient toward intervenors than any other party.<sup>32/</sup> Although LEA objected to the Board's characterization of these limitations as based upon the agreement of the parties (Tr. 14734-36), the Board affirms its belief that the limitations were based upon a candid and good faith estimate by the parties as to the time actually needed to fully and fairly examine the witnesses (Tr. 14736).

Moreover, intervenors needlessly wasted valuable hearing time through lack of preparation, repeated changes in their designated sequence of witnesses, and an inability or unwillingness to adhere to the evidentiary rulings of the Board. Most direct and cross-examination by LEA and all by FOE was conducted by their lay representatives. Their questions inevitably prompted many valid objections to the improper form of questions, repetitive questions, lack of evidentiary foundation and other objections which added to the length of the hearing. The Board repeatedly sustained such objections and explained to the intervenors how the objections could be avoided, usually to no avail. For example, during Mr. Anthony's cross-examination of one township official, the Board found it necessary to sustain 19 of 21 evidentiary objections raised by counsel (Tr. 17406-56).

---

<sup>32/</sup> With respect to subpoenaed witnesses, intervenor was accorded one and one-half hours of direct examination, the Applicant was given one hour of cross-examination and the NRC, Commonwealth and FEMA were given 30 minutes of cross-examination. LEA was given 30 minutes for re-direct examination. For witnesses with pre-filed testimony, Applicant was accorded only 30 minutes for cross-examination and the NRC, the Commonwealth and FEMA were extended 20 minutes of cross-examination. LEA was given 20 minutes for re-direct (Tr. 14727-28).



In any event, the Board is satisfied that the time limitations imposed were proper and reasonable. Such authority has long been recognized.<sup>33/</sup> Our time limitations were certainly no more stringent, considering the number of witnesses subpoenaed by intervenors, than those imposed by the Licensing Board in Catawba, which stated the basis of its actions as follows:

Such authority is recognized in the federal district courts. See MCI Communications Corp. v. AT&T, 85 F.R.D. 28 (N.D. Ill. 1979), aff'd, 708 F.2d 1081, 1170-73 (7th Cir. 1983). We believe that time limit authority for Licensing Boards is fairly inferable from the federal cases, the NRC Rules of Practice (which include authority to "prevent . . . repetitious, or cumulative cross-examination" (10 C.F.R. §2.757(c)) and to "[r]egulate the course of the hearing" (10 C.F.R. §2.718(e)), and from the Commission's Statement of Policy on Conduct of Licensing Proceedings, CLI-81-8, 13 NRC 452 (1981). The whole thrust of that Statement is toward fair but timely hearings, and Boards are explicitly directed to "set and adhere to reasonable schedules." Id. at 454. A Licensing Board can hardly be expected to adhere to a "reasonable schedule" if the time for cross-examination, the most time-consuming part of the process, is beyond its control.<sup>34/</sup>

---

<sup>33/</sup> Consumers Power Company (Midland Plant, Units 1 and 2), LBP-75-39, 2 NRC 29, 113 (1975).

<sup>34/</sup> Duke Power Company (Catawba Nuclear Station, Units 1 and 2), LBP-84-24, 19 NRC 1418, 1428 (1984). Further, we heartily agree with that Board's conclusion that "our experience with time limits in this case indicated that a cross-examiner under some time pressure to get his questions asked tended to present a more effective cross-examination than one whose questioning is limited only by his stamina and imagination." Id. We also note that the Licensing Board in Shoreham found it necessary to modify the normal procedure for cross-examination of witnesses by requiring the parties to conduct cross-examination, re-direct and re-cross by means of public prehearing depositions without the presence of the Board, which the Appeal Board found "both lawful and reasonable." Long Island Lighting Company (Shoreham Nuclear Power Station, Unit 1), ALAB-788, 20 NRC 1102, 1178 (1984), aff'g, LBP-82-107, 16 NRC 1667 (1982).

As Catawba states, the Board's imposition of time limitations is supported by the approval of similar restrictions by federal appellate courts. In addition to the authority cited in Catawba, the United States Court of Appeals for the Ninth Circuit held in United States v. Brutzman, 731 F.2d 1449, 1452 (9th Cir. 1984), that limitation of cross-examination is sometimes necessary to "avoid time-wasting exploration of collateral matters." See also Austin v. Loftsgaarden, 675 F.2d 168, 180 (8th Cir. 1982).

3. On page 16 of Applicant's Proposed Findings, add the following sentences at the end of Paragraph 5:

The ETE study was not intended to develop specific estimates for each evacuation route but rather time estimates for various segments of the Limerick EPZ as well as the entire EPZ. The number of evacuating vehicles along each route could, however, be calculated on the basis of the data contained in the ETE study (Klimm, Tr. 13836-37).

4. On page 16 of Applicant's Proposed Findings, add the following sentence to the end of Paragraph 6:

As LEA acknowledges, the deficiencies it has alleged in the ETE study are "not exactly crystal clear" (LEA Proposed Finding 1).

5. On page 16 of Applicant's Proposed Findings, add Paragraph 6A following Paragraph 6:

6A. Contrary to LEA's assertion, Dr. Urbanik did not testify that the ETE study "could have an error of 10-20%" (LEA Proposed Finding 38). Rather, Dr. Urbanik testified that the ETE study would still be a valid and appropriate basis for protective action recommendations even if the time estimates erred in the range of 10-20 percent (Urbanik, Tr. 19212).

6. On page 16 of Applicant's Proposed Findings, add the following sentence following the second sentence of Paragraph 7:

Contrary to LEA's assertion, there is no evidence in the record that any information deemed relevant by township or park officials to the preparation of the ETE study was excluded from consideration.

7. On page 17 of Applicant's Proposed Findings, add Paragraphs 9A, 9B, 9C, 9D, 9E and 9F following Paragraph 9:

9A. LEA asserts that the ETE study does not follow the regulatory guidance set forth in NUREG-0654, Appendix 4, as to format and content. In essence, LEA asserts that certain tables and maps have been omitted (LEA Proposed Findings 60-64). The Board notes, however, that NUREG-0654 states that the suggested format provides "only a few typical tables" of those which might be included in an acceptable study and that discussion of the contents of an evacuation time estimates study is "intended to be illustrative of necessary considerations and provide for consistency in reporting" (NUREG-0654, Appendix 4, p. 4-1). The NRC has held that reasonable discretion exists in the precise content of evacuation time estimate studies. Moreover, the NRC Staff's expert has categorically testified that the ETE study utilized methodologies consistent with NUREG-0654 (Proposed Finding 6).

9B. In any event, the ETE study contains the information which LEA alleges to be missing, i.e., an evacuation roadway network map (Appl. Exh. E-67, p. 4-3) and a table indicating evacuation route segments and characteristics, including capacity (Appl. Exh. E-67, Appendix 10). Contrary to LEA's assertion, the ETE study accurately summarizes all evacuation time estimates in each of fourteen different sectors, and those estimates include expected delays (Appl. Exh. E-67, Table 6.1).

Anticipated queuing is shown on a series of maps which depict anticipated traffic conditions at various intervals of interest throughout the simulated evacuation (Appl. Exh. E-67, Appendix 11; NUREG-0654, Appendix 4, p. 4-9).

9C. LEA also asserts that the ETE study does not follow the guidance of NUREG-0654, Appendix 4, p. 4-10, because it does not include specific recommendations for actions that could be taken to significantly improve evacuation time, including preliminary estimates, if significant, of the cost of implementing those recommendations. This particular allegation is well beyond the scope of the admitted contention and was not addressed at the hearing. Nonetheless, there is no evidence to suggest that there are any actions which could, in fact, significantly improve evacuation times. Moreover, the ETE study reflects that a number of recommendations have already been implemented to provide such improvements, including the designation of additional traffic access and control points within the EPZ (Appl. Exh. E-67, p. 7-7).

#### PennDOT Study

9D. In developing the ETE study, HMM Associates also reviewed an earlier evacuation time estimate study for Limerick prepared by PennDOT in 1983. The results of that study were documented in an "Evacuation Plan Map" for Limerick. The PennDOT study was primarily a manual calculation of roadway capacities, which related expected vehicle demand to the roadway capacity. Although not inadequate for its purpose at the time it was developed, the study was not an attempt to follow the guidance of NUREG-0654, Appendix 4 (Klimm, ff. Tr. 13794 at p. 1, Tr. 13828; LEA Exh. E-16). For example, NUREG-0654 does not require a presentation of data in the format utilized by the PennDOT study to

reflect the number of vehicles evacuating particular routes, but does require time estimates for evacuating various sectors of the entire EPZ, which PennDOT did not calculate (Klimm, Tr. 13834).

9E. The data developed by HMM Associates was more comprehensive than that contained in the PennDOT study and is thus more reliable. For example, HMM Associates recalculated the number of vehicles for various segments of the population within the Limerick EPZ, based upon more recent data than that used by PennDOT (Klimm, Tr. 13832). Accordingly, there is no validity to LEA's attempt to compare traffic flows and estimated evacuation times contained in the PennDOT and ETE studies. No witness was offered to validate the data, methodology or assumptions used in the PennDOT study, nor is there any other evidence of record which would make such a comparison meaningful.

9F. Further, the Board excluded from evidence two traffic studies prepared for Upper Uwchlan Township and Upper Merion Township because there was no sponsoring testimony to support the relevance of those documents to the contentions (Tr. 19067, 19190).

8. On page 18 of Applicant's Proposed Findings, add the following sentence to the end of Paragraph 14:

Thus, contrary to LEA's assertion (LEA Proposed Findings 19-20), the ETE study incorporates the geometrics of all intersections in the evacuation roadway network and appropriately incorporates specific characteristics of intersections and roadways, including slope, curves and acute angles.

9. On page 19 of Applicant's Proposed Findings, add Paragraph 16A following Paragraph 16:



16A. In several instances (e.g., LEA Proposed Finding 151), LEA asserts that the ETE study does not evaluate projected highway availability, business and residential development, or other anticipated changes in the roadway network and demography within the EPZ. Under NUREG-0654, Appendix 4, p. 4-1, "evacuation time estimates should be updated as local conditions change." Anticipated changes have been considered to the extent possible (Appl. Exh. E-67, pp. 7-7, 7-17, 7-18). The ETE study is an evolving, dynamic document, which will be periodically revised to account for changes in the evacuation roadway network, demography and other variables (Proposed Finding 78). The Chester-Montgomery link (LEA Proposed Finding 309) is an example of a highway which, when constructed, will be added to emergency planning.

10. On page 19 of Applicant's Proposed Findings, add the following subheading and Paragraphs 16B, 16C, 16D and 16E and the subsequent subheading and Paragraphs 16F, 16G and 16H following Paragraph 16A:

Vehicle Occupancy

16B. The vehicle occupancy rate of three persons per vehicle used in the ETE study (Appl. Exh. E-67, p. 3-2) is the same factor utilized by PEMA in its assessment of permanent population vehicle demand at other nuclear power plant sites in Pennsylvania. It is therefore considered appropriate with respect to Limerick (Klimm, Tr. 13980, 14061).

16C. The ETE study assumption of an average of three persons per vehicle for permanent residents is also consistent with NUREG-0654, Appendix 4 (Klimm, Tr. 17071-72). Inasmuch as three persons per vehicle is only an average, it is realistic to assume that some vehicles will carry more or fewer than three passengers. Accordingly, the Board does

not believe that the data cited by LEA from a prior draft of the Chester County plan, which shows a range above and below three passengers (LEA Exh. E-40; LEA Proposed Finding 114), is in any way inconsistent with this assumption.

16D. As to LEA/FOE's concerns regarding the assumed vehicle occupancy rate, empirical and historical data indicate the tendency of families to unite prior to evacuation and to evacuate in the best available vehicle. These data also indicate that families will not utilize a second car to evacuate (Klimm, Tr. 17041-42).

16E. Inasmuch as the assumption of three persons per vehicle is only an average, it is realistic to assume that vehicles with only one or two occupants would have excess capacity to transport friends or neighbors. Even if additional vehicles were loaded on to the evacuation network to accommodate transportation-dependent individuals, that particular category comprises such a small percentage of total vehicle demand within the EPZ that slight variations would not affect evacuation time estimates significantly (Klimm, Tr. 13980-81, 17376-77).

#### Number of Transportation-Dependent Individuals

16F. LEA asserts that there is an inconsistency between the 1980 United States Census data reported in earlier draft plans and data reporting the results of general public surveys to determine the number of transportation-dependent individuals, included in the most recent drafts. In essence, LEA asserts that the difference between the two sets of data cannot be explained by a decision by those not owning a car to obtain rides from relatives, neighbors or friends (LEA Proposed Findings 139-140). No valid comparison, however, is possible. The census data cited by LEA is produced from earlier plan drafts not in

evidence. There is no testimony to substantiate exactly what the census data represents or the purpose for which it was collected. For example, the Board does not know how census information from "households" without personal transportation was translated into the number of transportation-dependent individuals listed in the earlier draft plans (Bradshaw, ff. Tr. 17191 at p. 18-19).

16G. Additionally, numbers of transportation-dependent individuals contained in earlier plan drafts represent projections of only a sample of the populace (Bradshaw, Tr. 17349). Further, inclusion of all census data would result in double counting individuals who will be evacuated from other institutions for which planning exists, e.g., schools, nursing homes and hospitals (Chester County/Commonwealth Exh. E-1, Annex I, Appendices I-2 and I-3; Appl. Exh. E-3, Annex I, Appendix I-3). LEA's assumptions are also flawed. It assumes that all transportation-dependent individuals within a particular municipality must obtain a ride from residents of the same municipality. LEA also assumes without any basis that the overall average of three persons per vehicle applies plus or minus zero to more populated, urban areas such as Phoenixville and Pottstown.

16H. LEA's assertion that more buses would be needed to evacuate transportation-dependent individuals (LEA Proposed Finding 141) exceeds the scope of the admitted contentions. In any event, the Board rejects as unfounded any assumption that more buses would be needed for the reasons discussed above (Proposed Findings 16E-G). The general public needs surveys taken by the risk counties were reasonably accurate and represent the most reliable information available (Campbell, Tr.

19997-99, 20061-62; Bradshaw, ff. Tr. 17191 at p. 19, Tr. 17348, 17375-76).

11. On page 21 of Applicant's Proposed Findings, add the following sentence to the end of Paragraph 23:

In asserting that Section 5 of the ETE study does not list a population category for those returning to the EPZ, LEA apparently did not understand that the evacuation preparation and mobilization time assumptions for each population category provide a range of times, which includes those who will return to the EPZ before commencing their evacuation.

12. On page 21 of Applicant's Proposed Findings, add the following sentence to the end of Paragraph 23:

Mobilization time for buses which evacuate transportation-dependent residents was included within the time frame for mobilizing the entire permanent resident category (Klimm, Tr. 17261-62).

13. On page 22 of Applicant's Proposed Findings, add Paragraphs 25A, 25B and 25C following Paragraph 25:

25A. LEA attempted to infer a discrepancy between the one-hour mobilization period utilized in the ETE and the unit mobilization times stated by bus providers in the Montgomery County plan (Appl. Exh. E-67, p. 5-5; Appl. Exh. E-3, Annex I, Appendix I-2). These two mobilization periods are not, as LEA assumes, identically defined. As noted, the ETE study's mobilization period of up to one hour includes travel time from a bus provider's garage to an assignment and loading time (Proposed Finding 25). Unit mobilization times under the Montgomery County plan include the time necessary to obtain drivers and have buses ready to depart from a provider's garage. The two time periods might overlap,

but are not congruent (Cunnington and Klimm, Tr. 17258-60, 12955). Thus, unit mobilization information in the plan does not contradict the one-hour estimate in the ETE study for bus mobilization.

25B. Even if the ETE study had analyzed unit mobilization information in the Montgomery County plan, no different conclusion would have resulted. Under the plans, the counties will notify bus providers at the alert stage (Chester County/Commonwealth Exh. E-1, Annex I, p. I-2; Appl. Exh. E-3, Annex I, p. I-2). At the site emergency and general emergency stages, the counties have the option to position buses at transportation staging areas (Chester County/Commonwealth Exh. E-1, Annex I, pp. I-2, I-3; Appl. Exh. E-3, Annex I, pp. I-2, I-3). Accordingly, the most likely scenario, which the ETE study accurately depicts, is that bus providers have been notified and buses are positioned at their assigned locations prior to an order to evacuate (Appl. Exh. E-67, p. 5-5).

25C. Only a small minority (6 of 32) of bus providers for Montgomery County have stated that up to two hours will be necessary for unit mobilization. Further, that two-hour period represents a range to include up to the last bus provided and represents the highest estimated times during the day. Unit mobilization times for daytime requests do not exceed one hour (Cunnington, Tr. 12955-56; Appl. Exh. E-3, Annex I, Appendix I-2). The up to two-hour unit mobilization times stated by a minority of bus providers is therefore not inconsistent with the calculation of a one-hour mobilization period commencing thirty minutes from notification of an evacuation (Cunnington, Tr. 17258-59; Klimm, Tr. 17260-61). Even a 100 percent increase in the ETE study's mobilization



time period for schools would not significantly increase evacuation time estimates (Klimm, Tr. 17267).

14. On page 23 of Applicant's Proposed Findings, add Paragraphs 26A and 26B following Paragraph 26:

26A. The NRC Staff asserts that "[i]ntervenor's concern about the assumption in the ETE study regarding assembling transport vehicles and buses and loading students on the buses may in a 'worst case' situation have validity" (NRC Staff Proposed Finding 26b). The only arguable support for this statement is that the Owen J. Roberts School District has experienced an isolated problem in obtaining four or five of its normal complement of 55 buses for unscheduled early dismissals. The four or five buses generally do not arrive until an hour or so after the other buses have departed with students from school (Claypool, Tr. 15881).

26B. The Board regards this as an insignificant incident against the strong weight of the evidence that buses have been promptly furnished for unscheduled early school dismissals throughout the EPZ and those non-EPZ school districts which have agreed to furnish buses (Proposed Finding 256). Also, the recent early dismissal at the Owen J. Roberts School District did not involve the same notification and prepositioning procedures which would be utilized in a radiological emergency, and therefore does not provide a basis for an accurate comparison with bus driver mobilization in a radiological emergency. Ample lead time by way of early notification is likely to exist in the event of a radiological emergency. If any buses were to be late arriving, it would be known to county and/or school district staff. Other buses could be dispatched (Cunnington, Tr. 16943-44). In any event,

"worst case" scenarios simply do not constitute a valid planning approach and, as recognized by the Staff (NRC Staff Proposed Finding 266), would not affect evacuation time estimates in any event (Klimm, Tr. 17260).

15. On page 23 of Applicant's Proposed Findings, add Paragraph 27A following Paragraph 27:

27A. LEA misinterprets Mr. Klimm's explanation of the assumption in the ETE study of a zero base flow of traffic at the time an evacuation commences (LEA Proposed Findings 12-14). That assumption, which was intended to avoid counting the same vehicles twice, was not dependent upon any site-specific knowledge of traffic on evacuation corridors during an actual evacuation, including those in the Valley Forge National Park/King of Prussia area. Normal traffic volume and direction, though well understood, was not relevant to the zero base flow assumption (Klimm, Tr. 13866-70).

16. On page 24 of Applicant's Proposed Findings, add the following sentence to the end of Paragraph 28:

Contrary to LEA's assertion that the Staff witness agreed that peak traffic flows should be included in the ETE study (LEA Proposed Finding 59), Dr. Urbanik simply stated generally that no information should be excluded. He cited no specific use or relevancy of peak-hour flows.

17. On page 24 of Applicant's Proposed Findings, add the following sentences at the end of Paragraph 29:

The ETE study did, in fact, simulate the flow of vehicles inbound to the EPZ, which would be distributed over a significant period of time, depending on the time of day, day of week and season (Klimm, Tr. 14060). It was determined that any intermittent queuing that might

occur inbound on Route 363 would not affect the movement of outbound vehicles along that evacuation corridor (Klimm, Tr. 14060).

18. On page 25 of Applicant's Proposed Findings, add the following sentences at the beginning of Paragraph 34:

The ETE study took into account each of the traffic control points listed in Table 7.2 and assumed that those points would be manned (Klimm, Tr. 14083). Inasmuch as traffic control points were established by local authorities in developing their plans from which HMM Associates took these basic data, this information was reliable (Klimm, Tr. 13975-77).

19. On page 26 of Applicant's Proposed Findings, add the following sentences at the beginning of Paragraph 36:

Existing Commonwealth traffic regulations will be enforced during an evacuation. The documented history of disaster responses shows that evacuations are generally orderly (Bradshaw, Tr. 13369-70).

20. On page 26 of Applicant's Proposed Findings, add the following sentence to the end of Paragraph 37:

As indicated, the mechanisms necessary to establish and man additional traffic control points beyond the EPZ are already in place. Given the far greater number of traffic access and control points within the EPZ for which adequate arrangements have already been made (Appl. Exh. E-67, Tables 7.1 and 7.2), the Board sees no difficulty in establishing other points beyond the EPZ.

21. On page 26 of Applicant's Proposed Findings, add Paragraph 37A following Paragraph 37:

37A. LEA asserts that there has been a general lack of integrated planning for traffic control outside the EPZ. No evidence is cited,

however, to support its theories that traffic control points cannot be established in time to handle evacuation flows or prevent access by non-evacuating traffic. Nor is there any evidence which demonstrates any potential problem with traffic control arrangements created by inbound vehicles from transportation staging areas. Nothing supports LEA's assertion that it will be necessary to "[shut] down major interstate routes" or that other delays will interfere with the movement of inbound vehicles (LEA Proposed Finding 158).

22. On page 27 of Applicant's Proposed Findings, add the following sentence to the end of Paragraph 39:

With respect to queuing depicted in Appendix A-11, the fact that vehicles might be stopped on any particular link does not mean that there are not also vehicles moving on that link inasmuch as the appendix is merely meant to provide a graphical representation of one particular time frame (Klimm, Tr. 14025).

23. On page 27 of Applicant's Proposed Findings, add the following sentence after the first sentence of Paragraph 40:

Although the impact of an evacuation outside the EPZ was not assessed in each instance, the impact was assessed where it was determined that site specific impacts in areas located adjacent to the EPZ might significantly affect evacuation times or where concern was expressed by the Commonwealth or counties (Klimm, Tr. 13811, 13825-26, 13883, 13885, 13970-71).

24. On page 28 of Applicant's Proposed Findings, add Paragraph 42A following Paragraph 42:

42A. LEA relies upon the prefiled testimony of the FEMA witnesses that they were unable to determine whether the areas of concern in this

contention adjacent to the EPZ were included in the ETE study (Asher and Kinard, ff. Tr. 20150 at p. 32; LEA Proposed Findings 33-34). The Board, however, has heard ample evidence to confirm that those areas were indeed considered (Proposed Findings 40-71). There is no evidence that the NETVAC model utilized to prepare the ETE study excluded any relevant variable, including roadway network data pertinent to the area adjacent to the EPZ (Proposed Findings 40-42).

25. On page 31 of Applicant's Proposed Findings, add Paragraphs 53A and 53B following Paragraph 53:

53A. Use of any one or more of the alternative feeder routes to the main evacuation routes would have no effect upon the evacuation time estimates, which are based upon anticipated traffic congestion along the main evacuation corridors, such as Route 100 South (Klimm, Tr. 17052). Therefore, the condition of secondary roadways such as Redbone Lane is inconsequential to the reliability of the time estimates.

53B. LEA posited that problems would arise during an evacuation as a result of a change in the location of a reception center from Exton Square Mall to the West Whiteland Township Building (LEA Proposed Findings 109, 113). HMM Associates determined that this change would not affect the evacuation time estimates contained in the ETE study (Klimm, Tr. 13809) because: (1) only about 50 percent of evacuating vehicles using Route 100 would stop at the West Whiteland reception center (Klimm, Tr. 13807-08, 13813, 14075); (2) the exit from Route 100 to the West Whiteland reception center is a free right turn (Klimm, Tr. 13808); (3) the West Whiteland reception center is a considerable distance outside of the EPZ (Klimm, Tr. 13809); (4) a reception center is merely a check-in location where a driver would pick up a strip map



directing him to a mass care facility and would not remain for very long (Klimm, Tr. 14075-76, 14085); (5) the parking area of the West Whiteland Township Building is irrelevant in terms of the flow of evacuating traffic because the ETE study provides a considerable time frame over which arrivals and departures would occur; actual turnover, not the number of spaces available, would therefore define traffic capacity in that area (Campbell, Tr. 19930-31; Klimm, Tr. 13812);

26. On page 32 of Applicant's Proposed Findings, add Paragraph 56A following Paragraph 56:

56A. LEA erroneously asserts that it would take one hour to establish traffic control points within the Valley Forge National Park because rangers assigned that responsibility would first be involved in notifying park visitors. LEA overlooks the fact, however, that park rangers would notify visitors at the alert stage (Proposed Finding 56), and that traffic control points are not activated until a general evacuation has been ordered (Appl. Exh. E-3, pp. K-2, K-3). Moreover, only one or two officers are necessary to man a traffic access or control point (e.g., Appl. Exh. E-3, Appendices K-2, K-4). Thus, only one or two rangers would be needed to man access control points at the intersections of Route 252 and 23 and Routes 363 and 23 (Proposed Finding 61). The Board is satisfied that park rangers responsible for manning those points would give appropriate priority to that responsibility.

27. On page 36 of Applicant's Proposed Findings, add the following sentences to the end of Paragraph 70:

LEA's assertion that the ETE study did not account for evacuating traffic on Route 202 which travels west instead of east to the

Schuylkill Expressway (LEA Proposed Finding 155.1) lacks merit. The ETE study expressly recognizes that evacuating traffic might utilize Route 202 West, either by choice or as directed by traffic controllers (Appl. E-67, pp. 6-1, 6-3).

28. On page 38 of Applicant's Proposed Findings, add Paragraph 76A following Paragraph 76:

76A. Mr. Vutz did not disagree with the designation of the traffic control points for Schuylkill Township or assert that they had been inaccurately assessed in the ETE study (Vutz, Tr. 14457-58). He was unprepared to recommend adding further traffic control points to the Schuylkill Township plan without first consulting the police chief (Vutz, Tr. 14510). Even if additional traffic control points were necessary, Schuylkill Township has the capability to man those points (Vutz, Tr. 14517).

29. On page 41 of Applicant's Proposed Findings, add Paragraph 85A following Paragraph 85:

85A. LEA acknowledges that roadway capacity remains constant whether the traffic involves peak-hour flows or an evacuation flow (LEA Proposed Finding 48), but nonetheless attempts to establish that roadway capacity correlates differently with those flows (LEA Proposed Finding 49). The purported analysis is meaningless because roadway capacity is not a function of actual flow. Although capacity defines maximum flow, it does not determine the origin and destination of vehicles on the roadway and therefore provides no basis for comparing peak-hour commuter flows with evacuation flows (Klimm, Tr. 17063-64).

30. On page 44 of Applicant's Proposed Findings, add the following sentences to the end of Paragraph 94:

31. Although a number of buses more than those currently under agreement are necessary to implement the one-lift principle contained in the Montgomery County plan (Bigelow, Tr. 14366), the Board is well satisfied that the historical record demonstrates the availability of those buses in an actual emergency, even absent formal prior agreement (Proposed Findings 105-07, 122, 165-67).

32. On page 45 of Applicant's Proposed Findings, add Paragraph 97A following Paragraph 97:

97A. PEMA asserts that it was not provided either the form or actual copies of the bus provider letters of understanding used by Montgomery County and therefore did not have an opportunity to comment on the adequacy of the form of agreement. The testimony it cites, however, states only that the actual letters of understanding with bus providers were not contained in the draft of the Montgomery County plan submitted to PEMA in November 1983. This does not contradict Mr. Bigelow's testimony that PEMA was afforded an opportunity to review the letters of agreement utilized by Montgomery County. Even so, Mr. Hippert, the lead PEMA witness, was present throughout the hearing and certainly had ample opportunity to review those letters (e.g., LEA Exh. E-4). He nonetheless did not testify that the agreement format was in any way inadequate.

33. On page 50 of Applicant's Proposed Findings, add Paragraph 113A following Paragraph 113:

113A. Understandably, a number of school superintendents within the EPZ wished to know the source of buses that would be used to evacuate their schools in an actual emergency (e.g., Murray, Tr. 15083-84). Ample credible testimony has been heard, nonetheless, that successful

school evacuation does not depend upon pre-assignment of buses to particular schools (Proposed Findings 110-113). Thus, if there are a minimum number of buses available to evacuate all schools within the EPZ, the concerns of individual school officials as to the minimum number available for each school (e.g., Feich, Tr. 14949-52) will be met. Based upon the evident desire of each school district to adopt a workable plan (Proposed Finding 421), the Board is satisfied that the explanation of planning procedures for bus assignments by the Montgomery County OEP will sufficiently inform and assure school officials that an adequate number of buses will be available. Further, contrary to LEA's assertion that school bus providers were initially uninformed that buses and drivers would be assigned for an evacuation related to Limerick (LEA Proposed Findings 350, 467), the record clearly shows that all providers were advised that a Limerick assignment would be made at the time of an actual radiological emergency (Proposed Findings 86, 111). Providers were specifically informed that their buses would be assigned to a transportation staging area at which a school or other assignment would be made at the time of an actual emergency (Bigelow, Tr. 14186-90).

34. On page 57 of Applicant's Proposed Findings, add the following sentences after the first sentence of Paragraph 140:

A basic consensus between them exists as to the form of the agreement (Wert, Tr. 16582-83). Mr. Wert further expressed his expectation that the remaining details for an agreement to provide buses will be settled (Wert, Tr. 16612).

35. On page 57 of Applicant's Proposed Findings, add Paragraph 141A following Paragraph 141:

141A. As Vice Chairman of SEPTA and Chairman of the Chester County Board of Commissioners Mr. Thompson intends to utilize his dual positions to assist Chester County and SEPTA in reaching an agreement as to the provision of buses in an emergency (Thompson, Tr. 18843). The execution of such an agreement by SEPTA management to provide buses in an emergency would be sufficient assurance to Chester County that drivers would be available (Thompson, Tr. 18814-15, 18820-21, 18824).

36. On page 58 of Applicant's Proposed Findings, add the following sentence to the end of Paragraph 142:

SEPTA has stated its willingness to provide buses as they become available (Wert, Tr. 16578).

37. On page 58 of Applicant's Proposed Findings, add the following sentence to the end of Paragraph 143:

SEPTA expects that in an actual emergency, Chester County would request about 100 buses under the agreement (Wert, Tr. 16584).

38. On page 59 of Applicant's Proposed Findings, add the following sentences to the end of Paragraph 146:

While a union representative testified that only union employees could drive SEPTA buses under the collective bargaining agreement (Tauss, Tr. 16752-53), he overlooked the authority of the Governor to commandeer those buses and man them with any available drivers (Proposed Findings 145, 149; Commonwealth Proposed Findings 53-54). In such a situation, anyone who could drive a 2½ ton truck could drive a bus (Hippert, Tr. 19589).

39. On page 59 of Applicant's Proposed Findings, add Paragraph 147A following Paragraph 147:



147A. PEMA's asserts, however, that notwithstanding the agreements Chester County has executed with transportation providers its reported unmet need for buses still stands. This constitutes an overly formalistic and unrealistic interpretation of the evidence. As clearly stated by Mr. Campbell, any unmet need reported by Chester County still exists only to the extent agreements have not been reached for that portion of the reported need. Otherwise, the reported unmet need now constitutes a request for a reserve (Campbell, ff. Tr. 19852 (correction sheet), Tr. 19874-75; Hippert, ff. Tr. 19498 at p. 11).

40. On page 59 of Applicant's Proposed Findings, add the following citation to the end of Paragraph 148:

See generally Paragraph 395A, infra.

41. On page 60 of Applicant's Proposed Findings, add Paragraph 150A following Paragraph 150:

150A. IEA relied substantially upon the testimony of Mr. Feters regarding availability of his bus service in an emergency (IEA Proposed Finding 257). The Feters Bus Company will not be utilized to evacuate school children. The Downingtown School District has only one school building within the EPZ, which will utilize sheltering even if an evacuation for the remainder of the EPZ is ordered. Moreover, the Feters Bus Company is not among the assigned bus providers in the Chester County plan (Bradshaw, Tr. 12768-69, 16906-07; Feters, Tr. 14713-14).

42. On page 63 of Applicant's Proposed Findings, add the following sentences to the end of Paragraph 159:

Because school buses within the district would be stationed at the main campus at the alert stage (Appl. Exh. E-53, p. 6114.4(L)), buses

would not have to travel through traffic from parents picking up children, as anticipated by Dr. Claypool. Additionally, the County Sheriff could deploy personnel to facilitate traffic control at schools within the district (Campbell, Tr. 20036).

43. On page 63 of Applicant's Proposed Findings, add Paragraph 159A following Paragraph 159:

159A. As to the transportation needs for private schools within the EPZ, LEA presented evidence only as to a single school, the Kimberton Farms School, which has approximately 260 students. The reported needs of this school, given available vehicles at the school, is correctly stated as three 72-passenger school buses in the Chester County plan (Dill, Tr. 16324; Appl. Exh. E-2, p. N-3-2). Those unmet needs will be met on the same basis as other reported needs in Chester County (Proposed Findings 136-139).

44. On page 64 of Applicant's Proposed Findings, add Paragraph 163A following Paragraph 163:

163A. Under the letters of understanding, the buses and drivers which have been conservatively estimated by providers as available in an emergency would not necessarily correspond to other information contained in the bus provider surveys. Differences between the survey information and the tentative Limerick assignments in the Montgomery County plan, Annex I, necessarily exist where there is already a contractual obligation on the part of a particular provider to transport students of a given school district, thereby committing all or part of the provider's fleet to that school district on a routine basis. Also, differences would exist given the availability of buses at different

times of the day, during the week and on weekends, and other factors affecting bus and driver availability (Bigelow, Tr. 14204-14215).

45. On page 67 of Applicant's Proposed Findings, add Paragraph 171A following Paragraph 171:

171A. In this regard, LEA cited correspondence from various school districts who were asked to execute letters of understanding for buses and drivers, noting the statements by various school officials that an "absolute guarantee" of drivers could not be made because drivers, as volunteers, could refuse to participate (LEA Proposed Findings 469-473). Absolute certainty, however, is not required; only "reasonable assurance" is necessary. Based upon the historic record, the small percentage of total driver force needed to accomplish an evacuation, and the evidence of driver availability for early dismissals and other emergencies, the Board is satisfied that such reasonable assurance exists.

46. On page 69 of Applicant's Proposed Findings, add Paragraph 178A following Paragraph 178:

178A. Contrary to LEA's assertion (LEA Proposed Finding 395), Applicant's consultant panel did not testify that the willingness of teachers to perform their duties in a radiological emergency is dependent upon the adequacy of the corresponding municipal plan. Rather, it was stated that those who participate in an emergency have greater confidence in the performance of their tasks when they are properly trained and informed as to the contents of the plan they are implementing (Bradshaw, ff. Tr. 12761 at pp. 11-12, Tr. 13061-62).

47. On page 70 of Applicant's Proposed Findings, add Paragraphs 180A and 180B following Paragraph 180:

180A. With respect to teacher participation at private schools, LEA presented the testimony of only one private school representative, Andrew Dill, faculty chairman of the Kimberton Farms School (Dill, ff. Tr. 16356 at p. 3). While he expressed concern regarding the availability of teachers who drive the family's only car, there was no evidence that this is a pervasive problem (Dill, Tr. 16327-28). Moreover, it does not appear to the Board that this is in any way a problem unique to this institution. Like other transportation-dependent persons, those teachers could request publicly available transportation from Chester County to evacuate their families or make prior arrangements for transportation by obtaining rides from friends, neighbors and relatives (Dill, Tr. 16328-30; Proposed Findings 173, 177).

180B. Further, none of the 28 teachers at the Kimberton Farms School has stated that he or she would not perform assigned functions at the school in the event of a radiological emergency (Dill, Tr. 16331). In the Board's view, the dozen or so faculty members whose children attend that school are especially likely to be available in an actual emergency (Dill, Tr. 16333). The Board believes that any other concerns expressed by Mr. Dill will be resolved as the school focuses more sharply upon the specific details of its plan (Appl. Exh. E-82).

48. On page 78 of Applicant's Proposed Findings, add Paragraph 204A following Paragraph 204:

204A. Dr. Worman knew of no other school district within the Commonwealth of Pennsylvania in which the terms of emergency plans for radiological accidents have been the subject of collective bargaining (Worman, Tr. 19353). He was also unaware of any ruling by the Pennsylvania Labor Relations Board or any advisory opinion by the

Pennsylvania Attorney General or any other Commonwealth officer which has determined that a failure to negotiate the terms of radiological emergency response plans is a violation of the Pennsylvania Labor Relations Act (Worman, Tr. 19356).

49. On page 79 of Applicant's Proposed Findings, add Paragraph 207A following Paragraph 207:

207A. Contrary to LEA's assertion that some uncertainty in host school arrangements exists (LEA Proposed Finding 381), the host school agreements between risk and host school districts clearly provide that risk school staff will remain with students until they are picked up by their parents (Proposed Finding 236). The record is undisputed that this provides a satisfactory arrangement (Commonwealth Proposed Finding 74). Contrary to LEA's assertion (LEA Proposed Finding 381), there is no disagreement among school superintendents on this point. Only three host school agreements are yet to be obtained (Bradshaw, Tr. 17243-44).

50. On page 81 of Applicant's Proposed Findings, add Paragraph 210A following Paragraph 210:

210A. Contrary to LEA's assertion, the radioactive plume would not be "inside" any building used for sheltering within a two-hour period (LEA Proposed Finding 643). Rather, based upon air exchange rates, the representative of the Division of Environmental Radiation, Bureau of Radiation, Pennsylvania Department of Environmental Resources, stated that the inhalation pathway inside and outside the building would be essentially equivalent after two hours (Reilly, Tr. 19396).

51. On page 81 of Applicant's Proposed Findings, add Paragraph 210B following Paragraph 210A:



210B. Also, contrary to LEA's assertion that sheltering could not be utilized in an area of a building containing windows or doors, or in a building without a basement (LEA Proposed Finding 670), the record amply demonstrates that any area of a building may be used for sheltering (Proposed Finding 210-214).

52. On page 82 of Applicant's Proposed Findings, add the following subheading and Paragraphs 214A, 214B, 214C and 214D following Paragraph 214:

Necessity of School Evacuation Exercises

214A. The NRC Staff asserts that "given the importance that FEMA attaches [to school district capabilities to conduct an evacuation] there should be a demonstration of school district capability to evacuate their students . . ." (NRC Staff Proposed Finding 214A). Initially, as the Staff correctly notes, the Commission's emergency planning requirements expressly exclude mandatory public participation in emergency planning exercises. See 10 C.F.R. Part 50, Appendix E, Section IV.F.1. These provisions preclude a licensing board from requiring public evacuation during an exercise. Duquesne Light Company (Beaver Valley Power Station Unit 2), LBP-84-6, 19 NRC 393, 422-23 (1984); Louisiana Power and Light Company (Waterford Steam Electric Station, Unit 3), LBP-82-100, 16 NRC 1550, 1565, 1582, (1982), aff'd, ALAB-732, 17 NRC 1076, 1108 (1983).

214B. The Board is unaware of any other licensing case for a nuclear power plant in which a demonstration of a school district's capability to evacuate students has been required as a condition of a license.



214C. Moreover, the FEMA witness who advanced this position testified that it was only his personal opinion that such an exercise should be conducted. He knew of no provision, federal or otherwise, requiring mandatory public participation in drills and, in fact, agreed that the NRC's regulations provide that public participation is unnecessary to the conduct of a full-scale exercise (Asher, Tr. 20291-93).

214D. More importantly, having fully reviewed the evidence as to how school evacuations would be conducted in an actual emergency, the Board fails to see what an evacuation drill could accomplish. The emergency evacuation of students from schools is practiced or actually conducted routinely in fire drills, bus drills and bomb scares (Proposed Findings 235-39). Unscheduled early dismissals, which require drivers to report with buses absent prior notice, are also routine (Proposed Findings 168, 256-257).

53. On page 83 of Applicant's Proposed Findings, add Paragraphs 215A and 215B following Paragraph 215:

215A. The FEMA witnesses testified that the "one-lift" standard is unique to Pennsylvania. Contrary to the implication of LEA that the standard detracts from planning reliability (LEA Proposed Finding 322), the one-lift standard enhances planning and provides added assurance that a prompt and safe evacuation can be conducted because no bus is relied upon for more than one trip out of the EPZ.

215B. LEA erroneously asserts that Applicant's witnesses agreed that bus drivers and school staff would have to re-enter the EPZ following the evacuation of schools (LEA Proposed Finding 658). To the contrary, Applicant's witness panel rejected such an assumption and considered that scenario only hypothetically to explain how dosimetry

issued to bus drivers under the postulated scenario would be utilized to estimate the dose of school staff on the same bus (Bradshaw, Tr. 13699-700).

54. On page 84 of Applicant's Proposed Findings, add Paragraph 219A following Paragraph 219:

219A. PEMA erroneously asserts that in Chester County buses used for school evacuation will not pass through a transportation staging area. Because sufficient buses have been identified to implement a one-lift evacuation, it will be unnecessary for any bus to re-enter the EPZ, thus obviating the need to pass through a transportation staging area to receive a secondary assignment and dosimetry/KI. If a second assignment were necessary or a driver were unfamiliar with his initial assignment, however, the transportation staging area would be used (Campbell (Admitted Contentions), ff. Tr. 19852 at pp. 9-10; Chester County/Commonwealth Exh. E-1, Annex I, pp. I-2, I-3).

55. On page 85 of Applicant's Proposed Findings, add the following sentences after the first sentence of Paragraph 225:

A thermoluminescent dosimeter measures the accumulated radiation dose of the individual wearing it. The self-reading dosimeters can be used to estimate the dose received by any other individual in close proximity to the wearer.

56. On page 87 of Applicant's Proposed Findings, add Paragraph 231A following Paragraph 231:

231A. PEMA asserts that State officials did not "approve" the content of the lesson plans. The Commonwealth acknowledges, however, that PEMA reviewed and commented on those plans (Proposed Finding 231; Commonwealth Proposed Finding 99). There is no evidence that PEMA found

any lesson plan inadequate. Its representatives stated no dissatisfaction with the approach or content of the lesson plans during the extensive examination concerning those plans during the hearing. The Board therefore finds that, in substance, PEMA has approved the lesson plans.

57. On page 88 of Applicant's Proposed Findings, add Paragraphs 232A, 232B and 232C following Paragraph 232:

232A. Chester County conducted pre- and post-training testing to assist in the evaluation and improvement of lesson plans (Campbell, Tr. 19891-92). It concluded that training utilizing those lesson plans resulted in measurable educational gains in all groups tested, though below the arbitrary standard selected by the Chester County DES (Campbell, Tr. 19891-92).

232B. The Board believes that inasmuch as the individual responsible for the testing and development of the "arbitrary standard" was not offered for cross-examination to explain the methodologies, assumptions and standards involved in those conclusions, and because Mr. Campbell personally lacked such knowledge (Campbell, Tr. 19892), no particular inference can be drawn from the test results.

232C. In any event, the lesson plans utilized by Energy Consultants have been revised to meet suggestions by Chester County DES staff. Energy Consultants has agreed to cooperate in any retraining requested by Chester County, school districts or individual schools (Campbell, Tr. 19987-88).

58. On page 89 of Applicant's Proposed Findings, add the following sentence to the end of Paragraph 235:

This would meet the desire expressed by some superintendents for "guided practice," or a demonstration, which would involve a drill in

addition to the training provided by Energy Consultants (Persing, Tr. 14857-60).

59. On page 94 of Applicant's Proposed Findings, add Paragraph 252A following Paragraph 252:

252A. The reference to available "units" in the bus provider survey forms underlying the Montgomery County letters of understanding demonstrates the intent to provide a driver for each vehicle (Cunnington, Tr. 12959-60). In one instance in which an agreement provides that the bus provider does not employ drivers, the provider has requested that the agreement be modified to state that drivers will not be furnished (Cunnington, Tr. 12973).

60. On page 103 of Applicant's Proposed Findings, add Paragraphs 276A and 276B following Paragraph 276:

276A. Contrary to LEA's assertion (LEA Proposed Finding 531), the Berks County coordinator did not state that he was unaware of a purported "responsibility" for reviewing day care facility plans. Rather, he testified that municipal coordinators should provide that assistance as part of their overall responsibility to protect citizens within the municipality (Reber, Tr. 19743).

276B. PEMA argues that it is a "necessity" that day care facilities prepare an emergency response plan and that it is the "responsibility" of municipal emergency management coordinators to ensure that day care plans are completed (Commonwealth Proposed Findings 78, 85). The testimony from county planning officials it cites for support, however, simply states that it is Commonwealth policy that day care facilities develop the specifics necessary to formulate and implement a plan. No requirement that day care centers adopt such plans or that

municipal coordinators ensure that such plans are complete has been shown to exist. The official letter by the Commonwealth Department of Public Welfare transmitting the model plan to day care facilities states only that "[a] plan is needed to ensure the safety of children" and that the plan "should be sent to your municipal emergency management coordinator for review" (Appl. Exh. E-91). The Board believes this is what PEMA means in referring to the "necessity" that day care facilities prepare a plan. As noted, Mr. Hippert testified that neither the municipalities nor PEMA would routinely review such plans (Proposed Finding 276).

61. On page 104 of Applicant's Proposed Findings, add Paragraphs 279A, 279B and 279C following Paragraph 279:

279A. Energy Consultants has not received any requests to train day care facility staff (Bradshaw, Tr. 13207). There is nonetheless sufficient publicly available information, including the model day care plan, to prepare and implement plans to protect children at day care facilities (Bradshaw, Tr. 13215).

279B. In this regard, the Board is unclear as to what further information LEA asserts that planners should provide to day care facility personnel (LEA Proposed Finding 503). It is undisputed that a public informational brochure is being developed and will be sent to all EPZ residents (Proposed Finding 178). Any other information specific to the needs of day care facilities can be obtained from Commonwealth agencies and municipal and county emergency coordinators (Proposed Findings 283-285).

279C. Nor is the Board clear what "formal review training or communication command or accountability at the municipal, county, state



or federal level" (LEA Proposed Finding 505) LEA asserts to be missing. Review of individual day care facility plans will be conducted upon request (Proposed Finding 276). Notification procedures are in place (Proposed Finding 289). Municipal and county emergency planners are jointly accountable for the implementation of plans necessary to protect the health and safety of day care facility children in the event of an actual emergency (Proposed Findings 271, 282-83, 285).

62. On page 105 of Applicant's Proposed Findings, add Paragraph 281A following Paragraph 281:

281A. Although the Board is satisfied that the general population public needs survey conducted in 1983 was sufficiently expansive to have prompted a response from operators, directors or staff of day care facilities, or from the parents of children attending those facilities, the evidence is undisputed that day care facilities within the EPZ have been notified by forwarding them a copy of the model day care plan (Proposed Finding 280, 282). LEA did not produce a single day care facility owner or director who was unaware of the model day care plan. Accordingly, the Board is amply satisfied that each identifiable facility within the EPZ has been provided planning information and assistance to the extent deemed necessary by that facility (Proposed Findings 281-85, 288).

63. On page 106 of Applicant's Proposed Findings, add the following sentences after the first sentence in Paragraph 284:

Nor is there any other evidence that day care facilities are having problems identifying and making arrangements with host facilities. In any event, instructions provided facility directors clearly state that



assistance from local and county coordinators can be obtained (Proposed Findings 283, 285).

64. On page 107 of Applicant's Proposed Findings, add Paragraph 285A and 285B following Paragraph 285:

285A. LEA incorrectly asserts that there is no way to determine whether day care facility transportation needs are reflected in the municipal plans (LEA Proposed Finding 497). The record is clear that each day care facility has been included in municipal implementing procedures for notification and transportation planning purposes (Proposed Findings 285-287).

285B. Although the Pottstown Borough transportation officer erroneously believed that the borough would not have any responsibility for unmet transportation needs reported by day care facilities (Mattingly, Tr. 17822-23), those needs would be reported to and discussed with the borough's emergency coordinator, not its transportation officer (Proposed Finding 285). Hence, the transportation officer's lack of knowledge does not indicate any shortcoming in Pottstown in planning for day care facilities.

65. On page 109 of Applicant's Proposed Findings, add Paragraph 292A following Paragraph 292:

292A. Contrary to LEA's allegations of staffing deficiencies for day care facilities in the event of a radiological emergency (LEA Proposed Findings 512-514), representatives of only two day care facilities testified as to alleged staffing needs. The testimony of those representatives as to the reasons or likelihood that other staff would be unavailable are entirely speculative and lack credibility (Proposed Findings 306, 311). Moreover, even those representatives acknowledged

that a number of staff would be available (Proposed Findings 297, 306, 307). The Board finds no basis to assume that staffing needs exist elsewhere.

66. On page 111 of Applicant's Proposed Findings, add the following sentence after the second sentence in Paragraph 297:

Although expressing some reservations regarding staff availability, Mrs. Troisi ultimately agreed that if her facility had an approved plan, she felt sure that she would be able to work out any staff arrangements necessary to provide for the safety of the children (Troisi, Tr. 15822).

67. On page 117 of Applicant's Proposed Findings, add Paragraph 317A following Paragraph 317:

317A. The Commonwealth asserts that any unmet transportation needs for the Camphill Village Kimberton Hills, Inc. and Camphill Special Schools, Inc. "have not been passed through" to the county (Commonwealth Proposed Finding 119). To the contrary, Mr. Campbell inferred from recent plan changes that the transportation needs of those facilities are reflected in the current Chester County plan (Chester County/Commonwealth Exh. E-1, pp. N-3-2, I-2-1; Campbell, Tr. 20005).

68. On page 118 of Applicant's Proposed Findings, add the following sentence to the end of Paragraph 319:

As a practical matter, however, the fact that the staffs of these facilities have not yet received training is of no consequence because, as noted previously, those persons already know how to perform the basic tasks that would be required of them in an emergency (Proposed Finding 319).

69. On page 122 of Applicant's Proposed Findings, add Paragraph 329A following Paragraph 329:

329A. While the existing plan for Camphill Special Schools, Inc. refers to relocation sites within the EPZ (Appl. Exh. E-81, Section III), arrangements have been made to utilize the Devereaux School as a host facility in a radiological emergency (Campbell, Tr. 20005-06; Bradshaw, Tr. 13470-71).

70. On page 122 of Applicant's Proposed Findings, add Paragraph 331A following Paragraph 331:

331A. No special evaluation is required or anticipated as to the adequacy of the Camphill Village facilities for sheltering. Under Annex E, such individuals would be treated as members of the general public and the decision to shelter would be made on the same basis as for the remainder of the general populace within the EPZ (Bradshaw, ff. Tr. 12761 at pp. 31-32; Proposed Findings 208-214).

71. On page 123 of Applicant's Proposed Findings, add Paragraph 334A following Paragraph 334:

334A. LEA's argument relating to the location of dairy herds within the ingestion exposure pathway (LEA Proposed Finding 570) is clearly beyond the scope of any admitted contention.

72. On page 130 of Applicant's Proposed Findings, add Paragraph 353A following Paragraph 353:

353A. Contrary to LEA's assertion (ff. LEA Proposed Finding 593), the evidence shows that fire companies do maintain a roster of personnel for all assignments, including route alerting in a radiological emergency. Periodic updating of personnel rosters is a standard operating procedure for fire companies. This ensures the availability of route alerting personnel from fire companies in the event of an actual emergency (Bradshaw, Tr. 13655).

73. On page 141 of Applicant's Proposed Findings, add Paragraph 383A following Paragraph 383:

383A. The Staff asserts that according "to information supplied by Energy Consultants, dated August 27, 1984, the staffing needs of most municipal EOC's had been dealt with through the assistance of Philadelphia Electric Company personnel" (NRC Staff Proposed Finding 378D). That information does not reflect current staffing assignments. The most accurate and current information as to municipal EOC staffing was provided by Applicant's consultant during the hearing. As noted above, only about 50 of approximately 400 positions are filled by Applicant's employees (Proposed Finding 383).

74. On page 141 of Applicant's Proposed Findings, add Paragraph 384A following Paragraph 384:

384A. Despite the attempt by LEA to distinguish between "municipal and PECO volunteers" (LEA Proposed Finding 596), the record does not support any such distinction. To the contrary, it demonstrates that volunteers employed by the Applicant are just as reliable and responsible as any other volunteer (Proposed Findings 459-60).

75. On page 144 of Applicant's Proposed Findings, add Paragraph 394A following Paragraph 394:

394A. LEA asserts that there are certain "mutual aid agreements under development by local municipal coordinators," which still require municipal approval (LEA Proposed Finding 165). To the contrary, the evidence establishes that arrangements are already in place, for example, for ambulance and fire department response across municipal and county lines (Proposed Findings 447, 455, 516).

76. On page 145 of Applicant's Proposed Findings, add Paragraph 395A following Paragraph 395:

395A. While agreements are required for emergency planning, executed agreements are not necessary for a plan to work. There are a number of emergency plans throughout Chester County for which there are no written agreements or assurances from support organizations. Such emergency responses are based upon verbal commitments and the community spirit of support organization members. During Commissioner Thompson's tenure in office, there have been a number of disasters or potential disasters, including one incident requiring the evacuation of about 500 people. In each instance, county and volunteer agencies demonstrated an exemplary ability to sustain emergency preparedness efforts over a period of time and had absolutely minimal problems without any prior written agreements. Accordingly, the absence of written agreements does not preclude the workability of the plan (Thompson, Tr. 18832-33).

77. On page 146 of Applicant's Proposed Findings, add Paragraph 397A following Paragraph 397:

397A. Contrary to LEA's assertion, local authorities do not retain "ultimate authority" to declare emergencies, such as a serious nuclear power plant accident, which would affect several counties (LEA Proposed Finding 163). Such authority resides in the Governor under Section 7301(c) and 7504(a) of P.L. 1332.

78. On page 149 of Applicant's Proposed Findings, add Paragraph 403A following Paragraph 403.

403A. The Commonwealth has officially reviewed each draft plan in full at least once in December 1983 and provided written comments on those plans to the respective jurisdictions. Previously, PEMA had



reviewed the prototype municipal and school district plans in 1982. In addition, concern related to these plans have been discussed at planning and coordination meetings involving PEMA, the risk counties and Energy Consultants (Bigelow, Tr. 14150; Bradshaw, ff. Tr. 12761 at p. 4).

79. On page 155 of Applicant's Proposed Findings, add the following sentence to the end of Paragraph 420:

420A. Likewise, contrary to LEA's assertion (LEA Proposed Finding 167), nothing in P.L. 1332 mandates that a county delay forwarding its own plan to PEMA for review until it receives all municipal plans.

80. On page 162 of Applicant's Proposed Findings, add the following sentences after the first sentence in Paragraph 443:

Mr. Skarbeck testified that he is President of the Council of Area Governments, a group of area municipalities which coordinates municipal efforts (Skarbeck, Tr. 17770). While Mr. Skarbeck testified as to certain discussions among fellow municipal officers at meetings of the Council of Area Governments (Skarbeck, Tr. 17770-74), that Council is not a "political subdivision" within the meaning of Section 7102 of P.L. 1332 and therefore has no responsibilities with regard to plan adoption or implementation under Section 7501 et seq.

81. On page 170 of Applicant's Proposed Findings, add Paragraph 466A and 466B following Paragraph 466:

466A. Other special facilities such as the Eagleville Hospital and St. Gabriel's Hall have their own separate plans (Appl. Exh. E-3, pp. U-2, U-3). Accordingly, there is no need for the Lower Providence Township plan to incorporate planning details for those facilities.



466B. The use of the King of Prussia Plaza as a designated transportation staging area is not information significant to the adoption of the Lower Providence Township plan, contrary to LEA's assertion (LEA Proposed Finding 242).

82. On page 170 of Applicant's Proposed Findings, add the following sentence to the end of Paragraph 467:

Therefore, contrary to LEA's assertion (LEA Proposed Finding 224), the postulated unavailability of commercial telephone lines in an actual emergency would not delay activation of necessary EOC personnel.

83. On page 172 of Applicant's Proposed Findings, add the following sentence to the end of Paragraph 470.

The South Coventry Board of Supervisors recognizes its responsibility to pass unmet needs on to the county if the township itself cannot meet them (Whitlock, Tr. 18491).

84. On page 172 of Applicant's Proposed Findings, add Paragraph 472A and 472B following Paragraph 472:

472A. The Board has given little weight to the concerns expressed by certain governmental officers, including Mr. Whitlock, as to the reliability of the general public needs survey. None of those persons demonstrated any particular expertise in emergency planning or sampling techniques (Banning, Tr. 17637-39; Whitlock, Tr. 18383-84; Lowery, Tr. 18694-95). Other governmental officials and the consultants who developed the survey testified that they have no reason to doubt the validity of the number of transportation-dependent individuals listed in municipal plans (e.g., Brown, Tr. 18208; Proposed Finding 16H).

472B. The Board also notes that estimates of transportation-dependent individuals residing in the vicinity of other nuclear

power plants in the United States have been made without such surveys (Proposed Finding 286). In any event, another survey of the Limerick EPZ will be taken within each of the risk counties (Proposed Finding 497). Given this and the undisputed testimony that in an actual emergency the vast majority of persons obtain transportation from private sources (Proposed Finding 108), the Board is satisfied that there has been adequate planning to provide more than enough buses for transportation-dependent individuals.

85. On page 173 of Applicant's Proposed Findings, add the following sentences to the end of Paragraph 476:

476A. Contrary to LEA's assertion, there is no evidence that South Coventry Township would have to hire tow trucks to clear roadways in a radiological emergency (Whitlock, Tr. 18400). Chester County resources are ample (Proposed Finding 376).

86. On page 176 of Applicant's Proposed Findings, add Paragraph 483A following Paragraph 483:

483A. Based on this record, it has been demonstrated to the Board's satisfaction that the residents of South Coventry Township will be adequately protected by Chester County in the event of a radiological emergency at Limerick even if South Coventry does not participate in emergency planning as required by P.L. 1332. Accordingly, it is irrelevant to our independent determination that Chester County and FEMA further satisfy FEMA to the same effect. Any contrary assertion (NRC Staff Proposed Finding 483) is rejected.

87. On page 185 of Applicant's Proposed Findings, add Paragraph 506A following Paragraph 506:

506A. There are more than enough towing services available in Phoenixville. The only problem described by Mrs. August was a claim by some services that they were not getting enough business referrals from the police department (August, Tr. 18953-54).

88. On page 186 of Applicant's Proposed Findings, add the following sentences to the end of Paragraph 508:

The Board also sees no basis in Mrs. August's suggestion that EOC volunteers execute an agreement. Such a requirement does not exist under NUREG-0654, Criterion A.3, and, as Mrs. August concedes, the Phoenixville coordinator is in the best position to determine the qualifications of volunteers (August, Tr. 18961). No other jurisdiction has required volunteers to sign agreements.

89. On page 193 of Applicant's Proposed Findings, add Paragraph 529A and 529B following Paragraph 529:

529A. Although the Board regards the Memorandum of Understanding between PEMA and Bucks County (LEA Exh. E-61) as a useful frame of reference, execution of the Memorandum by the Bucks County Commissioners is not a prerequisite to adopting its plan. Nor must it precede a finding by this Board that reasonable assurance exists that a workable plan can be implemented in the event of a radiological emergency.

529B. PEMA asserts that the Bucks County Board of Commissioners has raised some "legitimate" questions regarding the impact of an evacuation of approximately 24,000 persons from Montgomery County on the safety and well-being of Bucks County residents and indicates that it "acknowledges" those concerns (Hippert, ff. Tr. 19498 at p. 5; Commonwealth Proposed Findings 29-30). There is no evidence, however, to establish that the Board of Commissioner's concerns require further

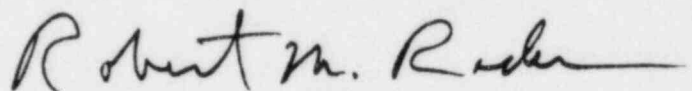
planning or analysis under 10 C.F.R. §50.47, NUREG-0654 or Annex E. The current Bucks County plan does ensure that its populace would not be adversely affected by the evacuation from Montgomery County. A hypothesized spontaneous evacuation from Philadelphia is beyond any planning objective contained in the NRC's regulations or Annex E and therefore requires no further emergency planning.

90. On page 195 of Applicant's Proposed Findings, add the following sentences after the first sentence of the unnumbered paragraph preceding Paragraph 535:

We have also considered all proposed findings of fact and conclusions of law filed by the parties. Those findings and conclusions not incorporated directly or inferentially in this decision are rejected as unsupported by fact or law or as unnecessary to this decision.

Respectfully submitted,

CONNER & WETTERHAHN, P.C.

A handwritten signature in dark ink, appearing to read "Robert M. Rader", with a long, sweeping horizontal line extending to the right.

Troy B. Conner, Jr.  
Robert M. Rader  
Nils N. Nichols

Counsel for the Applicant

March 14, 1985

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

In the Matter of	)	
	)	
Philadelphia Electric Company	)	Docket Nos. 50-352
	)	50-353
(Limerick Generating Station,	)	
Units 1 and 2)	)	

CERTIFICATE OF SERVICE

I hereby certify that copies of "Applicant's Reply Findings of Fact and Conclusions of Law Relating to Offsite Emergency Planning Contentions," dated March 14, 1985 in the captioned matter have been served upon the following by deposit in the United States mail this 14th day of March, 1985:

*Helen F. Hoyt, Esq. Chairperson Atomic Safety and Licensing Board U.S. Nuclear Regulatory Commission Washington, D.C. 20555	Atomic Safety and Licensing Appeal Panel U.S. Nuclear Regulatory Commission Washington, D.C. 20555
*Dr. Richard F. Cole Atomic Safety and Licensing Board U.S. Nuclear Regulatory Commission Washington, D.C. 20555	Docketing and Service Section U.S. Nuclear Regulatory Commission Washington, D.C. 20555
*Dr. Jerry Harbour Atomic Safety and Licensing Board U.S. Nuclear Regulatory Commission Washington, D.C. 20555	Ann P. Hodgdon, Esq. Counsel for NRC Staff Office of the Executive Legal Director U.S. Nuclear Regulatory Commission Washington, D.C. 20555

\* Hand Delivery

Atomic Safety and Licensing  
Board Panel  
U.S. Nuclear Regulatory  
Commission  
Washington, D.C. 20555

Philadelphia Electric Company  
ATTN: Edward G. Bauer, Jr.  
Vice President &  
General Counsel  
2301 Market Street  
Philadelphia, PA 19101

Mr. Frank R. Romano  
61 Forest Avenue  
Ambler, Pennsylvania 19002

Mr. Robert L. Anthony  
Friends of the Earth in  
the Delaware Valley  
106 Vernon Lane, Box 186  
Moylan, PA 19065

Charles W. Elliott, Esq.  
325 N. 10th Street  
Easton, PA 18064

Miss Phyllis Zitzer  
Limerick Ecology Action  
P.O. Box 761  
762 Queen Street  
Pottstown, PA 19464

Zori G. Ferkin, Esq.  
Assistant Counsel  
Commonwealth of Pennsylvania  
Governor's Energy Council  
1625 N. Front Street  
Harrisburg, PA 17102

Jay M. Gutierrez, Esq.  
U.S. Nuclear Regulatory  
Commission  
631 Park Avenue  
King of Prussia, PA 19406

Angus Love, Esq.  
107 East Main Street  
Norristown, PA 19401

Robert J. Sugarman, Esq.  
Sugarman, Denworth &  
Hellegers  
16th Floor, Center Plaza  
101 North Broad Street  
Philadelphia, PA 19107

John L. Patten, Director  
Pennsylvania Emergency  
Management Agency  
Room B-151  
Transportation and  
Safety Building  
Harrisburg, PA 17120

Martha W. Bush, Esq.  
Kathryn S. Lewis, Esq.  
City of Philadelphia  
Municipal Services Bldg.  
15th and JFK Blvd.  
Philadelphia, PA 19107

Spence W. Perry, Esq.  
Associate General Counsel  
Federal Emergency  
Management Agency  
500 C Street, S.W.  
Room 840  
Washington, DC 20472

Thomas Gerusky, Director  
Bureau of Radiation  
Protection  
Department of Environmental  
Resources  
5th Floor  
Fulton Bank Bldg.  
Third and Locust Streets  
Harrisburg, PA 17120



James Wiggins  
Senior Resident Inspector  
U.S. Nuclear Regulatory  
Commission  
P.O. Box 47  
Sanatoga, PA 19464

Timothy R.S. Campbell  
Director  
Department of Emergency  
Services  
14 East Biddle Street  
West Chester, PA 19380

Mr. Ralph Hippert  
Pennsylvania Emergency  
Management Agency  
B151 - Transportation and  
Safety Building  
Harrisburg, PA 17120

Theodore G. Otto, Esq.  
Department of Corrections  
Office of Chief Counsel  
P.O. Box 598  
Camp Hill, PA 17011



---

Nils N. Nichols