UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety and Licensing Board

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

# APPLICANT'S RESPONSE TO LIMERICK ECOLOGY ACTION'S CONTENTIONS AND CITY OF PHILADELPHIA'S ISSUES RELATED TO SUPPLEMENT 1 TO THE DRAFT ENVIRONMENTAL STATEMENT

## Preliminary Statement

In accordance with the Atomic Safety and Licensing Board's "Memorandum and Order Confirming Rulings Made at Hearing" (January 20, 1984) (slip op. at 2), Limerick Ecology Action ("LEA") submitted "LEA Contentions on the Environmental Assessment of Severe Accidents as Discussed in the NRC Staff Draft Environmental Statement, Supplement No. 1" (February 13, 1984) ("LEA Pleading") and the City of Philadelphia ("City") filed "City of Philadelphia's Issues of Concern with the Draft Environmental Impact Statement, Supplement No. 1" (February 14, 1984) ("City Issues").

As discussed below, Philadelphia Electric Company ("Applicant"), opposes admission of LEA's proposed contentions and consideration of the City's "issues of

concern."[1/] Applicant initially addresses the legal framework for the consideration of severe accidents and then addresses the specific contentions in turn. Because the Board has asked that prior pleadings not be incorporated by reference, Applicant's positions, as previously set forth in prior pleadings, have been repeated here as appropriate.[2/]

## Argument

### I. Legal Framework

It is beyond question that the Supplement to the Draft Environmental Statement dated December 19, 1983 (NUREG-0974, Supplement No. 1) ("DES") and the Final Environmental Statement ("FES") to be published by the NRC Staff pursuant to Section 102(2)(C)(i) of NEPA, 42 U.S.C. §4332(2)(C)(i), relating to the issuance of operating licenses for the Limerick Generating Station, must include a reasoned consideration of the environmental risks attributable to

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1/ A participant pursuant to 10 C.F.R. §2.715c is required to follow the same procedural requirements as other parties. Gulf States Utilities Co. (River Bend Station, Units 1 and 2), ALAB-444, 6 NRC 760, 768 (1977); Long Island Lighting Company (Shoreham Nuclear Power Station, Unit 1), 17 NRC 1132, 1139 (1983). Matters which are not litigable as contentions cannot have any greater right to consideration merely because they are entitled "issues."

2/ LEA has directed the Board to additional argument in other pleadings. In accordance with its instructions, the Board should disregard these references. If it decides to review this material, however, Applicant requests an opportunity to respond.

accidents at the facility.[3/] The Policy Statement issued by the Nuclear Regulatory Commission ("NRC" or "Commission") requires an analysis and discussion of such risks, with approximately equal attention given to releases and the probability of occurrence of the environmental consequences of such releases.[4/] The Policy Statement requires that "[e]vents or accident sequences that lead to releases shall include but not be limited to those that can reasonably be expected to occur."[5/] Consideration of "[i]n-plant accident sequences that can lead to a spectrum of releases" is also required, as is a discussion of the "extent to which events arising from causes external to the plant which are considered possible contributors to the risk associated with the particular plant."[6/]

The environmental consequences of releases whose probability of occurrence has been estimated are required to be discussed in probabilistic terms. The Commission's Policy Statement requires that such consequences be characterized in terms of potential radiological exposure to

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3/ Nuclear Power Plant Accident Considerations Under the National Environmental Policy Act of 1969, 45 Fed. Reg. 40101 (June 13, 1980) (hereinafter "Policy Statement").

4/ Id. at 40103.

5/ Id.

6/ Id.

individuals, to population groups and, where applicable, to biota.[7/]

The City argues that the consequences of a severe accident "must be examined separately from the probability of its occurrence."[8/] This proposition runs directly contrary to the specific requirements of the Policy Statement, which state that "[t]he environmental consequences of releases whose probability of occurrence has been estimated shall also be discussed in probabilistic terms."[9/] Thus, the Commission has recognized that the consequences of severe accidents should not be looked at in isolation in an absolute manner, but rather in probabilistic terms. The concept of risk as discussed in the DES is the accepted methodology for accomplishing the Commission's requirement. It has been utilized in the authoritative Reactor Safety Study and every impact statement where severe accidents have been discussed. While conceivably there may be other ways to fulfill the Commission's requirement that the consequences of accidents be discussed in probabilistic terms, there has been no showing that the risk-type methodology used by the Staff is inappropriate under NEPA or the Policy

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7/ Id.

8/ City Issues at 10.

9/ 45 Fed. Reg. 40103 (emphasis supplied).

Statement.[10/] Thus, there is no reason to redo the EIS. Moreover, the City fails to advise the Board as to which "severe accident" it would choose to disclose consequences. Inasmuch as there is a virtual continuum of accidents, presumably the City would ask that each accident be discussed individually. This is simply not practical.

The City alleges that it is necessary to "isolate and examine the health effect of a severe accident on the high density population of the Philadelphia metropolitan area."[11/] The City has not pointed to any requirement for the generation of this information nor any use to which it would be put in the environmental review process.

Applicant submits that the risk from the operation of the Limerick Generating Station has been considered as a whole in the DES[12/] and that an area-by-area breakdown of the risks to individuals is not required. In rejecting an intervenor's call for a "micro-cost-benefit analysis" because not all individuals living in the area of the plant

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10/ The methodology suggested by the City of merely presenting the consequences of accidents divorced from their probability of occurrence could significantly mislead the public.

11/ City Issues at 10.

12/ The Staff's calculated risk values do reflect the entire popultion surrounding the facility and thus include the risk in the direction of Philadelphia.

would receive electricity from it, the Licensing Board in Black Fox stated:

> Basically, the Intervenors do not show in their contention that a micro-cost-benefit analysis is necessary to meet the NEPA requirements in this case. The Board is not persuaded that the state versus state analysis suggested by subsection a of the contention or the local area versus wider area analysis called for by subsection b is a prerequisite to a proper NEPA evaluation. 13/

The Commission explicitly recognized the limitations on probabilistic treatment of the environmental risks of accidents in its Policy Statement:

> In promulgating this interim guidance, the Commission is aware that there are and will likely remain for some time to come many uncertainties in the application of risk assessment methods, and it expects that its Environmental Impact Statements will identify major uncertainties in its probabilistic risk estimates. On the other hand the Commission believes that the state of the art is sufficiently advanced that a beginning should now be made in the use of these methodologies in the regulatory process, and that such use will represent a constructive and rational forward step in the discharge of its responsibilities. 14/

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13/ Public Service Company of Oklahoma (Black Fox Station, Units 1 and 2) (Docket Nos. 50-556, 50-557), Special Prehearing Conference Order (August 4, 1976) (slip op. at 10).

14/ 45 Fed. Reg. 40103.

It is clear that the Commission has recognized the limitations that, for the predictable future, are associated with the application of risk assessment methods to the analysis of nuclear power plants. Moreover, the Commission has recently reemphasized the fact that many uncertainties exist with regard to the application of probabilistic risk assessments to licensing decisionmaking in the context of its Proposed Policy Statement on Severe Accidents[15/] and in its Policy Statement on Safety Goals for the Operation of Nuclear Power Plants ("Safety Goal Policy Statement").[16/]

In the context of its Safety Goal Policy Statement, the Commission made the determination that "[t]he basic impediment to adoption of regulations requiring risks to the public to be below certain quantitative limits . . . is that the techniques for developing quantitative risk estimates are complex and, in the cases of interest here, have substantial associated uncertainties."[17/] The Commission also found that the existence of these associated uncertainties "raises a serious question whether, for a specific nuclear power plant, the achievement of a regulatory-imposed quantitative risk goal can be verified with a sufficient degree of

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15/ Proposed Commission Policy Statement on Severe Accidents and Related Views on Nuclear Reactor Regulation, 48 Fed. Reg. 16014 (April 13, 1983).

16/ 48 Fed. Reg. 10773 (March 14, 1983).

17/ Id. at 10775.

confidence."[18/] The Commission also expressed uncertainty as to how its "essentially deterministic regulations would be supplemented if the qualitative safety goals and quantitative design objectives - which are based on considerations of probable risk - were incorporated into the regulatory framework."[19/]

All of these explicit reservations weigh heavily against any attempt to use probabilistic risk assessment techniques for any purpose beyond presenting a full discussion and disclosure of the environmental risk of accidents. Applicant submits that it is presently inappropriate and, as a practical matter, impossible to utilize these techniques to impose additional safety requirements on this facility under the auspices of NEPA. If the Commission believes that any environmental analysis demonstrates a need to provide further safety requirements for Limerick, it will do so by appropriate action under 10 C.F.R. Part 50 as a result of its ongoing generic studies into the matter. It will certainly not utilize the "wolf in sheep's clothing" approach apparently suggested by both LEA and the City to turn NEPA into a substantive, regulatory safety statute.

The City attempts to bolster its position by seeking to assert that alternative design features may be ordered under

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18/ Id.

19/ Id.

the Atomic Energy Act if needed to ameliorate harm to the public and that certain changes to the DES are needed "in order that the Commission can determine whether it is fulfilling its mandate under the Atomic Energy Act to protect the public from the real hazards associated with the use of nuclear energy."[20/] In addition to being incorrect and unsupported by the citations provided, this statement is also irrelevant. The only issue presently before the Board is whether the Commission has fulfilled its obligation in accordance with its regulations implementing NEPA. The time to file contentions alleging a failure to meet safety regulations has long since passed.[21/]

While the Commission's Policy Statement contains a detailed discussion as to the necessary contents of an applicant's Environmental Report and the Staff's FES, it does not prescribe a discussion of additional in-plant features, procedures, or other actions to "mitigate" the environmental impacts of extremely low probability accidents. Thus, the Commission's Policy Statement mandates disclosure of environmental risks and consequences, but does

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20/ City Issues at 8, 10.

21/ The Board has already ruled on contentions relating to the use of probabilistic risk assessments in the licensing process in other than a NEPA context. Philadelphia Electric Company (Limerick Generating Station, Units 1 and 2), LBP-83-39, 18 NRC 67, 74 (1983).

not establish any basis for requiring mitigating alternative actions based upon such disclosure.[22/] Nor is any basis for doing so inherent in NEPA itself. As noted, the City and LEA, as set forth in Contention DES-5, have attempted to transform NEPA into a substantive regulatory mechanism.

A similar attempt was summarily rejected by the Supreme Court in Strycker's Bay Neighborhood Council v. Karlen, 444 U.S. 223 (1980) (per curiam), where the Supreme Court reiterated "that NEPA, while establishing 'significant substantive goals for the Nation,' imposes upon agencies duties that are 'essentially procedural.'"[23/] Earlier decisions which appear to have interpreted NEPA to invest that statute with substantive authority and obligations cannot be squared with this holding. Moreover, the Court's rationale is fully consistent with the long held understanding that NEPA serves as a full environmental disclosure law and ensures that agencies have compiled sufficient information to allow them to make appropriate

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22/ Further, basing mitigating actions on environmental disclosure is inherently infeasible because of the substantial difficulty in accurately quantifying the risk and consequences of such highly improbable events. There really can be no one risk "bottom line" which can be easily manipulated and examined consistently with the other results of the NRC's NEPA analysis. All the results of probabilistic risk assessment studies, including uncertainties, sensitivity studies, and qualitative exposition, must be considered as a whole in discussing low probability accidents.

23/ 444 U.S. at 227.

decisions in light of potentially adverse or beneficial environmental impacts resulting from a proposed action.[24/]

Furthermore, both court precedents and Commission decisions clearly state that alternatives which are remote and speculative need not be considered in fulfilling NEPA requirements. Only alternatives which are feasible in the time frame of facility licensing need be considered. As the Supreme Court recently emphasized in Metropolitan Edison Company v. People Against Nuclear Energy, 103 S. Ct. 1556, 1562 (1983), an agency's "[t]ime and resources are simply too limited" to extend NEPA beyond its clear mandate. The Court stated: "The scope of the agency's inquiries must remain manageable if NEPA's goal of 'ensur[ing] a fully informed and well considered decision' . . . is to be accomplished" Id. (citation omitted).

The discussion of alternatives in an EIS was earlier explained by the Supreme Court in Vermont Yankee Nuclear Power Corp. v. Natural Resources Defense Council, 435 U.S. 519, 551 (1978), as follows:

> To make an impact statement something more than an exercise in frivolous boilerplate the concept of alternatives must be bounded by some notion of feasibility.

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24/ Baltimore Gas & Electric Co. v. Natural Resources Defense Council, 103 S. Ct. 2246, 2255 (1983); Columbia Basin Land Protection Association v. Schlesinger, 643 F.2d 585 (9th Cir. 1981); Atlanta Coalition on Transportation Crisis v. Atlanta Regional Commission, (Footnote Continued)

Under this rationale, "NEPA does not contemplate detailed discussion of remote and speculative alternatives . . . . [T]he discussion of alternatives need not be 'exhaustive' but must contain sufficient information to permit a 'rule of reason' determination." National Indian Youth Council v. Watt, 664 F.2d 220, 226 (10th Cir. 1981). As the court stated in Commonwealth of Kentucky v. Alexander, 655 F.2d 714, 718 (6th Cir. 1981), "NEPA does not require a federal agency to discuss every conceivable alternative to a proposed action . . . ."

With regard to the particular assertion by LEA and the City that certain unspecified measures should be taken to redesign the Limerick reactors, an important corollary of this rule states that "there is no need for an EIS to consider an alternative whose effect cannot reasonably be ascertained and whose implementation is deemed remote and speculative." Lake Erie Alliance for the Protection of the Coastal Corridor v. U.S. Army Corps of Engineers, 526 F. Supp. 1063, 1071-72 (W.D. Pa. 1981), aff'd without opinion, 707 F.2d 1392 (3d Cir. 1983). See also Monarch Chemical Works v. Exon, 466 F. Supp. 639, 650 (D. Neb. 1979); Conservation Council of North Carolina v. Froehlke, 435 F. Supp. 775, 782 (M.D.N.C. 1977).

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(Footnote Continued)
599 F.2d 1333 (5th Cir. 1979); Warm Springs Dam Task Force v. Gribble, 621 F.2d 1017 (9th Cir. 1980).

These principles were applied by the court in Carolina Environmental Study Group v. United States, 510 F.2d 796 (D.C. Cir. 1975), in rejecting the very proposition posited here by LEA. The Court of Appeals for the District of Columbia held that the Atomic Energy Commission was not compelled to explore "every extreme possibility which might be conjectured" as an alternative to reduce potential environmental harm. Instead, the court found that the requirement for consideration of alternatives under NEPA is limited to "alternatives as they exist and are likely to exist." Id. at 801.

The Commission rejected a very similar contention in the Hope Creek proceeding, where the intervenors claimed that NEPA required the Staff to amend the FES to discuss alternative methods of protecting the facility from liquified natural gas accidents that might occur near the site. Finding that the probability that such an accident could affect the plant was highly remote, the Appeal Board dismissed the argument as unfounded, stating:

> The Supreme Court has embraced the doctrine, first enunciated in Natural Resources Defense Council v. Morton, 458 F.2d 827, 837-38 (D.C. Cir. 1972), that environmental impact statements need not discuss the environmental effects of alternatives which are "deemed only remote and speculative possibilities." Vermont Yankee Nuclear Power Corp. v.

Natural Resources Defense Council, 435 U.S. 519, 551 (1978). 25/

As the Appeal Board subsequently stated in the Black Fox proceeding, "NEPA does not command exploration of every possibility, however remote or speculative."26/

Accordingly, this Licensing Board need not examine alternatives, i.e., alleged means to mitigate hypothesized low probability events, when the probability of the occurrence of such harmful effects is so low. In any case, neither LEA nor the City has made any showing whatsoever that the residual environmental risk of the facility - that which exists even after full compliance with all NRC safety regulations - is other than insignificant. In fact, neither the City or LEA has even suggested any criteria or threshold standard for such a determination. In the absence of a clearly defined significant impact, there is nothing to mitigate and thus no need to consider alternatives.

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25/ Public Service Electric and Gas Company (Hope Creek Generating Station, Units 1 and 2), ALAB-518, 9 NRC 14, 38 (1979).

26/ Public Service Company of Oklahoma (Black Fox Station, Units 1 and 2), ALAB-573, 10 NRC 775, 781 (1979). See also Arizona Public Service Company (Palo Verde Nuclear Generating Station, Units 1, 2 and 3), LBP-82-117A, 16 NRC 1964, 1992 (1982) ("farfetched alternatives need not be considered under NEPA"); Carolina Power & Light Company (Shearon Harris Nuclear Power Plant, Units 1 and 2), Docket Nos. 50-400 OL and 50-401 OL "Memorandum and Order (Reflecting Decisions Made Following Prehearing Conference)" (September 22, 1982) (slip op. at 28) ("NEPA does not require discussion of 'remote

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The Commission has recognized that the development of probabilistic risk assessment techniques is still in its infancy. Information developed as a result of utilizing these techniques, when couched in the proper terms and with the necessary qualifications on its use, may serve to disclose risks. By their very nature, however, probabilistic risk assessments are not sufficiently reliable to serve as a basis for decisionmaking with regard to alternative safety considerations. The Commission explicitly recognized this in its Safety Goal Policy Statement when it stated that at least two years of evaluation were necessary before the Commission could even consider utilizing the probabilistic risk approach in its licensing process.[27/] It found that there are "sizable uncertainties still present in the methods" and "gaps in the data base" in probabilistic risk assessment techniques.[28/] These sizable uncertainties and gaps introduce uncertainties associated with predictions made utilizing the probabilistic risk assessment technique. It is thus not possible to have sufficient confidence that any alternative is necessary[29/] or that the selected

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(Footnote Continued)
and speculative' alternatives whose environmental effects 'cannot be readily ascertained'").

27/ 48 Fed. Reg. at 10775.

28/ Id. at 10774.

29/ No matter how small the residual risk of an accident
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alternative is preferable.30/ In this sense, mitigative actions would be entirely speculative and such consideration would not be required.

LEA and the City are really asking that this Board bring into the proceeding via the back door something which the Commission has explicitly prohibited it from doing directly. It is beyond question that the Commission has ratified the use of its deterministic safety regulations and, for the present, prohibited the use of probabilistic risk assessment techniques in licensing determinations. It has explicitly found that its deterministic regulations as contained in Title 10, Part 50, of the Code of Federal

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addressed under the Policy Statement might be, there will always be theoretical measures which might be taken to further reduce its probability or consequences. However, if that additional step were taken, there will always be yet some further incremental risk remaining and another step which could be taken to reduce that risk, however small. LEA has set forth neither any criteria for nor any limitation on this process in the statement or bases of Contention DES-5.

30/ If this Board decides that it must consider mitigative alternatives, Applicant submits that the standard to be applied in evaluating such action is whether it is "obviously superior" to the existing design. New England Coalition on Nuclear Power v. United States Nuclear Regulatory Commission, 582 F.2d 87, 95 (1st Cir. 1978); Roosevelt Campobello International Park Commission v. United States Environmental Protection Agency, 684 F.2d 1041, 1047 (1st Cir. 1982). While these cases deal specifically with site alternatives, the selection of reactor design features different from an existing design which meets all regulatory requirements is comparable to selecting a new site over one which meets applicable siting criteria.

Regulations and the implementing guidance therefor is sufficient to protect the public health and safety.[31/]

LEA and the City cannot, in the guise of performing an environmental review, have this Licensing Board impose additional requirements presently covered by the NRC safety regulations being met by the Limerick Generating Station. Applicant submits that the cases cited by LEA and the City for the proposition that the NRC has the authority to impose license conditions to minimize environmental impacts are distinguishable.[32/] Those decisions dealt with the environmental impacts of transmission lines, offsite roads, railroad spurs and cooling towers, and did not present a question supplementing or conflicting with safety requirements. Those cases therefore do not militate against the Commission's protection of the health and safety of the public via its deterministic regulations and implementing guidelines, which have been painstakingly developed by hard experience and carefully considered rulemaking.

Moreover, such safety regulations have a relative degree of certainty in their implementation. Given specific regulations governing the requirements for the construction and operation of nuclear facilities, there is no need to

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31/ 48 Fed. Reg. at 10775. See also Separate Views of Commissioner Gilinsky on the Commission's Policy Statement on Safety Goals. Id. at 10775-76.

32/ City Issues at 5-6; LEA Pleading at 11-13.

interpret NEPA as amending those safety requirements. This unauthorized use would, in effect, allow any licensing board to overrule the Commission's safety regulations by using an untested and unapproved methodology, a situation which is clearly prohibited by 10 C.F.R. §2.758. Nothing in NEPA authorizes licensing boards to make ad hoc decisions redefining and interpreting the effectiveness of the Commission's regulations.

LEA alleges that "[b]y issuing its Interim Policy Statement on Severe Accidents Under NEPA, the Commission has in effect made the threshold determination regarding the significance of the risk of severe accidents."[33/] LEA offers no support for this proposition. To the contrary, the Commission has expressed its belief that as a result of the analysis required under the Policy Statement, the conclusions regarding the environmental risk of accidents (even including those special cases that had considered Class 9 accidents before the issuance of the Policy Statement) would be "similar to those that would be reached by a continuation of current practices."[34/]

LEA states that Applicant is the first facility required to submit a Severe Accident Risk Assessment.[35/]

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33/ LEA Pleading at 11.

34/ 45 Fed. Reg. 40103.

35/ LEA Pleading at 12.

Although true, this fact has no significance. By coincidence, Limerick happened to be one of the first cases to fall within the time frame of the Policy Statement requiring all applicants for an operating license after July 1, 1980 to submit this information.[36/] Previously, the NRC had asked for a comparison of the Limerick facility with the Reactor Safety Study, WASH-1400, but, as this Board is well aware, the Staff has abandoned any attempt to compare this reactor's risk with that found by the Reactor Safety Study.[37/] Even should the risk of this reactor be greater than that of the reference reactor in WASH-1400, LEA has pointed to no significance in any difference. It is to be expected that some facilities would have risks somewhat higher and others somewhat lower than those posited by this study. However, the NRC has nowhere established WASH-1400 as a licensing standard.

Neither is there any significance to the fact that the risk for Limerick calculated by the NRC Staff, as shown in the DES Figures on pages 5-56 through 5-61, is shown to exceed the risk of other plants.[38/] In addition, notes to

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36/ 45 Fed. Reg. 40103.

37/ While thus inconsequential, Applicant disputes the fact that the risk is indeed greater.

38/ Because the uncertainties in the depicted results are so large and overlap each other, one cannot conclude with any certainty that the risk of any facility is (Footnote Continued)

the table and text of the DES clearly establish that these figures compare apples and oranges. It makes comparisons between mean and median results, cases which have considered external events against cases which have not, differing source terms and other critical assumptions, and means of calculating uncertainties and methodologies. LEA argues that the postulated risk from Limerick is significant enough to warrant a detailed examination of alternatives to the present facility, yet fails to disclose any standard for such threshold level of risk or provide any basis therefor.[39/] LEA has not demonstrated that there is any specific requirement for consideration of alternatives for the addition of additional safety measures which is required by the Commission's regulations. Applicant submits that the Board should not admit any of the LEA DES contentions, particularly Contention DES-5.

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greater or lesser than another. Furthermore, Applicant disagrees with the numerical results contained in the DES and that the analysis in the Severe Accident Risk Analysis is the appropriate one for comparisons.

39/ LEA at 11-13.

## II. Discussion of Specific Proposed Contentions and Issues

City 13

The City asserts that "dose-distance relationships are not presented in the DES" for Philadelphia inhabitants.[40/] It fails to show that this relationship is, however, a necessary ingredient of an environmental impact statement. Neither is there any basis for the proposition that a separate dose-distance relationship must be shown for the City. While there are many approaches to the disclosure of risk, the City has failed to demonstrate that the Staff's approach is impermissible or inadequate. The City would, under the guise of NEPA, have the Board "accurately ascertain the likelihood of the public receiving doses in excess of Protective Action Guide ("PAG") levels . . . ."[41/] Such a contention is an impermissible attack on the Commission's emergency planning regulations which have set approximately 10 miles as the radius of the plume exposure pathway emergency planning zone.[42/] The City has equated the PAG to

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40/ City Issues at 11.

41/ Id.

42/ 10 C.F.R. §50.47(c)(2). The Commission has considered this matter generally in NUREG-0396, "Planning Basis for the Development of State and Local Government Radiological Emergency Response Plans in Support of Light Water Nuclear Power Plants," in setting the approximate 10-mile plume EPZ radius.

an "unacceptable level of societal risk,"[43/] but has given no basis for doing so. The City apparently also equates a specific dose with "risk," which is incorrect in that it ignores the probability of its occurrence.

The City's numerical example is indicative of the folly of looking only at numerical dose values.[44/] This example presents information regarding a single set of assumptions and adds nothing to the total information understandable to the public. If the Board embarks on this path, the only result would be reams of paper containing dose values for different sets of assumptions, which would comprise the environmental impact statement, but would shed no light on the public risk. As previously discussed, supra at 3-4, this runs contrary to the Commission's requirement that doses be viewed in probabilistic terms.

While the City alleges that an analysis must be done "to delineate the results of a severe accident that might directly contaminate the water sources of the City,"[45/] no basis is given for the assertion that water supplies could become contaminated or that this would add substantially to total risk or affect the "bottom line." There is no

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43/ City Issues at 11.

44/ Applicant notes that the probability of occurrence of this sequence is incorrect. It should be $2 \times 10^{-6}$ (DES p. 5-18).

45/ City Issues at 12.

specificity as far as a mechanism for contaminating all City water supplies. This portion of the contention should be denied.

City 14

In this issue, the City asserts that "key input assumptions associated with human activity after a severe accident are not realistic."[46/] The City then lists a number of matters it asserts should be modelled differently. While Applicant does not deny that there are different methods of modelling "human activity," there has been no showing that such variations are truly more accurate or would have any significant effect on the "bottom line" risk results as calculated by either the Staff or Applicant, or the conclusions reached. Without such a showing or even a proffer that such showing will be made, the Board should not accept this matter. To do otherwise would be to waste hearing time on details which, considering the recognized uncertainties involved in probabilistic risk assessments, could not change the outcome.

City 15

In this issue, the City disputes the evaluation and conclusions contained in the DES regarding the City's water supply. While the City alleges that "insufficient

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46/ Id. at 13.

consideration has been given"[47/] to the matter, it completely fails to describe what deficiencies are present and whether this is a significant pathway which would cause a change in the "bottom line." This matter is without specificity and basis and should be denied.

City 16

In this contention, the City asserts that the DES contains values used in the health effects model which do not reflect "the current state of knowledge."[48/] No basis whatsoever is given for its allegation that this directive has not been followed. No particular data or information in the DES is challenged, nor does the City point to any other data or source of data which would, in the City's view, more fairly reflect the current state of knowledge. This contention is therefore wholly lacking in basis and specificity and should be denied.

City 17

This contention asserts an overstatement of economic benefits in the licensing of Limerick. Essentially, this contention seeks to relitigate the "need for power" determination for Limerick based upon Applicant's projected baseload requirements and the cost of replacement power.

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47/ Id. at 14.

48/ Id.

This contention must be denied on the basis of 10 C.F.R. §51.53(c), which states:

> Presiding officers shall not admit contentions proffered by any party concerning need for power . . . in operating license hearings. 49/

Moreover, even if the City could otherwise raise this matter at the operating license stage, the contention is late by years.50/ The City has not addressed, much less satisfied, the requirements for a late contention.51/ If the City is attacking some portion of the main body of the DES which was published in June 1983, it is similarly late and should not be considered. This issue should not be considered.

LEA Contentions

DES 1

In the guise of a DES contention, LEA is actually challenging the Commission's emergency planning regulations which, as admitted by LEA, recognize ad hoc response beyond the plume exposure pathway EPZ. No showing which would

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49/ See, e.g., Philadelphia Electric Company (Limerick Generating Station, Units 1 and 2), LBP-82-43A, 15 NRC 1423, 1509-10 (1982); Carolina Power & Light Company (Shearon Harris Nuclear Power Plant, Units 1 and 2), LBP-82-119A, 16 NRC 2069, 2080 (1982).

50/ As noted in footnote 49, supra, a similar contention was rejected by this Board in an order following the first Special Prehearing Conference and the initial filing of proposed contentions on November 24, 1981.

51/ See generally Duke Power Company (Catawba Nuclear Station, Units 1 and 2), CLI-83-19, 17 NRC 1041 (1983).

allow such challenge to be permitted has been made. While LEA asserts that such relocation is impracticable,[52/] no specific basis is given. No attempt has been made to show if or how this would affect the ultimate conclusions contained in the environmental impact statement. This contention should be denied.

DES 2

This contention is similar to the preceding one in that it takes issue with the calculational assumptions used in the DES analysis. While it is stated that "accident consequence calculations are sensitive to evacuation time delay assumptions,"[53/] no basis is given therefor nor does LEA demonstrate how the outcome of the evacuation would be affected. This contention should be denied.

DES 3

While LEA complains that a certain percentage of the public would not evacuate in the event of a severe accident, it fails to state what significance this fact would have on the model outcome.[54/] LEA relies on past experience with non-nuclear power plant related evacuations which are not necessarily relevant to the situation at hand. Moreover, it

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52/ LEA Pleading at 6.

53/ LEA Pleading at 7.

54/ The cited reference, Hans and Sell, estimated that 6% of the population would not evacuate.

fails to recognize the specific public information programs required by the emergency planning regulations designed to assure proper response by individuals within the plume EPZ. This contention should be denied.

DES 4

This contention asserts that the discussion of environmental consequences of a severe accident, in addition to the risk considerations analysis contained in the DES, must discuss other particularized consequences not required by the Commission's Policy Statement. In this regard, the Commission directed that environmental consequences of abnormal releases should be discussed in probabilistic terms as follows:

> Such consequences shall be characterized in terms of potential radiological exposures to individuals, to population groups, and, where applicable, to biota. Health and safety risks that may be associated with exposures to people shall be discussed in a manner that fairly reflects the current state of knowledge regarding such risks. Socioeconomic impacts that might be associated with emergency measures during or following an accident should also be discussed. The environmental risk of accidents should also be compared to and contrasted with radiological risks associated with normal and anticipated operational releases. 55/

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55/ 45 Fed. Reg. at 40103.

Not one of the particular items asserted by LEA to have been omitted from the DES is required to be discussed in a quantitative manner. Obviously, the health, socioeconomic and other impacts of abnormal releases could be quantified or described in many varying forms. The Commission has determined, however, that the analysis and discussion of such consequences, as outlined in its Policy Statement, is sufficient to meet the dual aims of NEPA of providing the agency as decision-maker with sufficient information to consider significant aspects of the environmental impact of licensing particular reactors and assuring that the agency will inform the public that it has indeed considered such concerns in its decision-making process.[56/]

The discussion of risk considerations in the DES[57/] includes consideration of population dose, early fatalities, early injuries, latent cancer fatalities, cost for evacuation and other protective actions, and long-term land area interdiction. Thus, contrary to LEA's allegation, the DES does discuss the consequences of a severe accident upon the surrounding population and resources. The fact that LEA may wish to have this discussion cast in terms of other descriptions or quantifications not specifically required

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56/ See note 24, supra.

57/ DES at 5-38 et seq.

under the Commission's Statement of Interim Policy raises no litigable issue.

Nor is there anything litigable in the fact that the DES supplement does not quantify each and every conceivable impact in terms of particular values or units. The DES indicates that precise quantification is either impractical or uninformative in some instances. LEA has failed to specify any particular consequence whose description "obscures" the impact of a severe accident.

DES 5

This contention has been previously addressed at pages 6 to 18, supra. To summarize, intervenor has failed to demonstrate that the risk of operation of the Limerick units is significant in any terms. Furthermore, LEA has not shown that there are any realistic "preventative and/or mitigative alternatives to the design, mode of operation, procedures, and/or number of reactors presently proposed"[58/] which would provide a demonstrable, significant cost beneficial reduction in risk if NEPA or the Commission's Policy Statement required such consideration. The mere consideration of design alternatives by an NRC contractor[59/] in another context does not fulfill any of these criteria. This

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58/ LEA Pleading at 11.

59/ Id. at 13.

contention is without legal footing, non-specific and lacking in basis. It should be denied.

DES 6

This contention is broad, unfocused and includes only two examples with any specificity whatsoever. While LEA cites a document apparently prepared to support its contentions, which was provided previously only in part, there is no showing that the author, Mr. Sholly, has any expert qualifications in the field of probabilistic risk assessment. If read as a whole, the submitted portion of the document prepared by Mr. Sholly states that he considers that a risk analysis could be performed which would include sabotage.[60/] He admits that such a study would have large uncertainties.[61/] The prediction of the outcome is at best speculative and there is no showing that this would add substantially to risk.

To the contrary, the Commission has explicitly found that sabotage cannot be reasonably considered in probabilistic risk terms. In its Safety Goal Policy Statement, the Commission found that "[t]he possible effects of sabotage or diversion of nuclear material are also not presently

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60/ Limerick Ecology Action's SARA/EROL Section 7 Contentions (August 31, 1983). LEA Pleading, following p. 21, excerpt from Sholly, Steven, "Report on Review of Severe Accident Risk Assessment, Limerick Generating Station, USC, August 1983 at p. 7.

61/ Id.

included in the safety goal."[62/] As a basis for its action, the Commission had concluded that the performance of a risk assessment on sabotage would not be useful. The Commission specifically found that "[a]t present there is no basis on which to provide a measure of risk on these matters. It is the Commission's intention that everything that is needed shall be done to keep such risks at their present, very low, level; and it is our expectation that efforts on this point will continue to be successful."[63/] Applicants submit that the Commission's finding regarding the inability to quantify the risk of sabotage is binding upon this Licensing Board.

With regard to the other topic, errors of commission, no specificity is given and no basis is presented. This contention should be denied.

Conclusion

For the foregoing reasons, the contentions of LEA and the City's issues should not be accepted by the Licensing Board for litigation.

Respectfully submitted,

CONNER & WETTERHAHN, P.C.

Mark J. Wetterhahn/NNN

Mark J. Wetterhahn
Counsel for the Applicant

February 23, 1984

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62/ 48 Fed. Reg. at 10773.

63/ Id. (emphasis supplied).

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

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

CERTIFICATE OF SERVICE

I hereby certify that copies of "Applicant's Response to Limerick Ecology Action's Contentions and City of Philadelphia's Issues Related to Supplement 1 to the Draft Environmental Statement" dated February 23, 1984, in the captioned matter have been served upon the following by deposit in the United States mail this 23rd day of February, 1984:

* Lawrence Brenner, Esq. (2)
Atomic Safety and Licensing Board
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

* Dr. Richard F. Cole
Atomic Safety and Licensing Board
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

* Dr. Peter A. Morris
Atomic Safety and Licensing Board
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

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

Docketing and Service Section
Office of the Secretary
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

* Ann P. Hodgdon, Esq.
Counsel for NRC Staff Office of the Executive Legal Director
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

* Hand Delivery - February 24, 1984

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

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

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

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

Mr. Marvin I. Lewis
6504 Bradford Terrace
Philadelphia, PA 19149

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

Charles W. Elliott, Esq.
Brose and Postwistilo
1101 Building 11th &
Northampton Streets
Easton, PA 18042

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

Steven P. Hershey, Esq.
Community Legal
Services, Inc.
Law Center West North
5219 Chestnut Street
Philadelphia, PA 19139

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

Mr. Joseph H. White, III
15 Ardmore Avenue
Ardmore, PA 19003

Robert J. Sugarman, Esq.
Sugarman & Denworth Suite
510 North American Building
121 South Broad Street
Philadelphia, PA 19107

Director, Pennsylvania
Emergency Management Agency
Basement, Transportation
and Safety Building
Harrisburg, PA 17120

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

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

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

** Federal Express

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

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

Nils N. Nichols