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December 23, 1983

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

Judge Peter A. Morris
Atomic Safety and
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Judge Richard F. Cole
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Washington, D.C. 20555

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

Dear Board Members:

On December 12, 1983, the Administrative Law Judge for the Pennsylvania Public Utility Commission hearing the case concerning the application for the Bradshaw Pumping Station had issued a recommended decision which granted the application in part and denied it in part. The decision, which we received today, is enclosed.

Sincerely,

Troy B. Conner, Jr.
Troy B. Conner, Jr.
Counsel for Philadelphia
Electric Company

cc: Service List

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DS03



COMMONWEALTH OF PENNSYLVANIA
PENNSYLVANIA PUBLIC UTILITY COMMISSION
P O BOX 3265, HARRISBURG Pa 17120

DOCKETED
USNRC

December 19, 1983

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IN REPLY PLEASE
REFER TO OUR FILE
A-00103956

TO WHOM IT MAY CONCERN

Application of PHILADELPHIA ELECTRIC COMPANY

TO WHOM IT MAY CONCERN:

Enclosed is a copy of the Initial Decision of Administrative Law Judge Isador Kranzel.

If you do not agree with any part of this Decision, you may send written comments (called Exceptions) to the Commission. Specifically, an original and nine (9) copies of your exceptions MUST BE RECEIVED BY THE SECRETARY OF THE COMMISSION IN ROOM 3-18, NORTH OFFICE BUILDING, NORTH STREET AND COMMONWEALTH AVENUE, HARRISBURG, PENNSYLVANIA 17120, within fifteen (15) days of the date of this letter because the time period is set by law (66 Pa. C.S. 332(h)). If your exceptions are sent by mail, please use the address shown at the top of this letter. A copy of your exceptions must be sent to each party of record and to the Administrative Law Judge whose address is Pennsylvania Public Utility Commission, 1310 Philadelphia State Office Building, 1400 West Spring Garden Street, Philadelphia, Pennsylvania 19130.

If you receive exceptions from other parties, you may submit written replies to those exceptions in a manner similar to that stated above within twenty (20) days of the date of this letter.

Exceptions and reply exceptions shall obey 1 Pa. Code 35.212, particularly the 50 page limit.

Exceptions should clearly be labeled as "EXCEPTIONS OF (Name of Party) - (protestant, complainant, staff, etc.)". Do not label exceptions as a "Brief" or "Brief on Exceptions".

If no exceptions are received within fifteen (15) days, the decision of the Administrative Law Judge will become final without further Commission action. You will receive written notification if this occurs.

Very truly yours,

Wm H. Smith

William H. Smith

Chief Administrative Law Judge

Encls.
Certified Mail
Receipt Requested

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

IN RE:

Application of Philadelphia Electric Company	:	DOCKET NO.
for finding of necessity for the situation	:	
of a pumphouse to contain pumping and acces-	:	
sory equipment on a site located at the	:	
intersection of Bradshaw and Moyer Roads,	:	
in Plumstead Township, Bucks County.	:	A-10103956

INITIAL DECISION

Before
ISADOR KRANZEL
Administrative Law Judge

HISTORY OF THE PROCEEDINGS

On March 8, 1982, the Philadelphia Electric Company (hereinafter "PECO") filed an application with the Commission pursuant to Section 619 of the Pennsylvania Municipalities Planning Code, 53 Pa.C.S.A. §10619, alleging that the construction of a pumphouse on its land at the intersection of Bradshaw and Moyer Roads in the township of Plumstead, Bucks County, Pennsylvania is reasonably necessary for the convenience or welfare of the public. Applicant plans to construct said pumphouse to house pumps, motors and related equipment in order to supply water from the proposed reservoir to the East Branch of Perkiomen Creek. The pumphouse would also be used to direct water from the proposed reservoir to the north branch of Neshaminy Creek from which it would eventually be withdrawn for distribution to the public. Water which flows through the East Branch of the Perkiomen Creek will be withdrawn and pumped to the applicant's Limerick generating station, which is being constructed in Limerick Township,, Montgomery County, Pennsylvania, where it will be used to replace water which evaporates during the operation of said station. Applicant intends to house four 8,000 gallons per minute electric motor driven, vertical turbine-type pumps, piping switchboards, protective relay, batteries, indicating and recording instruments, electrical switch gear, supervisory control facilities and other accessory equipment in its proposed pump house.

This matter comes before the Commission because, applicant has chosen not to proceed before the local authorities and has instead chosen to proceed under Section 619. Absent a township variance from presently effective zoning ordinances, the site is unavailable for use as a pumphouse unless an exemption is granted by the PUC pursuant to 53 Pa.C.S.A. §10619.

On March 25, 1982, PECO served a copy of its application in the above captioned matter upon the Plumstead Township Board of Supervisors, the Plumstead Township Planning Commission, the Bucks County Commissioners, and the Bucks County Planning Commission.

By letter dated June 15, 1982, Del-Aware, Unlimited (hereinafter "Del-Aware"), a broad based citizens organization, sought to intervene in the PECO application. On July 16, 1982, Del-Aware, along with individual petitioners Val Singstedt and Colleen Wells, filed an Amended Petition to Intervene in the above captioned proceeding, alleging that the construction of PECO's proposed pumphouse would cause direct, immediate, pecuniary and substantial harm to their aesthetic interests, the quality of their drinking water, the value of their property, and their enjoyment of the natural and historic resources of the area. Furthermore, they allege an interest in preventing the many adverse safety, environmental, economic, and health effects which they will suffer as a result of said construction.

By way of answer filed July 28, 1982, PECO averred that any interest of petitioners in the Delaware River is not relevant to this proceeding and that there are only approximately four residences in the immediate vicinity of the pumphouse, no places of work, and no places of recreation. PECO also denied that the construction of the pumphouse would cause any direct, immediate, pecuniary and substantial harm to the aesthetic interest, the quality of drinking water, value of property and enjoyment of natural and historic resources by intervenors Del-Aware, Singstedt, Wells or others. PECO stated that the proposed pumphouse would in no way constitute a public danger or create any nuisance to a nearby resident.

On September 1, 1982, petitioners filed a Supplemental Memorandum of

law in support of their Petition to Intervene. On September 16, 1982, applicant PECO filed its Supplemental Memorandum of Law in Opposition of the Petition to Intervene. PECO subsequently filed additional Memoranda of Law; its second Memorandum was filed October 27, 1982 and its final Memorandum was filed November 26, 1982.

On January 17, 1983, the Petition of Del-Aware to Intervene in the above captioned matter was permitted under the condition that no interrogatories or depositions of any parties would be permitted.

On March 4, 1983, the Consumer Advocate of Pennsylvania filed a Notice of Intention to Intervene. By order dated March 9, 1983 it was decreed that the Consumer Advocate would be a party to the above captioned proceeding.

On March 18, 1983, a Petition to Intervene was filed by Friends of Branch Creek, c/o Mark and Judy Dornstreich, 1501 Branch Road, Perkasio, Pennsylvania. Said petition was denied; however, Mark Dornstreich subsequently testified on Intervenor's' behalf.

All pre-trial arguments, consisting of 64 pages of compiled testimony, were conducted July 30, 1982. A pre-hearing conference held on March 4, 1983, resulted in 48 pages of recorded testimony. Subsequent hearings resulting in 1,549 pages of recorded testimony were held on May 20, 1982, March 17, 18, 21, and 23, 1983, April 5, and 17, 1983, and May 2, 6, 11, 16, and 19, 1983. Numerous witness statements were also entered into evidence. Briefs were filed by Applicant and Intervenor's.

SUMMARY OF TESTIMONY

Applicant's Testimony

Vincent Boyer, Senior Vice President, Nuclear Power - PECO, testified first concerning applicant's petition for a finding of reasonable necessity

pursuant to 53 Pa.C.S.A. §10619. He stated that such a finding is necessary in order to exempt PECO from local zoning requirements which designate the area R-1, Rural Residential District. (Applicant Statement-1, p. 1)

PECO seeks water to serve its Limerick 2 site which it expects to have operational in 1988. In order to supply this water, PECO, together with the NWRA, intend to build a cement pumphouse at a cost of \$560,000 to house four pumps. PECO chose concrete construction because it has an expected life of 40 years while all-metal construction has an expected life of only 20 years and a construction cost of approximately \$510,000. PECO will also landscape the property at an estimated cost of \$5,000 (Affidavit Pp. 1, 2). Construction delays leading to completion of the Bradshaw Pumphouse after September, 1984 will result in costs of \$400,000 for each month of delay plus increased energy costs for electric production amounting to an average of \$6,000,000. (Affidavit Pp. 2-4)

The witness testified that the Delaware River Basin Commission (hereinafter "DRBC") directed PECO and NWRA to create a joint water supply and requested that they submit a feasibility study. Subsequently, DRBC added the NWRA/PECO project to its comprehensive plan but deferred project approval, pursuant to §3.8 of the DRBC Compact, pending submission of final plans. In accordance with the National Environmental Policy Act (hereinafter "NEPA"), DRBC prepared an Environmental Impact Statement (hereinafter "EIS") covering its comprehensive plan and submitted the EIS in its final form to the Council on Environmental Quality (hereinafter "CEQ"). (Applicant Statement-2, Pp. 2-4)

DRBC concluded that the proposed NWRA/PECO project, including the Point Pleasant pumping station, would prove beneficial to the Perkiomen watershed and that the project would have no significant adverse effects on the environ-

ment.^{1/} DRBC considered alternatives such as the Schuylkill River and Blue Marsh Reservoir. DRBC concluded, however, that the Schuylkill River could not provide the year round consumption which Limerick would require. It also rejected Blue Marsh as a viable alternative due to anticipated needs for population growth and industrial expansion within the Delaware River Basin. In addition, a portion of long term storage at Blue Marsh is dedicated initially for low flow augmentation for water quality control in the lower Schuylkill River in accordance with recommendations of the Federal Water Pollution Control Administration. DRBC continues to aver "that the proposed project would be a feasible and beneficial use of water resources in the Neshaminy and Perkiomen watersheds and not detrimental to the Delaware River." (Applicant Statement-2, Pp. 2-4, 8, 9, 18)

PECO received permits from the Pennsylvania DER to construct and maintain facilities necessary for the transfer of water from the Delaware River near Point Pleasant in Bucks County to the East Branch of the Perkiomen Creek. (Applicant's Statement-2, Pp. 8, 9) DER considered alternative water sources and specifically found that "no feasible cost effective alternatives to the project have been identified which would fulfill the needs for the project and offer significantly less effects on the environment or public natural resources." (Applicant Statement-2, p. 19)

The Nuclear Regulatory Commission (hereinafter "NRC") specifically declined Del-Aware's request that they assert jurisdiction stating: "these matters are all aspects of allocation decisions which are entrusted to the DRBC and which the NRC is precluded from considering." (Applicant State-

^{1/} DRBC identified temporary adverse effects during construction as (1) minimal water evaporation which occurs naturally, (2) effects upon fish life which were remedied by redesigning screens at Point Pleasant, and (3) limited bank erosion which will occur until the banks stabilize sometime after the initial phase of operation. (Tr. 732, 733)

ment-2, p. 19)

Applicant next called Paul L. Harmon, General Manager - Environmental Services Division of Radiation Management Corporation (hereinafter "RMC") which investigates aquatic and terrestrial ecology and water chemistry. The witness testified that, during the past 12 years, he has participated in an aquatic ecological investigation of the East Branch of the Perkiomen Creek, the Perkiomen Creek, the Delaware River and the Schuylkill River near PECO's Limerick generating station and has gathered and analyzed data regarding water quality, aquatic plants, benthic macroinvertebrates, and fish. Based upon the aforementioned studies RMC concluded that the net effect of the Point Pleasant diversion would be one of a general improvement of aquatic life in the East Branch. Increased turbidity at the point of diversion will not be lethal to fish who will thrive just above and below the diversion point. The new higher summer flow will benefit aquatic life by providing more habitat for fish. (PECO Statement-4, 1-3, N.T. 822-827)

Diversion of 65 cfs to the stream will cause temporary scouring, siltation and channel modifications which will last no more than a matter of days or weeks at most. As the stream in question does not, during low flow conditions, cover the full width of the existing channel, enlargement of the stream during augmented flow will remain confined within existing stream banks. (PECO Statement-4, 4-5)

Applicant next called R. Timothy Weston, Associate Deputy Secretary for Pennsylvania DER Resources Management and DRBC Commissioner, who testified that he has an extensive educational and work background in the field of water resources management and water policy. (PECO Statement-3, 1-3)

The witness stated that he directly participated in both DER and DRBC reviews of the NWRA/PECO Point Pleasant Project which included environmental

assessment and consideration of alternatives. The witness stated that water withdrawal from the Schuylkill by PECO at Limerick would constitute consumptive use as the water would not be returned to the river. In other words, should Limerick withdraw 21 mgd, a corresponding 21 mgd loss would be experienced downstream. Such a water loss would effect water quality and minimum stream flow thereby diminishing the rivers' fish protection, recreation and wild-life value. (N.T. 4, 9-13) Diminution of the amount of water currently available to the City of Philadelphia, due to consumptive use by Limerick, is not consistent with sound principle of water planning and management. (N.T. 15)

Weston stated that the Blue Marsh Reservoir is not a technologically feasible alternative because it is subject to required conservation release and the Western Berks Water Authority holds an allocation for public supply use from the reservoir. A commitment to supply PECO's Limerick plant from Blue Marsh raises serious water management policy problems as PECO would use virtually its entire water supply capacity. (N.T. 17-21)

The witness has no specific training or education of a scientific nature; he was educated at Harvard and worked as an attorney prior to becoming Associate Deputy Secretary for DER and DRBC Commissioner. (N.T. 914-916)

Applicant next called Robert Goodell, Chief Engineer - DRBC, who testified that the Commission (DRBC) has statutory power to allocate, pursuant to the doctrine of equitable apportionment, waters of the basin among member states. Applicable statutory authority prohibits projects having a substantial effect upon water resources of the basin, absent Commission (DRBC) approval, and grants the Commission power to modify or disapprove any project it determines would substantially impair or conflict with DRBC's comprehensive apportionment plan. (PECO Statement-7, p. 1, N.T. 999, 1,000)

DRBC has extensively discussed the Point Pleasant and Limerick Projects. It has concluded that the Schuylkill River alternative would deplete water available to the City of Philadelphia. Furthermore, a municipal or industrial surface water user cannot buy, sell, or trade its "legal entitlement." More water is available from the Delaware River. Fewer downstream users exist along the Delaware; therefore, water withdrawal at Point Pleasant would not have the same downstream effect as water withdrawal from the Schuylkill (PECO Statement-7, Pp. 2-7, 1,000-1,003). Withdrawal from the Schuylkill might be feasible were a reservoir put into place upstream from Limerick. (N.T. 1,022)

The witness stated that it was his opinion that the Blue Marsh Reservoir is also not a feasible alternative due to the increased water supply needs of the Western Berks Water Authority, replacement of consumptive water uses in the Schuylkill River Basin and throughout the entire Delaware River Basin, the need to provide adequate flow-augmentation in the Lower Schuylkill River in light of a significant number of waste dischargers between Limerick and the Fairmount Dam, and, releases to meet other withdrawal needs in the project area and to meet municipal and industrial water demands in the Lower Schuylkill Basin. (PECO Statement-7, Pp. 8, 9, N.T. 1,016-1,020).^{2/}

Applicant next called Robert A. Steacy, since 1978 employed by Borquard Associates, a registered professional engineer specializing in civil engineering, hydrology and hydraulics, who testified that he disagreed with Mr. Hershey's testimony regarding erosion and flooding on the East Branch of the Perkiomen. The witness believes that augmented flows will not increase the incidence of flooding on the East Branch of the Perkiomen. In fact, DRBC imposed as a condition to its approval of the diversion, a limitation on PECO augmentation of the East Branch. In order to assure compliance with

^{2/} Said conclusion regarding feasibility is not based on water used by one Limerick unit.

this limitation, a standard stream gauging station will be installed and maintained slightly downstream in the Bucks Road area by the U. S. Geological Survey. (PECO Statement-6, Pp. 1-3)

The witness stated that erosion, if any, would not be material citing Brader and King, Handbook of Hydraulics (6th Edition). Augmented flows will not increase velocity to the extent that the current size, shape or contour of the stream will alter. (PECO Statement-6, Pp. 4, 5, N.T. 1141-1142, 1242)

Applicant next called John Eric Edinger, Ph.D., a self-employed consultant, who testified that his firm specializes in hydrodynamics, environmental hydrology, the analysis of water quality data and water quality modeling. (PECO Statement-5, p. 1) The witness holds degrees in civil engineering, mathematics, environmental engineering and water resources and physical oceanography and has taught courses in civil engineering and water resources. The witness has acted as consultant in the area of water quality and sampling to a number of firms. (PECO Statement-5, Pp. 1-3)

Mr. Edinger testified that he has read intervenor witness Hershey's report and disagrees with Mr. Hershey's conclusions that (1) the transfer of nutrients from the Delaware River to the East Branch of the Perkiomen will have an adverse effect on the latter stream, and (2) as a result of the East Branch water diversion, there will be a decrease in oxygenation or reaeration. Edinger wstates that Delaware River detritus will be eliminated by a bottom intake with a fine screen.^{3/} Measurements of total suspended solids (hereinafter "TSS") are currently lower in the Delaware River than in the East Branch of the Perkiomen. (A lower measurement was obtained at monitoring stations at the headwaters at the mouth of the East Branch). Due to the

^{3/} Detritus - any fragmentary material; waste; disintegrated matter; debris.

fact that the channel will deepen after diversion, reaeration in channel reaches will not increase to detrimental levels. In fact, reaeration may improve with greater flow. (PECO Statement-5, Pp. 4-6, N.T. 1289-1297)

Intervenor's Testimony

Intervenor called as its first witness Mark Dornstreich, Ph.D., an anthropologist, who testified as to what he believes are the detrimental effects of the diversion upon the community, property owners and residents of Bedminster Township and the immediately downstream township of East Rock hill. Approximately 8 households will be affected in Bedminster Township with an additional 10 affected households in East Rockhill Township. (N.T. 15, 16, 25-28, 59)

The witness presented a petition signed by 100 residents of Bedminster Township who oppose the Point Pleasant project for economic, safety, recreational and environmental reasons. (N.T. 15, 28, 29)

The witness assumed a maximum water pumpage of 23 million gallons per day (65 cfs) with a concurrent discharge of the same amount of water into the Branch Creek.^{4/} Maximum pumpage would occur (6) months of the year; for an additional two months of the year (one on either side of the six month period) pumpage will be less than the maximum. He also assumed flooding would occur based upon intervenor's witness Hershey's testimony. The witness also based his conclusions on information from PECO's LGSEROL.^{5/} The witness, himself, possesses no technical expertise. (N.T. 33, 37-39, 43, 44)

^{4/} The 23 million gallon figure assumes operation of only Limerick No. 1. Should Limerick No. 2 also operate concurrently with Limerick No. 1, 46 million gallons per day would constitute the maximum pumpage figure. The 65 cfs figure would remain constant at either pumpage figure.

^{5/} Limerick Generating Station Environmental Operating License, Section 5.1.3.3, East Branch Perkiomen Creek: Diversion. (N.T. 42, 45)

Dr. Dornstreich concluded the depth of the water would approximately double or triple and the width would double. Therefore, drainage problems would arise which would seriously affect vegetable growers in the area. The recreational value of the stream would decrease and safety risks to children would increase as stream flow was increased. (N.T. 29, 63-65, 69).

Intervenor next called Jane Hess, real estate broker in central, northern and northeastern Bucks County since 1965, who testified that the pumphouse would dominate the landscape thereby lowering the rural appeal of the area and, therefore, real estate values (N.T. 104, 106-111, 115). The witness was also concerned by the fact that the State Department of Dam Safety classified the area C-2 - a small area of significant hazard. (N.T. 112, 113)

On cross-examination, the witness stated that area property values increased when Nockamixon dam was built due to the recreational value of the lake created. (N.T. 130-131)

Intervenor next called Jonathan Phillipe, a self-employed engineering consultant specializing in water resource quality and quantity for the past eight years, who testified that the Schuylkill River has more water available than anticipated. Therefore, Limerick could be served from the Schuylkill. Another viable alternative is the Blue Marsh Reservoir, which fills naturally thereby allowing one to avoid pumping costs. (N.T. 133, 156-158)

He understood that no alternate sources, however, would be available to applicant absent DRBC approval. (N.T. 200, 201)

Intervenor next called J. Toby Tourbier, Consulting Research Director of the University of Delaware Water Resources Center and Adjunct Assistant Professor, Department of Landscape Architecture and Regional Planning - Uni-

University of Pennsylvania, who testified that the proposed pumpouse is totally incompatible with R-1 use. He stated that increase flow and flooding would adversely affect the environment even though the 1981 EIS states otherwise. Fish would die due to the high velocity flow and suspended particles. (N.T. 313, 317, 321, 323, 324)

Intervenor next called William J. Marrazzo, Philadelphia Water Commissioner, who testified that the City is extremely flexible in that it can shift its water intake between the Delaware and Schuylkill Rivers. For this reason, it could forego some of its Schuylkill River entitlement so that Limerick might purchase treated water from the city for use in its cooling operations. (N.T. 387-388, 396, 397) The witness stated that untreated water might be available to Limerick but that no decision had been made as yet as to whether said treated or untreated water would be sold or given to PECO. (N.T. 402, 403)

Intervenor next called John T. Hershey, Director of Environmental Group Research Institute, who testified, based upon his extensive background in environmental research and analysis that the Point Pleasant project is not environmentally sound.^{6/} The witness, together with Mark Dornstreich, Kirkland Emerson Hershey, Andy Bass and Maria Decker studied the East Branch of the Perkiomen in the vicinity of the discharge to determine its present character and the impact of the proposed discharge. The witness' testimony is based upon his own observations, those of the listed people and of others who are not listed, but who volunteered time. (N.T. 466, 470-473)

^{6/} Mr. Hershey holds a B.S. in electrical engineering and an M.S. in technical writing from Rensselaer Polytechnic Institute. He does not hold a chemistry degree; he has taken no post-graduate course in biology. (N.T. 419, 439, 440)

The witness concluded that diversion would cause flooding if the pumps were not stopped before bank-flow is achieved or 112 cfs. Said flooding would adversely affect land use and value. Scouring (continuous abrasion) would occur where the stream turns due to the higher velocity .

The witness contends that EROL's estimate regarding low and high flows and stream width, depth and velocity increases underestimates what will actually occur after diversion (N.T. 537, 538). Effects upon fish include destruction of newly laid eggs as they will be swept from the nests and destroyed by the turbulence, destruction of plants which are part of the food web and an absence of oxygen generation. (N.T. 567-569)

Intervenor next called Edwin J. Beemer, Jr., independent geological consultant, who testified that he is experienced in the areas of sedimentation, stratigraphy (the relationship of sedimentary beds), diatoms, and soil mechanics. (N.T. 1315-1318, 1321) The witness stated that he investigated the East Branch of the Perkiomen Creek as to its susceptibility to erosion. (N.T. 1346) He concluded that additional water in the creek due to diversion would increase erosion above and beyond the normal erosion involved in the stream bed. (N.T. 1347) Erosion of banks will occur where the stream bends. (N.T. 1351)

DISCUSSION

Applicant requests authorization to construct and operate a pumphouse in an area zoned R-1, Rural Residential District. In order to grant applicant's request, the Commission must conclude that: (1) the Public Utility Commission has jurisdiction over the parties and the subject matter pursuant to the Municipalities Planning Code (hereinafter "MPC"), 53 Pa.C.S.A. §10619, and (2) said pumphouse is "reasonably necessary for the convenience or welfare of the public" in light of environmental concerns which the Commission must

consider pursuant to the Environmental Rights Amendment, Art 1, §27.

Jurisdiction

The Commission may grant exemptions to local zoning restrictions, thereby permitting construction of a building on a site where it would otherwise be prohibited, pursuant to 53 Pa.C.S.A. §10619 which states:

This article shall not apply to any existing or proposed building, or extension thereof, used or to be used by a public utility corporation, if, upon petition of the corporation, the Pennsylvania Public Utility Commission shall, after a public hearing, decide that the present or proposed situation of the building in question is reasonably necessary for the convenience or welfare of the public. (emphasis supplied)

Applicant, a public utility, proposes to build a pumphouse and extensions thereto. The Commission previously determined that a pumphouse is a "building" within the meaning of the MPC. Re Philadelphia Suburban Water Company, 54 Pa. PUC 127 at 131 and 132 (1980). While the question may become moot where the public utility involved is granted a variance to local zoning restrictions, such is not the situation in the instant case. Therefore, the Commission has jurisdiction over the instant application for an exemption.

Reasonable Necessity

Having established jurisdiction, the question before the Commission then becomes whether or not the proposed building site and extension are "reasonably necessary for the convenience or welfare of the public." This question requires careful consideration of Art 1, §27 which provides that:

The people have a right to clean air, pure water, and to the preservation of the natural, scenic, historic and esthetic values of the environment. Pennsylvania's public natural resources are the common property of all the people, including generations yet to come. As trustee of these resources, the Commonwealth shall conserve and maintain them for the benefit of all the people. (emphasis supplied)

This section is self-executing only as it applies to this Public Utility

Commission's regulation of a utility's own conduct which is within the ambit of the regulatory jurisdiction of the Commission as created by statute and directly affects the environment. Borough of Moosic v. Pennsylvania Public Utility Commission, 59 Pa. Commonwealth 338, 429 A.2d 1237 (1981). However, its terms are not absolute and a threefold test applies in reviewing environmental cases:

- a.) Was there compliance with all applicable statutes and regulations relevant to protection of the Commonwealth's Environment;
- b.) does the record demonstrate reasonable effort to reduce the environmental incursion to a minimum; and
- c.) does the environmental harm which will result from the challenged decision or action so clearly outweigh the benefits to be derived therefrom that to proceed further would be an abuse of discretion?

Borough of Moosic, supra. Adoption of this section "has not shifted applicant's burden to affirmatively support an application for a certificate of public convenience to public utility commission but, once adverse impact of certificate sought by applicant upon such constitutional interests is raised by protestant or intervenor, then applicant's burden is intensified, and commission and reviewing court must be satisfied that, inter alia, there was compliance with applicable statutes and regulations relevant to protection of Commonwealth's public natural resources." Commonwealth Department of Environmental Resources v. Commonwealth Public Utility Commission, 18 Pa. Commonwealth 558, 335 A.2d 860 (1975), affirmed, 473 Pa. 378, 374 A.2d 693 (1977).

The initial environmental problem presented by the Point Pleasant pump-house is the location of the Limerick Nuclear Generating Plant. Had the Limerick facility been located at the estuary rather than its present location, a fresh water source for cooling would not be necessary. It is Limerick (units 1 and possibly 2) that will use the lion's share of the water pumped by the Point Pleasant project. Limerick's water use is consumptive in that water

pumped from the Point Pleasant pumphouse to Limerick will evaporate as it cools the generating system and will not be returned to the water cycle. In order to meet Limerick's water consumption needs, PECO seeks to construct a pumphouse to house and operate four pumps. As part of the proposed project, water will be directed from its proposed reservoir to the East Branch of the Perkiomen Creek from which it will be withdrawn and pumped to applicant's Limerick generating station and to the north branch of the Neshaminy Creek from which it will be withdrawn for distribution to the public.

Applicant's witnesses stated that the diversion will raise water levels and slightly increase stream flow but that neither flooding nor substantial detrimental environmental effects would result therefrom. In fact, in their opinion, the overall biological quality of the watershed will improve thereby increasing rather than diminishing aquatic life. DRBC approved the project in 1981 subject to express conditions which will lessen environmental impact on the surrounding area and maintain flow levels at a safe rate. Said approval, however, was based upon a study DRBC prepared in 1973, a study prepared by AEC in 1973 and a study prepared by the U. S. Department of Agriculture, Soil Conservation Service in 1976. All of these studies were at least five years old at the time of DRBC's approval and do not reflect current environmental factors which may, indeed, vary substantially. Further, applicant's chief witness on the issue of flooding the banks of the East Branch cannot be considered an impartial expert witness since he has been employed since 1978 by Bourquard Associates, the same consulting firm that performed the initial environmental studies in this project.

Protestants principle witness Hershey, an electrical engineer, concluded that said water diversion would adversely affect the environment in

that (1) would occur if the pumps were not stopped before tank flow or 112 cfs is achieved, (2) scouring would occur where the streams turn, (3) stream width, depth and velocity would increase, and (4) fish would die because newly laid eggs would be swept away by turbulence, plants which are part of the food web would be destroyed and oxygen generation would be absent.

However, John T. Hershey's broad sweeping testimony must be given limited weight because Mr. Hershey by reasons of his background, cannot be considered an expert in the area of hydrology and hydraulics, which expertise has a great deal of bearing in the resolution of the environmental issues. On the other hand, the credible testimony from protestants remaining witnesses regarding the unexplained failure of PECO to fully explore water supply alternatives such as the Schuylkill River, through the use of the Blue Marsh Reservoir or utilization of the City of Philadelphia's abundant water supply raises serious questions in terms of the three part test in Borough of Moosic v. P.U.C., supra, placed upon the applicant.

Further, when one considers applicant's own testimony that in the event of flooding, pumping would cease with the attendant possibility that the utilization of the Limerick plant might be threatened by sudden interruptions in its water supply, raises further questions about the project. PECO's failure to take fully into account a possible long term threat to water supply needs for Limerick by PECO's failure to insure alternative sources of water supply whether they be from the Blue Marsh Reservoir and/or the City of Philadelphia, raises serious questions about PECO's long range strategies with regard to Limerick.

On the other hand, it is the opinion of the Administrative Law Judge that on environmental issues, except the issue of flooding and erosion, such as aesthetics and effects upon plant and fish life in the stream, the applicant has met its burden of proof regarding environmental impacts under Section 619.

Thus, the ALJ accepts as fully credible the testimony of Mr. Harmon regarding the beneficial aquatic effects on the food chain related to the augmented flow that will occur and cannot agree with the witness Hershey's sweeping testimony in that area to the contrary. (A-4, pp. 1-4)

On the other hand, Mr. Harmon's testimony that the augmented flow will not cause the stream to exceed its bank and flow out into the flood plain, is not supported by citations of either recent studies performed by PECO or by comparative studies regarding other similar projects which could have been made part of the record but were not.

As indicated above, the testimony of Mr. Steacy, despite his background in hydrology and hydraulics, must be viewed with some questions since he has been an employee of Bourquard Associates, the very consulting firm that reached the conclusion that excluding the possibility of serious environmental affects such as flooding and erosion and assures all that the project would be beneficial to the life of the stream. He can hardly be considered an impartial witness and his statements that the U. S. Geological Survey will monitor the flow does not completely erase doubt on this vital issue. (A-6, pp. 34-)

Therefore, applicant has in the most part carried its burden of proof, regarding environmental issues under Section 619. Since the Commission must be concerned with exactly what environmental problems related to flooding and the attendant erosion, can be expected from the operation of four pumps in the East Branch of the Perkiomen one cannot approve the application as presented. Thus, one cannot conclude that at this time, in light of doubt as to the extent of flooding in the East Perkiomen, in the vicinity of the pump, that the pumphouse and four pumps are reasonably necessary for the convenience and welfare of the public. Since it appears that applicant cannot presently use all

four pumps because Limerick-2 has not been approved by this Commission, the application as originally filed should be rejected especially since Limerick-2, even if eventually approved, is not to be expected to be "on-line" until 1988.

Since environmental effects related to flooding as well as the effectiveness of DRBC's proposed water flow monitoring system are in doubt at the present, the Administrative Law Judge concludes that at this time only one pump is reasonably necessary under Section 619, while reserving a decision on the second pump until experience with the one pump operation enables one to sort out the conflicting evidence related to flooding and erosion as presented in this case. Should applicant show, after operating one pump for one year that environmental effects regarding flooding and erosion are not substantial enough to outweigh a second pump benefits, the second pump should be approved. Should applicant find it needs a third and fourth pump in the future due to approval of Limerick-2 or for other reasons, it may apply to the Commission for approval of said pumps after additional studies. It must, however, show by substantial evidence, that the benefit to be derived therefrom, make the third and fourth pumps reasonably necessary in light of environmental effects.

At the same time, in order to insure the viability of Limerick-1, PECO must immediately file an amended application with DRBC to insure alternative sources of supply, whether it be from the Blue Marsh Reservoir or from the City of Philadelphia in the event that interruption of water supply occurs because of flooding or erosion.

At the same time, it should be made very clear that the approval of this application in no way is to be considered an approval for the purpose of permitting the applicant to include the total cost attendant to the construction

of the building and the landscaping within its rate base at a future time. It is my intention to grant the application subject to the aforementioned restriction.

In summary, it is the opinion of the Administrative Law Judge that this application should be approved only in part at this time with the approval of one pump at Bradshaw Reservoir to be monitored for one year to determine the amount of flooding and erosion with approval of the second pump to be permitted only after the effects of flooding and erosion on the East Perkiomen stream can be assessed with greater assurance. At this time, the third and fourth pumps may not be installed.

FINDINGS OF FACT

1. Applicant is a public utility engaged in providing electrical service to customers.
2. Applicant seeks to construct a cement pumphouse to house four 8,000 gallons per minute electric motor driven, vertical turbine-type pumps and related equipment in order to supply water from a proposed reservoir to the East Branch of the Perkiomen Creek.
3. Applicant will pump water to its Limerick generating station to replace water which evaporate during the operation of said station.
4. Limerick 2 has not been approved by the Commission (PUC). Even if it were approved, applicant does not expect Limerick 2 to be on-line until 1988.
5. Applicant proposes construction of said pumphouse on land it owns at the intersection of Bradshaw and Moyer Roads, which is zoned R-1, Rural Residential District.
6. Applicant petitioned for an exemption from local zoning ordinances pursuant to 53 Pa.C.S.A. §10619 alleging reasonable necessity.

7. Applicant agrees to landscape the site of the pump house to minimize visual unacceptability.
8. DRBC controls water source allocation among its member states.
9. Projects having a substantial effect on water resources of the basin are prohibited and the DRBC has power to modify or disapprove any project which it determines would substantially impair or conflict with DRBC's apportionment plan.
10. The DRBC directed that PECO and MWRA create a joint water supply.
11. DRBC has considered alternative water sources such as the Schuylkill River and Blue Marsh Reservoir and rejected said alternatives stating that:
 - a.) The Schuylkill River cannot provide the year round consumption Limerick requires.
 - b.) The Blue Marsh Reservoir is not a viable alternative as it has been earmarked to satisfy anticipated needs due to population and industrial expansion within the Delaware River Basin and to provide low flow augmentation for water quality control in the lower Schuylkill River in accordance with FWPCA regulations.^{7/}
12. DRBC concluded that the proposed Point Pleasant diversion would be beneficial to the Neshaminy and Perkiomen watersheds and not detrimental if the following precautions were observed:
 - a.) Fluctuation of East Branch Perkiomen Creek and North Branch Neshaminy Creek, caused by pumping, be kept to a minimum. Annually, after pumping from the Delaware has commenced, the rate of pumping will be maintained at not less than 27 cfs in the East Branch and the main stem of the Perkiomen regardless of ultimate downstream consumptive use requirements. During periods of high natural flow in East Branch Perkiomen Creek, pumping from Point Pleasant shall be kept at level so as not to aggravate high water levels. Refer to pages 30 and 31 for a detail description on the water flow conditions established for the Perkiomen Creek.

- b.) The pipelines from the Point Pleasant pumping station to the Bradshaw Road pumping station and from there to the Neshaminy and Perkiomen Creeks be buried using proper sedimentation controls and ground cover replacement to minimize the effect on the environment.
- c.) The above ground facilities (control houses, transformers, sheds, etc.) be designed to complement the structures found in the area.
- d.) Arrange schedules so as not to begin any construction during the wildlife reproductive season, roughly spring through mid-summer.
- e.) Develop operating schedules for change of pumpages to eliminate any rapid fluctuations.
- f.) Design the intake structures (for velocities, fish screens, etc.) to prevent the entrainment of fish.

13. The Pennsylvania DER has issued permits for the construction and maintenance of the facilities necessary to transfer water from the Delaware River near Point Pleasant in Bucks County to the East Branch of the Perkiomen Creek.

14. DER considered alternative water sources but found "no feasible cost effective alternatives to the project have been identified which would fulfill the needs of the project and offer significantly less effects on the environment or public natural resources."

15. NRC declined Del-Aware's request that they assert jurisdiction stating that allocation issues are entrusted to the DRBC.

16. The East Branch of the Perkiomen may be susceptible to changes in its present configuration due to several types of factors, i.e., the gradual effects of the long term change in median flow, and the adjustment or reaction to the increased frequency of flood flows.

17. If this application is approved erosion may result in the widening of the stream, particularly in the vicinity of meanders and curves, where the

stream will impact the present banks with particular force.

18. East Branch sides or banks are relatively highly susceptible to erosion in that they consist of silty loam of the Bowmansville classification, which are classified by the Soil Conservation Service as highly susceptible to erosion. Moreover, an accurate analysis of erodability of the East Branch silty loam, taking into account the interaction of the various component of fine silts and clays, has never been conducted.

19. The East Branch is already experiencing slumping of its stream banks, caused by undercutting and sliding into the stream, which indicates that the streambed is highly erosive.

20. Applicant's case did not fully provide a basis for concluding that erosion would be minimal.

21. Applicant's witness, Mr. Steacy assumed that erosion would not occur at less than bank full stages and therefore did not investigate erosive effects at less than bank full stages.

22. There exists the possibility of substantial erosion of the banks of the East Branch of the Perkiomen over an extended period of time from increases in the median flow.

23. There exist the possibility of additional substantial erosion would be caused by the increased frequency of flood flows exceeding present annual floods at or near the pumping stations.

24. While Applicant's diversion would be theoretically limited in times of flooding or high flows in the East Branch, the proposed limitations may not be sufficient to prevent increased frequency of flooding.

25. The increased flows projected from the Point Pleasant water diversion would produce on balance relative improvement in aquatic life in the East Branch of the Perkiomen.

26. The noise effect of the pumphouse motors will not interfere with the use of private property in the area.

27. PECO's designing and landscaping is not out of harmony with the surrounding environment so as to overcome the need for the facility.

28. PECO has failed to fully explore alternative water supply sources for Limerick in the event that the diversion project cannot be utilized to the extent anticipated.

29. PECO has failed to consider utilization of the water facilities and water supply of and from the City of Philadelphia.

30. There is adequate water in Blue Marsh Reservoir on a firm and anticipatable basis to provide for one unit at Limerick.

31. While applicant's witnesses, Weston and Goodell testified that they would consider allocation of substantially all the water supply capacity of Blue Marsh to one user to be undesirable, and predicted that DRBC would be reluctant to make such an allocation, they admitted that the DRBC has not been asked to make such an allocation, and further admitted that the DRBC is making the Blue Marsh water available for consumptive use to industrial users.

32. While applicant's witnesses Weston and Goodell were reluctant to provide any water from Blue Marsh to applicant, both Weston and Goodell indicated that if necessary to do so, they would concur in permitting up to 20-25% of the available of the Blue Marsh capacity to be utilized for Limerick. Twenty-five percent of this amount would be approximately 1800 cfs days, which would equal about 40 percent of the needs of one unit at Limerick in the worst drought year records, assuming maximum consumption throughout that period by Limerick.

33. There is no reason to suppose that the DRBC or Pennsylvania DER

would refuse to provide additional water from Blue Marsh to Limerick in the event that such supply was necessary in order for Limerick to operate.

40. Although applicant's witness Weston testified that the Schuylkill River is heavily reused, most of the use of the Schuylkill River occurs below the Fairmount Dam, and is not in fact, a use of the Schuylkill River at all, but rather of the Delaware estuary.

41. The largest water user below Limerick and above the Fairmount Dam, is the City of Philadelphia, which has an allocation to 168 million mgd. in the Schuylkill River. Philadelphia has indicated its willingness to make arrangements or concessions so as to avoid the use of 13 mgd of the entitlement, thereby obviating the potential problems related to one major user.

42. Such an arrangement with the City of Philadelphia and modifications in the minimum flow has not been considered by the applicant.

43. While both applicant witness, West and Goodell contested the legal rights of the City of Philadelphia to make a transfer of its entitlement to applicant, neither of them provided any basis for ignoring the relevance of the City's position, and in fact Mr. Weston conceded that the City might be able to provide waiver or release of any claims that it might have, which would be relevant to PECO's upstream use in terms of the rights of downstream riparians.

CONCLUSIONS OF LAW

1. The Commission has jurisdiction over the subject matter and the parties to the applicant pursuant to 53 Pa.C.S.A. §10619.

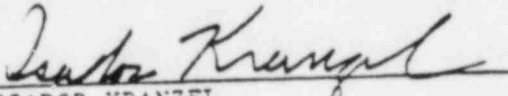
2. Construction of the cement pumphouse and appurtenant structures, with one motor driven pumps is reasonably necessary at this time for the convenience and welfare of the public under the threefold test set forth in Borough of Moosic v. Pennsylvania Public Utility Commission, 59 Pa. Commonwealth 336, -19 A.2d 1237 (1981).

THEREFORE, IT IS ORDERED:

1. That the application of Philadelphia Electric Company docketed as A-00103956 be and is hereby approved as limited, subject to the following restrictions:

- A. That fluctuation of East Branch Perkiomen Creek and North Branch Neshaminy Creek, caused by pumping, be kept to a minimum. Annually, after pumping from the Delaware has commenced, the rate of pumping will be maintained at not less than 27 cfs in the East Branch and the main stem of the Perkiomen regardless of ultimate downstream consumptive use requirements. During periods of high natural flow in East Branch Perkiomen Creek, pumping from Point Pleasant shall be kept to a level so as not to aggravate high water levels.
- B. That the pipelines from the Point Pleasant pumping station to the Bradshaw Road pumping station and from there to the Neshaminy and Perkiomen Creeks be buried using proper sedimentation controls and ground cover replacement to minimize the effect on the environment.
- C. That the above ground facilities be designed to complement the structures found in the area.
- D. That operating schedules be developed for change of pumpage to eliminate any rapid fluctuations.
- E. That intake structures be designed to prevent the entrainment of fish.
- F. That the site be landscaped in a manner compatible with the surrounding area at applicant's expense.
- G. If, after one year of operating one 8,000 gallon per minute electric motor driven vertical turbine type pump, no significant adverse environmental effects present, a second pump will be approved after presentation of evidence as to the absence of significant adverse effects.
- H. Any additional pumps may only be obtained by applicant by way of an entirely new application followed by full evidentiary proceedings.

- I. The granting of this application shall in no way be considered approval by the Commission for the purpose of permitting the applicant to include the total cost attendant to the construction of the building and landscaping within its rate base at a future time.
- J. PECO shall immediately file an amended application with DRBC to insure alternative sources of supply, whether it be from the Blue Marsh Reservoir or from the City of Philadelphia in the event that interruption of water supply occurs because of flooding or erosion.


ISADOR KRANZEL
Administrative Law Judge

DATE: Dec 12 1983