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UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety and Licensing Board

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

APPLICANT'S FIRST SET OF INTERROGATORIES AND  
REQUEST FOR PRODUCTION OF DOCUMENTS TO  
CITY OF PHILADELPHIA ON SEVERE ACCIDENT CONTENTIONS

Pursuant to the Rules of Practice of the Nuclear Regulatory Commission ("NRC"), 10 C.F.R. §2.740(b), and the Atomic Safety and Licensing Board's Memorandum and Order as contained in the transcript of the proceeding (Tr. 8792-93), Philadelphia Electric Company ("Applicant") hereby propounds the following interrogatories to the City of Philadelphia ("City") to be answered fully in writing, under oath, in accordance with the definitions and instructions below.

Additionally, pursuant to 10 C.F.R. §2.741, Applicant requests that the City produce for inspection and copying (or provide copies of) those documents designated by it in its respective answers below.

Definitions and Instructions

1. For each interrogatory, please state the full name, work address, and title or position of each person providing information for the answer to the interrogatory.

2. The following definitions shall apply:

a. "City" shall refer to the City of Philadelphia or any official, officer, member, employee or consultant thereof.

b. "Document" shall mean any written, printed, typed or other graphic matter of any kind or nature, computer tapes or other electronically stored or generated material, and all mechanical and electronic sound recordings or transcripts thereof, in the possession, custody, or control of the City, or its officials, employees, or agents; it shall also mean all copies or drafts of documents by whatsoever means made.

c. "Date" shall mean the exact day, month and year, if ascertainable, or, if not ascertainable, the best approximation (including the event's relationship to other events in the relevant context of the interrogatory).

d. "NRC" or "Commission" shall mean either the Atomic Energy Commission or the Nuclear Regulatory Commission, as appropriate, including its regulatory staff and adjudicatory boards, as indicated by the context of the interrogatory.

e. "Specify", when referring to a proceeding before the Nuclear Regulatory Commission, means that the answer shall set forth the proceeding, applicant, docket number, relevant date, and any

other descriptive information appropriate to the request.

f. "Specify" or "identify", when referring to an individual, corporation, or other entity, means that the answer shall set forth the name, present or last known work address, and, if a corporation or other entity, its principal place of business or, if an individual, his or her title or titles and employer. Once an individual corporation or other entity has been thus identified in answer to an interrogatory, it shall be sufficient thereafter when identifying that individual, corporation or other entity to state merely his, her or its name.

3. These interrogatories request all knowledge and information in City's possession and/or knowledge and information in the possession of city officials, officers, agents, representatives, consultants, and unless privileged, attorneys.

4. In each instance in which an interrogatory requests a statement of City's assertion, contention, view or opinion, the answer shall also contain a full discussion of the factual basis for the assertion or opinion.

#### Interrogatories

1. State whether the City intends to present any expert witnesses on the subject matter at issue in the contentions and issues sponsored by Limerick Ecology Action

and the City admitted by the Licensing Board on March 20, 1984 (Tr. 8772-89) related to the treatment of severe accidents pursuant to the National Environmental Policy Act ("severe accident contentions"). If so, identify each expert witness and state (a) his professional qualifications; (b) the contention and subject matter on which the expert is expected to testify; (c) the substance of the facts and opinions to which the expert is expected to testify; (d) the grounds for each opinion. Identify by court, agency or other body, each proceeding in which such individual rendered testimony on this subject.

2. State whether the City intends to present any factual witnesses on the subject matter at issue in the severe accident. If so, identify each such factual witness and further state (a) his professional qualifications; (b) the contention and subject matter on which the witness is expected to testify; (c) the substance of the facts to which the witness is expected to testify. Identify by court, agency, or other body, each proceeding in which such individual rendered testimony on this subject(s).

3. Identify by title, author, publisher and date of issuance or publication, all documents that the City relies upon as a basis for contentions or that the City intends to use (by way of reference or evidentiary proffer) in presenting its direct case in cross-examining other witnesses on the severe accident contention and all documents to which the City intends to refer in conducting cross-examination of

other witnesses who may testify in connection with any such contention.

4. To the extent that your answer to any interrogatory is based upon one or more documents, (a) identify each such document on which your answer is based; (b) identify the specific information in such document upon which you rely; (c) explain how the information provides a basis for your answer.

5. To the extent that your answer is based upon any study, calculation, research or analysis, (a) describe the nature of the study, calculation, research or analysis and identify any documents which discuss or describe the study, calculation, research or analysis; (b) identify the person(s) or entity(ies) who performed the study, calculation, research or analysis; (c) describe in detail the information which was the subject of the study, calculation, research or analysis; (d) describe the results of such study, calculation, research or analysis; (e) explain how such study, calculation, research or analysis provides a basis for your answer.

6. To the extent that your answer is based upon conversations, consultations or correspondence or other communications with one or more individuals or entities, please identify each such individual or entity; (b) state the educational and professional background of each such individual, including occupation and institutional affiliations; (c) describe the nature of each communication,



including time and context, and describe the information received from each such individual or entity; (e) explain how such information provides a basis for your answer.

7. To the extent that the City possesses information or documents expressing facts or opinions which are relevant to the specific interrogatories below, but which do not support intervenor's position or which have not otherwise been fully provided in the answers thereto, please provide such information and documents.

With regard to Contention DES-1:

8. State the City's understanding and basis thereof of the criteria used by Applicant and Staff as to how individuals located beyond the 10-mile plume exposure EPZ were to be relocated for each case analyzed and state the City's agreement or disagreement with such criteria and the basis therefore.

9. State the City's understanding of the largest number of individuals for each sector which could be relocated in the time periods utilized by Applicant and Staff for each case analyzed.

10. State the City's understanding and basis therefore as to the effect on the doses to individuals, risk and ultimate conclusion for each case analyzed if sheltering in basements for 24 hours was assumed instead of the relocation option used.

11. State the City's understanding and basis therefore as to the effects on the doses to individuals, risk and

ultimate conclusions for each case analyzed if a 48 hour delay in relocation with "normal activity" for those individuals within the City of Philadelphia were utilized.

12. State the City's agreement or disagreement and basis therefore with the response and the table attached which comprise Applicant's Answer to the City of Philadelphia's Request No. 12 (Supplemental) (March 21, 1984), including any known disagreements with the assumptions and methodology in the evaluation.

13. State any plans which have been made, are being made, or are planned for relocation of individuals residing within 50 miles of the Station (outside the plume exposure EPZ) for any situation other than a nuclear emergency arising out of the operation of Limerick.

With regard to Contention DES-2:

14. Describe any studies or analyses which demonstrate that the assumed two-hour evacuation delay time used by the Staff and the delay times used by Applicant fail to take into account actual data and experience.

15. Describe the effect on the individual doses, risk and ultimate conclusions if a mean evacuation delay time of three hours were utilized in the Staff's or Applicant's calculations.

16. Describe any studies conducted by or in the possession of the City showing the sensitivity of delay time to individual dose, risk and the ultimate conclusions.

With regard to Contention DES-3:

17. State the basis for the assertion that Hans and Sell estimate that 50% of the population will not evacuate.

18. Describe the effect on individual dose, risk and the ultimate conclusions if it is assumed that 6, 10, 20, 30, 40, and 50% of the population fails to evacuate despite instruction to do so.

19. State the City's agreement or disagreement with the assumptions, methodology, results and conclusions of the study described in Applicant's Answer to the City of Philadelphia's Request No. 12 (Supplemental) (March 21, 1984).

With regard to Contention DES-4:

20. Identify and describe any DES, FES, probabilistic risk assessment issued by the NRC which describes the specific impacts alleged by the contention.

21. For each admitted subpart, describe the City's estimate or results of calculations showing the impact and describe the effect of the ultimate conclusions.

22. Describe and discuss what quantifiable impacts are being treated in a non-quantifiable manner and describe how this obscures the total impact of severe accidents.

With regard to City 13:

23. Provide the results of any dose-distance curves generated, stating the assumptions, methodology and input.

24. Provide the basis for the assertion that Protection Action Guides levels are an unacceptable level of societal risk.



25. State the measure of "unacceptable level of societal risk" which is being proposed as a measure by Staff or Applicant.

26. State the basis of agreement or disagreement with the table contained in Applicant's Answer to the City of Philadelphia's Request No. 12 (Supplemental) (March 21, 1984), including any disagreements with the assumptions and methodology, as showing a dose-distance relationship.

With regard to City 14:

27. State the average evacuation speed and the basis therefore which the City asserts should be utilized in the Staff's and Applicant's analysis.

28. Provide any evaluation or analysis that has been prepared as to the effect of varying evacuation speed on individual dose and risk.

29. Provide the basis for the statement that as evacuees would approach the City their speeds would reduce and state the effect of this phenomenon on individual dose and risk and your basis, therefore.

30. Provide the estimate of the frequency of each class of "bad weather" which you assert should be considered and describe the weather situation as far as type, duration and location.

With regard to City-15:

31. For the raw and finished water associated with the Baxter, Queen Lane and Belmont water treatment facilities, provide the following data on a monthly basis for total and

soluble and insoluble fractions for the years 1950 through 1983:

- a. Concentrations of Strontium-90
- b. Concentrations of Cesium-134
- c. Concentrations of Cesium-137
- d. Gross alpha activity concentrations
- e. Gross beta activity concentration
- f. Gross gamma activity concentration

32. State, for the last 10 years, each instance that the City has interdicted a portion or all of its raw or finished water supply stating the date, reservoir, treatment facility or other portion of the water supply involved, point of interdiction, reason for interdiction, length of interdiction, portion of total city water use affected and provide any report or written document which discusses such events.

33. State the seismic design basis for each of the City's water supply facilities and distribution network.

Request for Production of Documents

Please attach to your answers to the interrogatories listed above a copy of all documents applicable to such answer or upon which you otherwise intend to rely in the presentation of your direct case or in the cross-examination of other witnesses, whether or not they support your

contentions. Alternatively, please state that all such documents will be produced at a reasonable time and place to be agreed upon by the Applicant for inspection and copying.

Respectfully submitted,

CONNER & WETTERHAHN, P.C.

A handwritten signature in dark ink, appearing to read "Mark J. Wetterhahn", written in a cursive style.

Mark J. Wetterhahn  
Counsel for Philadelphia  
Electric Company

April 9, 1984