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UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety and Licensing Appeal Board

DOCKETED  
USNRC

Administrative Judges

'85 AUG -6 P3:39

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Dr. Reginald L. Gotchy

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

APPLICANT'S BRIEF IN OPPOSITION TO APPEALS BY  
LIMERICK ECOLOGY ACTION, INC. AND FRIENDS OF THE  
EARTH RELATING TO THE ATOMIC SAFETY AND LICENSING  
BOARD'S THIRD PARTIAL INITIAL DECISION

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THIRD PARTIAL INITIAL DECISION

INTRODUCTION

This aspect of the proceeding involves review of the Third Partial Initial Decision ("Third PID") issued by the presiding Atomic Safety and Licensing Board ("Licensing Board" or "Board") on May 7, 1985.<sup>1/</sup> On May 10, 1985, Robert L. Anthony/Friends of the Earth (collectively "FOE") appealed the Third PID and related interlocutory orders.<sup>2/</sup> FOE filed its brief on June 6, 1985.<sup>3/</sup> Limerick Ecology Action ("LEA") filed a

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1/ Philadelphia Electric Company (Limerick Generating Station, Units 1 and 2), LBP-85-14, 21 NRC \_\_\_\_\_ (May 2, 1985). Although dated May 2, 1985, the decision was not served by the Docketing and Service Branch of the Nuclear Regulatory Commission ("NRC" or "Commission") until May 7, 1985.

2/ R.L. Anthony/FOE Appeal from ASLB Third Partial Initial Decision on Offsite Emergency Planning (May 10, 1985).

3/ Anthony/FOE Brief in Support of Our Appeal from the ASLB Third Partial Initial Decision (June 6, 1985) ("FOE Brief").

notice of appeal on May 15, 1985 of the Third PID and related interlocutory orders.<sup>4/</sup> LEA's brief on appeal was dated June 13, 1985.<sup>5/</sup>

For the reasons discussed below, Applicant successfully carried its burden of proof on all issues. The Licensing Board gave detailed consideration to intervenors' contentions in the course of an evidentiary hearing lasting thirty-seven days and made extensive findings on each contention. Accordingly, the Licensing Board properly concluded that, subject to the license conditions set forth in the Third PID, the offsite emergency plans for Limerick meet the requirements of 10 C.F.R. §50.47 and Part 50, Appendix E, as well as the planning standards of NUREG-0654.<sup>6/</sup> The Board therefore found that the offsite plans "provide reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency" at Limerick.<sup>7/</sup> The

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4/ [LEA] Notice of Appeal (May 15, 1985).

5/ The postmark on the copy received by Applicant's counsel indicates service on June 15, 1985. While LEA's and FOE's notices of appeal referred generally to "interlocutory orders," Applicant is unable to determine any specific order other than the Third PID which LEA or FOE has appealed. Some of the points raised by LEA pertain to the scope of its contentions, but LEA does not assign any particular error in the admission or rewording of its contentions by the Licensing Board. FOE alluded to an earlier order for which interlocutory review was denied, but its arguments relate only to the Third PID.

6/ Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants, NUREG-0654 (Rev. 1) (November 1980) ("NUREG-0654").

7/ Third PID at 304.

Board also found that Applicant's Evacuation Time Estimates Study<sup>8/</sup> is consistent with the guidance of NUREG-0654.<sup>9/</sup>

The challenged rulings of the Licensing Board are in accordance with law and its factual findings are amply supported by the record. Applicant therefore opposes the appeals and requests that the Atomic Safety and Licensing Appeal Board ("Appeal Board") affirm the Third PID and related interlocutory orders.

ARGUMENT

- I. The Licensing Board Correctly Found that the Bucks County Support Plan is Workable and Would be Implemented for the Protection of Montgomery County Residents.

Contention LEA-3 asserted that the plan for Montgomery County, one of the three risk counties within the Limerick plume exposure pathway emergency planning zone ("EPZ") (Appl. Exh. E-3), is not workable without available resources to be provided under the support plan for Bucks County, a neighboring jurisdiction (Appl. Exh. E-4). The thrust of the contention was that Bucks County would use its own resources for Bucks County residents who would spontaneously evacuate in the event of a radiological emergency at Limerick, even though Bucks County lies entirely outside the Limerick EPZ. LEA alleged that there would be insufficient remaining resources to assist evacuating residents of Montgomery County. Relying principally upon the testimony of Charles

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<sup>8/</sup> Evacuation Time Estimates for the Limerick Generating Station Plume Exposure Pathway Emergency Planning Zone (Final Draft) (May 1984) (Appl. Exh. E-67) ("ETE Study").

<sup>9/</sup> Third PID at 73.

McGill, the Bucks County Director of Emergency Services,<sup>10/</sup> the Licensing Board found that there is reasonable assurance that Bucks County would implement its plan and perform its support function on behalf of Montgomery County residents.<sup>11/</sup>

In challenging that finding on appeal, LEA attempts to amend its contention to assert that formal plan adoption by the Bucks County Commissioners is a condition precedent to the county's willingness and capacity to implement the plan in support of evacuating Montgomery County residents. LEA also attempts to challenge the sufficiency of the Bucks County support plan in terms of protecting Bucks County residents. Those particular arguments exceed the scope of the admitted contention as well as the regulatory requirements under 10 C.F.R. §50.47(c)(2) for protective actions within an approximately 10-mile EPZ.

A. Probative, Reliable Evidence Supports the Licensing Board's Findings that Adequate Planning and Preparedness Exists.

1. Testimony of Bucks County Director of Emergency Services. Mr. McGill, the individual with actual responsibility for emergency planning in Bucks County (Tr. 20364), testified that he was "very confident that we could do a very credible job" (Tr. 20368) in implementing the Bucks County support plan in an actual emergency for the protection of evacuating Montgomery County residents. Bucks County's capacity and willingness to implement its emergency support function, as Mr. McGill testified, is amply supported by the evidence of its response to the Three

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<sup>10/</sup> Id. at 297-302.

<sup>11/</sup> Id. at 303.

Mile Island incident in 1979,<sup>12/</sup> its successful implementation of its support plan in the November 20, 1984 full-participation exercise for Limerick,<sup>13/</sup> and the expressed opinions of high-ranking Pennsylvania Emergency Management Agency ("PEMA") officials that Bucks County could and would implement its existing draft plan if called upon for assistance in a radiological emergency.<sup>14/</sup>

2. Testimony of William H. Reiser. LEA had originally subpoenaed Carl Fonash, Chairman of the Bucks County Board of Commissioners, but withdrew Mr. Fonash as a witness after the subpoena had been served on him (Tr. 18262-63). Rather than have the Chairman testify as to the Commission's position,<sup>15/</sup> LEA produced William H. Reiser, the Chief Clerk and County Administrator of Bucks County, to explain his second-hand understanding of its position.

As the Licensing Board correctly found, Mr. Reiser was unfamiliar with the draft support plan for Bucks County, had not been assigned any particular responsibilities with regard to emergency planning, was not knowledgeable as to recent meetings between the Bucks County

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<sup>12/</sup> Id. at 297.

<sup>13/</sup> Id. at 297-98.

<sup>14/</sup> Id. at 300.

<sup>15/</sup> Inasmuch as LEA had subpoenaed Mr. Fonash, its "failure to call a witness under its control, who could testify to material facts, permits an adverse inference, particularly where the testimony would, as here, be important and would ordinarily be expected to favor" LEA. Playboy Enterprises, Inc. v. Chuckleberry Publishing, Inc., 486 F. Supp. 414, 433 (S.D.N.Y. 1980). LEA's superficial explanation of its reasons for substituting Mr. Reiser, that he could somehow explain the position of the Commissioners better than the Chairman, is simply not credible.

Commissioners and PEMA officials regarding the Bucks County support plan, and had not received any direction from the Commissioners on plan procedures. The Commissioners had not even discussed their personal views on reviewing and adopting the Bucks County support plan with Mr. Reiser.<sup>16/</sup>

Accordingly, the Licensing Board appropriately gave limited weight to Mr. Reiser's inferences as to what action the Bucks County Commissioners would take in finally adopting a support plan.<sup>17/</sup> Nonetheless, even Mr. Reiser agreed that the Bucks County Commissioners would assist neighboring counties in a time of emergency and would therefore strive toward plan adoption.<sup>18/</sup>

3. Decontamination at mass care centers. LEA produced no evidence to demonstrate that Bucks County could not or would not implement the current draft or finally adopted version of its support plan if called

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<sup>16/</sup> Third PID at 302.

<sup>17/</sup> LEA's argument that Mr. Reiser demonstrated familiarity with the draft support plan because he brought a copy of an earlier draft to the hearing (LEA Brief at 12) is frivolous. Mr. Reiser stated: "I have seen it but I'm not really familiar with it, I'm sorry" (Reiser, Tr. 18267). Further, there was no error in precluding irrelevant testimony based upon the outdated draft. Mr. Reiser was provided with a copy of the more recently published draft Bucks County support plan received in evidence (Tr. 18271-72) and was free to testify on the basis of that document to the extent he had relevant knowledge of the more recent draft. Thus, there is no basis for LEA's assertion that "the Board improperly excluded any possible testimony by Mr. Reiser regarding the draft plan." LEA Brief at 13. The Board merely required that Mr. Reiser give testimony relevant to the draft plan received in evidence, which would be the basis of any response by Bucks County to a Limerick emergency.

<sup>18/</sup> Third PID at 303.



upon to do so. Rather, it speculates that "[i]n the event of failure of the one-lift principle, evacuees [from Montgomery County] could arrive at the reception centers in a contaminated state."<sup>19/</sup> LEA then argues that the support plan does not "provide for prompt and expeditious treatment of such evacuees."<sup>20/</sup> The record shows otherwise.<sup>21/</sup> Also, LEA has confused decontamination procedures, as described in the Bucks County support plan,<sup>22/</sup> with arrangements for medical treatment of contaminated injured individuals.<sup>23/</sup>

Nor is there any need to formalize the availability of mass care facilities by obtaining written agreements with the school districts whose school buildings would be utilized. Bucks County has an excellent

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<sup>19/</sup> LEA Brief at 3. The "one-lift principle" is, of course, the basic concept underlying evacuation of the Limerick EPZ. Third PID at 139. LEA's speculation that evacuation of Montgomery County could not be accomplished in a single lift is squarely contrary to the Board's findings as to evacuation of transportation-dependent individuals. Id. at 107, 156, 169, 187, 201.

<sup>20/</sup> LEA Brief at 3.

<sup>21/</sup> LEA adduced no evidence to contradict the plan's statement that monitoring and decontamination points will be established at mass care centers in Bucks County. LEA incorrectly states that nothing in the record supports the conclusion that the mass care centers listed in the plan are available and adequate. The support plan clearly states that the mass care facilities listed therein will accept up to 24,440 evacuees from Montgomery County (Appl. Exh. E-4 at 14). This is more than adequate capacity because it is based upon the conservative planning assumption that up to 50% of Montgomery County evacuees would utilize mass care centers in Bucks County. Historically, this greatly exceeds the far lower percentage of the population which actually utilizes mass care facilities. Third PID at 298.

<sup>22/</sup> Appl. Exh. E-4 at 15.

<sup>23/</sup> GUARD v. NRC, 753 F.2d 1144 (D.C. Cir. 1985), cited by LEA, relates only to the latter requirement, not to decontamination procedures.

working relationship and understanding with the school districts and the Intermediate Unit (McGill, Tr. 20394).<sup>24/</sup> Those school districts have provided space in the past. No school district has requested a formal agreement or stated that space at mass care centers would be unavailable (McGill, Tr. 20394-96). Contrary to LEA's speculation,<sup>25/</sup> no evidence showed that Bucks County school districts are unaware of plans to utilize school facilities as mass care centers, nor did any official testify that such plans are inconsistent with school district policies.<sup>26/</sup>

Similarly, LEA offered no evidence to refute the plan's statement that decontamination and monitoring teams will be assigned to reception centers and mass care centers (Appl. Exh. E-4 at 5-E-1 and 5-E-2).<sup>27/</sup> It's desire to raise these questions after the close of the record is no substitute for evidence.

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24/ In Pennsylvania, each county has one or more Intermediate Units, which coordinate inter-district transportation and other school services, particularly those requiring special education (Kowalski, Tr. 16187).

25/ LEA Brief at 4.

26/ In Wolf Creek, the Board accepted the testimony of county and Federal Emergency Management Agency ("FEMA") witnesses that such letters of agreement are unnecessary because school personnel can be relied upon to operate mass care centers. Kansas Gas & Electric Company (Wolf Creek Generating Station, Unit 1), LBP-84-26, 20 NRC 53, 80 (1984), mod., LBP-84-27, 20 NRC 125 (1984), aff'd, ALAB-798, 21 NRC 357 (1985). The Board in that case endorsed the testimony of an expert witness who testified that he was "unaware of any case where shelter and food had been denied during emergencies because written agreements had been lacking." Id. at 81.

27/ LEA Brief at 5. Contrary to LEA's assertion, the plan clearly refers to decontamination and monitoring assignments and procedures. See Appl. Exh. E-4 at 15.

4. Supplemental exercise results. LEA argues, in effect, that the supplemental exercise of November 20, 1984 did not adequately demonstrate Bucks County's successful implementation of its support plan because the exercise did not simulate implementation of the entire plan.<sup>28/</sup> NUREG-0654, however, requires that the exercise test "the integrated capability and a major portion of the basic elements existing within emergency preparedness plans and organizations" and "shall include mobilization of State and local personnel and resources adequate to verify the capability to respond to an accident scenario requiring response."<sup>29/</sup> Obviously, it was unnecessary for Bucks County to open each of its three reception centers and 24 mass care centers in order to verify the adequacy of its plan.<sup>30/</sup>

There is no support for LEA's argument that a full-scale deployment of police to all traffic control points in the Bucks County plan was necessary to demonstrate the capability to control traffic in an emergency.<sup>31/</sup> The Bucks County support plan lists some 28 traffic control points established in response to points identified by the Pennsylvania State Police as potential bottlenecks along major evacuation routes<sup>32/</sup>

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<sup>28/</sup> LEA Brief at 4.

<sup>29/</sup> NUREG-0654, Criteria N.1.a and b. These provisions contain guidance for the exercise requirements of 10 C.F.R. §50.47(b)(14) and Part 50, Appendix E, Section IV.F.1-5.

<sup>30/</sup> As with any emergency plan exercise, FEMA approved the scope of response capabilities tested during the November 20, 1984 exercise. See FEMA Exh. E-5 at VII.

<sup>31/</sup> LEA Brief at 5.

<sup>32/</sup> Appl. Exh. E-4 at 13 and 3-A-1.

and identifies the police departments which would be utilized.<sup>33/</sup> LEA offered no evidence to challenge the sufficiency of traffic control points designated under the plan or the adequacy of manpower to staff them.<sup>34/</sup>

5. Plan details uncontested below. LEA apparently believes that it was the Applicant's obligation to provide testimony verifying how each aspect of the support plan would be implemented. To the contrary, the plan speaks for itself and, as the Licensing Board properly found, constitutes a current statement of Bucks County's ability to perform its support function in an emergency.<sup>35/</sup> The plan and supporting testimony of the planners, principally Mr. McGill, was ample to carry Applicant's burden of proof. If LEA wished to challenge particular aspects of the plan, rather than pursue its broader contention that the plan could not be implemented for political reasons, it was obliged to adduce evidence refuting the plan's statements and Mr. McGill's testimony.

For example, LEA now wishes to question the availability of personnel at mass care centers and other volunteers,<sup>36/</sup> although at the

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<sup>33/</sup> Id.

<sup>34/</sup> LEA erroneously argues that the traffic control point officers would be responsible for directing traffic from evacuation routes to mass care centers. LEA Brief at 5. In fact, traffic officers are merely responsible for maintaining traffic flow. Evacuees are provided instructions and directions to mass care centers at reception centers, not at traffic control points. See Appl. Exh. E-4 at 13.

<sup>35/</sup> Third PID at 297-303.

<sup>36/</sup> LEA Brief at 6-8.

hearing it did not challenge their availability under the plan.<sup>37/</sup> Nor is there any planning requirement for screening of vehicles for contamination in the event of offsite radiation releases.<sup>38/</sup>

B. Hypothesized Actions By Bucks County  
On Behalf of its Own Residents Would  
Not Interfere With its Implementation  
of the Support Plan.

In arguing whether adequate planning exists for Bucks County residents, LEA significantly departs from the admitted contention and, in effect, challenges planning requirements under 10 C.F.R. §50.47 and NUREG-0654. Whether or not the Bucks County Board of Commissioners believes that additional measures are necessary to protect Bucks County residents is relevant only to the extent that its belief might have some impact upon its willingness to implement its support plan in receiving Montgomery County evacuees.

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<sup>37/</sup> See Appl. Exh. E-4 at 4-E-1, et seq. The stated purpose of the Bucks County support plan is "to provide for the housing, feeding, medical and other social service needs for a maximum of 24,440 persons evacuated from Montgomery County in response to an incident at the Limerick Generating Station." Appl. Exh. E-4 at 7. This comports with the requirement under NUREG-0654, Criterion A.4, that "[e]ach principal organization shall be capable of continuous (24-hour) operations for a protracted period." As the Licensing Board found, the same emergency services personnel already designated in the plan would handle any Bucks County residents who might spontaneously evacuate to other areas of the County. Third PID at 299. LEA simply did not prove that any additional "police and ambulance emergency services" (LEA Brief at 9) would be required.

<sup>38/</sup> This may be compared with other areas for which planning standards do exist under NUREG-0654, such as Criteria I.7 through 11 (field monitoring), J.10 (relocating and monitoring evacuees) and L.3 (monitoring contaminated injured individuals).

Thus, LEA's postulated concerns regarding radiation exposure to Bucks County residents, contingency procedures for diverting Bucks County emergency personnel to the task of "alerting and relocating Bucks County residents from under a plume," and the impact of Bucks County's "peculiar geographical configuration" upon a hypothesized "spontaneous evacuation" of Bucks County<sup>39/</sup> fail to show any defect in the support plan for assisting Montgomery County evacuees. The Board understood this distinction in finding:

There is no evidence, however, to establish that the Board of Commissioners' concerns require further planning or analysis under 10 CFR § 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.<sup>40/</sup>

Nowhere has LEA established that its hypothesized plan revisions, which would exceed the NRC's emergency planning requirements, would adversely affect the ability of Bucks County to implement its support function. As the Board reasoned, it is highly unlikely that any spontaneously evacuating residents of Bucks County would utilize mass care centers only a few miles further from Limerick or, conceivably, even closer to Limerick than their own homes.<sup>41/</sup> Examining the historical

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<sup>39/</sup> LEA Brief at 8.

<sup>40/</sup> Third PID at 301.

<sup>41/</sup> Id. at 299. As noted, mass care space has already been very conservatively estimated at 50% of the evacuating Montgomery County population. The historical record shows that only 10-15% of evacuees seek mass care or temporary relocation shelters in a disaster. Id. at 298. As discussed in note 21, supra, host facilities have always been able to provide ample assistance to evacuees, even in the absence of written agreements.

record, the Board in Waterford concluded generically that any spontaneous evacuation by persons outside the EPZ in an actual emergency "will not interfere with the evacuation scheme."<sup>42/</sup>

The two documents principally relied upon by LEA, a letter from two Bucks County Commissioners (LEA Exh. E-60) and a Memorandum of Understanding with PEMA (LEA Exh. E-61), simply state two Commissioners' views as to further planning which should be considered for Bucks County residents. Nothing in those documents or any other portion of the record contradicts the Board's findings as to the capability and willingness of Bucks County to implement its support function for Montgomery County evacuees.<sup>43/</sup> There is no merit to LEA's argument that formal adoption of the support plan by the Bucks County Commission is legally or factually a prerequisite to implementing the Bucks County support function to receive and temporarily relocate Montgomery County evacuees in the event of a radiological emergency at Limerick.<sup>44/</sup>

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<sup>42/</sup> Louisiana Power and Light Company (Waterford Steam Electric Station, Unit 3), LBP-82-100, 16 NRC 1550, 1562 (1982), mod., LBP-82-112, 16 NRC 1901 (1982), aff'd, ALAB-732, 17 NRC 1076, 1102 n.43 (1983).

<sup>43/</sup> LEA's argument that further "active planning" is necessary to provide dose savings for Bucks County residents (LEA Brief at 11-12) exceeds the scope of the contention and impermissibly challenges the specification of an approximately 10-mile EPZ in 10 C.F.R. §50.47(c) (2).

<sup>44/</sup> In Section IX.A.1, infra, Applicant demonstrates that formal plan adoption is not required under the Commission's regulations and precedents in order for a licensing board to make the requisite finding that the plan is adequate and reasonable assurance exists that it can be implemented.

II. The Licensing Board Correctly Found that the Plans Include Reliable Estimates of Transportation-Dependent Individuals.

A. The Mail Surveys Utilized by the Counties Compiled Actual Transportation Needs.

LEA asserts that county planners should have relied upon automobile ownership data from the 1980 United States Census rather than the specific data reported by county residents when requested in a mail survey to report any need for transportation in the event of an emergency requiring evacuation, including a radiological incident at Limerick.<sup>45/</sup> Obviously, the information resulting from these two distinct surveys, which were undertaken for different purposes, resulted in different tabulations. LEA offered no evidence to show that the 1980 Census data were more reliable for the purpose of estimating the needs of transportation-dependent individuals, only that the Census figures were higher.

1. Different planning purposes. On appeal, LEA confuses two distinct planning requirements. First, there is a need to estimate the number of individuals who will evacuate by using their own automobiles and those without automobiles in order to project the number of vehicles along major evacuation routes. This enables planners to formulate accurate evacuation time estimates.<sup>46/</sup> Second, there is a distinct need to estimate the number of mobility-impaired individuals so that they may

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<sup>45/</sup> LEA Brief at 16-18.

<sup>46/</sup> NUREG-0654, Appendix 4, pp. 4-2 to 4-3.



be offered transportation assistance if evacuation is selected as the appropriate protective action for EPZ residents.<sup>47/</sup>

It is apparently the latter consideration which concerns LEA in the first part of its brief, although its only relevant contention relates solely to the reliability of evacuation time estimates.<sup>48/</sup> Thus, transportation needs for mobility-impaired individuals, as distinct from the reliability of evacuation time estimates based upon an estimate of transportation-dependent individuals, is irrelevant to the admitted contention and entirely beyond its scope.<sup>49/</sup> In any event, the Board correctly found that utilizing vehicle demand data based upon the 1980 Census "would not affect the evacuation time estimates."<sup>50/</sup>

2. Need to identify transportation-dependent persons. LEA notes the Board's finding that many municipalities reviewed their lists of transportation-dependent individuals and verified their accuracy during the July 25 and November 20, 1984 Limerick exercises.<sup>51/</sup> LEA argues that such verification did not ascertain that all

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<sup>47/</sup> NUREG-0654, Criterion J.10.d, states that plans to implement protective measures within the EPZ shall include "[m]eans for protecting those persons whose mobility may be impaired . . . ."

<sup>48/</sup> Contention LEA-23 simply states: "The draft county plans are deficient because they do not contain reliable evacuation time estimates."

<sup>49/</sup> Considerable confusion exists in LEA's arguments because it addresses the issue in its brief at pages 16-23 and again at pages 29-35. Only the latter discussion is relevant to Contention LEA-23.

<sup>50/</sup> Third PID at 37.

<sup>51/</sup> Id. at 34.

transportation-dependent individuals were in fact on those lists.<sup>52/</sup> However, that hardly establishes the superiority of the 1980 Census data as a source for determining the number of transportation-dependent individuals.<sup>53/</sup> Even if higher figures were used as a planning basis, some method must be adopted for identifying specific individuals who would need transportation assistance in an evacuation.<sup>54/</sup> LEA acknowledges as much, but does not explain how reliance upon the 1980 Census data would actually identify those needing transportation.<sup>55/</sup>

3. Superiority of mail surveys. The Licensing Board amply explained why the mail surveys of individual residences by the counties were superior to the 1980 Census for the purpose of accurately determining the number of transportation-dependent individuals who would request assistance in an actual emergency. As the Board explained, there is a significant difference between the 1980 Census data, which merely lists households without personal transportation, and the Limerick survey data, which includes only those who stated a need for transportation

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<sup>52/</sup> LEA Brief at 16, 21.

<sup>53/</sup> LEA does not argue, for example, that planners should have attempted to obtain the raw data which comprises the figures in the 1980 Census as to households without an automobile. Nor has LEA addressed the legal constraints for the protection of a citizen's privacy with regard to such information. See 5 U.S.C. §552a(b).

<sup>54/</sup> See note 47, supra.

<sup>55/</sup> Thus, LEA asserts the need for "proper identification of the transport-dependent population . . . within the planning zone" and seeks assurance that "the transport dependent population in the EPZ has been adequately identified [and] planned for." LEA Brief at 17-18 (emphasis added).

assistance.<sup>56/</sup> LEA takes issue with those findings by pointing to the difference in numbers between the 1980 Census and the Limerick survey results. It challenges the Board's conclusion that the mail survey results are more reliable by asserting that a "rather detailed breakdown of the U.S. Census data for Chester County is available . . . municipality by municipality."<sup>57/</sup>

LEA's point entirely begs the question. The Board did not reject LEA's argument because of a lack of specific numbers in the Census data, but rather because "[t]here is no testimony to substantiate exactly what the census data represent or the purpose for which they were collected or how they were extended to the EPZ population."<sup>58/</sup> Given the more precise purpose for which the mail survey data were collected (i.e., identifying those requiring governmental assistance in obtaining transportation as opposed to households not owning automobiles), the surveys predictably resulted in a smaller response. Significantly, LEA itself acknowledges that the mail surveys identified a greater need for ambulances than reflected in an analysis prepared by the United States

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<sup>56/</sup> Third PID at 35-37.

<sup>57/</sup> LEA Brief at 30.

<sup>58/</sup> Third PID at 36. Aside from a lack of evidence as to the purpose or methodology of the 1980 Census, inclusion of all Census data would have resulted in "double counting individuals who will be evacuated from other institutions for which planning exists, e.g., schools, nursing homes and hospitals." Id. The Board also noted that empirical data from the historical record shows that many households without automobiles do not require public transportation assistance. Id. at 37.

Department of Health and Human Services.<sup>59/</sup> This negates LEA's inference that persons with special transportation needs did not respond to the county mail surveys and further confirms their superiority for the purpose for which they were undertaken.<sup>60/</sup>

4. Methodology. LEA takes issue with the methodology of the county mail surveys,<sup>61/</sup> but nowhere shows that they were inadequate for identifying transportation-dependent persons. In fact, LEA is unable to cite any planning standard or requirement for the conduct of such surveys as distinct from the implicit planning standard under NUREG-0654 that resources be made available to evacuate mobility-impaired individuals.<sup>62/</sup>

As a FEMA witness testified, and the Board found, "[t]here is no planning standard requiring a general public needs survey by emergency

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<sup>59/</sup> LEA Brief at 30-31.

<sup>60/</sup> Although LEA points out that some ambulance needs were over-reported (id. at 31), it is difficult to see how this would result in any planning deficiency. Rather, it refutes LEA's argument that transportation-dependent individuals generally fail to respond to mail surveys.

<sup>61/</sup> The survey was mailed to locations metered by the Applicant. LEA's only concern is apparently that the survey did not reach residences not serviced by Philadelphia Electric Company. Id. at 18. The record does not show a single residence which did not receive the survey form. LEA points to the possibility that certain day care facilities which utilize space in a school or a church might not have received the survey at that location. Id. at 19. Identification of transportation needs for day care facilities involved special procedures, however, as discussed at pages 26-29, infra.

<sup>62/</sup> See note 47, supra.

planners."<sup>63/</sup> In Waterford, the Appeal Board approved the delegation to the NRC Staff of responsibility for "the completion of a list of hearing-impaired individuals and specification of means to contact them."<sup>64/</sup> This further demonstrates the lack of any rigid requirements or methodology under the Commission's regulations.

Certain witnesses questioned the Limerick survey results,<sup>65/</sup> but none of them showed any experience in emergency planning, sampling techniques or statistical analysis. Under cross-examination, each of the witnesses acknowledged that he or she had no basis to dispute the accuracy of the survey results.<sup>66/</sup> Moreover, not even LEA asserts that there is any requirement or need to conduct a door-to-door survey to compile this information.<sup>67/</sup> The record does not show that any different form of data compilation is being utilized or has been required for any other nuclear power plant in the United States.

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<sup>63/</sup> Third PID at 178. Nor does FEMA review such surveys. Id. FEMA witnesses further testified that a mail survey is "an acceptable technique for measuring the transport-dependent population" consistent with the approach of NUREG-0654, Appendix 4. Id. at 37. There is no regulatory requirement for such surveys nor any criteria for their conduct in NUREG-0654 or 10 C.F.R. Part 50, Appendix E, Section IV. In any event, the surveys conducted for Limerick are as extensive as those approved in other cases. See, e.g., Duke Power Company (Catawba Nuclear Station, Units 1 and 2), LBP-84-37, 20 NRC 933, 1001 (1984); Wolf Creek, supra, LBP-84-26, 20 NRC 53, 73 (1984).

<sup>64/</sup> Waterford, supra, LBP-82-100, 16 NRC 1550, 1563 (1982).

<sup>65/</sup> LEA Brief at 20.

<sup>66/</sup> Third PID at 274, 281, 287-290, 291-92.

<sup>67/</sup> As added assurance, periodic updates will be conducted by each of the counties to verify transportation needs. Id. at 274-75.

E. The Board Correctly Sustained the Validity of the ETE Study's Conclusions as to Preparation and Mobilization Times.

The Board found that "the bases for the assumption in the ETE study of a one hour period for mobilization of school buses, during the period 30-90 minutes following notice to evacuate are reasonable."<sup>68/</sup> It reached this conclusion by analyzing preparation and mobilization time assumptions for the entire EPZ population, including discrete categories of the populace such as transportation-dependent individuals.<sup>69/</sup> The Board found that school officials, the three risk counties and PEMA participated in developing and agreeing upon site-specific information which was "representative and realistic" of the times necessary to "assemble buses, transport vehicles to schools and to load students."<sup>70/</sup> An estimated one-hour mobilization time for school buses resulted.

The Board recognized that in a worst-case scenario, driver mobilization time in a few cases would exceed the one-hour estimate, but found such an overall assumption inappropriate for realistic planning. In any event, mobilization times have no real impact on overall evacuation time estimates because such estimates "are made for [traffic] saturated conditions. The insensitivity of evacuation time is due to the saturated conditions of the roadway network, since capacity, not

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<sup>68/</sup> Id. at 42.

<sup>69/</sup> Id. at 37-38.

<sup>70/</sup> Id. at 38-39.

mobilization time, controls evacuation time."<sup>71/</sup> As the Licensing Board correctly concluded: "Even a 100 percent increase in the ETE study's mobilization time period for schools would not significantly increase evacuation time estimates."<sup>72/</sup>

1. Realistic assumptions. The Commission's regulations and planning standards require that planners utilize realistic assumptions and avoid worst-case scenarios.<sup>73/</sup> The thrust of LEA's argument on appeal is that worst-case assumptions should, nonetheless, have been utilized in estimating an overall mobilization and preparation time for school evacuation. Thus, LEA claims that unit mobilization times estimated by bus providers in the Montgomery County plan<sup>74/</sup> (representing the time needed to assemble buses and drivers) should have been added to the one-hour mobilization period discussed in the ETE Study (representing travel time from a bus provider's garage to an assignment, plus loading time).<sup>75/</sup>

As the Board explained, however, this would not have resulted in a realistic estimate inasmuch as "counties will notify bus providers at

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<sup>71/</sup> Long Island Lighting Company (Shoreham Nuclear Power Station, Unit 1), LBP-85-12, 21 NRC 644, 787 (1985).

<sup>72/</sup> Third PID at 41.

<sup>73/</sup> Id. at 32; Catawba, supra, LBP-84-37, 20 NRC ¶33, 997 (1984).

<sup>74/</sup> Appl. Exh. E-3, Appendix I-2, Tab 3. Mobilization times are indicated in the column marked "(Hours)," following the "Daytime" and "Evening" columns listing the number of buses available from each provider.

<sup>75/</sup> The Board explained the difference between these two mobilization periods, noting that they might overlap, but are not necessarily congruent. Third PID at 39-40.

the alert stage"; at the site emergency and general emergency stages, "the counties have the option to position buses at transportation staging areas."<sup>76/</sup> The Board therefore correctly found that "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."<sup>77/</sup>

LEA notes that 6 of the 32 bus providers listed in the Montgomery County plan have estimated a mobilization time of up to two hours. The Board adequately explained why those estimates are not inconsistent with the mobilization and preparation time estimated in the ETE Study. First, those estimates represent the time necessary for a provider to furnish its last bus. Second, the longest period for daytime unit mobilization is only one hour.

The Zimmer decision upon which LEA relies<sup>78/</sup> is inapposite. In that case, reliable data from bus providers as to the availability of their buses and drivers had not been compiled. In sharp contrast, the Limerick offsite emergency plans entail extensive data compilation on bus and driver availability.<sup>79/</sup> Moreover, the Licensing Board's findings in Zimmer were predicated upon "the absence [in plans] of

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<sup>76/</sup> Id. at 40.

<sup>77/</sup> Id. The Licensing Board in Shoreham similarly found that plans to notify bus providers at the alert stage and deploy buses to staging areas at the site emergency stage were based upon the realistic assumption of some lead time before an evacuation would be ordered. Shoreham, supra, LBP-85-12, 21 NRC 644, 718, 723-25 (1985).

<sup>78/</sup> LEA Brief at 32.

<sup>79/</sup> Third PID at 77-79, 93, 101-107.



simultaneous evacuation [i.e., a single lift] (because of the limited number of buses)."<sup>80/</sup>

2. Non-students. LEA also asserts, for the first time on appeal, that mobilization and preparation times for transportation-dependent individuals other than school students are inaccurately stated in the ETE Study. For some reason, LEA assumes that those time estimates are the same as the estimated one-hour mobilization and preparation time for evacuating schools.<sup>81/</sup> To the contrary, the ETE Study clearly states that evacuation of mobility-impaired individuals in facilities other than schools "would begin . . . between 1 and 2 hours following the 15-minute notification period, i.e., between 75 and 135 minutes following the evacuation decision."<sup>82/</sup> Thus, the Board's findings as to the one-hour mobilization and preparation time estimate for school evacuation does not include other population categories or facilities.<sup>83/</sup>

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<sup>80/</sup> Cincinnati Gas & Electric Company (Wm. H. Zimmer Nuclear Power Station, Unit No. 1), ALAB-727, 17 NRC 760, 772 (1983). In contrast, the Limerick EPZ will be evacuated in a single lift. See note 19, supra.

<sup>81/</sup> LEA Brief at 33.

<sup>82/</sup> Appl. Exh. E-67 at 5-5. Hence, mobilization time for transportation-dependent individuals within the permanent population therefore fall within the overall two-hour mobilization period "between 30 and 150 minutes after the decision to notify the population to evacuate is made." Id. at 5-4.

<sup>83/</sup> LEA refers to NUREG-0654, Figure 4, at 4-14, arguing that the time distribution curve for transportation-dependent persons shows that this group is the "slowest group of those represented to evacuate." LEA Brief at 33. As Figure 4 states, however, it is only an "example" of a reporting "format" for such time estimates. The footnote to Figure 4 further states that the "curves are suggestive of a hypothetical 10-mile radius EPZ." (Emphasis added).

LEA cites no evidence to support its hypothesis that the mobilization and preparation time estimates for any population should be doubled. In noting that an increase of 100% would put school bus departures within the overall mobilization envelope of 150 minutes,<sup>84/</sup> LEA vividly demonstrates why the Board correctly found that such a postulated increase "would not significantly increase evacuation time estimates."<sup>85/</sup>

3. Reliability of ETE Study. The remainder of LEA's argument challenges generally the reliability of the ETE Study. Although an isolated statement by the Staff's expert, Dr. Urbanik, is taken out of context by LEA,<sup>86/</sup> he categorically stated that the ETE Study was prepared consistently with the assumptions and methodologies of NUREG-0654 and that the evacuation time estimates contained therein were reasonably developed and soundly based.<sup>87/</sup> Accordingly, the record does not support LEA's assertion that any competent witness found the ETE Study's time estimates to err in the range of up to 20 percent.<sup>88/</sup>

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<sup>84/</sup> LEA Brief at 33.

<sup>85/</sup> Third PID at 41.

<sup>86/</sup> LEA Brief at 34, citing Urbanik, Tr. 19249. In reality, Dr. Urbanik testified that even if the time estimates contained in the ETE Study were as much as 20 percent in error, a premise he had no reason to accept, it would be of no significance (Urbanik, Tr. 19211-12, 19248-49).

<sup>87/</sup> Third PID at 23.

<sup>88/</sup> Although unclear, it seems that LEA is equating a one hour underestimation of mobilization and preparation times with a one hour error in evacuation times. LEA Brief at 34. As discussed at pages 20-21, supra, any revised mobilization and preparation time  
(Footnote Continued)

4. Lead time assumptions. LEA asserts error in the Board's findings as to the likelihood of ample lead time by way of early notification to school bus providers such that their buses and drivers can be mobilized and be ready for their assignments if required.<sup>89/</sup> Although NUREG-0654 does require planning for "a spectrum of accidents,"<sup>90/</sup> it expressly recognizes that plans should include "substantial lead times to carry out certain protective measures, such as evacuation, when this is indicated by plant conditions."<sup>91/</sup> As stated in NUREG-0654, Table 2, it is anticipated that the time from the initiating event to the start of an atmospheric release from the plant may be on the order of one-half hour to one day.<sup>92/</sup>

Given the broad distribution of release times stated in the guidance provided by NUREG-0654, it was realistic for the ETE Study to assume the availability of lead time sufficient for mobilization at earlier stages of an emergency,<sup>93/</sup> notwithstanding the possible

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(Footnote Continued)

estimate for a particular category of the population which still falls within the envelope for the general population will not materially affect evacuation time estimates.

<sup>89/</sup> LEA Brief at 35.

<sup>90/</sup> NUREG-0654 at 7.

<sup>91/</sup> Id. at 14.

<sup>92/</sup> Id. at 17.

<sup>93/</sup> As to positioning of buses at transportation staging areas at the early stages of an emergency, see pages 21-22, supra.

occurrence of a rapidly escalating accident in which less or no lead time would exist.<sup>94/</sup>

III. Adequate Plans Have Been Made to Identify and Meet the Transportation Needs of Day Care Facilities.

The Licensing Board explained in detail the procedures undertaken by PEMA, the counties and Energy Consultants (Applicant's offsite emergency planning consultant) to identify all day-care facilities in the EPZ.<sup>95/</sup> LEA does not even discuss, much less dispute, the Board's findings that these extensive efforts successfully identified all day care facilities within the EPZ and that a model day care plan was

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<sup>94/</sup> The Licensing Board in Shoreham discounted the significance of rapidly escalating accident scenarios from a planning perspective, holding:

A specific subset of accident scenarios exists that could progress so rapidly that it would be difficult or impossible to fully execute a prior mobilization. The consequence of an inability to mobilize for some fast-breaking accidents is to lengthen the time to evacuate the EPZ somewhat. This is acceptable.

[This] . . . warrants no implication that we would accept excessively long evacuation times under any circumstances or that we would accept a plan that did not provide for substantial assistance to the public in an evacuation. . . . [W]e are satisfied that the LILCO Plan to mobilize its emergency forces over a full spectrum of possible accidents is reasonable even though longer-than-normal public evacuation times might be required for the most extreme conditions in that spectrum.

Shoreham, supra, LBP-85-12, 21 NRC 644, 725 (1985).

<sup>95/</sup> Third PID at 174-176. In litigating Contention LEA-13, the Board, parties and witnesses have referred to day care centers, nurseries and pre-schools as "day care facilities" for the sake of brevity.

distributed to each facility.<sup>96/</sup> Under the model plan and the accompanying letter from the respective county emergency coordinators, day care facility operators were advised as to the procedure for arranging transportation and identifying a host facility. They were further advised to contact their municipal coordinators, identified in the cover letter, for any additional assistance, including unmet transportation needs.<sup>97/</sup>

Independent of the efforts by planners aimed specifically at identifying day care centers, additional notice to such facilities was provided by the 1983 mail survey to each resident within the EPZ. Although LEA argues that the survey form gave insufficient notice to day care facilities that their special needs, if any, should be reported, it cites no basis in the record for overturning the Board's finding "that the general population public needs survey conducted in 1983 prompted a response from operators, directors or staff of day care facilities, and from parents of children attending those facilities."<sup>98/</sup>

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<sup>96/</sup> Contrary to LEA's implication (LEA Brief at 19), the counties were successful in identifying unlicensed day care facilities by checking telephone directories, surveying area churches and youth services and through other informal contacts. Third PID at 174-75. Ongoing identification of day care facilities is anticipated. *Id.* at 175. Here again, LEA has not asserted that existing efforts fail to meet any regulatory standards or that some other method should have been utilized.

<sup>97/</sup> Third PID at 176-77. Those reported transportation needs would then be included in municipal implementing procedures for use in an actual emergency. *Id.* Arrangements for assisting day care centers in achieving preparedness were at least as extensive as those demonstrated in other cases. *See, e.g., Catawba, supra*, LBP-84-37, 20 NRC 933, 1002 (1984).

<sup>98/</sup> Third PID at 175-76.

Inasmuch as day care centers were specifically targeted in separate planning procedures, it is fairly academic whether the 1983 mail survey served to identify any day care facility transportation needs. Nonetheless, the Board's findings, supported by the record, provide yet another layer of assurance that this particular category of needs has been met. In contrast to LEA's abstract arguments, the record demonstrates that even the two day care facility operators who testified on behalf of LEA had received sufficient information from governmental planners to meet their respective transportation needs.<sup>99/</sup>

Because LEA's arguments regarding the insufficiency of the transportation needs survey by the counties lack merit, the Appeal Board need not consider its hypothesis that the overall "pool" of buses would be overtaxed. Nonetheless, it should be noted that township plans already provide considerable flexibility in the space available on buses for transportation-dependent individuals who may not have reported their needs.<sup>100/</sup> Moreover, the Board correctly found that any unmet facility

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<sup>99/</sup> Id. at 182-186. The Board found that sufficient transportation was also available to evacuate the Upattinas School, although it is not actually a day care facility. Id. at 186-87.

LEA incorrectly states that day care needs had been determined for only one facility in Chester County. LEA Brief at 22. The clear import of testimony by the Chester County emergency coordinator is that only one day care facility in Chester County had reported any need for transportation assistance (Campbell, Tr. 19915). As the Board found, it is logical to infer that any facility which has not reported a transportation need "did not have any unmet needs or unresolved planning problems requiring assistance." Third PID at 179.

<sup>100/</sup> For example, the South Coventry plan states that a bus will be available to evacuate transportation-dependent individuals, even  
(Footnote Continued)

needs would be reported to the municipalities and, if necessary, passed on to the counties and PEMA as with any other unmet need under the ongoing planning process.<sup>101/</sup> LEA failed to dispute those transportation needs as reported in the current plans.

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(Footnote Continued)

though only 19 persons have reported such a need. Appl. Exh. E-35 at G-1. The plans utilize an average of 40 persons per bus (Chester County/Commonwealth Exh. E-1 at I-2-1), although actual seating capacity would be higher, i.e., some buses seat more than 40. Also, more children than adults can be seated. Finally, none of the offsite emergency plans for Limerick relies upon aisle capacity.

101/ Third PID at 176, 245.

IV. The Licensing Board Correctly Found that There Are Sufficient Buses and Drivers to Evacuate Schools in a Single Lift.

Based upon extensive testimony provided by PEPA and county planning officials as well as the representatives of school districts and other bus providers, the Licensing Board correctly found that there will be sufficient buses to evacuate public and private schools in Montgomery and Chester Counties<sup>102/</sup> in a single lift.<sup>103/</sup> The Board stated that the counties "have conservatively determined their needs and assessed the transportation resources available to meet those needs," and that the "total transportation reserve is more than adequate to handle all foreseeable needs" for an evacuation of schools.<sup>104/</sup> The Board found that written agreements have been executed for most bus and driver commitments and that additional written agreements are being obtained. The Board also found that, in an actual emergency, bus providers would provide more than enough buses required to evacuate Montgomery County and Chester County schools in a single lift, regardless of the status of agreements.<sup>105/</sup>

On appeal, LEA apparently does not challenge the sufficiency of buses for Montgomery County schools. Rather, it focuses upon the status

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<sup>102/</sup> LEA did not challenge the sufficiency of buses and drivers to evacuate schools in Berks County.

<sup>103/</sup> Third PID at 107. This capability exceeds planning requirements inasmuch as "Commission regulations do not require that all schoolchildren be evacuated in a single bus run." Shoreham, supra, LBP-85-12, 21 NRC 644, 873 (1985).

<sup>104/</sup> Third PID at 107.

<sup>105/</sup> Id.



of bus provider commitments in Chester County, which it contends is still uncertain. As the Board found, however, issues unresolved for some bus providers do not materially affect the availability of sufficient buses to evacuate Chester County schools in a single lift.

A. Sufficient Buses are Available to Evacuate Chester County Schools.

1. Bus needs versus resources. To evacuate all mobility-impaired individuals in a single lift, Chester County requires 217 buses.<sup>106/</sup> Given buses locally available to municipalities and school districts, an unmet need of approximately 134 buses has been passed on to Chester County.<sup>107/</sup> Chester County initially reported the entire local unmet need of 134 buses to PEMA because, at that point, it had not obtained written commitments from bus providers.<sup>108/</sup> Of the total 134 buses, school evacuation requires approximately 80 buses.<sup>109/</sup>

Since reporting unmet bus needs to PEMA, however, Chester County has been diligently surveying bus companies to obtain letters of agreement for the provision of buses in the event of an emergency, including a radiological emergency at Limerick. At the time of the hearing, Chester County had obtained six written agreements with bus providers

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<sup>106/</sup> Chester County/Commonwealth Exh. 1 at Q-1-1.

<sup>107/</sup> Id.

<sup>108/</sup> Id. Third PID at 93, 96.

<sup>109/</sup> Third PID at 93; Chester County/Commonwealth Exh. E-1 at N-3-1 and N-3-2.

for approximately 100 buses.<sup>110/</sup> Overall, Chester County has identified some 545 buses potentially available from Chester County providers to assist in an evacuation and is in the process of obtaining written agreements for their use.<sup>111/</sup>

2. Meeting unmet needs. Simple arithmetic demonstrates that, even at the time of the hearing, practically all Chester County unmet needs had been satisfied by the county.<sup>112/</sup> Moreover, a written agreement was being finalized at that time between Chester County and the Southeastern Pennsylvania Transportation Authority ("SEPTA") to provide buses to assist in an emergency upon request by the county.<sup>113/</sup> SEPTA has approximately 1,500 buses and 4,000 employees who are drivers or are licensed to drive buses. There are 300 SEPTA buses out of service for routine maintenance, inspection or minor repairs and available upon

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<sup>110/</sup> Third PID at 93. Oral agreements exist for an additional 18 buses. Id. LEA does not challenge the sufficiency or reliability of those written or oral agreements.

<sup>111/</sup> Id. LEA notes that some providers have raised certain questions, but the Board found that there has been "no indication that these commitments will not ultimately be reduced to writing." Id.

<sup>112/</sup> The Board held that, considering execution of the bus provider agreements, any unmet need previously reported by Chester County to PEMA realistically constitutes a request for a reserve. Id. at 96. This is similar to the position taken by Montgomery County, which reported its request for a 49 bus and van reserve to PEMA as an unmet need. Id. at 91.

<sup>113/</sup> Id. at 93-94.

request at any given time.<sup>114/</sup> SEPTA has promised to provide buses even in the absence of a formal written agreement.<sup>115/</sup>

Depending upon service needs, other buses could be provided or even pulled out of service if necessary. Realistically, however, Chester County would request only about 100 buses from SEPTA under their agreement.<sup>116/</sup> Also, adjacent and nearby counties could provide buses, particularly Lancaster County, which is a risk county for both the Three Mile Island and Peach Bottom facilities.<sup>117/</sup>

3. Buses not considered. The reasons why the Tredyffrin/Easttown School District and Gross Bus Company declined to provide buses or had not at the time of the hearing entered into a written agreement with Chester County were irrelevant to the Board's findings. Even without the 42 buses from Tredyffrin,<sup>118/</sup> there was a sufficient pool of buses from other providers to satisfy any unmet needs. Similarly, the Board did not rely upon any buses that might be available from the Gross Bus

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<sup>114/</sup> Id. at 95.

<sup>115/</sup> Id. at 94.

<sup>116/</sup> Id. at 95. As a last resort, of course, the Governor has authority to commandeer needed transportation, including SEPTA buses. Id. at 95, 97.

<sup>117/</sup> Id. at 97. The arrangements for obtaining buses and drivers to complete an evacuation of schools in a single lift for Limerick are far more comprehensive than those found adequate in other cases. See, e.g., Wolf Creek, supra, LBP-84-26, 20 NRC 53, 70 (1984); Shoreham, supra, LBP-85-12, 21 NRC 644, 858 (1985).

<sup>118/</sup> See Chester County/Commonwealth Exh. E-1 at I-1-2.

Company in the absence of a written agreement,<sup>119/</sup> except for buses which are under contract with the Phoenixville School District. That contract already provides that buses will be furnished upon request, including any kind of emergency.<sup>120/</sup> Accordingly, even if the Gross Bus Company declined to provide buses in addition to those it already furnishes under contract, Chester County has accounted for the unmet need of 17 buses reported by the Phoenixville School District.<sup>121/</sup>

B. There Are Sufficient Bus Drivers to Assist in an Evacuation.

1. Reliance upon historic record. LEA asserts that the Licensing Board erred in permitting evidence of the "historic record" of emergency worker responses because it had previously denied a proposed LEA contention supposedly raising the same issue.<sup>122/</sup> In denying the proposed contention, however, the Licensing Board drew a sharper distinction than LEA on appeal. While the Board denied a contention which would "litigate the general issue of human response to radiation danger," it permitted litigation of the human response issue with respect to "the planned role of the specific named groups," i.e., teachers and bus drivers, so that the Board could "assess the significance and

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<sup>119/</sup> The Gross Bus Company has 118 buses assigned to Chester County school districts, some of which lie within the Limerick EPZ. See Chester County/Commonwealth Exh. E-1 at I-1-2.

<sup>120/</sup> Third PID at 99-100. LEA does not challenge the sufficiency or reliability of that contract as regards the furnishing of buses in the event of an emergency at Limerick.

<sup>121/</sup> Id. at 99; Chester County/Commonwealth Exh. E-1 at N-3-1.

<sup>122/</sup> LEA Brief at 23-24.

sensitivity of less-than-full response by [those] groups."<sup>123/</sup> This avoided "the abstractness and inconclusiveness which would afflict any litigation" of a broader contention dealing with "the response of some everyman in some every situation."<sup>124/</sup>

Thus, the Board did not exclude proof based upon the historic record. The Licensing Board correctly relied upon the history of bus driver availability within the school districts that have agreed to provide buses in an actual emergency at Limerick. This was specifically related to the contention. Likewise, it admitted historic evidence of bus driver responses at other locations, including nuclear power plants, which have experienced emergencies requiring such responses.<sup>125/</sup> To the extent the Board received evidence from the historic record of a broader nature,<sup>126/</sup> LEA did not object to the testimony. It has therefore waived any objection and cannot raise the issue on appeal.<sup>127/</sup>

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<sup>123/</sup> Limerick, supra, LBP-84-18, 19 NRC 1020, 1048-49 (1984).

<sup>124/</sup> Id. at 1055.

<sup>125/</sup> The Appeal Board apparently relied upon evidence of the historic record in sustaining findings that the public would obey an evacuation order in an actual emergency. Waterford, supra, ALAB-732, 17 NRC 1076, 1097 (1983). See also Shoreham, supra, LBP-85-12, 21 NRC 644, 657-63 (1985).

<sup>126/</sup> Third PID at 159.

<sup>127/</sup> Florida Power & Light Company (St. Lucie Nuclear Power Plant, Unit No. 2), ALAB-335, 3 NRC 830, 842 n.26 (1976). Moreover, since the Licensing Board relied upon evidence in the historic record pertaining specifically to bus driver responses, including site-specific information from schools within the Limerick EPZ, any error was harmless. See Northern Indiana Public Service Company (Bailly Generating Station, Nuclear-1), ALAB-204, 7 AEC 835, 836 (1974).

2. Site-specific evidence of availability. In determining that sufficient bus drivers would be available to evacuate schools within the EPZ, the Board properly considered the following relevant factors:

(a) Under the basic "one-lift" principle for all transportation-dependent individuals, bus drivers would face no greater radiological hazards than the general public;<sup>128/</sup>

(b) In assisting in an evacuation, bus drivers would not be expected to do more than drive a bus as they ordinarily do for their routine assignments;<sup>129/</sup>

(c) The bus driver training program encourages drivers to plan ahead in order to eliminate potential conflicts between volunteer and family responsibilities and should also clear up any misconception as to the nature of responsibilities or risks drivers are likely to face;<sup>130/</sup>

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<sup>128/</sup> Third PID at 159.

<sup>129/</sup> Id. As discussed, experience during other disaster emergencies, including emergencies at other nuclear power plants, demonstrates that bus drivers will respond if called upon in an actual emergency. Id. Against the weight of this evidence, only a single witness testified that he would refuse to cooperate in a Limerick-related evacuation. Roger Tauss, president of a union local which represents a portion of the SEPTA drivers, thoroughly discredited himself with his lack of knowledge of planning and training concepts as well as his distrust of government officials and scientists. Id. at 166-67. The Board correctly refused to attribute Mr. Tauss' unwillingness to volunteer in an emergency to the 4,000 SEPTA employees who drive or who are licensed to drive buses (id. at 94) inasmuch as his personal position was contrary to overwhelming evidence that drivers would volunteer in an emergency.

<sup>130/</sup> Id. at 158. The Board in Diablo Canyon, aptly stated: "Since we know of and accept the phenomenon of role conflict, we think it more reasonable to simply address the matter in the instructions given to general workers who would have some emergency duties. We assume that responsible citizens will act intelligently on such

(Footnote Continued)

(d) A comprehensive procedure had been developed by Montgomery and Chester Counties to obtain reliable bus and driver availability information from all providers, which fully understood that the commitment to provide buses entails a corresponding commitment for drivers;<sup>131/</sup>

(e) As with buses, the number of drivers available under existing written agreements and commitments or understandings being reduced to writing far exceeds the number potentially needed;<sup>132/</sup>

(f) School district bus providers have never experienced difficulty in obtaining buses and drivers under hazardous conditions during inclement weather. Bus drivers care about children and would want to assist if their safety were threatened;<sup>133/</sup>

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(Footnote Continued)

instructions." Pacific Gas and Electric Company (Diablo Canyon Nuclear Power Plant, Units 1 and 2), LBP-82-70, 16 NRC 756, 768 (1982), vacated in part on other grounds, ALAB-776, 19 NRC 1373, aff'd, ALAB-781, 20 NRC 819 (1984). The Board in that case therefore concluded that even a scientifically valid survey of school teachers and bus drivers would not "add anything of significance to practical emergency planning" and that no survey "is needed to assure their availability during a radiological emergency." Id. The Board in that case also found that no special training was required for "general emergency support roles" because there was "no evidence that such workers would be exposed to an especially hazardous environment or that they could not rely on the monitoring which would be done by trained people in the event of an emergency." Id. at 791. The Board reached essentially the same conclusion in Shoreham, supra, LBP-85-12, 21 NRC 644, 675-76, 679, 859 (1985).

<sup>131/</sup> Third PID at 77-79, 102-04, 160.

<sup>132/</sup> Id. at 82-83, 91-92, 105-106, 161-62.

<sup>133/</sup> Id. at 163. In Shoreham, the Licensing Board likewise found that school bus drivers would perform evacuation assignments even in the absence of agreements with providers, based upon the schools' early dismissal policy and the fact that "the bus companies have always met [their] obligation" to implement an early dismissal. Shoreham, supra, LBP-85-12, 21 NRC 644, 859 (1985).

(g) School districts would provide available resources, including vehicles and drivers, even in the absence of written agreements because of a strong policy that publicly financed facilities and resources should be available in an emergency;<sup>134/</sup>

(h) The plans rely only upon buses and drivers available within a very short mobilization time, i.e., typically an hour or less. Other buses and drivers (including a school district provider's entire fleet and driver complement) would become available thereafter;<sup>135/</sup>

(i) A number of school district providers would consider delaying the opening or closing of schools in order to accommodate evacuation needs.<sup>136/</sup>

LEA's extensive discussion of the testimony of Dr. Kowalski on behalf of the Wissahickon School District<sup>137/</sup> relates to the concerns expressed by some school board members "in terms of their responsibility in becoming signatories to this agreement, whether or not they were then compelling action on their employees that either in conscience or in law they were not capable of doing . . . ." (Kowalski, Tr. 16201). Those concerns did not reflect any belief by Dr. Kowalski or school board members that drivers would refuse to volunteer in an emergency. To the contrary, the school district signed the agreement to provide buses and

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<sup>134/</sup> Third PID at 104.

<sup>135/</sup> Id. at 106.

<sup>136/</sup> Id. at 105.

<sup>137/</sup> LEA Brief at 24-26.



drivers in the knowledge that drivers would be volunteers and could only be made available "to the maximum extent possible" on that basis.<sup>138/</sup>

Dr. Kowalski further testified that there was "a complete understanding on the part of the Board that they had entered into an agreement to provide [bus and driver] services" to Montgomery County, that the Board would honor that agreement, and that no distinction would be made between a Limerick-related emergency or any other kind of man-made or natural disaster (Kowalski, Tr. 16207). As to driver volunteers, Dr. Kowalski expressed his strong opinion that drivers would volunteer, although he felt that he could not speak for all of them (Kowalski, Tr. 16208).<sup>139/</sup>

3. Spring-Ford School District. The Board correctly found that unmet needs for the Spring-Ford School District could be met through the Custer Bus Company, which provides routine bus transportation for that district.<sup>140/</sup> An unmet need of approximately 33 buses and drivers has nonetheless been reported to Montgomery County<sup>141/</sup> and will be satisfied on the same basis as any other school district in the county.<sup>142/</sup>

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<sup>138/</sup> Third PID at 106.

<sup>139/</sup> The situation in the Wissahickon school district illustrates the overall conservatism of the estimates of available drivers. Wissahickon employs 60 drivers, only a few of whom live within the Limerick EPZ. The Montgomery County plan assumes that only 20 buses and drivers of the total contingency would be provided in a Limerick emergency (Kowalski, Tr. 16208; Appl. Exh. E-3 at I-2-15).

<sup>140/</sup> Third PID at 100.

<sup>141/</sup> Appl. Exh. E-3 at N-4-1; Appl. Exh. E-60 at A3-25.

<sup>142/</sup> Third PID at 77-92.

The Board appropriately gave little or no weight to the bus driver survey informally conducted by the Spring-Ford Superintendent because it was uncertain whether all the provider's potentially available drivers or only those who routinely drive buses for the Spring-Ford School District were surveyed.<sup>143/</sup> As the Board also found, such informal driver surveys are inherently unreliable because of "the paucity of information provided to drivers at that time and the informality or inadequacy of those surveys."<sup>144/</sup>

V. Evacuation of the Limerick EPZ Will  
Not Be Impeded by Traffic Congestion  
Along Evacuation Routes Beyond the EPZ.

A. The Board Correctly Found that Peak-Hour  
Commuter Traffic Data Did Not Affect the  
Validity of Evacuation Time Estimates.

At the hearing below, LEA and FOE proffered testimony from certain township officials regarding peak traffic experienced by area commuters. LEA also offered into evidence certain commuter traffic studies prepared for use by those townships. Some of this evidence pertained to areas of traffic congestion within the EPZ, while other evidence related to congestion beyond the EPZ which would allegedly affect evacuation along major routes.

The Board considered the testimony of three township officials as to the potential for greater than anticipated traffic congestion in an evacuation. As the Board determined, each of those witnesses lacked any formal education in traffic engineering, transportation and traffic flow

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<sup>143/</sup> Id. at 165.

<sup>144/</sup> Id. at 163. See also note 130, supra.

simulation modeling. None had performed a traffic engineering analysis or an evacuation time estimate study, and none was conversant with the assumptions, methodologies or purposes of the ETE Study or NUREG-0654.<sup>145/</sup> Accordingly, there was no probative evidence to contest the testimony by the Applicant's and Staff's experts that commuter traffic patterns are irrelevant to the formulation of evacuation time estimates. Specifically, the Board found:

It is not useful to compare actual peak hour traffic with predicted flows in the evacuation network analyzed in the ETE study. There is simply no correlation between traffic patterns which would be associated with evacuation of the Limerick EPZ and those associated with commuter travel at peak times. Evacuation scenarios are not comparable to peak hour traffic conditions because vehicle origin and destination as well as traffic control measures would differ. Likewise, the total daily vehicle count along a particular route is irrelevant to an evacuation analysis because daily flows constitute two-way, 24-hour flows. <sup>146/</sup>

Thus, LEA presented no witness with expertise or qualifications in traffic engineering or preparing evacuation time estimates.<sup>147/</sup> Its

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<sup>145/</sup> Third PID at 69-72.

<sup>146/</sup> Id. at 43 (citations omitted). Although LEA states that "[n]othing precludes" considering peak hour flows (LEA Brief at 35), Dr. Urbanik, the Staff witness, "simply stated generally that no information should be excluded," but "cited no specific use or relevancy of peak-hour flows." Third PID at 43.

<sup>147/</sup> LEA subpoenaed Frank A. Zabawski, an employee of Booz, Allen & Hamilton, who was the author of a traffic study entitled "Upper Merion Township Township-Wide Traffic Study" (LEA Exh. E-56) (Zabawski, Tr. 19026). LEA also subpoenaed Andreas Heinrich, an employee of Orth-Rogers & Associates, an engineering firm which prepared a document entitled "Traffic Engineering Master Plan Study" (LEA Exh. E-46) for Uwchlan Township (Heinrich, Tr. 19171). Each witness authenticated his report, but declined to testify as  
(Footnote Continued)

characterization of testimony, including its own assumptions and inferences as to how major evacuation routes would be affected by local traffic in an actual emergency, is not evidence. In contrast, the Board's findings are supported by authoritative testimony by traffic engineering experts who analyzed a potential evacuation in accordance with NUREG-0654 guidelines and professionally recognized standards and methodologies.

B. The Board Appropriately Addressed the Adequacy of Measures for Traffic Control Beyond the EPZ.

Based principally on the testimony of the NRC Staff's expert, Dr. Urbanik, the Board found that "there is a need to identify additional traffic control points outside the EPZ, particularly in the southeastern area, to provide priority to evacuating traffic and to control traffic on routes other than the primary evacuation routes."<sup>148/</sup> The Board noted that the additional traffic control measures would be necessary in order to support the "underlying assumption of the ETE study . . . that

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(Footnote Continued)

to any underlying data or conclusions because an expert witness fee had not been tendered as required for such testimony (Zabawski, Tr. 19042; Heinrich, Tr. 19181).

Accordingly, the Board correctly excluded both documents from evidence (Tr. 19067, 19190). LEA alleges, without legal citation or grounds, that the Board improperly excluded both traffic studies (LEA Brief at 38), but fails to point to any specific portion of those studies which it claims to be probative and which would have resulted in a different outcome on the issue. Rather, it simply complains that "Mr. Anthony prevented a stipulation agreed to by all parties expect [sic] himself with regard to admission of LEA Exhibit E-56, the Upper Merion Township-wide Traffic Study." Id. at 41. Thus, no error by the Board is alleged.

<sup>148/</sup> Third PID at 49.

traffic control would be in place during the course of the evacuation."<sup>149/</sup> The Board stated a particular concern "that the excess capacities of Route 202, the Schuylkill Expressway segment of I-76 and Pennsylvania Turnpike (I-76 and I-276) that were assumed in the ETE study will not actually be available for traffic evacuating the EPZ without traffic control beyond the five TCPs [traffic control points] identified in the Montgomery County Plan."<sup>150/</sup>

Accordingly, the Board ordered that prior to operation above five percent of rated power, the NRC must "receive verification of plans to implement a level of traffic control in the King of Prussia area sufficient to assure that all the traffic evacuating along the Route 363-to-Pennsylvania Turnpike corridor can continue to move upon reaching the EPZ boundary, as implicitly assumed in NUREG-0654 Planning Standard J(10) (1)."<sup>151/</sup> A FEMA memorandum of May 30, 1985 provided the requisite verification of corrective actions to the NRC.<sup>152/</sup> Apparently, LEA

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<sup>149/</sup> Id.

<sup>150/</sup> Id. at 73-74.

<sup>151/</sup> Id. at 74. The Board made this an express condition of license issuance. Id. at 304-05. Noting that adequate arrangements had already been made for a "far greater number of traffic access and control points" within the EPZ, the Board stated that it anticipated "no difficulty in establishing additional control points beyond the EPZ." Id. at 49-50.

<sup>152/</sup> See Memorandum from Richard W. Krimm, Assistant Associate Director, Office of Natural and Technological Hazards Programs, FEMA, to Edward L. Jordan, Director, Division of Emergency Preparedness and Engineering Response, Office of Inspection and Enforcement, NRC (May 30, 1985). Memoranda from FEMA, NRC Region III and PEMA, attached to the May 30, 1985 FEMA memorandum, support this conclusion.

maintains on appeal that further conditions were required, but no specific error is alleged.

1. Additional traffic control. LEA asserts that the testimony of Dr. Urbanik warranted some unspecified, broader relief than the additional traffic access and control arrangements ordered by the Board. Contrary to LEA's argument, Dr. Urbanik did not categorically state that traffic control was needed at the Downingtown interchange of the Pennsylvania Turnpike to prevent access to the Turnpike from vehicles evacuating along the Route 100/Route 113 corridor.<sup>153/</sup> Rather than concluding that the evacuation time estimates were reliable only if access to the Turnpike were denied at that point, Dr. Urbanik stated that available capacity along the Pennsylvania Turnpike to accommodate evacuating traffic from the Valley Forge/King of Prussia area should be assured. Specifically, he stated: "I am not prejudging how it is accomplished. . . . It may be something as simple as monitoring traffic on the Turnpike to make sure there is a residual capacity that is necessary for the evacuation" (Urbanik, Tr. 19235).

Moreover, Dr. Urbanik did not, as LEA asserts, testify "that traffic control in areas fairly remote from the King of Prussia area could adversely affect the ability of EPZ traffic to use key evacuation routes just outside the EPZ, which would back up into the EPZ during an

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<sup>153/</sup> LEA Brief at 37, 47. As the Board found, the ETE Study assumed that some vehicles evacuating south on Route 100 might utilize the Pennsylvania Turnpike at the Downingtown exchange as an alternate route. Third PID at 57.

evacuation if these corridors were filled beyond capacity."<sup>154/</sup> Dr. Urbanik confined his concerns to the Pennsylvania Turnpike and that portion of the Route 363/Route 202 corridor in close proximity to the EPZ (Urbanik, ff. Tr. 1<sup>o</sup>203 at 3).<sup>155/</sup>

2. Corrective actions. With regard to additional traffic access and control points beyond the EPZ, LEA complains that it has not been afforded an opportunity "to cross-examine the corrective actions accepted by the Staff."<sup>156/</sup> This is incorrect. LEA was afforded a full opportunity to cross-examine Dr. Urbanik regarding his opinion as to the scope of additional measures which would have to be put into place in order to support the implicit assumption of the evacuation time estimates that evacuating traffic can continue to move once it has passed the EPZ boundary. Given the state of the record as to arrangements already in place for a far greater number of traffic points,<sup>157/</sup> the

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<sup>154/</sup> LEA Brief at 38.

<sup>155/</sup> Insofar as LEA objects to exclusion of testimony relating to an alleged "spontaneous evacuation" outside the EPZ, it has cited no specific ruling as error nor any prejudice in the exclusion of this issue. Nor does it appear, from the wording of the contention admitted, that LEA-24/FOE-1 included an issue of alleged "spontaneous evacuation" of areas beyond the EPZ.

<sup>156/</sup> Id. at 44. LEA asserts the need for the "commitment of local officials to implement a planning assumption that non-EPZ traffic would be prevented from using the major highways in the King of Prussia area prior to and during an EPZ evacuation." Id. at 40. Yet, it fails to demonstrate any specific deficiency in the Board's decision regarding the procedure by which the NRC was to receive verification that such commitment had been given. Nor does LEA state what further "commitment of local officials" is necessary.

<sup>157/</sup> Third PID at 49.

imposition of a few additional traffic access and control points was a discrete matter suitable for Staff oversight as in other emergency planning decisions.<sup>158/</sup>

3. Queueing. LEA alleges that queueing at ramps and cloverleaves along the Route 363/Route 202 corridor outside the EPZ "must continue long after the last vehicle has left the EPZ."<sup>159/</sup> It cites no evidence to support this allegation,<sup>160/</sup> nor does it demonstrate any relevance. Inasmuch as analyses under NUREG-0654, Appendix 4, estimate evacuation times from a nuclear plant's EPZ, it is irrelevant whether residual queueing exists beyond the EPZ once the EPZ has been evacuated.

Moreover, vehicle queueing even within the EPZ does not constitute deficiency in planning or an inability to implement the plans. As the Board found, considerable queueing is expected.<sup>161/</sup> Thus, "significant traffic queueing will occur during an evacuation," but traffic congestion as such "does not indicate an inability to evacuate an area in a timely fashion."<sup>162/</sup> As a corollary, there is no time mandated by NRC

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<sup>158/</sup> See Section VII.A, infra.

<sup>159/</sup> LEA Brief at 36.

<sup>160/</sup> LEA's argument apparently turns on its unfounded assumption that vehicle queueing outside the EPZ was not evaluated in the ETE Study. Appendix 11 of the ETE Study, however, shows vehicle queueing along roadway sections outside the EPZ. The Board found that the ETE Study's simulation of evacuation traffic shows that queueing will have dissipated at the end of the evacuation period. Third PID at 46.

<sup>161/</sup> Id. at 45-46.

<sup>162/</sup> Id. at 45.



regulation within which an evacuation must be accomplished.<sup>163/</sup> Accordingly, no error exists in the Board's findings (nor is any really alleged)<sup>164/</sup> with respect to vehicle queueing inside or beyond the EPZ during an evacuation.

LEA cites planning guidance in NUREG-0654 that evacuation plans should not depend only on "high-capacity interstate and similar type routes because of limitations of on-ramp capacities."<sup>165/</sup> Nowhere, however, does LEA cite any evidence that excessive reliance has been made upon such interstate routes or that the ETE Study inadequately considered ramp capacity. In fact, roadway capacities were intensively analyzed by applying site-specific data to standard traffic engineering principles.<sup>166/</sup>

4. "Assignment" of vehicles to routes. In several instances, LEA refers to a certain number of cars "assigned" to routes with the implication that those particular routes will be overutilized.<sup>167/</sup> Those route and vehicle "assignments" relate to a different study prepared by the Pennsylvania Department of Transportation ("PennDOT"). The PennDOT

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<sup>163/</sup> See generally Zimmer, supra, ALAB-727, 17 NRC 760, 770 (1983); Shoreham, supra, LBP-85-12, 21 NRC 644, 782 (1985); Carolina Power & Light Company (Shearon Harris Nuclear Power Plant, Units 1 and 2), LBP-84-29B, 20 NRC 389, 419 (1984); Third PID at 31.

<sup>164/</sup> LEA Brief at 44.

<sup>165/</sup> NUREG-0654, Appendix 4, at 4-5.

<sup>166/</sup> Third PID at 27-29.

<sup>167/</sup> LEA Brief at 40-41.

study was not an attempt to follow the guidance of NUREG-0654.<sup>168/</sup> As the Board aptly stated:

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.<sup>169/</sup>

The Board's conclusions comport with the findings in Catawba, which rejected a similarly outdated time estimate report lacking in any endorsement by expert testimony.<sup>170/</sup> In no way did the ETE Study incorporate or rely upon data, assumptions (except major evacuation routes designated by PEMA) or methodologies in the earlier PennDOT Study.

5. Existing traffic flow assumption. LEA's apparent criticism of the "zero base flow" assumption in the ETE Study was fully answered by the Board.<sup>171/</sup> Nonetheless, it continues to argue on appeal that "peak

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<sup>168/</sup> Third PID at 26.

<sup>169/</sup> Id. at 27 (citations omitted).

<sup>170/</sup> Catawba, supra, LBP-84-37, 20 NRC 933, 1000 (1984).

<sup>171/</sup> Third PID at 42-43. There is no merit to LEA's claim that the ETE Study did not consider the flow of traffic from the County Line Expressway to Route 202 West. See LEA Brief at 43. Alternatives to predesignated primary evacuation routes out of the EPZ are available for certain congested corridors. Some vehicles would make use of these alternative routes either by choice or as directed by traffic controllers. Appl. Exh. E-67 at 6-1. One of these alternative routes identified in the ETE Study is Route 202 West. Id. at 6-3. The roadway links and nodes graphically depicted in Appendix 11 of the ETE Study, however, represent the primary evacuation routes only. The alternative routes identified on page 6-3 of the ETE Study are not illustrated. Those  
(Footnote Continued)

hour flows of regular commuter traffic" would have to cease before roadways return to "a zero base flow condition."<sup>172/</sup> This demonstrates that LEA still misinterprets the basis for the assumption in the ETE Study of a zero base flow of traffic at the time an evacuation commences. The assumption was analytical in nature, intended to avoid double counting vehicles within the EPZ, and was not dependent upon any site-specific knowledge of traffic on evacuation corridors during routine or peak commuter hours.<sup>173/</sup> The ETE Study properly accounted for traffic representing the transient population and EPZ residents who would have to return home to evacuate their families by "utilizing a range of preparation and mobilization times."<sup>174/</sup>

6. Schuylkill Expressway. LEA's arguments relating to traffic along the Schuylkill Expressway Extension<sup>175/</sup> are not based upon any evidence that traffic flows were improperly simulated in the model analysis performed for the ETE Study or that traffic control and traffic access arrangements ordered by the Licensing Board are insufficient.

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(Footnote Continued)

alternative routes were nonetheless incorporated in the evacuation traffic flow simulation and are presented in the roadway network in Appendix 10 of the ETE Study. For example, traffic flow from the County Line Expressway to Route 202 West was simulated from Node 113 to Node 410 through the following link/node series, presented in Appendix 10 of the ETE Study:

- Node 113 to Node 503 (Link Number 183).
- Node 503 to Node 111 (Link Number 184).
- Node 111 to Node 410 (Link Number 42).

<sup>172/</sup> LEA Brief at 35.

<sup>173/</sup> Third PID at 43.

<sup>174/</sup> Id. at 44. LEA did not raise this point at the hearing.

<sup>175/</sup> LEA Brief at 36-37.

VI. LEA/FOE Failed to Prove that the Valley Forge National Park or Marsh Creek State Park Should Be Included Within the EPZ.

As the Board found, only a very small part of the Valley Forge National Park ("Valley Forge" or "Park") north of the Schuylkill River, a small parking lot and trailhead, lies within the Limerick EPZ. The Board adequately explained why visitor traffic within Valley Forge will not have any impact upon evacuating traffic or evacuation time estimates, and why traffic would be able to exit from Valley Forge in a radiological emergency without further planning, such as including Valley Forge within the EPZ.<sup>176/</sup> Therefore, it was reasonable for planners to draw the EPZ boundary along the Schuylkill River rather than extend it southward below Valley Forge, as LEA desired, essentially to the Pennsylvania Turnpike.<sup>177/</sup>

A. LEA Failed to Rebut Evidence that the Plans for Traffic Management at Valley Forge are Adequate.

1. Valley Forge traffic. LEA contends that Valley Forge has been included within the Limerick EPZ de facto by virtue of an intention to notify visitors of a Limerick emergency, the assignment of traffic control responsibilities to Park Rangers, and the inclusion within Valley Forge of "key intersections" of the Route 363/County Line Expressway evacuation corridor.<sup>178/</sup> There is no merit to this argument.

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<sup>176/</sup> Third PID at 61-69.

<sup>177/</sup> A river is a natural geographic boundary which affects "topography" and "land characteristics" of the area within the meaning of 10 C.F.R. §50.47(c) (2).

<sup>178/</sup> LEA Brief at 54.

As the Board found in other respects, certain traffic control measures must be taken outside the EPZ in order to "support the implicit assumption in the ETE study that traffic leaving the EPZ can continue to move."<sup>179/</sup> Accordingly, the provisions for traffic access and traffic control coordinated with Park officials for areas just beyond the EPZ do not in any way imply a de facto extension of the EPZ or a need to expand the EPZ.

For the same reason, LEA misstates the issue in asking the Appeal Board to determine whether the Commission's regulations or guidance provide "some non-emergency planning or non-safety reason why Valley Forge National Park has not been included in the EPZ."<sup>180/</sup> Rather, the admitted contention asserted that there is "no assurance that plans for evacuation of the ten mile radius will not be impeded by traffic congestion in the vicinity of . . . Valley Forge Park, King of Prussia area" and that those areas "should either be included in the Emergency Planning Zone or adequate plans for traffic control and direction should be made to avoid adverse effects on EPZ evacuation."<sup>181/</sup>

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<sup>179/</sup> Third PID at 29, 49.

<sup>180/</sup> LEA Brief at 54.

<sup>181/</sup> Third PID at 20. Limerick, supra, LBP-84-18, 19 NRC 1020, 1067 (1984). Thus, the admitted contention, LEA-24/FOE-1, did not assert that the EPZ should be extended in order to provide planning for an evacuation of Valley Forge, but rather as a means to effectuate an evacuation from the adjacent areas of the EPZ. As the Board stated in admitting the contention, "the issue joined is not necessarily whether the plume exposure EPZ should be expanded to include the four named areas, but whether the emergency plans provide reasonable assurance that traffic congestion in the four named areas will not significantly impede evacuation of the EPZ."

(Footnote Continued)

On appeal, LEA does not dispute the Board's findings that the measures agreed upon by PEMA, Montgomery County and Park officials are sufficient to ensure that an evacuation from the EPZ will not be impeded. Through their expert and fact witnesses, the Commonwealth and Applicant proved that the EPZ boundaries adopted by the responsible PEMA and county planners complied with 10 C.F.R. §50.47(c)(2). It was not the Applicant's burden to explain the actions of the responsible Pennsylvania officials in designating EPZ boundaries or to establish that there are affirmative reasons why the EPZ should not be extended to include the Park.<sup>182/</sup>

Neither LEA nor FOE proved any need to include the Valley Forge National Park within the EPZ in order to remove impediments from evacuating traffic flows. Nor was there any need to place Valley Forge in the EPZ to protect visitors because, in the informed opinion of the National Park Service, the majority of visitors advised of an emergency at the alert stage would voluntarily evacuate at that time. On that basis, the National Park Service did not ask PEMA to incorporate any portion of Valley Forge within the EPZ.<sup>183/</sup> Further, the National Park

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(Footnote Continued)

Id. The Board added that it would "entertain evidence that nothing short of including these four areas in the EPZ will provide such assurance, but the evidence could show that there are less drastic ways to deal with traffic congestion." Id.

<sup>182/</sup> See, e.g., Catawba, supra, LBP-84-37, 20 NRC 933, 988 (1984).

<sup>183/</sup> Third PID at 61.

Service has not seen any need to adopt a formal plan of its own to evacuate visitors.<sup>184/</sup>

2. Route 100/Route 113 traffic. The Licensing Board further found that exiting traffic from the Marsh Creek State Park would not impede southbound traffic using the Route 100/Route 113 evacuation corridor.<sup>185/</sup> LEA's reliance upon the testimony of Mr. Grenz, a member of the Uwchlan Township Board of Supervisors, is misplaced.<sup>186/</sup> Mr. Grenz acknowledged that he had no particular expertise in traffic engineering or traffic flow simulation based upon his knowledge of commuter traffic. He stated "no opinion as to whether particular segments of the roadway network in Uwchlan Township within the EPZ, or portions of Upper Uwchlan Township for which Uwchlan has traffic control responsibility, would impede or expedite evacuation in the event of a radiological emergency."<sup>187/</sup>

For the reasons discussed above, the Board's exclusion of a traffic study prepared for Uwchlan Township was proper, given the lack of sponsoring testimony or any other foundation.<sup>188/</sup> Further, the evidence overwhelmingly establishes that consideration of baseline traffic data from commuter traffic studies such as LEA Exhibit E-45 would not

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<sup>184/</sup> Id. at 62.

<sup>185/</sup> Id. at 51-60.

<sup>186/</sup> LEA Brief at 55.

<sup>187/</sup> Third PID at 263.

<sup>188/</sup> See note 147, supra.

materially assist planners in developing reliable evacuation time estimates for emergency situations.<sup>189/</sup>

B. FEMA Was Not Required to Delineate EPZ Boundaries.

FOE argues on appeal that FEMA did not have adequate input into planning for the management of evacuation traffic beyond the EPZ.<sup>190/</sup> Specifically, FOE asserts that FEMA did not become sufficiently involved in the process of delineating the precise boundaries of the Limerick EPZ. It contends that this was a violation of FEMA's responsibilities under 44 C.F.R. §350.7(b). That provision is virtually identical to the provisions of 10 C.F.R. §50.47(c)(2), regarding the factors for determining the boundaries of a facility's plume exposure pathway and ingestion EPZ's.<sup>191/</sup>

The NRC lacks jurisdiction over any alleged failure by FEMA to comply with its own regulations. As stated in the Third PID, the NRC

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<sup>189/</sup> See pages 40-41, supra.

<sup>190/</sup> Initially, FOE argues that the Board should not have relied upon the guidance provided in NUREG-0654 because of the deletion of the footnote reference to NUREG-0654 from 10 C.F.R. §50.47. FOE Brief at 1. To the contrary, the Commission has expressly stated that the deletion of the reference to NUREG-0654 "will not affect its use as a guidance document for emergency planning . . . and will continue to be used by reviewers in evaluating the adequacy of emergency preparedness at nuclear power reactor sites." 49 Fed. Reg. 27733, 27734 (July 6, 1984). Moreover, FEMA's reviews, findings and determinations are based upon NUREG-0654. See Review and Approval of State and Local Radiological Emergency Plans and Preparedness, 48 Fed. Reg. 44332, 44333 (September 28, 1983); Memorandum of Understanding Between Federal Emergency Management Agency and Nuclear Regulatory Commission, 50 Fed. Reg. 15485, 15486 (April 18, 1985).

<sup>191/</sup> The language of the regulations varies insignificantly and only with respect to the ingestion pathway EPZ, not at issue here.



takes due regard of the FEMA interim findings in order to make the findings required under 10 C.F.R. 50.47(a)(1) for the issuance of a full-power operating license.<sup>192/</sup> Pursuant to its Memorandum of Understanding with the NRC, FEMA supports the NRC licensing process by "providing assessments of State and local plans," and by making its expert witnesses available to support its findings and determinations.<sup>193/</sup> Accordingly, the Licensing Board properly made its own findings regarding FOE's claims for expanding the EPZ and the adequacy of planning to manage evacuating traffic once outside the EPZ. This was supported by, but was not dependent upon, the views expressed by the FEMA witnesses.<sup>194/</sup>

In any event, FOE misinterprets FEMA's regulations. FEMA's responsibilities do not require its participation in the process of designating the plume exposure pathway EPZ boundary. Instead, under 44 C.F.R. §350.7(a) it is the responsibility of a State seeking formal review and approval by FEMA of the State's plan to submit "the completed State plan" with this information. Regarding the designation of the plume exposure pathway EPZ boundary, FEMA has stated: "It is the intention of [Section 350.7] to encourage the exercise of local planning responsibility, judgment and decisionmaking."<sup>195/</sup>

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<sup>192/</sup> Third PID at 7.

<sup>193/</sup> 45 Fed. Reg. 82713, 82714 (December 16, 1980). See Third PID at 6.

<sup>194/</sup> Third PID at 6-7.

<sup>195/</sup> 48 Fed. Reg. at 44335. FEMA's involvement would therefore be largely limited to the resolution of interjurisdictional disputes,  
(Footnote Continued)

The Limerick EPZ will adequately permit the implementation of an evacuation as a protective measure if necessary. The record adequately demonstrates the capabilities of the Commonwealth and local jurisdictions to handle evacuating traffic once outside the EPZ, given the condition imposed by the Licensing Board regarding traffic control.<sup>196/</sup> It is irrelevant whether FEMA's witnesses or other witnesses provided the supporting evidence.

C. There Was Adequate Consultation With  
Valley Forge National Park Officials.

There is no merit to FOE's argument that the National Park Service was not consulted with respect to the Valley Forge National Park. FOE again incorrectly assumes that it was FEMA's responsibility to delineate the EPZ boundary. Also, FOE has not refuted the Board's finding that planners from FEMA and Montgomery County, working with Applicant's consultant in preparing the evacuation time estimates, fully consulted with Park authorities in determining that adequate measures could be taken within the Park to maintain the flow of traffic from the EPZ exiting through Park routes.<sup>197/</sup> It was well understood that only a small number of access control points would have to be manned, and that

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(Footnote Continued)

acting in concert with State and local governments, the utilities and the NRC. Id. at 44334.

<sup>196/</sup> Third PID at 73-74, 304.

<sup>197/</sup> Id. at 61. The Service pledged, in the Board's words, "that it will continue to cooperate with Commonwealth and county planning officials with regard to any matter concerning the park." Id. at 63.

these could easily be put in place to restrict access to the Park if necessary.<sup>198/</sup>

FOE next challenges the adequacy of planning for Valley Forge in alleging that the NRC Staff's expert witness did not fully endorse Applicant's ETE Study. This argument is also without merit. Dr. Urbanik testified that certain traffic control measures outside the EPZ were necessary in order to support implicit traffic flow assumptions. Dr. Urbanik in fact agreed that the ETE Study had been prepared consistent with the assumptions and methodologies of NUREG-0654, Appendix 4, and that its time estimates were reasonably developed and soundly based.<sup>199/</sup> Accordingly, FOE errs in stating that Dr. Urbanik did not support the adequacy of the ETE Study.<sup>200/</sup>

VII. No Further Hearings are Required on License Conditions or the Conduct of Exercises.

A. Additional Traffic Control Arrangements and EOC Personnel Verification Were Properly Delegated to the NRC Staff.

LEA asserts that additional hearings are necessary to determine compliance with the license conditions imposed by the Board with respect

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<sup>198/</sup> Id. at 67.

<sup>199/</sup> Id. at 23.

<sup>200/</sup> As a separate point, FOE seems to assert that the decision by some unspecified segment of the population not to utilize reception centers outside the EPZ would affect their choice of evacuation routes. FOE Brief at 4-5. To the contrary, reception centers were designated after the main evacuation routes were determined, not vice-versa. There is nothing in the record to support FOE's apparent belief that traffic congestion or traffic patterns would be different in an actual emergency if relocation centers were not fully utilized. In any event, there is certainly nothing tying this hypothesis to the geographic areas within FOE's contention.

to the designation of additional traffic control and access points and verification by FEMA that municipalities have satisfied unmet staffing needs as they relate to the capability to conduct continuous 24-hour operation.<sup>201/</sup> LEA challenges the authority of the Licensing Board to delegate the following responsibility to the Staff:

Prior to operation above 5% of rated power, the Director, Office of Nuclear Reactor Regulation shall (a) receive verification of plans to implement a level of traffic control in the King of Prussia area sufficient to assure that all the traffic evacuating along the Route 363-to-Pennsylvania Turnpike can continue to move upon reaching the EPZ boundary, as implicitly assumed in NUREG-0654 Planning Standard J(10)(1); and (b) FEMA shall receive verification of the satisfaction of the unmet municipal staffing needs as they relate to a capability of continuous 24-hour operation during a radiological emergency, prior to operation above 5% rated power.<sup>202/</sup>

The NRC precedents establish the propriety of Staff resolution of discrete details such as this and do not require that evidentiary hearings be reopened to verify the Staff's determinations, given the Staff's overall responsibilities under 10 C.F.R. §50.57(c).

Verification that sufficient personnel have been designated to staff each municipal Emergency Operations Center ("EOC") for continuous 24-hour operation during a radiological emergency is simply a matter of counting heads.<sup>203/</sup> Given the truly insignificant number of EOC staff

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<sup>201/</sup> Third PID at 304-05. See LEA Brief at 56.

<sup>202/</sup> Third PID at 304-05.

<sup>203/</sup> Neither the NRC nor FEMA purports to evaluate the acceptability of staff assigned to a municipal EOC. Rather, FEMA determines from emergency responses at the municipal level during an exercise whether adequate manpower for continuous 24-hour operations exists.  
(Footnote Continued)

positions unfilled at the time of the hearing, the Board's delegation of verifying complete staffing to the NRC Staff was wholly appropriate.<sup>204/</sup> As to additional traffic control, the Board had closely scrutinized the specific provisions already in place for traffic control and traffic interdiction in an evacuation. The process for selecting traffic control and access control points was reviewed in detail,<sup>205/</sup> including a review of those particular areas beyond the EPZ in the Marsh Creek State Park/Route 100 and Route 113 and the Valley Forge National Park/King of Prussia evacuation corridors.<sup>206/</sup> The mere designation of a few additional traffic control and access control points involved no significant decision-making by offsite governmental authorities.<sup>207/</sup>

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(Footnote Continued)

The performance of staff is, of course, a separate matter. FEMA previously found a Category A deficiency in that a number of municipalities lacked sufficient EOC personnel during the July 25, 1984 exercise for Limerick. Id. at 231. At the time of the hearing, however, only a few outstanding vacancies remained throughout the entire EPZ. Id. at 232. At the hearing, FEMA agreed that, subject to verification of increased staffing levels reported in other testimony, its previous finding of that particular Category A deficiency for the July 25, 1984 exercise would be eliminated. Id. at 236.

<sup>204/</sup> In Section X, infra, Applicant responds to LEA's substantive arguments regarding EOC staffing levels. As stated in note 272, infra, FEMA has verified adequate staffing of the township EOC's.

<sup>205/</sup> Third PID at 47-50.

<sup>206/</sup> Id. at 50-69.

<sup>207/</sup> Id. at 47. Even though specific locations for traffic control points outside the EPZ had not been identified at a hearing, the Board nonetheless was able to determine from the evidence that "sufficient personnel will be available to perform the appropriate traffic control duties for evacuation of the EPZ" and that there would be "ample time to mobilize and station required traffic control personnel." Id. at 48. Further, as the Board noted,  
(Footnote Continued)

LEA relies upon the statement of the Commission in Indian Point that post-hearing resolution by the Staff "should be employed sparingly and only in clear cases."<sup>208/</sup> It overlooks, however, that the Commission very carefully distinguished between basic findings necessary for license issuance and subordinate detail supportive of the basic findings. Thus, the Commission stated:

In some instances, however, the unresolved matter is such that Boards are nevertheless able to make the findings requisite to issuance of the license. But the mechanism of post-hearing resolution must not be employed to obviate the basic findings prerequisite to an operating license - including a reasonable assurance that the facility can be operated without endangering the health and safety of the public. 10 CFR 50.57.209/

The unresolved issues in that case, six areas of potential noncompliance with physical security plan requirements and the potential for a total failure of the air supply system for control valves in the unit, were far more significant than the traffic control measures and EOC staffing levels left for Staff resolution in the instant case.

LEA also relies upon the initial decision in San Onofre for the proposition that factual issues of adequacy on the subject of complexity, involving "large elements of judgment and expertise,"<sup>210/</sup> requires

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(Footnote Continued)

traffic control measures are not necessary to implement an evacuation, but only "to improve efficiency in the management of traffic throughout the roadway network." Id.

<sup>208/</sup> Consolidated Edison Company of New York (Indian Point Station, Unit No. 2), CLI-74-23, 7 AEC 947, 952 (1974).

<sup>209/</sup> Id. at 951-52 (footnote omitted) (emphasis added).

<sup>210/</sup> Southern California Edison Company (San Onofre Nuclear Generating  
(Footnote Continued)

an evidentiary hearing and cannot be left to the Staff for resolution. The Licensing Board in San Onofre found it necessary to have further hearings on the issue of arrangements for providing offsite medical services, however, because the Board had "neither the expertise nor the data to prescribe the details of medical services arrangements for the public at San Onofre."<sup>211/</sup> Accordingly, the Board was uncertain as to exactly what planning would meet the legal standards for providing offsite medical services under the regulations. It could not, therefore, delegate responsibility for overseeing compliance to the Staff.

Conversely, there were several elements of emergency planning for the San Onofre EPZ which the Licensing Board did delegate to the Staff for resolution after the hearing:

(1) Confirmation during testing that the siren system has performed in accordance with specifications;<sup>212/</sup>

(2) Consideration that public information be offered in Spanish;<sup>213/</sup>

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(Footnote Continued)

Station, Units 2 and 3), LBP-82-39, 15 NRC 1163, 1217 (1982), aff'd, ALAB-717, 17 NRC 346 (1983).

211/ Id. at 1200.

212/ Id. at 1266, 1289.

213/ Id. at 1264, 1289.

(3) Training emergency personnel of offsite response organizations such that there are "sufficient numbers and categories of offsite emergency personnel";<sup>214/</sup>

(4) Conduct of a drill, reviewed by FEMA, "to verify the adequacy of the physical design, communications equipment and operating procedures" of the Emergency Offsite Facility;<sup>215/</sup>

(5) Reconfiguration of the EPZ, including the installation of additional sirens where the EPZ was to be extended.<sup>216/</sup>

In denying a stay of the initial decision, the Appeal Board in San Onofre rejected the argument by intervenors that such delegation was improper. The Appeal Board stated:

Here, a serious substantive issue is not presented by the Licensing Board's determination to leave the monitoring adequacy question for resolution by the staff. As we have previously remarked: "at the operating license stage, the staff generally has the final word on all safety matters not placed into controversy by the parties." South Carolina Electric & Gas Co. (Virgil C. Summer Nuclear Station, Unit 1), ALAB-663, 14 NRC 1140, 1156 n.31 (1981). This does not work an unfairness or compromise safety. The NRC staff has a continuing responsibility to assure that all regulatory requirements are met by an applicant and continue to be met throughout the operating life of a nuclear power plant. We thus see no basis for a stay based upon the Board's relegation of an uncontested issue to the staff for resolution.<sup>217/</sup>

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<sup>214/</sup> Id. at 1280, 1289.

<sup>215/</sup> Id. at 1287, 1289.

<sup>216/</sup> Id. at 1227-28, 1290.

<sup>217/</sup> San Onofre, supra, ALAB-680, 16 NRC 127, 143 (1982) (footnote omitted).



In later affirming the initial decision with some modifications, the Appeal Board recognized that there are "both substantive and procedural limits as to how much of the emergency preparedness evaluation, or how many open items, may be deferred until after the close of the hearing."<sup>218/</sup> Nonetheless, the Appeal Board did not find any of the matters delegated there, which were at least as substantial as the addition of a few traffic control and access points and verifying EOC staffing in the instant proceeding, to exceed those limits.<sup>219/</sup>

The same principle permitting delegation to the NRC Staff to resolve minor emergency planning details after a hearing has been utilized in several other cases<sup>220/</sup> and was validly applied here. As

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<sup>218/</sup> San Onofre, supra, ALAB-717, 17 NRC 346, 380 n.57 (1983).

<sup>219/</sup> Indeed, the Appeal Board added license conditions of its own regarding further efforts to identify and assist house-bound people within the EPZ and a training program to be developed and initiated for bus drivers. Id. at 382-83.

<sup>220/</sup> Shoreham, supra, LBP-85-12, 21 NRC 644, 874 (1985) (incorporation of protective actions for several schools into plans); Catawba, supra, LBP-84-37, 20 NRC 933, 1008 (1984) (changes in public information brochure and public notification provisions); Wolf Creek, supra, LBP-84-26, 20 NRC 53, 122-23 (1984) (execution of letters of agreement); Waterford, supra, LBP-82-100, 16 NRC 1550, 1592 (1982) (execution of letters of agreement, designation of vehicles for prisoner evacuation), aff'd, ALAB-732, 17 NRC 1076 (1983); South Carolina Electric and Gas Company (Virgil C. Summer Nuclear Station, Unit 1), LBP-82-57, 16 NRC 477, 510 (1982) aff'd, ALAB-710, 17 NRC 25 (1983) (expansion of EPZ and amendment of plans to include two schools, corrections of deficiencies in transportation planning, installation and testing of public notification system).

The delegation to the NRC Staff in Diablo Canyon was even more comprehensive. It included conditions that the NRC Staff "verify that the 12 deficiencies in the San Luis Obispo County emergency plan which have been noted by FEMA, have been corrected," that the

(Footnote Continued)

the Appeal Board succinctly stated in Diablo Canyon, "the Board's licensing authorization may be appropriately conditioned on the completion of items found deficient at the time of the hearing."<sup>221/</sup>

Contrary to LEA's argument, licensing boards have not required identification of those individuals of the NRC Staff who will be involved in resolving delegated issues,<sup>222/</sup> nor have boards required that those individuals be the same as NRC Staff witnesses who testified on the subject matter of the delegated issue. Obviously, if a board

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(Footnote Continued)

Staff "obtain a written acquiescence by the appropriate State jurisdiction binding them to participate in those Standard Operating Procedures required to be followed by Federal Regulations," that the Staff "secure FEMA findings on the adequacy of the State Emergency Response Plan," and that the Staff "verify that tone alerts or equivalent warning devices are operational in schools, hospitals and other institutions." Diablo Canyon, supra, LBP-82-70, 16 NRC 756, 854 (1982).

The decision of the United States Court of Appeals for the District of Columbia in Union of Concerned Scientists v. NRC, 735 F.2d 1437 (D.C. Cir. 1984), cert. denied, 105 S. Ct. 815 (1985), did not affect the validity of this line of decisions. Rather, that case merely held that the NRC may not eliminate from the hearing process any issue of an applicant's compliance with a specific requirement of the NRC's regulations. In this instance, compliance with the requirement for preparation of evacuation time estimates was thoroughly litigated and only a very discrete matter remained for which Staff verification was required.

<sup>221/</sup> Diablo Canyon, supra, ALAB-781, 20 NRC 819, 835 (1984).

<sup>222/</sup> In Diablo Canyon, the Appeal Board stated: "Supervision of a party's compliance with a commitment or a licensing board condition is left to the staff." Id. at 835 n.58 (1984). The Appeal Board noted that a party "dissatisfied with the way another party has fulfilled a commitment or met a condition" is not without recourse. Id.

determined that the judgment or expertise of a particular individual were essential, it would not delegate the matter to the NRC Staff.<sup>223/</sup>

The remainder of LEA's argument on this point simply restates its position that traffic congestion in areas far removed from the EPZ should be considered because it could have an impact upon evacuating traffic.<sup>224/</sup> LEA cites no portion of the record in support of its argument. The Board found, to the contrary, that the ETE Study had considered "the road systems external to the EPZ to determine the potential effect that congestion outside the EPZ might have on vehicles exiting the EPZ" and that such impact "was assessed where it was

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<sup>223/</sup> Thus, although Dr. Urbanik, the NRC Staff witness, testified as to the need for additional traffic control points outside the EPZ, particularly in the southeastern area, he agreed that "[t]here is no problem in establishing additional traffic control points for any areas beyond the EPZ for which they may be necessary." Third PID at 49. Dr. Urbanik stated that there was a need to investigate the designation of additional traffic control points in the southeastern sector, but declined to specify any intersections (Urbanik, Tr. 19280-81). Thus, the fact that Dr. Urbanik raised the issue does not require that he be further cross-examined on the designation of such points.

Further, there is no merit to LEA's argument that further hearings are necessary because certain local and county officials lack an adequate understanding of evacuation routing (LEA Brief at 52). The local officials who would approve the draft plans, cited by LEA, are not the planning officials from PEMMA and the county planning agencies who originally determined traffic control and access points for inclusion in the three county plans. See Third PID at 47.

<sup>224/</sup> Insofar as LEA argues that such congestion could "seriously affect the feasibility of evacuation of the school or transport-dependent population dependent on buses to be processed through [transportation staging areas beyond the EPZ]" (LEA Brief at 53), its argument is beyond the scope of any admitted contention. In any event, the Board found that inbound traffic had been adequately considered in the ETE Study. Third PID at 44-45.

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."<sup>225/</sup> Thus, nothing would be gained from further cross-examination as to the designation of specific traffic control and access points.<sup>226/</sup>

B. Further Hearings are not Required to Review the Status of Plan Adoption.

Citing particular concerns by two Lower Providence Township officials which LEA contends would affect adoption of the Lower Providence plan, LEA asserts that additional hearings are required "to evaluate the status of implementability and adoptability" of the municipal plans.<sup>227/</sup> To grant the relief requested by LEA would defeat the very basis for the Commission's reliance upon predictive findings in evidentiary hearings on offsite emergency planning and preparedness.

As discussed at greater length in Section IX, infra, the Appeal Board has emphasized in several cases the important distinction between the Commission's reliance upon predictive findings and its previous requirement for findings as to the actual state of emergency preparedness at the time of a licensing board's decision.<sup>228/</sup> In essence, LEA's

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<sup>225/</sup> Third PID at 50. The Board correctly found that there was no need to consider the impact of traffic at a distance outside the EPZ, except for particular areas along main evacuation routes, principally "due to the distance of population centers from the EPZ or access roadway capacities." Id. at 51.

<sup>226/</sup> As noted at page 43, supra, FEMA has already confirmed the addition of those designated points.

<sup>227/</sup> LEA Brief at 56.

<sup>228/</sup> Third PID at 7-10.

argument, which assigns no error to any of the Board's predictive findings, is an impermissible challenge to the Commission's regulations under 10 C.F.R. §50.47, as interpreted by the Appeal Board, and constitutes an unlawful attempt to reinstate the superseded rule.

C. Further Hearings on the Conduct of the Limerick Exercises are Unwarranted.

In this aspect of its appeal, LEA also fails to assign any particular error in the Board's findings. It merely asserts that it withdrew its proposed contention on drills and exercises (Tr. 8086) in reliance upon a statement by the former Board Chairman that the FEMA public meeting would provide an opportunity for comments and questions on the exercise "before the reviewing agencies issue a final report" (Tr. 8086).

1. Voluntary withdrawal of the contention. A review of the discussion which resulted in LEA's voluntary withdrawal of its contention shows that the Licensing Board afforded LEA a full opportunity to consider its action (Tr. 8083). Neither the Board nor any of the parties was obligated to give LEA legal advice on how it might comment upon FEMA's findings regarding Limerick exercises or drills. Absent any demonstrated intent to deceive or mislead LEA's representative, information from the Licensing Board and counsel for the NRC Staff and FEMA as to such public comment does not constitute a basis for reopening this withdrawn contention.<sup>229/</sup>

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<sup>229/</sup> As the Commission held in Catawba, any person who invokes the right to participate in an NRC licensing proceeding voluntarily accepts the obligations attendant upon such participation. Catawba, supra,  
(Footnote Continued)

Moreover, LEA was correctly informed that FEMA would receive public input only after dissemination of its exercise evaluation. Counsel for FEMA stated:

FEMA has 45 days -- FEMA I am talking about -- has 45 days to evaluate the exercise and send a report to the NRC. The NRC then releases that report. At that time, FEMA also receives the report. The public meeting would be held thereafter [Ferkin, Tr. 8086 (emphasis added)].

When referring to "an opportunity for a public meeting prior to FEMA approval" (Tr. 8086), the NRC Staff counsel was referring to final FEMA approval of the offsite plans under 44 C.F.R. §350.10, which is preceded by public input. LEA cannot create error by legal bootstrap simply because of its own misunderstanding of this dialogue.<sup>230/</sup> In any event, no procedural or substantive right has been asserted, let alone violated.

2. Legal standards for reopening. Inasmuch as no error is assigned, LEA is essentially seeking to reopen the case for admission of a late-filed contention challenging the validity of the exercise

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(Footnote Continued)

CLI-83-19, 17 NRC 1041, 1048 (1983). Thus, if LEA felt the need to discuss the matter with FEMA officials or review procedures under 44 C.F.R. Part 350, it should have done so before voluntarily and unconditionally withdrawing the contention.

<sup>230/</sup> Essentially the same claim was rejected by the Appeal Board in Skagit, where the intervenors claimed that they had not initially sought to intervene because they chose to rely upon the assessment of aquatic and socioeconomic impacts by the Department of the Interior and the NRC Staff. Finding no material misrepresentation, the Appeal Board rejected this assertion. Puget Sound Power and Light Company (Skagit Nuclear Power Project, Units 1 and 2), ALAB-552, 10 NRC 1, 8-10 (1979). See generally Arizona Public Service Company (Palo Verde Nuclear Generating Station, Units 1, 2 and 3), LBP-82-117B, 16 NRC 2024, 2027-28 (1982) (citing cases).

scenarios for Limerick. LEA has failed, however, to set forth with reasonable specificity and bases<sup>231/</sup> any alleged deficiency in the Limerick exercises. Further, it has not even attempted to address the separate criteria for admitting late-filed contentions and reopening a closed record.<sup>232/</sup>

Without revisiting each of these separate requirements, it is sufficient to say that no good cause for lateness, under either set of criteria, has been shown for seeking a new contention almost a year after the full participation exercise on July 25, 1984 and almost nine months after issuance on September 19, 1984 of FEMA's Exercise Evaluation Report (FEMA Exh. E-4). Nor has LEA raised any issue of public health and safety; it has merely expressed a desire for further litigation.

LEA's reliance upon Union of Concerned Scientists v. NRC, 735 F.2d 1437 (D.C. Cir. 1984), cert. denied, 105 S. Ct. 815 (1985), is misplaced. Nothing done by the NRC or the Licensing Board in particular could be deemed "to eliminate or significantly restrict the scope of section 189(a) hearings"<sup>233/</sup> as regards Limerick drills or exercises in

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<sup>231/</sup> See 10 C.F.R. §2.714(b).

<sup>232/</sup> In Diablo Canyon, the Commission held that where a party moves to reopen the record on new contentions, it "must satisfy both the standards for admitting late-filed contentions, 10 CFR 2.714(a), and the criteria established by case law for reopening the record." Diablo Canyon, supra, CLI-82-39, 16 NRC 1712, 1715 (1982), citing Diablo Canyon, supra, CLI-81-5, 13 NRC 361 (1981).

<sup>233/</sup> Union of Concerned Scientists v. NRC, supra, 735 F.2d at 1451.

contravention of that decision. Until now, LEA never requested such a hearing.

In recent rulemaking, the Commission made it clear that the Union of Concerned Scientists decision did not change the basic principles governing the opportunity for a hearing on emergency planning contentions. While 10 C.F.R. §50.47(a)(2) was modified to delete the provision that emergency preparedness exercises are not required for any initial licensing decision, the amendment does not require that the exercises be litigated, only that they "may be subject to litigation."<sup>234/</sup> Moreover, the Commission emphasized that "[t]he revision does not change the general predictive nature of the Commission's findings on emergency planning and preparedness issues,"<sup>235/</sup> i.e., it is not required that a licensing board review the details of any corrective actions resulting from an exercise in order to reach its "reasonable assurance" findings.

VIII. The Board Correctly Found that the System  
for Notifying Personnel of Emergency  
Response Organizations is Adequate.

LEA appeals the Board's findings regarding its claims "that the notification system of emergency response organizations, prior to public notification, by the county EOCs must not delay siren activation" and

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<sup>234/</sup> Emergency Planning and Preparedness, 50 Fed. Reg. 19323 (May 8, 1985).

<sup>235/</sup> Id. Thus, the Commission referred to its amendment as merely "an administrative change" in the rule. Id.



that "the municipal [plans] fail to indicate sufficient resources available for route alerting."<sup>236/</sup> LEA has not assigned error to any particular finding, but merely reiterates its contention that notification of ambulance, fire, police and municipal staff "should not delay the ability to call for an evacuation."<sup>237/</sup> Although LEA vaguely claims prejudice in the Board's "wording of the contention,"<sup>238/</sup> it does not allege any specific error.

Contrary to LEA's assertion, there is no interdependence between notifying emergency workers and activating the public alert and notification (siren) system. As the Licensing Board found, "[i]t is not necessary that county and municipal EOC's be fully manned and mobilized before activation" of the siren system.<sup>239/</sup> Further, there is "no requirement under NUREG-0654 or 10 CFR § 50.47 that all emergency workers be in place before protective actions are implemented."<sup>240/</sup>

Activating the sirens merely alerts the public to tune their radios or televisions to the Emergency Broadcast System. Sirens do not signal an evacuation.<sup>241/</sup> Even in the most rapidly escalating emergency, sufficient personnel could be notified to report in order to support the

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<sup>236/</sup> Third PID at 212.

<sup>237/</sup> LEA Brief at 58.

<sup>238/</sup> Id.

<sup>239/</sup> Third PID at 212.

<sup>240/</sup> Id. at 213.

<sup>241/</sup> Id.

early stages of an evacuation.<sup>242/</sup> Accordingly, there will be sufficient time for notification of emergency workers, such as traffic control officers, who would assist in an evacuation.

With regard to the testimony of Lower Providence Township Supervisor Richard Brown that the telephone network would be overloaded in an actual emergency, the Board aptly noted that "in the event of an actual emergency, not all EOC staff and support organization staff need to be reached immediately, nor must they be contacted by telephone."<sup>243/</sup> While certain townships might elect to use individual pagers to notify key personnel, telephonic notification of emergency workers meets the requirements of the Commission's regulations as well as the planning standards of NUREG-0654.<sup>244/</sup>

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<sup>242/</sup> As the Board found, PEMA and county officials have determined "that no vehicles would begin to evacuate during the 15-minute notification period plus the minimum preparation/mobilization time of 15 minutes for all population sectors." Id. at 38. Thus, there would be at least half an hour for such notification and response by emergency workers. Of course, not all persons evacuate at once. Rather, an evacuation would involve "a distribution of times which allows for varying preparation and mobilization periods for different members or segments of the population, including those who may return to the EPZ prior to evacuating." Id. at 37-38.

<sup>243/</sup> Id. at 271. As the Licensing Board in Shoreham held: "It is not necessary for every person on the callout list to be contacted or to respond initially. . . . [A]n essential cadre of rank-and-file emergency workers could be promptly notified of an emergency by the cascading telephone notification system . . . ." Shoreham, supra, LBP-85-12, 21 NRC 644, 714 (1985).

<sup>244/</sup> In Diablo Canyon and Shoreham, the Licensing Boards held that a "cascade or sequential" notification system is adequate. Shoreham, supra, LBP-85-12, 21 NRC 644, 713-14 (1985); Diablo Canyon, supra, LBP-82-70, 16 NRC 756, 813 (1982), aff'd, ALAB-781, 20 NRC 819 (1984). The system used for the Limerick EPZ is more sophisticated and technologically superior in that "[p]redesignated county and

(Footnote Continued)

IX. The Licensing Board Correctly Found that the County and Municipal Plans Will Be Adopted and Could Be Implemented to Protect the Public Health and Safety in an Emergency.

A. The Board Utilized the Proper Standard in Making its Predictive Findings.

Under Contention LEA-1, LEA asserted that the various jurisdictions within the EPZ had not yet adopted final plans and that "[t]here is no reasonable assurance that the present state of planning is predictive of final approval, or that the plans are capable of being implemented."<sup>245/</sup> As admitted, the contention was premised on the proper concept that a board's findings on offsite emergency planning issues are "predictive rather than merely descriptive in nature."<sup>246/</sup>

The Licensing Board correctly explained that the Commission's regulations have departed from the previous standard, which required findings as to the state of onsite and offsite emergency preparedness. Now, by contrast, offsite emergency plans need not be final for NRC approval, but only sufficiently developed to permit a board to make the

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(Footnote Continued)

municipal EOC staff personnel can be notified on a 24-hour basis by a pre-recorded message from a computer-assisted automatic dialing system," which "has four telephone lines and the capability to dial pre-programmed individuals at home and business, according to the time of day activated." Third PID at 213. Numbers are dialed in a listed sequence and the system will record receipt and acknowledgement of the message. Through the four lines, four calls can be made simultaneously. Unanswered numbers would be redialed until the list has been completed. Id. at 213-14.

<sup>245/</sup> Third PID at 241 (emphasis added).

<sup>246/</sup> Id. at 7. Another recent summary of these principles may be found in Catawba, supra, LBP-84-37, 20 NRC 933, 939-40 (1984).

requisite predictive findings.<sup>247/</sup> That conforms to the same explanation by the Appeal Board in Diablo Canyon, noting that the change in the regulations to require predictive findings was adopted "so that operation of a facility need not be delayed unnecessarily by the hearing process."<sup>248/</sup>

1. Formal adoption not required. The distinction between findings which predict rather than merely describe the status of emergency preparedness is crucial with respect to the ultimate adoption of the plans. In essence, a licensing board is called upon to predict whether local jurisdictions have the commitment and resources to resolve any outstanding planning concerns or problems. This provides reasonable assurance that those jurisdictions will be able to implement their plans for the protection of the public health and safety in an actual emergency.

LEA properly concedes that "plan adoption is not necessarily a prerequisite to NRC approval for full power operation,"<sup>249/</sup> but proposes a standard which is squarely contrary to the principle of predictive findings. LEA suggests that "it is really the state of adoptability and implementability which the municipality or school district has actually achieved that can be reasonably relied upon to predict a state of adequate preparedness."<sup>250/</sup> Thus, LEA would ignore the unanimous

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<sup>247/</sup> Third PID at 8-10.

<sup>248/</sup> Diablo Canyon, supra, ALAB-781, 20 NRC 819, 834 (1984).

<sup>249/</sup> LEA Brief at 59.

<sup>250/</sup> Id. (emphasis added).

consensus of the governmental planners and officials who testified that their respective jurisdictions intend to work towards the adoption of a workable emergency plan, for both radiological and non-radiological disasters, as required by the Emergency Management Services Act of 1978, enacted November 26, 1978, P.L. 1332, No. 323, 35 Pa. C.S.A. §7101 et seq ("P.L. 1332").<sup>251/</sup>

LEA claims that there are a number of "deficiencies" in local plans that have yet to be resolved. The Board adequately explained, however, why the concerns expressed by a number of township supervisors did not constitute "deficiencies" in local plans that would preclude plan implementation or, ultimately, adoption.<sup>252/</sup> Typically, the township witnesses had not yet become immersed in the details of their respective plans because they had delegated plan development to their respective emergency coordinators.<sup>253/</sup> On this score, the Board found the record "devoid of any evidence that local coordinators have advised their

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<sup>251/</sup> Third PID at 242-44.

<sup>252/</sup> Id. at 245. As the Board noted, one category of concerns related to "unmet needs" which would be reported to the respective counties and, if still unmet, to PEMA, which is the mechanism for satisfying local resource needs under P.L. 1332. Id. For example, municipalities with insufficient buses for transportation-dependent individuals would report the need for more buses to the county. See, e.g., Appl. Exh. E-3, App. I-3.

A second category of concerns involved "a misunderstanding of the basic planning principles and assumptions under Annex E and P.L. 1332, a need for further coordination with county and/or PEMA officials, or an understandable lack of familiarity with the details of [local] plans." Third PID at 245.

<sup>253/</sup> Third PID at 244.

respective counties or municipalities of any serious deficiency in the plans or obstacle to their ultimate adoption."<sup>254/</sup>

The Licensing Board properly interpreted the supervisors' expression of personal concerns as an indication that they were becoming more involved in the planning process and were actively working to resolve any problems. As the Board stated, "[t]he unanimous declaration by all government officials of their intent to comply with P.L. 1332 . . . indicates that we can reasonably expect the relatively minor concerns stated by some officials to be adequately addressed."<sup>255/</sup> What LEA seeks, an unequivocal statement by township supervisors that full emergency preparedness has been achieved, is simply not required by the regulations in order for the Board to have made its predictive findings.

Some testimony elicited by LEA from the township witnesses focused upon whether their respective plans would be formally adopted. The willingness of a township to enact a resolution formally adopting its plan is one indication of its willingness to implement its plan,<sup>256/</sup> but formal adoption of a plan is not the sine qua non of emergency preparedness, i.e., "whether State and local emergency plans are adequate and whether there is reasonable assurance that they can be

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<sup>254/</sup> Id. at 245.

<sup>255/</sup> Id. at 245-46.

<sup>256/</sup> As noted, local county and township officials unanimously recognized the mandatory obligation upon local governments for emergency preparedness under P.L. 1332 and stated their intent to work toward the adoption of a workable emergency plan. Id. at 243-44.

implemented."<sup>257/</sup> Thus, neither the existence nor absence of formal plan adoption is dispositive under Section 50.47 or NUREG-0654.<sup>258/</sup>

In reviewing this issue as part of its "immediate effectiveness" review for the Second and Third PID's in this proceeding, the Commission stated that "formal plan adoption is not required by the NRC's planning regulations," only that "plans can be implemented and that the local organizations have agreed that they will implement a plan."<sup>259/</sup> As the Board likewise stated:

The ability to implement the emergency plans for entities within the EPZ does not depend upon formal adoption of the plans by the various jurisdictions because, as PEMA has acknowledged, the plans accurately reflect the current capacity to respond to an emergency in each jurisdiction. <sup>260/</sup>

The Board also cited with approval the position by PEMA "that the current plans would, in a practical sense, be the basis for the counties, municipalities and school districts to respond to a radiological emergency at Limerick if an accident occurred prior to formal adoption of the plans."<sup>261/</sup> County and township officials agreed that, in the event of a radiological emergency at Limerick, they would utilize

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<sup>257/</sup> 10 C.F.R. §50.47(a)(2).

<sup>258/</sup> In the converse situation, therefore, a finding that all the plans had been adopted would certainly not preclude further inquiry into their adequacy and the ability to implement them.

<sup>259/</sup> Limerick, supra, CLI-85-13, 22 NRC \_\_\_\_ (July 24, 1985) (slip op. at 4).

<sup>260/</sup> Third PID at 251.

<sup>261/</sup> Id. at 252.

the current draft of their respective plans in responding.<sup>262/</sup> Finally, the Board found that plan adoption cannot be equated with emergency preparedness because "[t]here might be unknown reasons entirely unrelated to [planning] concerns for which a Board of Supervisors or Board of Education might not wish to sign the plan."<sup>263/</sup>

2. No significant deficiencies. There is no support for LEA's allegation that the township witnesses testified as to "significant deficiencies" in their plans which the Licensing Board dismissed pro forma.<sup>264/</sup> The Board examined all of the concerns expressed by those witnesses in great detail and explained why, in its view, those concerns would be resolved by further planning and coordination. The few specific assignments of error are frivolous. It is irrelevant that one of the Skippack Township Supervisors confused training sessions with the full participation exercises conducted on July 25 and November 20, 1984. FEMA gave the township EOC a satisfactory rating for the latter exercise and the Supervisor had no independent reason to question the readiness of the township to respond to any radiological emergency.<sup>265/</sup>

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<sup>262/</sup> E.g., id. at 255 (Montgomery County), 259 (Chester County), 260 (Berks County), 291 (Phoenixville), 295 (Skippack). In Perry, the Board stated that plans are subject to hearings (hence, approval by the NRC) once they have reached a mature state of development, despite "additional steps being taken to modify and further improve those plans." Cleveland Electric Illuminating Company (Perry Nuclear Power Plant, Units 1 and 2), LBP-84-28, 20 NRC 129, 131 (1984). Thus, "[e]mergency plans are never 'final,' since they must be reviewed, updated and amended annually." Id. at 131 n.4.

<sup>263/</sup> Third PID at 253.

<sup>264/</sup> LEA Brief at 59.

<sup>265/</sup> Third PID at 292. See LEA Brief at 61.



Similarly, it is irrelevant that the Phoenixville Borough Council voted not to participate in the July 25, 1984 exercise. Phoenixville did in fact participate and, based upon FEMA's findings and even in the opinion of the Council member who testified, the Phoenixville EOC performed satisfactorily during the exercise.<sup>266/</sup> To the extent that LEA argues that no legal connection can be drawn between exercise performances and the workability of a plan in a real emergency,<sup>267/</sup> its claims implicitly challenge the validity of 10 C.F.R. §50.47(b) (14) and Part 50, Appendix E, Section IV.F.1-5 as well as the planning guidance under NUREG-0654, Criterion N.

LEA's argument that Montgomery County will not adopt a plan may express LEA's concerns, but certainly not those of Mr. Bartle, Chairman of the Montgomery County Board of Commissioners. He testified, in the Board's words, that "Montgomery County would cooperate in every way to

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<sup>266/</sup> Third PID at 291. See LEA Brief at 61. FEMA found a Category B deficiency for incorrect EOC staff phone numbers. FEMA Exh. E-4 at 151. Significantly, the Council member who testified that she had shared the reservations of those members voting against participation in the exercise conceded that the EOC volunteers "are dedicated individuals and gave an excellent performance." Third PID at 291.

<sup>267/</sup> LEA Brief at 61. The testimony of Lower Providence Township Supervisor Brown (LEA Brief at 63-64) supports the Applicant's position. Basically, he explained why certain municipalities have not yet achieved full emergency preparedness despite their best intentions to meet their mandatory obligations under P.L. 1332. Contrary to any intimation by Mr. Brown, financial constraints are not really a problem in achieving emergency preparedness for the Limerick EPZ. Grants are available under Pennsylvania law and the Applicant has extensively provided EOC equipment and other resources to the municipalities. Third PID at 273-74; Appl. Exhs. E-102 and E-104. Any remaining unmet needs would be passed on to the counties or PEMA. Third PID at 76, 177, 245.

achieve the best possible emergency plan" and that the Commissioners "intend to continue working toward the development of a workable plan, addressing particular concerns as they arise."<sup>268/</sup> Mr. Bartle also testified that his earlier views opposing Limerick and questioning the effectiveness of an evacuation plan had been modified such that he would not permit any personal or intuitive reservations to prevent plan adoption.<sup>269/</sup>

X. Reasonable Assurance Exists That There is Sufficient Staff for County and Municipal Emergency Operations Centers to Support a Continuous 24-Hour Response.

A. Reliable, Updated Information Supports the Licensing Board's Findings.

LEA asserts that the Board should have given "more weight to the significance of the identified municipal staffing deficiencies."<sup>270/</sup> Once again, it is difficult to understand what error is assigned. Although the Board accepted updated staffing information provided by Applicant's planning consultant, it did not actually make predictive findings as to the sufficiency of municipal EOC staffing. Instead, it provided that, prior to operation above five percent of rated power, the NRC must receive from FEMA verification that unmet staffing needs have

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<sup>268/</sup> Third PID at 254-55.

<sup>269/</sup> Id. at 254. LEA has shown no nexus between Mr. Bartle's views on emergency planning for Limerick and population data for Montgomery County. Presumably, higher population figures would only increase his resolve to adopt a workable plan.

<sup>270/</sup> LEA Brief at 67.

been satisfied.<sup>271/</sup> Given the license condition that capability to support continuous 24-hour operations for all municipal EOC's must be verified, it is unclear what further relief is sought by LEA.<sup>272/</sup>

As the Board found, the required verification involved outstanding vacancies for only a few municipalities and positions throughout the EPZ.<sup>273/</sup> Although LEA disagrees with the weight the Licensing Board accorded the testimony of the lead representative of Applicant's planning consultant, it was the province of the Licensing Board to judge the credibility and competence of witnesses and accord appropriate weight to

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271/ See pages 58-59, supra.

272/ FEMA verification of adequate municipal EOC staffing was provided in a memorandum through the NRC stating that "FEMA has determined that adequate staffing now exists in all risk municipalities to respond to a radiological emergency over an extended period of time." Memorandum from Richard W. Krimm, Assistant Associate Director, Office of Natural and Technological Hazards Programs, FEMA, to Edward L. Jordan, Director, Division of Emergency Preparedness and Engineering Response, Office of Inspection and Enforcement, NRC, at 3 (May 21, 1985).

273/ Third PID at 232. Although accurate information for South Coventry township was unavailable at the hearing, South Coventry since participated in the remedial exercise conducted on April 10, 1985. Following the exercise, FEMA reported:

The planning deficiency concerning staffing resources for South Coventry Township has now been corrected through the submission of a new staffing plan which provides for adequate resources for prolonged emergency response, and through their demonstration of a capability to respond during the April 10, 1985, remedial exercise.

Memorandum from Richard W. Krimm, FEMA, to Edward L. Jordan, NRC, supra, note 272, at 2.

their testimony.<sup>274/</sup> The Board relied upon the consultant witnesses in several instances to provide the most up-to-date information because, "[b]ased upon their consultant and liaison responsibilities, the Energy Consultant witnesses possessed detailed knowledge of the emergency plans and training programs."<sup>275/</sup>

LEA nonetheless asserts that the Board improperly ignored the testimony of a FEMA witness that FEMA could not consider EOC staffing deficiencies resolved until official information had been forwarded to FEMA. The Licensing Board fully responded to this argument. It noted that the FEMA witnesses had not yet had an opportunity to review current information, including the draft plans received in evidence.<sup>276/</sup> The Board therefore held that the "incompleteness of the FEMA review at this time, including the receipt of any further planning documents necessary for that review, does not impede this Board's ability to make the

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<sup>274/</sup> Toledo Edison Company (Davis-Besse Nuclear Power Station, Units 1, 2 and 3), ALAB-560, 10 NRC 265, 334 (1979); Catawba, supra, ALAB-355, 4 NRC 397, 404 (1976).

<sup>275/</sup> Third PID at 13. As the Board explained, Energy Consultants has been involved since the early stages of planning for Limerick in providing their services to the various counties, municipalities and school districts in the Limerick EPZ to develop their respective plans. Id. at 12-13, 246, 248. Under its working arrangement with the various jurisdictions, Energy Consultants received planning data and input directly from the governmental authorities they assisted in developing draft plans. Id. at 247-48. Plans at the municipal levels are not forwarded to the counties and, ultimately, PEMA and FEMA until local officials consider them ready for review. Id. at 251. Accordingly, the consultant witnesses possessed more recent, reliable data on municipal EOC staffing levels than that formally transmitted to the counties, PEMA or FEMA.

<sup>276/</sup> Id. at 11.

necessary predictive findings."<sup>277/</sup> Accordingly, the Licensing Board correctly made its findings based upon current data rather than outdated information compiled by FEMA from earlier exercise evaluations.

B. PECO Volunteers are Reliable.

As LEA acknowledges, the Board found that only about 50 of approximately 400 municipal EOC positions are filled by Applicant's employees.<sup>278/</sup> LEA's reliance upon information previously supplied by Energy Consultants (LEA Exh. E-37) is misplaced because that information "does not reflect current staffing assignments."<sup>279/</sup> As noted, only about 50 PECO volunteers presently fill township EOC positions. It is irrelevant whether others were turned down or replaced through personnel turnover. Nowhere does LEA demonstrate how EOC staff recruiting and turnover has had or would have any impact upon the validity of the Board's findings on EOC staffing.<sup>280/</sup>

All county and municipal EOC staff are selected by their respective emergency coordinators who are required by P.L. 1332, 35 Pa. C.S.A. §7502(d), to be "professionally competent and capable." Each township

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<sup>277/</sup> Id. at 12.

<sup>278/</sup> Id. at 233.

<sup>279/</sup> Id. See LEA Brief at 65. Although a greater number of Applicant's employees had filled volunteer positions during the July 25, 1984 full participation exercise, LEA incorrectly asserts that all 400 positions were filled by Applicant's employees. See LEA Brief at 66. No basis exists for this claim.

<sup>280/</sup> The Board specifically found that any attempt to distinguish between "municipal" and "PECO" volunteers is unsupported by the record and that "volunteers employed by the Applicant are just as reliable and responsible as any other volunteer." Third PID at 234.

supervisor and county commissioner expressed confidence in the judgment of his emergency coordinator.<sup>281/</sup> Even the single township supervisor who shared LEA's concerns regarding PECO volunteers "acknowledged that the township coordinator is qualified to determine who would be a capable and efficient volunteer in the event of an actual emergency, and that he would trust his judgment."<sup>282/</sup> In any event, it is irrelevant that a greater number of Applicant's employees previously served as EOC volunteers.<sup>283/</sup>

XI. Time Limits on Examination of Witnesses Were Fair and Did Not Prejudice LEA or FOE.

LEA's and FOE's challenge to the time constraints on their examination and cross-examination of witnesses is entirely without merit. The Board amply justified those time limits, which "were clearly more lenient toward intervenors than any other party."<sup>284/</sup> Also, LEA was granted more time to cross-examine those PEMA and FEMA witnesses whose

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<sup>281/</sup> Id. at 244.

<sup>282/</sup> Id. at 267.

<sup>283/</sup> To the extent that LEA apparently challenges the adequacy of the July 25, 1984 full participation exercise (LEA Brief at 67), its allegations are beyond the scope of the admitted contention and unsupported by any evidence that newly recruited volunteers have not been fully trained to perform their respective assignments. For the Appeal Board's information, training of EOC personnel and other emergency workers has continued apace. There have now been approximately 8,500 individuals trained for various assignments in the event of a radiological emergency at Limerick. See Applicant's Motion for an Exemption from the Requirement of 10 C.F.R. Part 50, Appendix E, Section IV.F.1, for the Conduct of a Full Participation Exercise Within One Year Before the Issuance of a Full-Power Operating License at 17 (June 24, 1985).

<sup>284/</sup> Third PID at 16.

testimony covered a greater number of its contentions.<sup>285/</sup> In presiding over the thirty-seven days of evidentiary hearings, the Licensing Board was in the best position to determine whether cross-examination time was being used productively and whether an additional allocation of time was warranted.

On appeal, LEA criticizes the time restrictions, but fails to point out any area of inquiry it was precluded from pursuing with regard to particular witnesses. Its failure to specify any actual prejudice negates any claim of procedural error.<sup>286/</sup> Moreover, the authorities

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<sup>285/</sup> For example, LEA was granted two hours to cross-examine Mr. Campbell, the Director of the Chester County Department of Emergency Services, whereas the other parties were accorded one hour and 15 minutes (Tr. 19853). Similarly, LEA was accorded two hours to cross-examine the two FEMA witnesses (testifying as a panel) (Tr. 20151), whereas the other parties were given an hour. LEA's allegations regarding the PEMA witnesses are frivolous. Commonwealth of Pennsylvania officials testified individually or as two-man panels, depending on the scope of the contention(s) each addressed. LEA was given almost two hours to examine the principal PEMA panel (Tr. 19500, 19569). Although LEA was given an hour to cross-examine other PEMA witnesses, it frequently did not even use all of its allotted time, as indicated by the absence of any halt to the examination before its completion, e.g., Dr. Michael A. Worman on Contention LEA-12 (Tr. 13349); Margaret A. Reilly on Contention LEA-12 regarding sheltering (Tr. 19397); Col. Eugene P. Klynoot on Contention LEA-28(a) (Tr. 19662).

<sup>286/</sup> The Appeal Board rejected the same allegation in South Texas, where it stated:

[Intervenor], however, failed to make the required showing below of what further information it sought to elicit. On appeal, [intervenor] does not even attempt to show how it was prejudiced by the Board's ruling. . . . [intervenor's] brief does not point to any questions that it would have pursued had it not felt oppressed. It has failed to demonstrate, therefore, that any harm befell it as a result of the Board's actions.

(Footnote Continued)

cited by the Licensing Board have sustained similar time limitations as a means of setting reasonable standards for the fair and expeditious conduct of hearings.<sup>287/</sup> Accordingly, there was no error in the imposition of the reasonable time constraints which were in fact "based upon a candid and good faith estimate by the parties as to the time actually needed to fully and fairly examine the witnesses."<sup>288/</sup>

FOE's similar claims are also without merit. As with respect to LEA's claim, those restrictions were appropriate and reasonable. The Licensing Board had ample discretion to consolidate the FOE and LEA contentions and designate LEA as the lead intervenor.<sup>289/</sup> As the Board noted, FOE's representative wasted much of his own time with improper

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(Footnote Continued)

Houston Lighting & Power Company (South Texas Project, Units 1 and 2), ALAB-799, 21 NRC 360, 377 (1985). Elsewhere, the Appeal Board has ruled that a "complaining party must demonstrate actual prejudice [in the denial of cross-examination] -- i.e., that the ruling had substantial effect on the outcome of the proceeding. Waterford, supra, ALAB-732, 17 NRC 1076, 1096 (1983).

<sup>287/</sup> Third PID at 18-19. LEA's complaint that its examination was interrupted by objections is without merit. The Board correctly noted that those objections were, for the most part, meritorious. Id. at 17. Nonetheless, the Board granted more time to LEA "in recognition that the lay representatives were not skilled attorneys and their examination of witnesses was less likely to be sharply focused." Id. at 16 n.33. On appeal, LEA has not cited a single instance in which an allegedly improper objection wasted its allotted time. It should also be noted that the Board tolled LEA's time when an objection entailed lengthy discussion by LEA's representatives or when other similar pauses occurred (e.g., Tr. 18280-81, 19524).

<sup>288/</sup> Third PID at 17. For example, a one-hour limitation was imposed by the Licensing Board in Indian Point, supra, "Recommended Decision" (March 4, 1983) (slip op. at 12-15).

<sup>289/</sup> Third PID at 15 n.31.



examination which "inevitably prompted valid objections to the improper form of questions, repetitive questions, lack of evidentiary foundation" and the like. During FOE's cross-examination of one township official, for example, the Board sustained 19 of 21 evidentiary objections by counsel.<sup>290/</sup> The Board was not compelled to waste valuable hearing time for the parties and itself by permitting FOE to pursue objectionable lines of inquiry. Further, as FOE's brief reflects, no prejudice has been shown. FOE is unable to cite any offer of proof that it would have elicited relevant, probative evidence from any of the witnesses if granted more time.<sup>291/</sup> As discussed above, absent some particularized showing of prejudice, no error can be found.

#### CONCLUSION

For the reasons discussed above, there is no merit to any of the substantive or procedural arguments raised by LEA or FOE. The Appeal

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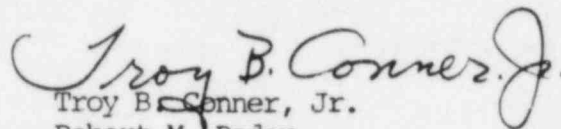
<sup>290/</sup> Id. at 17.

<sup>291/</sup> The thrust of its case, the possibility of unanticipated "peak" traffic conditions in areas beyond the EPZ (FOE Brief at 4), was fully presented to the Licensing Board and properly rejected. See pages 40-42, supra.

Board should therefore affirm the decision of the Licensing Board in its  
Third PID.

Respectfully submitted,

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August 6, 1985

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety and Licensing Appeal Board

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

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USNRC

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CERTIFICATE OF SERVICE

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I hereby certify that copies of "Applicant's Brief in Opposition to Appeals by Limerick Ecology Action, Inc. and Friends of the Earth Relating to the Atomic Safety and Licensing Board's Third Partial Initial Decision." dated August 6, 1985 in the captioned matter, have been served upon the following by deposit in the United States mail this 6th day of August, 1985:

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