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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) )

APPLICANT'S SUPPLEMENTAL RESPONSES TO  
"INTERROGATORIES OF DEL-AWARE UNLIMITED, INC.  
ADDRESSED TO APPLICANT PHILADELPHIA ELECTRIC COMPANY"

September 1, 1982

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Interrogatory 1(d): Please state the anticipated velocities in one foot, five foot, and ten foot circumferential distances, at each point (or representative points) along such circumferences surrounding the proposed intake screens. Please indicate the anticipated velocity of the water at such points, noting the location of such points, when the flow of the Delaware River at Trenton is 2,000 CFS.

Response: To the extent Applicant has such information, it answered this interrogatory in its response filed August 20, 1982. Applicant has no further information responsive to this interrogatory and is not required to do research to respond to this interrogatory.

Interrogatory 1(f): Please state the anticipated distribution of the water sources between Tohickon Creek and the Delaware River through the intake at various flows in velocities, including velocities of 2,000, 2,500, 3,000, 3,200, 3,500, 4,000, 5,000, 6,000, 7,000, 8,000, 9,000, and 10,000 CFS in the Delaware River in combination with those of 200, 500, 750, 1,000, 1,500, 2,000, 2,500, and 3,000 CFS from the Tohickon Creek.

Answer: As Applicant stated in its August 20, 1982 response, Applicant has no currently available information responsive to this interrogatory.

Interrogatory 1(g): Please state whether PECO is presently committed to providing compensatory storage to maintain Delaware River flow and, if so, the location at which the storage will be maintained; the anticipated date of construction of such storage facility; whether an environmental impact statement has been prepared for such facility; whether application has been made to any agencies other than DRBC for approval of such facility, and, if so, the names of such agencies, the dates of such applications, and their present status.

Answer: As PECO witnesses stated at depositions on August 5, 1982 (Tr. 88-96), PECO is a joint applicant with six other utility companies for construction of a storage reservoir on Merrill Creek, in Harmony Township, Warren County, New Jersey. The project is needed to fulfill DRBC's requirements that utilities planning consumptive use of Delaware River water provide compensatory flows to be released from storage when DRBC cannot maintain the flow at Trenton at more than 3,000 cfs.

The construction of the storage facility will begin promptly upon receipt of all necessary permits and approvals. It is expected that the facility will be ready for filling in 1985 and will be in full operation during 1986.

Application for project approval was filed with the DRBC on December 30, 1977. In mid-1982 the Commission issued the draft Environmental Impact Statement which is currently under review.

MERRILL CREEK RESERVOIR PROJECT  
PERMITS OR APPROVALS

Federal

	<u>Agency</u>	<u>Filing Date</u>	<u>Status</u>
Department of Army Permit for the Delaware River intake	USACOE	10/23/80	Pending

<u>State</u>	<u>Agency</u>	<u>Filing Date</u>	<u>Status</u>
Permit to Construct or Repair a Dam			
Ingersoll Rand Dam	NJDEP	4/21/80	Approved 5/27
Merrill Creek Dam	NJDEP	4/22/80	Pending
Water Lowering Permit Ingersoll Rand			
	NJDEP	3/27/80	Approved 1/27/82
Soil Erosion & Sediment Control Plan			
	NJDOA- WCSCD	12/12/81	Approved 1/27/82
<u>County</u>			
Warren County Road Crossing Permit			
	WCRD	6/11/81	Pending
<u>Municipal</u>			
Dam Demolition Permit Ingersoll Rand			
	Harmony Township	5/28/80	Approved 5/28/80

Interrogatory 1(i): Bearing in mind that the intake will be operated by NWRA at low flow periods even if not operated for PECO's use, please state the anticipated minimum surface water elevation and clearance above the intake at the proposed location, and state what measures, if any, are planned to maintain a minimum water elevation sufficient to protect members of the public engaged in boating and tubing in the vicinity of the intake. Please describe in detail any such measures.

Answer: As explained at the depositions of PECO witnesses, on August 5, 1982 the elevation of the surface water at the intake will be a minimum of 70 feet (Tr. 121). The elevation of the water above the intake will be a minimum of 4 feet. This is a sufficient buffer to protect people engaged in boating and tubing.

Interrogatory 3: Please state the basis of any conclusions and describe in detail any studies leading to the conclusion that the intake as presently proposed will not be subject to frequent or occasional outage due to debris and ice conditions in the river. Also please describe any studies relating to the potential for ice damage, and describe any plans made or other measures considered in response to such potential.

Answer: As explained by PECO witnesses at depositions on August 5, 1982, PECO does not anticipate that ice and debris will cause any damage to the intake structure (Tr. 216-24). While there is ice in the Delaware River during the winter months, no ice jams in the Point Pleasant area at the intake site have been observed. If an ice jam were to occur, it would most likely occur upstream at the old bridge piers or at the Lumberville Dam and would not affect the Point Pleasant intake.

Further, the intake is 4 feet below the surface and any ice or debris would likely pass over the intake. In the unlikely event that ice or debris reaches 4 feet below the surface and causes damage, it would present a minor maintenance problem of short duration. No dredging would be required; a diver would perform any necessary repair work. To further assure no damage will occur, the upstream end of each screen will be fitted with a nose cone to streamline the bypass flow and to fend off any material that might impact the screens. Also, three 12 inch diameter steel guard posts will be installed immediately upriver from the screens to provide added protection against ice or debris.

The intake will have minimal usage during the winter and early spring when floating ice, frazil ice, and debris may be present in the river. For these reasons, frazil ice is not likely to be a problem.



Interrogatory 9: With respect to the Merrill Creek Reservoir, please indicate the extent of compensatory storage which it is expected to provide, and the potential impact of the failure to obtain approval of such reservoir or some other alternate storage facility, on the operation of Limerick (assuming both Units 1 and 2 are operated).

Answer: Applicant provided this information at depositions August 5, 1982 (Tr. 88-96). As Applicant's witnesses explained, Merrill Creek could provide 200 cfs of flow for a period of 115 days. If the Merrill Creek project is not approved and no other water is available, no water will be taken from the Delaware other than in accordance with the conditions of the DRBC docket decisions as authorized by the DRBC.

Interrogatory 12: Please identify and describe the contents and conclusions of any reports, studies or other material relating to the phasing of the construction of the Point Pleasant diversion and the timing of the work in the river. In other words, please provide a complete description of and identify all information made available to PECO relating to the need to undertake constructing in the Delaware River during the first winter of project construction (i.e., 1982-83).

Answer: The timing and phasing of the construction at Point Pleasant was discussed fully at depositions on August 6, 1982 (Tr. 46-86). As explained by the NWRA witnesses, DRBC has required that NWRA undertake work in the river between November and March. It is necessary to begin during the winter months of 1982-1983 so that river work can be completed during the winter of 1983-1984. The letter of September 9, 1981 from E. H. Bourquard to the Corps of Engineers discusses phasing of construction work.

Interrogatory 13: Please identify all documents constituting, relating to, or considering the operating plan for the Point Pleasant intake, in and of itself, and as related to the Bradshaw Reservoir and/or proposed releases to the Perkiomen Creek. Please identify any final or presently final documents relating to or constituting such operating plan.

Answer: Applicant objected to this interrogatory to the extent that it requested information relating to proposed releases to the Perkiomen Creek. Except with regard to this issue, Applicant responded fully to this interrogatory in its August 20, 1982 response. One document, a letter from E. H. Bourquard to W. Haines Dickinson, dated August 10, 1982, which discusses the Point Pleasant Pumping Station and the Bradshaw Reservoir operations, is added to the list of documents contained in the August 20, 1982 response.

Interrogatory 17a: Please describe PECO's present plans with respect to applying for a permit under Section 316(b) of the Clean Water Act, and other federal water quality permits relating to the intake water.

Answer: No application will be filed by PECO for any intake on the Delaware River under Section 316(b) of the Clean Water Act. Applications are not filed for intake structures as such under Section 316(b). As a matter of information PECO will apply at the appropriate time for Section 402 NPDES permits with regard to the Limerick discharge into the Schuylkill River. This application will include the description of the intake structure on the Perkiomen and the Schuylkill under which PaDER may make an evaluation as to "best available technology" as to the intake structures.

Interrogatory 17b: Please describe any studies or reports relating to the compliance of the intake with EPA guidelines requiring application of best available technology pursuant to Section 316 of the Clean Water Act, and identify any documents, reports or contacts relating to the necessity for compliance with the requirements of that section.

Answer: PECO has large intake structures at all of its generating stations and thus has kept abreast of developments in design for many years. The basic study relating to this subject was the "Development Document for Best Technology Available for the Location, Design, Construction and Capacity of Cooling Water Intake Structures for Minimizing Adverse Environmental Impact." This document contains information on the background to Section 316(b) of the Clean Water Act. It was published by the EPA under the administration of Russell E. Train in 1976.

Other basic references concerning wedgewire screens are the "Passive Intake Screen Workshop" dated December 4-5, 1979 and "Larval Exclusion Systems for Power Plant Cooling Water Intakes" from Proceedings of the Workshop Held at Shelter Island Inn, Santiago, California February 7-8, 1978. The intake at Point Pleasant will use wedgewire screens. These screens are generally accepted by fishery biologists as being state of the art to further reduce impingement and entrainment of aquatic life.

Interrogatory 20: Please identify and describe the contents and conclusions of any reports, or evaluations of reports, submitted by intervenors or other opponents of PECO in any proceeding before an agency, and made available to PECO or its technical consultants (including, but not limited to, reports by GKY Associates, Ezra Golub, and Edwin Beemer) relating to hydrolics, hydrology, location of the intake and the ambient velocities, the effects of blasting, or any other impacts. Please identify any reports relating to water quality information submitted by intervenor or any other opponent of PECO to the Pennsylvania Department of Environmental Resources, the Corps of Engineers, or any other agency, and made available to PECO or any of its technical consultants.

Answer: PECO responded fully to this interrogatory, as clarified in Intervenor's Motion to Compel Answers, in its August 20, 1982 response.

Interrogatory 21: Please describe the extent to which the data in the NWRA Environmental Report of February, 1979, was considered in preparing the July 1979 Report and identify all documents in which such data was considered. Please describe the coordination between the NWRA Environmental Report of February, 1979, and PECO concerning the collection, analysis, interpretation, and/or presentation of water quality data for the Delaware River. Please identify all documents constituting, reflecting, or prepared in the course of such consideration.

Answer: PECO responded to this interrogatory in its August 20, 1982 response.







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CERTIFICATE OF SERVICE

I hereby certify that copies of "Applicant's Supplemental Responses to 'Interrogatories of Del-Aware Unlimited, Inc. Addressed to Applicant Philadelphia Electric Company,'" dated September 1, 1982 in the captioned matter have been served upon the following by hand delivery, as noted below, or by deposit in the United States mail this 1st day of September, 1982:

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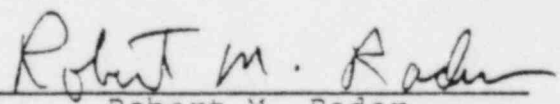
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