

JUL 15 1982

Docket No. 50-352/353

Mr. Edward G. Bauer, Jr.  
Vice President & General Counsel  
Philadelphia Electric Company  
2301 Market Street  
Philadelphia, Pennsylvania 19101

Dear Mr. Bauer:

Subject: Request for Additional Information - Limerick (Siting Analysis)

The Siting Analysis Branch has reviewed the Limerick FSAR up to and including Revision 3. This review has indicated a need for the additional information delineated in Enclosure 1. Further questions may be generated as a result of the forthcoming site visit.

Please provide us, within 7 working days from receipt of this letter, with the date(s) on which you plan to respond to the above. Any questions concerning this information request should be directed to Dr. Harvey Abelson, (301) 492-9774, the Licensing Project Manager.

Sincerely,



A. Schwencer, Chief  
Licensing Branch No. 2  
Division of Licensing

Enclosure:  
As stated

cc: See next page

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Limerick

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## LIMERICK

- 311.3 Section 2.1.1.2 of the Limerick FSAR and Section 2.1.1.2 of the Limerick Environmental Report indicate that the island in the Schuylkill River (impounding basin) and the abandoned Schuylkill navigation lock which are within the southwest portion of the exclusion area are controlled by the Commonwealth of Pennsylvania and that the property will either be acquired by Philadelphia Electric Company or an agreement will be executed with the Commonwealth so that the applicant can restrict access on these properties if necessary. Please clarify the ownership or control of these properties and what action has been taken with respect to these properties in order that PECO will have the authority to determine all activities within the exclusion area, as required by 10 CFR Part 100.
- 311.4 Please indicate what uses may be made of the island in Schuylkill River within the exclusion area, specifically including human uses such as camping, boating, fishing, etc. Please indicate the number of residents on the island, if any, as well as the number and average stay of any transients. Where resident or transient use of the island exists, please indicate how you will be made aware of any persons on the island, in the event of emergency.
- 311.5 Figure 2.1-3 of the FSAR shows that the 2500 ft exclusion radius encompasses approximately 10 buildings on the western shore of the Schuylkill River at Frick Lock. Please indicate the ownership of these buildings. Indicate if these are occupied residences.
- 311.6 10 CFR Part 100, section 100.11(a), indicates that the population center distance should be "at least one and one-third times the distance from the reactor to the outer boundary of the low population zone." You have designated a low population zone (LPZ) outer radius of 1.3 miles and have indicated that the distance to the nearest population center is 1.7 miles. We believe that the population center distance is less than one and one-third times the LPZ outer radius. Please consider whether a reduced LPZ outer radius will meet the requirements of Part 100 both with respect to the population center distance as well as meeting the guideline doses. Indicate what action you plan to take.
- 311.7 Table 2.1-15 of the FSAR indicates that the 1970 census data was used as a source of projected populations for the Limerick area. Please provide an update for the demographic data based on the most recent 1980 census survey.

- 311.8 Table 2.1-17 of the FSAR shows the number of employees at industries within 5 miles of the reactor site. Please provide a revised table which indicates the distance and compass direction to each of the industries listed.
- 311.9 Table 2.1-17 of the FSAR lists the number of employees at all industries within 5 miles of the site. Please provide a revised table which indicates the maximum number of employees at these industries at any one time.
- 311.10 Please provide a table which shows the maximum number of seasonal transients at any one time at recreational areas within 5 miles of the site.
- 311.11 Please indicate the maximum quantity of explosives stored at any time as well as the maximum quantity detonated at any time at the Pottstown Trap Rock Quarry. Indicate how explosives are transported to the quarry and the routes used.
- 311.12 Please provide a scaled map which shows the routings of the ARCO and Columbia Gas pipelines and which has sufficient detail to permit estimates to be made of the distances from these lines to significant plant features. Please indicate the closest distances of approach of these lines to any plant safety-related structures.
- 311.13 a) Please indicate whether propane or LNG is presently being transported through the ARCO pipeline, or could be transported in the future without changing pumps, valves, etc.?
- b) You have provided an analysis of the effects of a postulated rupture and subsequent isolation of the ARCO pipeline. It is not clear that this event conservatively represents the potential impact of the pipeline upon the plant. Please provide additional analyses as follows:
- (1) Provide an analysis of a postulated rupture of the ARCO pipeline involving a relatively low leak (of the order of a few gallons per hour) that goes undetected.
  - (2) Provide an analysis of a postulated double-ended rupture of the ARCO pipeline where no isolation of the line occurs for several hours.

In the above analyses indicate whether, and under what conditions, spillage from the pipeline could approach closer to the plant than the value of 800 feet used in your previous analysis. How would your conclusions change if propane were spilled, rather than gasoline? Please state all your assumptions.

- 311.14 a) Section 2.2.1.1.1 indicates that the evaluation of explosive shipments by rail was based upon Regulatory Guide 1.91 and that 56 tons (112,000 lbs) of TNT was used in your analysis. Regulatory Guide 1.91 (Rev.1) lists a railroad box car as having a capacity of 132,000 lbs. Please resolve this discrepancy or provide a revised analysis based upon a postulated detonation of 66 tons (132,000 lbs) of TNT.
- b) Section 2.2.3.1.1 indicates that the overpressure due to a detonation of 56 tons of TNT is calculated to be 5.1 psi at the diesel-generator building, about 600 feet away. Please provide a copy of your analysis and indicate if the calculated peak value is side-on or end-on reflected overpressure.
- c) Please provide data on the shipping frequency of explosives on the rail-road line which passes through the exclusion area. Are explosives shipped in multiple box-car shipments per train?
- 311.15 a) Sections 2.2.3.1.1 and 2.2.3.1.4 describe potential accidents involving explosion and fire from a propane tank car on the rail line which passes through the exclusion area. Please provide an analysis of the effect of a delayed ignition of a dense, heavier-than-air propane cloud released to the environment. Indicate the effect of topography on dispersion of the plume. Provide your analysis of the overpressure of this event on plant safety-related structures.
- b) Please provide data on the shipping frequency of propane and/or other potentially explosive gases on the rail line through the exclusion area.
- 311.16 a) Please provide an analysis of the probability of an aircraft crash on any Limerick safety-related structures, using the procedures of Standard Review Plan Section 3.5.1.6, due to aircraft activity at the following airports:
- 1) Pottstown Municipal Airport
  - 2) Pottstown - Limerick Airport
- b) Please provide data on aircraft usage in terms of frequency of flights at:
- 1) Pottstown VOR
  - 2) along V143
  - 3) along V29/V147