

Congress of the United States
House of Representatives
Washington, D.C. 20515

April 24, 1984

Honorable Nunzio Palladino
United States Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Chairman Palladino:

In response to my letter of February 29, 1984 to you, I have received a reply from your Executive Director for Operations, Mr. William J. Dircks, dated April 2, 1984.

While I appreciate the helpful information provided in Mr. Dirck's letter, it does not respond to my key concern. In fact, it underscores it.

Your staff seems to be perpetuating a deadlock between a non-viable supplemental water scheme and the need for a timely solution for the Philadelphia Electric Co. (PECo) by allowing the impression to remain extant that considerable delay will be involved in granting operating privileges to PECO if it agrees to an alternate source of water. I find it difficult to accept the NRC position that NRC staff comments would be "premature and no more than speculation." On the contrary, the NRC, to my understanding, has made a concerted effort over the past years to anticipate likely problems in processing applications (presumably including environmental reviews thereof), and in designing a critical path of decision-making to prevent delays.

It is my hope that this procedure, on which you and your colleagues have invested so much time, is not merely a one-way street, designed to facilitate the removal of obstacles for licenses, while not facilitating the consideration of alternatives.

I respectfully urge a review of this matter, because I believe that the staff position is unwarranted both as a matter of practice and in regard to the specific facts.

As a matter of practice, your Commission over the past several years has tried to anticipate log jams and make judgements as to time frames and procedures to eliminate regulatory processing as a cause of delay. I specifically refer inter alia, to your directives to all Licensing Boards to step up the hearing process,

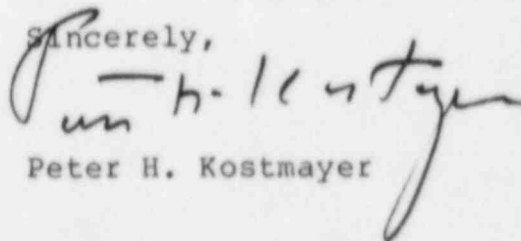
to process portions of hearings that are ready for trial without waiting for the entire matter, to engage in critical path scheduling, and to minimize extensions of time granted to parties. While the Commission has recognized that this has imposed a hardship, particularly on non-licensee parties, it has determined that the public interest in efficient handling of applications outweighs this consideration. I do not challenge this assessment, but point out that it should be even-handedly applied.

The staff position is inappropriate as applied to this case, in that there is a specific proposal advanced by a responsible public body, the Bucks County (Pa.) Commissioners. Also, the Water Authority supposed to supply water for PECO has suspended construction and filed a legal challenge to its contract. What I am seeking is an initial review of the alternative to determine the procedures required to process a change to adopt this proposal and the length of time such procedures might take. In the Limerick case the Commission has predicted an initial date for the decision by the ASLB as January 1985 or later. This prediction inherently assumes dates for submissions not yet made, as well as other matters. Surely, to provide regulatory and time estimates for a substitute supplemental cooling water system is no more premature or speculative than the foregoing.

I would therefore request as soon as possible, some estimates of the procedures and length of time that would be involved in approving a substitute supplemental cooling water source for Philadelphia Electric Company.

For that purpose, I enclose herewith a copy of the application and transmittal letter filed by the Bucks County Commissioners with the Delaware River Basin Commission. I also enclose a copy of two evaluation memos prepared by PECO engineers finding that the use of Blue Marsh by PECO would have no known adverse environmental effect, and that the operation plan of Blue Marsh Reservoir would accommodate the needs of one unit without a drawdown below the level required for recreational operations on the lake.

Sincerely,

A handwritten signature in dark ink, appearing to read "Peter H. Kostmayer", written in a cursive style.

Peter H. Kostmayer

PHK/lg
Enclosures

FROM Rep. Peter H. Kostmayer		ACTION CONTROL COMPL DEADLINE 5-17-84		DATES 5		CONTROL NO 14409	
TO Chairman		INTERIM REPLY		FINAL REPLY 5/22/84		DATE OF DOCUMENT 4-24-84	
		FILE LOCATION				PREPARE FOR SIGNATURE OF <input checked="" type="checkbox"/> CHAIRMAN <input type="checkbox"/> EXECUTIVE DIRECTOR OTHER	
DESCRIPTION <input type="checkbox"/> LETTER <input type="checkbox"/> MEMO <input type="checkbox"/> REPORT <input type="checkbox"/> OTHER				SPECIAL INSTRUCTIONS OR REMARKS PRIORITY REF: 14173			
Q's concerning substitute supplemental cooling water source for Philadelphia Electric Co.							
ASSIGNED TO		DATE		INFORMATION ROUTING			
Denton, HRR		5-3-84		Dircks Case/Denton			
Eisenhut		5/4/84		Roe 1. PPAS			
NOVA K				Rohm 2. Speis			
Schumme		5/8/84		Stelle 3. Mattson			
				Hurley 4. Vullmer			
				DeYoung 5. Thompson			
				GCunningham 6. Snyder			
				SECY 84-0478			

NRC FORM 232
(6-80)

EXECUTIVE DIRECTOR FOR OPERATIONS
PRINCIPAL CORRESPONDENCE CONTROL

CORRESPONDENCE CONTROL TICKET

Rep Peter Kostmayer

NUMBER: 84-0478

LOGGING DATE: 5/2/84

OFFICE OF THE SECRETARY

ACTION OFFICE: EDO

AUTHOR: Rep Peter Kostmayer

AFFILIATION:

LETTER DATE: 4/24/84

FILE CODE:

ADDRESSEE:

Palladino

SUBJECT: Req estimates of the procedures and length of time involved in approving a substitute suppl water source for PECO

ACTION: EDO's Sign...Date due: May 10

DISTRIBUTION: RF, OCA to Ack

SPECIAL HANDLING: None

Rec'd Off. EDO

Date... 5-3-84
Time... 2:00 PM

SIGNATURE DATE:

FOR THE COMMISSION: Billie

SUGARMAN, DENWORTH & HELLEGERS

ATTORNEYS AT LAW

ROBERT J. SUGARMAN
JOANNE R. DENWORTH
JOHN F. HELLEGERS
ROBIN T. LOCKE

16TH FLOOR, CENTER PLAZA
101 NORTH BROAD STREET
PHILADELPHIA, PENNSYLVANIA 19107
(215) 751-9733

SUITE 835
1201 PENNSYLVANIA AVENUE, N.W.
WASHINGTON, D.C. 20004
(202) 737-4460

March 22, 1984

ROBERT RAYMOND ELLIOTT, P.C.*
COUNSEL
*NOT ADMITTED IN PA.

David J. Goldberg, Esquire
Warren, Goldberg & Berman
112 Nassau Street
P. O. Box 645
Princeton, NJ 08540

Dear David:

Thank you for your letter of March 8, 1984.

Whatever the content of my conversation with Jerry Hansler, and whatever future relevance it may have, for present purposes, I will take the Commission staff's position as being expressed in your letter.

To respond to your concern about my representation, I confirm, as stated to you orally by Chairman Fonash on January 25, that I am special counsel to Bucks County. My responsibilities for Bucks County include contacts with agencies such as DRBC concerning water availability for the various Point Pleasant permittees, including PECO, so that the County may take the action necessary to terminate Point Pleasant project. As Commissioner Fonash and I told you at the time, my appearance on January 25 was on behalf of the petitioners, and I also assisted Commissioner Fonash. I trust that any such confusion is now resolved.

To the best of our knowledge, Bucks County has no "obligations" under the Point Pleasant dockets. As we understand those dockets, they authorize Bucks County and its Authority to construct the project and withdraw water. They also authorize the County and the Authority to provide conveyancing to PECO. If there was any obligation undertaken to the DRBC to build the project in the application for these permits, to our knowledge no awareness of such obligation was ever conveyed to Bucks County. Indeed, Bucks County has been proceeding on the uncontradicted assumption that, with respect to DRBC, it is free to terminate the project. If the Commission has any reason to believe that anyone undertook an obligation to the Commission to complete the project, the County should be promptly informed.

March 22, 1984

Bucks County will defend itself, if necessary, against PECO with respect to any claims that the latter may have against Bucks County under any agreements. The role of the DRBC in fostering these agreements, and the role of the DRBC staff in pressing the parties over the years to enter into these agreements, and in representing that there was no storage available in Blue Marsh, is a matter of some concern to the County. This concern would be heightened if the Commission has entered into a water supply contract with the Company. We would appreciate your advising us on this aspect of the matter: has the Commission entered into a water supply contract with PECO along the lines of the January 1983 draft, and if so, what effect does it have on the Commission's ability to regulate the river pursuant to the Delaware River Basin Compact? Specifically, can it be implied from §1 that the Commission is obligated or intending to supply water from Blue Marsh Reservoir? Does it or any other action of the Commission impede the freedom of the Commission to recognize an alternative to Point Pleasant for PECO?

Pending your answer to the foregoing, and in the interest of advancing constructive resolution of this crisis, Bucks County herewith makes application on the DRBC application form for approximately 7,800 acre feet of water supply (not storage space) from Blue Marsh to be released from existing storage at Blue Marsh and withdrawn by PECO at the Limerick Generating Station. In the alternative, Bucks County requests concurrence by the DRBC in the transfer of water storage and supply, in a similar amount, from the U.S. Army Corps of Engineers, which has an aggregate of 11,600 a/f of summer water supply storage in Blue Marsh Reservoir, or a combination of DRBC water and Corps water.

In total, the supply of water in Blue Marsh Reservoir in the worst year of record is considered to be in the order of 22,000 a/f of water, and application is made by Bucks County for allocation of 7,800 a/f of this supply. This supply is requested for a period of five years, renewable if PECO has been unable to provide alternate supply on an economic basis in the interim. The County's reasons for believing this proposal is consistent with the Comprehensive Plan are set forth later in this letter.

The County has good reason to believe that Philadelphia Electric Company is prepared to use this water. In this regard, the County encloses a Memorandum recently supplied in discovery by Philadelphia Electric Company. That Memorandum candidly states:

"In summary, Blue Marsh is an acceptable alternative water supply on a temporary basis for one unit because it is built and presently under utilized. It is upriver from Limerick and would not require any new

facilities to make it usable. It would have no known detrimental environmental impact and would be very cost effective. It would require DRBC approval of the allocation of water to Limerick, but it should be the quickest of all alternatives to implement."

It should be noted that in this Memorandum, copy enclosed, PECO was unaware that more than 8,000 acre feet of the Blue Marsh storage capacity could be made available to it. Also, the concept of temporary utilization is a viable one within the understanding of Bucks County, in that the establishment of an alternative replacement storage facility such as Merrill Creek, Red Creek, or other possibilities would eliminate the need for choosing between shutdown of Limerick or a temporary increase in total depletive use in the Basin, just as well with Blue Marsh in use as if Point Pleasant were implemented.

PECO also indicated that it is necessary that the DRBC first consider the matter. In this connection, the County notes another Memorandum of Philadelphia Electric Company, copy also enclosed, in which PECO engineers state the following:

"DRBC may permit temporary use of Blue Marsh for one unit; will not permit permanent use".

As the Commission is aware, the County has initiated a request to the Corps to reprogram the water quality flow augmentation storage of for water supply, and also to make available the recreational use. The Corps has now advised the County that DRBC controls the water allocation decision. The County has been advised, but cannot confirm, that the Commission's staff decision to advance its consideration of the present proposal was a response to the County's effort to purchase the water.

In submitting the enclosed application, Bucks County, as suggested in your letter, takes cognizance of the views that were expressed in the Commission meetings and in the Brief filed on behalf of the Commission in the Pennsylvania PUC. However, the County notes DRBC's Capital Budget reference to its role as Pennsylvania's "agent" for 97½% of the Blue Marsh water. It also notes that the PADER Brief filed with the PUC on March 14, 1984 did not confirm your understanding regarding Pennsylvania's position on the use of Blue Marsh by PECO. As stated earlier, the County is also aware of the DRBC staff positions, as expressed repeatedly since 1969. In fact, since 1969, the staff has repeatedly urged the County to make the decision made by its former Commissioners in 1980 to proceed with the Point Pleasant diversion, despite the County's repeated misgivings.

While considering these expressions, therefore, the County asks the Commission to consider that of the utmost importance at this stage is the fact that Bucks County has now unequivocally determined, despite various pressure, that it will not construct the public water supply system which is authorized by Commission Docket No.65-76CP. It so informed the Montgomery County Commissioners on May 19, 1983. The Commissioners do not interpret any Commission docket as indicating a requirement by the DRBC that the County proceed with the public water supply project, or as indicating a commitment on the part of the County to so proceed. This project would entail unknown tens of millions of bonds to be issued or backed by the County. While the NWRA is the instrumentality of the County for the purpose of carrying out water projects, the agreements between the County and the NWRA do not require that the County authorize bonds that are contrary to the public interest and financial responsibility.

In this context, the County is convinced that there is no purpose to be served, and much detriment to be incurred, by proceeding with the PECO portion of the diversion. First, the County has verified that, contrary to the undocumented assertions of various agencies, the findings of the agencies with expertise, i.e., U.S. EPA and U.S. Fish and Wildlife Service, are correct, and that there will likely be severe erosion on the East Branch of the Perkiomen. The County is seriously concerned about its potential liability for such erosion, especially in light of the letter written by its former Director of Natural Resources, John Carson, quoted in the DRBC EIS of 1973, as apparently a basis for DRBC's approval of the project. Specifically, the County did not authorize the undertaking of liability for correcting erosion arising from the PECO diversion, as implied by Mr. Carson, but because of reliance by DRBC and others on his letters, cannot enter into a project which incurs such potential liability.

The County has recently been reinforced in its conclusion in this regard by the production of a memo by PECO of a 1972 meeting (at the time that the DRBC staff was attempting to apply "pressure" to convince the AFC staff that erosion would not be a problem), in which the participants (Mr. E.H. Bourquard and Professor Raney) and others agreed that the then pending proposal to channelize the creek would create major biological problems, while not doing so would create potential erosion and flooding problems. The decision not to channelize the creek was based not on any scientific conclusions, but on the political judgment that the regulatory problems of overcoming the biological harm from channelization would be greater than the regulatory problems of causing flooding and erosion. (A copy of that Memo is enclosed.) No DRBC staff member has ever accepted responsibility for the conclusions in the 1973

EIS on this subject. The 1979 PECO update was merely a one day review by a water flow expert on the 1970 data. Again, in 1980, no DRBC hydraulic engineer made a study. In light of this, hopefully, even at this late date, the DRBC will review its prior acceptance of E. H. Bourguard's reports on this subject, in light of the above.

The County is also concerned by the fact that the prior Board of the NWRA did not disclose to any agency that there would be substantial adverse effect on the National Historic Landmark, in the Roosevelt State Park, through the placement of loud and obtrusive transformer pads behind the pump station, less than 60 feet from the National Historic Landmark, on a 20 foot elevated pad.

The County is further disturbed by the serious problems of effect on the Delaware River, upon which Bucks County depends heavily for fishing and tourist trade, which have been documented in the last two years. Previous studies for the DREC were conducted at a time when the Point Pleasant area was not a spawning and nursery area for American Shad, and it has now been documented that it is the case. Finally, the County is seriously concerned regarding the transfer of toxics into such small streams as the East Branch Perkiomen Creek. More complete documentation of these matters has been provided to the County and can be provided to the DRBC.

The County hopes that the DRBC will recognize the validity of these conclusions, or at least the County's right to reach them. The County believes that the recognition of these adverse effects is consistent with the DRBC Comprehensive Plan.

In these circumstances, the County has concluded that it is necessary to develop alternatives to Point Pleasant. For PECO, the County has commissioned a feasibility study of the use of Blue Marsh Reservoir, and has ascertained that, utilizing about one-third of the active water supply storage in the reservoir (including water quality flow augmentation storage and summer recreation storage), the needs of PECO for one unit at Limerick can be satisfied in the worst year of record. If the 59° limit is deleted, in more than 9 years out of 10, it would not be necessary to encroach upon recreational uses at all. No other uses would be adversely affected. There would be no loss of storage capacity for salinity control, since consumptive use of Blue Marsh water can be compensated for by releases from the replacement storage required by the Commission in Resolution No. 76-13. Alternatively, in the absence of compensating storage, PECO can be held to the same operating rules, i.e., required to terminate or reduce operations at Limerick during period of low flow in the Delaware River, just as if it were utilizing the flow of the

river at Point Pleasant rather than the Blue Marsh storage. The Blue Marsh storage can then be used to repel salinity. In other words, under the Commission's pooled flow concept, it is essentially a matter of indifference in regard to salinity control whether releases are available in the Delaware River, Merrill Creek (or other compensatory reservoir), or Blue Marsh, or, if unavailable; by reduced diversions.

In reading the draft water supply contract between the Commission and PECO, the County notes that the DRBC apparently contemplates the management of the storage facilities under its control on the Schuylkill River so as to maximize the availability of water to PECO. Under the pooled flow concept of the Commission, the County interprets this language to suggest that the DRBC already contemplates the use of Blue Marsh to enhance the availability of water to PECO. The County endorses this concept, and believes that it should be carried to the next step of not implementing the diversion through Bucks County, and not requiring Bucks County to proceed with a project which it is deemed contrary to the public interest.

While the Commissioners are aware that the Blue Marsh Reservoir is designated in part for water quality flow augmentation and recreation, the County has also analyzed the interim report of the DRBC flow management Technical Advisory Committee dated June, 1983, and the Interstate Water Management Recommendations of the Parties, dated January, 1983, and notes that pursuant to that agreement and the recommendations of the Committee, the DRBC has already recognized and accepted (as consistent with its comprehensive plan, presumably) the use of Blue Marsh Reservoir water quality flow augmentation and recreation storage for water supply purposes. In fact, the Interim Report states:

"While it is clearly understood that the water supply storage at Beltsville and Blue Marsh Reservoirs is to be used for water supply and to control salinity intrusion in to the Delaware Estuary during the low flow periods, it is also recognized that extensive recreational development is established on these lakes, which should be protected to the extent possible. Accordingly, the operation plans for both of these reservoirs, as well as Nockamixon, in drought emergencies has recognized these multiple uses, with water supply having precedence," (Interim Report, p.12)

This document discloses that the Commission anticipates approximately 20,000 acre feet of water supply being available from Blue Marsh, and anticipates reduction

in Blue Marsh's elevation, which essentially consumes the entire water supply, water quality flow augmentation, and recreation storage on Blue Marsh. The County also again notes that PECO's need (assuming 100% operation) is 7,800 a/f. This ignores the 10% reduction to be required of utilities during drought emergencies pursuant to Recommendation 12 of the Interstate Agreement, DRBC Resolution 83-4 and 83-14. Consideration of this factor would reduce PECO's use at Limerick for one unit to 7,000 a/f in the worst drought year.

The County has also researched the legal status of the water quality flow augmentation and recreational storage at Blue Marsh Reservoir. It appears that by Resolution 70-14, in 1970, the DRBC assured the Corps of Engineers that the water quality storage would not be utilized for water supply purposes. This assurance was made by the Commission in order to enable the Corps of Engineers to reduce the non-federal share required in order to initiate Blue Marsh. It also appears that the approval of this shift of allocation was based on correspondence from the Federal Water Pollution Control Administration which conditioned such approval, and those conditions have not been met. What is most clear is that it does not appear that the DRBC can use that water as now proposed by its Flow Management Committee in light of its 1970 assurance, and the Corps' representation to Congress.

The County is aware that there was discussion in 1969-70 to the effect that the Blue Marsh storage would be allocated to Philadelphia Suburban Water Company. However, the DRBC apparently does not presently contemplate any such use, inasmuch as the Commission is planning to utilize this storage for salinity control. Also, the County has been apprised of the DRBC having declined to identify any persons or uses to which Blue Marsh has been allocated, in answering various interrogatories posed by the plaintiffs in Delaware Unlimited vs Baldwin (in which Commissioner Fonash is a plaintiff).

Finally, the Commissioners note that the utilization of Blue Marsh for PECO, and the concomitant release from Merrill Creek flow down the Delaware during low flow periods down the Delaware during low flow periods will assist in the maintenance of dissolved oxygen in the upper estuary, thus alleviating a problem noted by the Commission as potentially serious in the Level B Report.

In view of the considerations stated above, Bucks County believes that its proposal is entirely consistent with the Commission's Comprehensive Plan.

As to alternatives for Bucks and Montgomery Counties, Bucks County has satisfied itself that ground

water resources, combined with surface water available from Lake Galena, and purchases, if necessary, will suffice fully to satisfy its needs over the foreseeable future. The Bucks County Planning Commission has previously corresponded with the DRBC on this subject, and are available to provide additional documentation of this finding, if necessary. No action is requested of the DRBC at this time to establish any such uses; however, the Commission is requested to consider deletion of the Point Pleasant Diversion from the comprehensive plan as a source of Bucks County water.

With regard to Montgomery County, Bucks County has been made aware of Montgomery County having employed a consultant for the purpose of planning a ten year water supply program. The Bucks County Commissioners are also aware of other alternatives for Montgomery County, as identified in the Pennsylvania State Water Plan and various studies of Evansburg Reservoir. The Commission's attention is called to the alternative study performed by Gannett Fleming for Montgomery County in 1980 for documentation of Montgomery County alternatives. In addition, the County points to the correspondence forwarded by Deputy Secretary McConnell of Pennsylvania DER to the Commission in 1979, for the Level B Study documenting and authoritatively describing the feasibility and desirability of the Evansburg Reservoir alternative. While further studies which compared Evansburg unfavorably to Point Pleasant were performed, these studies assumed that the Point Pleasant water system would be built in conjunction with Bucks County. Examination of the study will show that, in light of Bucks County decision, Montgomery County's more cost effective alternative is Evansburg Reservoir, or other alternatives which the Montgomery County Commissioners may be presently studying. Bucks County sees no need or justification for a diversion from the Delaware River in light of the findings of these studies. However, the Bucks County Commissioners do not wish to constrain the Montgomery County Commissioners, and believe that it would be inappropriate for them to adopt or recommend any solution for Montgomery County. The Bucks County Commissioners respectfully suggest that by identifying the foregoing viable alternatives, they have discharged whatever responsibilities they might have in this regard.

Finally, in terms of net overall impact on depletive use, Bucks County notes that the deletion of the Bucks County-Montgomery County diversion for public water supply, together with substitution of groundwater management, will reduce the depletive effect, of public water supply diversions during drought time (estimated by PA DER at 20% of any such diversion), and at the same time, actually augment the surface water flows, by return flow after treatment of water withdrawn from the ground for public water supply during drought periods. The concept would be similar to that recognized in the Interstate Agreement, with

March 22, 1984

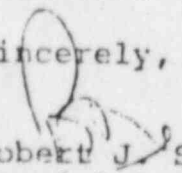
respect to the potential for groundwater pumping during drought periods (Recommendation 8). Deletion of the public water supply diversion is thus consistent with the Conservation Objectives of the Commission's Comprehensive Plan.

For all the foregoing reasons, Bucks County submits that it is clearly superior water management, as well as cost effective, and consistent with the Commission's Comprehensive Plan that a portion of Blue Marsh be made available to PECO. In this context, the County sincerely requests that the DRBC initiate action to resolve the present impasse in a manner acceptable to all parties. The County therefore requests that the DRBC give a favorable report on its application so that the Commissioners can in turn present this offer to PECO.

Based on the foregoing, the Bucks County Commissioners are now satisfied that the Point Pleasant Diversion can be terminated without incurring a financial disaster to the County. This arises because of the availability of Blue Marsh Reservoir, which the County has now confirmed. PECO's recognition of this source and their recognition that the DRBC may make it available is sufficient to establish a prima facie conclusion to this effect. The County calls upon the DRBC not to implement any action adverse to this situation. We believe that this is consistent with the DRBC's stated wish not to be involved in the midst of a dispute between parties.

Finally, your letter indicates a concern about the status of the Petition to Reopen the Dockets. In view of your prior legal opinions, and the concerns of the DRBC's staff, and their recommendations to the Commission, and in light of the conclusions expressed in this letter, as well as the application forms and instructions provided pursuant to your March 8th letter, it appears that the only viable route is as indicated in Mr. Hansler's letter of February 9th. My clients in that proceeding, who include Commissioner Fonash, have therefore instructed me to defer to the County's decision to address the Commission in this fashion, rather than through a renewed Petition to Reopen. However, should it appear that a Petition to Reopen is an appropriate action, either the County or the petitioners will certainly proceed in that fashion. As previously, the Commission's advice as to the best means to proceed constructively with it to resolve the impasse is solicited.

Sincerely,


Robert J. Sugarman
Special Counsel to Bucks County

/vc

Enclosures

cc: DRBC Commissioners
NWRA Board Members

Type of Application: (Check one or more - see reverse side)

- (a) Addition to the Comprehensive Plan.....()
 (b) Change in a Comprehensive Plan Project.....(x)
 (c) Approval under Section 3.8 of the Compact.....(3.8)
 (d) Approval under Article 10 of the Compact for a
 Protected Area Permit.....()
 (e) Renewal of approval under Section 3.8 of the Compact.....()

Pursuant to the Delaware River Basin Compact and the Rules of Practice and Procedure of the Delaware River Basin Commission, application is hereby made for review of the project described below:

For Use of Commission

Docket No. _____

Date Received _____

(A) Application From:

Name (print) Bucks County

Mailing Address Bucks County Commissioners

Bucks County Court House, Main and Court Sts.

Doylestown, PA 18901

Telephone No. Area Code (215) - 348-2911

Name of Counsel Robert J. Sugarman

Name of Engineer GKY & Associates, Inc., Springfield, VA

Telephone of Engineer (703) 642-5080

(B) Type of Project: (Check)

- (1) Impoundment.....(x) (4) Stream Encroachment.....()
 (2) Withdrawal of Water.....(x) (5) Well.....()
 (3) Disposal of Wastes.....() (6) Other Purchase of Water (x)

(C) Description of Project: (Information required by the Rules of Practice and Procedure should be attached.)

Release of approximately 7800 acre feet of water annually
(maximum day 35 cfs) from the Blue Marsh Reservoir for sale to

PECO to be retrieved by PECO at the Limerick generating station
for consumptive use as evaporation cooling water.

This is an amendment to the comprehensive plan approval of
Dockets 65-75 (CP), and of Blue Marsh Reservoir, as last amended
at 68-13 and 70-14.

This application is believed to be directly submittable to
the Commission pursuant to Rule 2-3, 5(d), and 2-3.8. This
interpretation is based on the attached letter dated March 14, 1984,

(continued on Rider A)

Signature of Authorized Person _____

Name (Print) _____

Robert J. Sugarman

Title _____

Counsel

Date _____

March 22, 1984

Rider A

from the U.S. Army Corps of Engineers, the appropriate agency of the United States, and the remarks of Timothy Weston, representative of Pennsylvania, on June 29, 1983, giving guidance as to a request by a responsible party. Both make it clear that application should be made directly to this Commission.

If any substantial objection to this application is received, it is requested that the hearing required be held promptly. Alternatively, a prompt hearing is requested pursuant to Section 2-3.7 and 2-3.10, in light of the references referred to in the previous paragraph, if the Commission staff recommends against this application or fails to act within thirty days hereof.

Further, an informal conference is requested to explain, supplement and review this application, pursuant to Section 2-3.9 of the Rules. An opportunity to comment on the Executive Director's memorandum and the action report, and copies of those documents when each is prepared, is requested.

Finally, pursuant to Section 2-3.9(d), the applicant requests that the Commission recognize the existing emergency situation with regard to Point Pleasant and the use of Blue Marsh proposed by the County, in light of this Commission's Public Notice, issued subsequent to the County's informal application and request for meeting of January 24, 1984, and earlier informal requests, and permit sale of the Blue Marsh water to PECO and withhold any inconsistent action pending determination of this application.

EXHIBIT TO BUCKS COUNTY APPLICATION

Pursuant to DRBC Rule of Practice and Procedure 2-3.8, the following are submitted as exhibits:

- 1) Not applicable.
- 2) Project satisfies standards in DRBC Compact, Article 3, § 1, 3.6, and 3.8: Article 10, § 10.5; quote § 3.8.
- 3) See United States Geological Survey Topographic Map.
- 4) Description of the specific effects of the withdrawal project--GKY and Associates, Inc.: "Prefeasibility analysis for water supply use of Blue Marsh Reservoir", January 25, 1984, and transmittal letter, enclosed.
- 5) Not applicable.
- 6) Not applicable.
- 7) Cost of withdrawal supported by Bucks County's taxing power and PECO's rate charges as a public utility.
- 8) Not applicable.

MEMORANDUM

Subject: Limerick Make-Up Water Supply
Blue Marsh Reservoir

Blue Marsh Dam and Reservoir are located in Berks County, Pennsylvania, on Tulpehocken Creek, a tributary of the Schuylkill River. The dam is about 6 miles northwest of Reading, Pennsylvania, and by water is approximately 35 miles from the Limerick site.

The project was constructed by the Corps of Engineers to serve the multiple purposes of water supply, flood control, and recreation. The reservoir was filled during 1978, reaching full pond elevation in September. The COE has the responsibility for the operation and maintenance of the project; but because the Delaware River Basin Commission has contracted for the water supply features, it is the DRBC that allocates the stored water to downstream users for public water supply and industrial needs.

Available data and testimony at recent hearings confirm that the reservoir storage for water supply is 8,000 acre-feet and for flow augmentation to control water quality is 6,600 a-f, giving a total usable storage of 14,600 a-f. It was further developed that the only water available for Limerick would come from the water supply storage and that probably the DRBC would consider no more than 25% of that 8,000 a-f for PECO use.

Preliminary calculations indicate that the entire water supply (8,000 a-f) storage can barely meet the needs of one unit at Limerick under average conditions. The average consumptive need of one unit (27 cfs) for the average number of days each year that the Schuylkill River is not available because of low flow or high temperature (146 days) requires a storage of 7,884 a-f.

At present the only firm customer for water is the Western Berks Water Authority which has a need for 9 cfs through 1989.

In summary, Blue Marsh is an acceptable alternative water supply on a temporary basis for one unit because it is built and presently underutilized. It is upriver from Limerick and would not require any new facilities to make it usable. It would have no known detrimental environmental impact and would be very cost effective. It would require DRBC approval of the allocation of water to Limerick, but it should be the quickest of all alternatives to implement.

Blue Marsh would not be capable of supporting two units at Limerick without major changes to the flow and/or temperature limitations on Schuylkill River withdrawals. Allocations of reservoir storage to other users would not be possible. It is unlikely that Blue Marsh could ever be considered for two units at Limerick based on testimony.

Prepared by: W. H. Dickinson
Mechanical Engineering Division
June 8, 1983

WHD/dmc 7/1

Mid
6/83

Limerick - Life of Water Storage Reservoirs

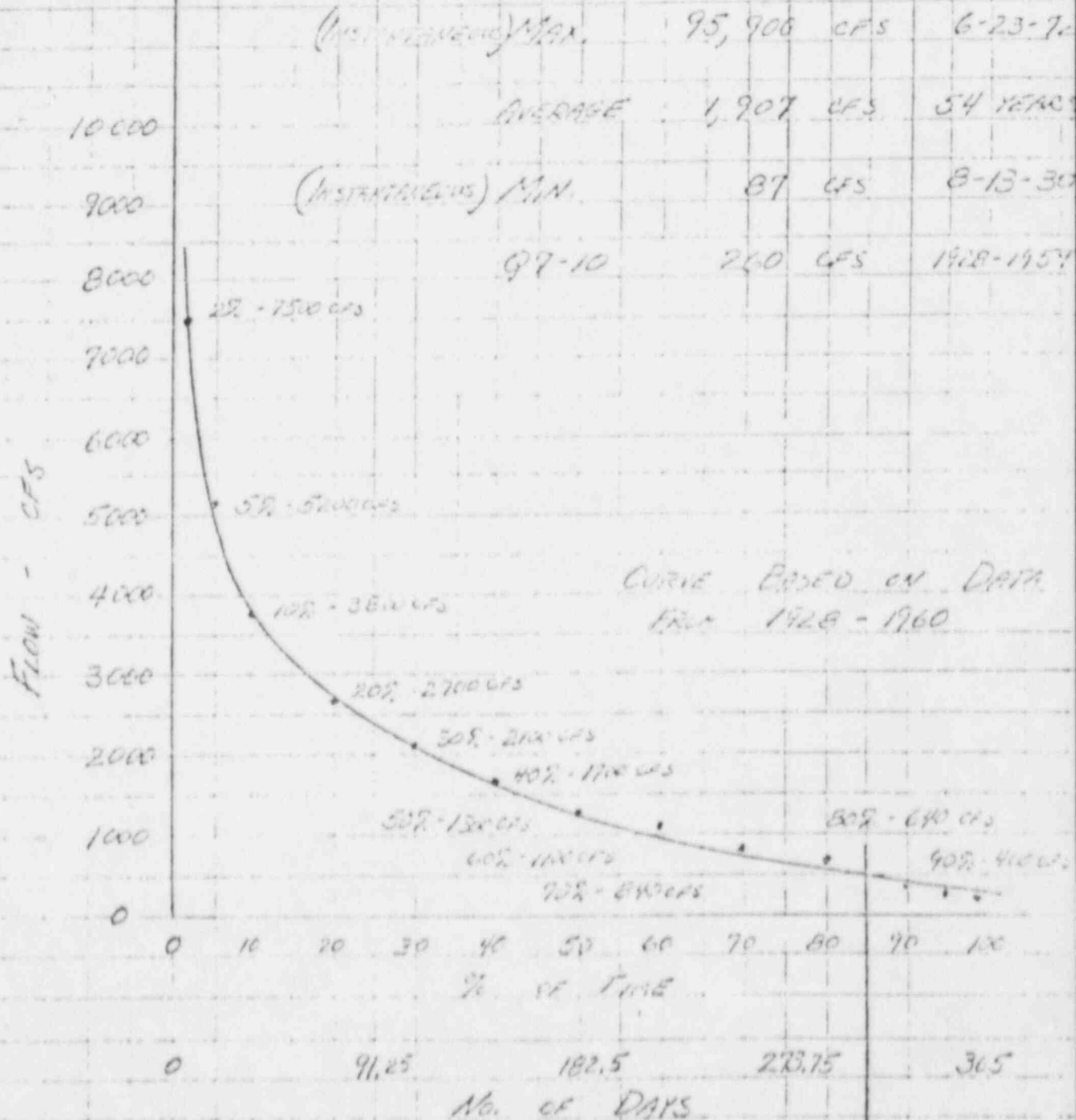
RESERVOIR	DELAWARE RIVER MERRILL CR.	SCHUYLKILL RIVER BLUE MARSH (TULPEHOCKEN)
RIVER FLOWS	TRENTON	POSTSTOWN
YEARS OF RECORD	68	54
MAX. INSTANT. - CFS	329 000	75 900
MIN. " - "	1 150	87
DAILY AVERAGE - "	11 750	1 907
97-10		260
DRBC - WITHDRAWAL LIMIT	3 000	500
LIMIT EXCEEDED, % OF TIME	87%	85% 15°C 60% ②
RIVER - UNAVAILABLE -	FLOW ONLY	FLOW ONLY FLOW & TEMP.
Ave. DAYS PER YEAR - 2 UNITS ①	47	55 146
DAYS PER YEAR - YRS OF RECORD	42	44
MAX. WAST YEAR	(1964) 130 ①	(1965) 193 ③ (1930) 283 ②
2ND " "	(1930) 126	(1966) 175 (1965) 243
3TH " "	(1965) 107	(1901) 160 (1963) 242
RESERVOIR SIZING -		
Worst DROUGHT - DAYS	115 ④	193 283
YIELD - CFS	200	27 ⑤
STORAGE - ACRE-Feet	46 000	10 422 15 282
RESERVOIR CAPACITY - w/f		
DEAD OR INACTIVE	4 000	1 500
WATER SUPPLY	46 000	8 000
CONSERVATION RELEASE	-	6 600
FLOOD STORAGE	2 800	33 000
TOTAL VOLUME	52 800	49 100
DRBC TESTIMONY - MAX. PROBABLE ALLOCATION ACRE-Feet		25% OF WATER SUPPLY 2 000

- ⑦ ON SCHUYLKILL RIVER 1 UNIT COULD OPERATE 7 to 12 DAYS MORE
 ⑥ DER. EA, AUG 1982
 ⑤ SIZED FOR 1 UNIT AT LIMERICK
 ④ DRBC STUDY OF FUTURE CONDITIONS
 ③ DRBC LETTER (HANSLER) TO NAC OCT 6, 1982
 ② TAMS - WATER SUPPLY RESERVOIR STUDY, 1908 1976
 ① SOURCE - MERRILL CREEK FR. DEC 1977 - ADJUSTED DATA

CALCULATION SHEET

LOCATION SCHUYLKILL RIVER - PITTSBURGH, PA.
 SUBJECT DAILY FLOW FREQUENCY

NAME W. D.
 DATE 10-10
 SHEET NO. 1
 JOB C.A. NO. 10-10



15% OR 55 DAYS
 Flow < 500 CFS

CALCULATION SHEET

LITTLE & LEE ENGINEERING CO.

NAME

1422

LOCATION

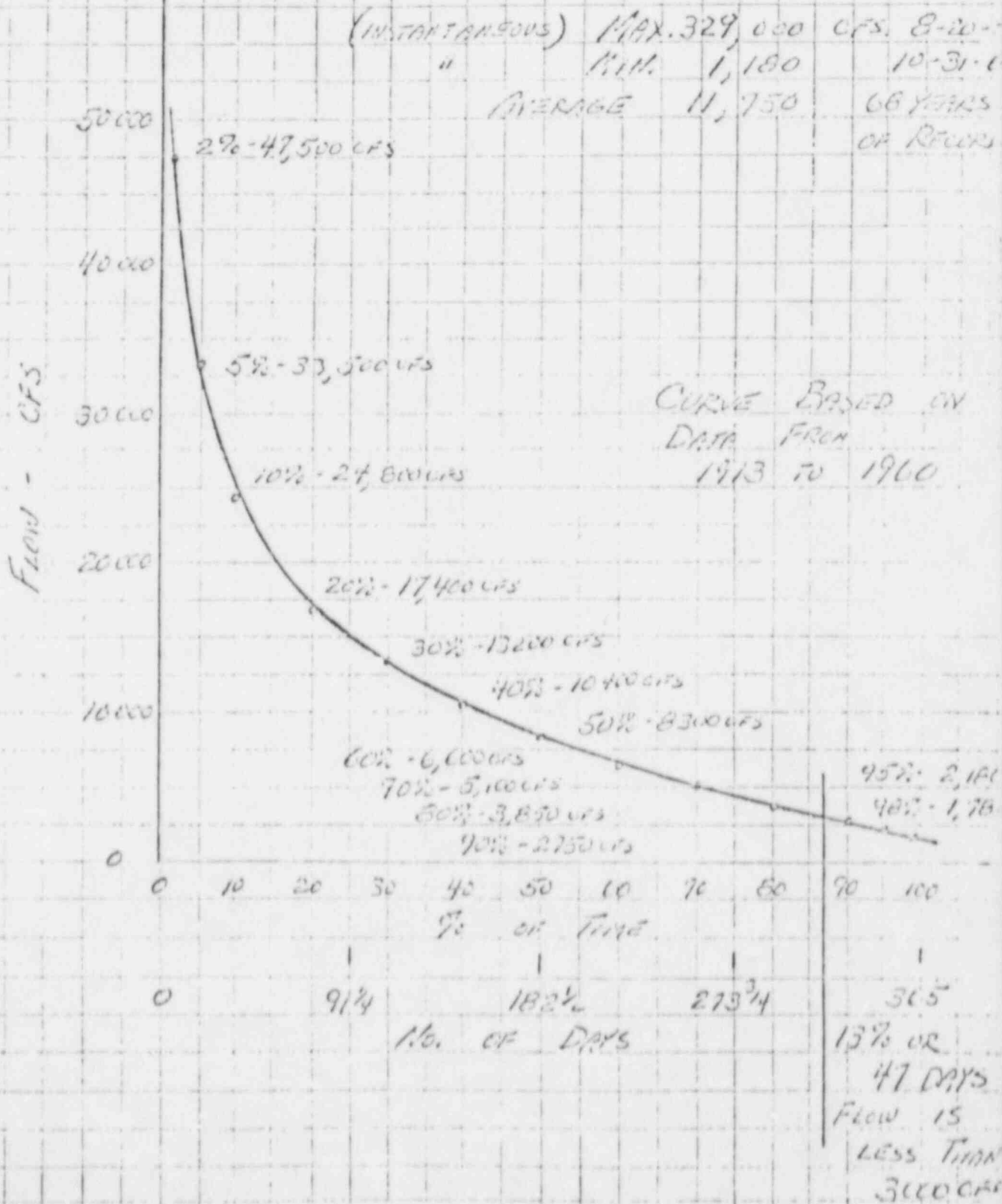
DELAWARE RIVER - JOHNSON

DATE

SHEET 50

SUBJECT

JOB/CA NO.



Subject: Blue Marsh Reservoir

1. Turbidity meter used for 1 unit.

a) One unit consumptive rate average 27 cfs (17.5 AFD)
max. 33 cfs (21.3 AFD)

b) Days Schuylkill River water is not available (2 units)

1) TAMS report May 1973 states due to flow and temperature water is unavailable on average 185 days/year.
Worst year was 1930 when unavailable 283 days.

2) DER- EA Aug. 1982 (page 28) states water available 60 of the time (219 days). Unavailable 146 days.

3) Thunders letter (Oct. 6, 1982) to Judge Brenner and DER- EA Aug 1982 (page 29) show days water is unavailable based on flow criteria only for four critical years -

Unavailable	1964	-	133 days (crit.)
	1965	-	193 days
	1966	-	178 days
	1981	-	160 days

It is stated in DER- EA that these days of unavailable water would be reduced by 7 to 12 days for 1 unit only.

c) Water storage needed to compensate for turbidity use by 1 unit during days of unavailability from Schuylkill.
Based on average consumptive use and average days.

$$27 \text{ cfs} \times 2 \text{ ft}^3/\text{a-f/day} \times 146 \text{ days} = 7,884 \text{ a-f}$$

Based on max. consumptive use and max. days not considering the temperature criteria of 15°C.

$$33 \text{ cfs} \times 2 \text{ ft}^3/\text{a-f/day} \times 193 \text{ days} = 12,738 \text{ a-f}$$

Subject: Blue Marsh.

1. Storage required -

a) Merrill Creek was sized as follows: to provide as large a yield as possible for 115 days.

The yield obtainable is 200 cfs. (54 cfs for Laramie).

b) Number of days needed determined by TAMS study for years 1929 through 1970. (42 years) Actual flows were adjusted for current operating criteria under Supreme Court decree and existing or planned storage resources.

Greatest number of days - 130 days in 1964

126 days in 1930

32½ days average for 42 years.

0 days in 9 years

c) DHEC staff (H. Howlett) calculated 115 days storage would provide protection for most severe drought of record - based on staff's extensive basin study.

(Source: Merrill Creek ER Dec. 1977 pg 1-3)

d) TAMS adjusted historic flows found longest period of shortage on Snake River to be 155 days (1965). Two other years similar, 154 days 1930 and 153 days 1964. TAMS recommended sizing reservoir for 155 days.

(Source: Water Supply Reservoir TAMS Aug 1976 pg I-4)

Subject: Blue Marsh (cont.)

1. Storage required -

e) Schuylkill River reservoir

TAMS (Aug 1976 study, page I-5) states longest period of shortage was 283 days - 1930. There were 4 years in 44 year period with shortages about 240 days.

TAMS states Sch. R. reservoir sizing - 2 Timonium
 $54 \text{ cfs} \times 2 \text{ cfs-dep/c-f} \times 283 \text{ days} = 30,564 \text{ a-f}$

Subject: Blue Marsh Reservoir

1. Dam located on Talpehocken Creek (about 6 miles NW of Phila)

	<u>Ann. rate</u>	<u>Reservoir</u>
DA - sq mi.	175	211
Ave. flow - cfs	254 (15 yrs)	314 (30 yrs)
Max. - cfs	16,000 (1972)	17,000 (1972)
Min. - cfs	5.8 (1971)	23 (1964)
Min. - cfs (confined releases)	41 (1950)*	62

* 1950 values are for that year and are examples of draw info.

Source: USGS Water Resources Div. - Water, year 1950.

2. DT-10 at dam site based on pre-dam records = 41 ft.

Source: Engineers, COE, Testimony at DER Hearing (5-6-53)

3. Earth and rock fill dam rising about 100 ft. above creek.

Total capacity = 49,000 a-f. for water supply, flow augmentation, recreation and flood control.

Reservoir is about 100 acres (water) and 3 miles long.

4. Volume available for flood control - 33,000 a-f above water supply and recreation capability.

5. Storage allocations - { 15,000 a-f inactive storage to elev. 249'
49,000 { 14,500 a-f active water supply & recreation 27'
33,000 a-f (about 1000) flood control 303'

6. 14,500 a-f will provide 65 cfs yield.

7. Blue Marsh enlargement not feasible - site limitations due to terrain

COE
situation
in
alternative
plan.

Subject: Blue Marsh

1. 2-24-69 Reviewed use of future Blue Marsh as source of water with DER (A.M. Lunette)
- Now as Talpetechus Creek (Remedy) 33,000 af.
Cost \$25,000,000. COE No firm allocations yet.
DRBC controls project allocations at present.
2. 2-27-69 Met with DRBC Source date: 1974
Storage: 14,500 af Yield: 65 cfs Not allocated yet.
3. 5-8-69 Met with DRBC. Highest and yield of 45-65 cfs.
Questioned if water allocations could be made to customers.
4. 6-10-69 Met with DER. Haddad said total yield = 65 cfs.
Western Berks Co. water authority wants 21 cfs.
Haddad doubts reservoir could be expanded.
5. 7-24-69 Met with DRBC. Haddad stated completion 1971.
Also said total yield is virtually allotted to Western
Berks Co. water auth. and 10 cfs for Water Co.

Blue Marsh - 1976 yield 45 MGD.

Customers: Western Berks 1971 need 10 MGD

1972 need 20 MGD

Phile Sub. Water 220 need 25 MGD max. }
20 MGD peak }

Capacity of Blue Marsh 53,000 af.

6. 9-18-69 Met with DLBC. Blue Mustard
be possibly used for future plants but will be
be used for Linnæa.

Testimony Before PUC Relating To
Blue Marsh Reservoir

1. Witness Jonathon Phillippe, consulting engineer
Page No.

158 Blue Marsh benefits are: a) it is built,
b) depends on natural filling, c) has fairly good
yield. There are no pumps to fail so reliability is
high, and there are no pumping power costs.

159 Cost to DRBC was \$30 m. including interest.
161 Estimates PE could buy DRBC share for \$20 to \$25 m.
161 Estimates PE costs for Merrill Creek, Point Pleasant,
Bradshaw Perkiomen intake and all pipelines is \$100 m.

164 Water is stored and is available for municipal and
industrial use.

165 Blue Marsh has 8,000 a-f allocated to water supply
6,600 a-f allocated to low flow augmentation for water
quality control.

166 Yield is defined in terms of how much and how long.
167 Natural stream flow gaged before dam was built showed
flows greater than 41 cfs for 98% of time and greater
than 65 cfs for 90% of time.
Limerick's need is less than 40 cfs.

185 Any Schuylkill River alternative (Blue Marsh) would
be better (than Point Pleasant).

195 Removal of the temperature limitation on the Schuylkill
River reduces PE need for supplemental water storage--and
Blue Marsh could easily provide.

203 DRBC must approve an allocation for use of Blue Marsh.

213 Witness did not know whether PE sought DRBC approval
to take Blue Marsh water.

218 Witness feels PE should pursue use of Blue Marsh on
either a long or short-term basis because DRBC pays
charges for reservoir and is not now being paid by others.

220 Witness feels environmental effects at other reservoir
sites can be overcome since Blue Marsh had some very
serious environmental impacts but was built.

226 Repeats capacity data; see page 165. Feels PE can
227 use water from the 8,000 cfs water supply storage
228 except for a small portion already allocated to others.

- 353 PE had not submitted an application for Blue Marsh in
354 1977. Witness Iols decision to have utilities build
reservoir was a decision not to sell Blue Marsh.
- 354 DRBC discussed use of several reservoirs including
Blue Marsh, Bellzville, and Trexler. Trexler was the
only one considered for sale to utilities. When Congress
deauthorized Trexler, Commission ordered utilities to
build their own reservoir.
- 355 DRBC has not considered operating Blue Marsh for
PE needs, while PE releases compensating flows at Merrill
Creek. It is not known whether this scenario would
satisfy the PE permit conditions.
- 360 DER did not consider Blue Marsh for 1 unit operation
at the time of preparing DER's EA of August 1982.
- 373 Witness doesn't recall PE applying for the use of
Blue Marsh.
- 373 Blue Marsh operations are fairly complicated. Used
for water quality augmentation and Western Berks water
supply. Also operated on "pool of water concept" to make
up consumptive uses and repel salinity in Philadelphia
area.
- 375 DRBC would very seriously consider the allocation of
remaining capacity or yield to one user. It would not
have additional water for other users. It would be a
serious policy consideration.

3. Witness V. S. Boyer, PECO.

- 881 To pursue another source of water such as Blue Marsh
or another Schuylkill Reservoir would result in a delay
of several years. PE has not had occasion to explore the
use of Blue Marsh and have not asked for the right.
- 882 Witness has no numbers on the cost to obtain the
Blue Marsh water supply.
- 882 Witness wouldn't expect use of Blue Marsh to be granted,
883 and a review process would take several years. It
would take an environmental impact statement because the
assignment of the water to one user eliminates the availability
of water for smaller users. Recreational uses would be
effected.
- 884 The frequency of drawdown by PE would be greater than
by the intended industrial use. The effects on recreation
must be considered by the DRBC.
- 884 Witness has not asked PE Legal Department or any other
branch to study the need for an EIS.

898 The DRBC's RIS in 1973 stated two reasons for not
 considering Blue Marsh: a) Reservoir would not be ready
 in time and b) it is needed for population growth and
 industrial expansion. These reasons now
 899 appear invalid. wouldn't it be prudent to reopen the
 question of Blue Marsh? Witness feels Dr. Geddard
 was against using a public supported water project
 900 for one large consumptive user, and it eliminates the
 availability for others.

905 Witness has worked on water with DRBC for 15 years
 and doesn't recall an official request for the use of
 Blue Marsh. In turn, the Commission staff never proposed
 the use of Blue Marsh water.

4. Witness E. Timothy Weston (continued examination)

938 Has the DER determined whether the use by Limerick of
 Blue Marsh water would be contrary to public interest?
 Witness believes use would not receive DER or DRBC
 939 support or approval. No formal application has been
 filed; so a final decision has not been made.

941 Witness states he has authority as governor's alternate
 to vote on an application by PE for the use of Blue
 942 Marsh. Governor and witness have not discussed the
 subject of Blue Marsh.

944 Pennsylvania has no direct power, other than its vote
 on the DRBC, over the allocation of water in Blue Marsh
 (a federal reservoir). Witness briefly expressed to
 other Commissioners at the last DRBC meeting that the
 allocation of Blue Marsh for one use would not comport
 with good water management policy.

945 DRBC policy stating that Blue Marsh is for multiple
 users is recorded in the 1975 DRBC Water Management book,
 in the adoption of Blue Marsh in the Comprehensive Plan
 of 1962 and in subsequent resolutions. Resolution
 948 60-14 cites the use of the storage for flow augmentation
 to satisfy needs in Pottstown/Reading area and in
 Philadelphia, multiple needs. A staff document, dated
 April 1975, called Water Management of Delaware River
 Basin, states Blue Marsh water supply has net yield
 949 of 31 MGD (47 cfs) to meet needs in area, municipal
 and industrial needs. Will also meet minimum flow
 objectives and water quality control.

949 These documents are the total authority for the policy
 950 that the Blue Marsh water supply is to meet multiple
 uses downstream rather than a single use.

953 Blue Marsh water is available for sale to consumptive
 users. It is being paid for by water users throughout
 the basin. It is not being sold to individual water
 users.

- 956 DRBC has taken a tougher look at water allocations since 1975-76 and is adopting a formal budget to limit allocations to actual on-line storage.
- 962 DER made an analysis assuming a reduced flow criteria and no temperature restrictions to determine the needs for Blue Marsh in the second worst year, 1960. Analysis led to witnesses' testimony.
- 967 PE needs 4,509 cfs-days to meet needs of second worst year of 167 days. (The next pages contains confusing calculations.) Now the needs of Limerick can be met with a 10% excess. These words by Mr. Sugarmen are neither accepted or denied by witness.
- 969 Pennsylvania approved a reduction in conservation release from Blue Marsh from 41 cfs to 21 cfs during the drought of 1980/81.

5. Witness Robert L. Goodell, Chief Engineer - DRBC

- 1014 In response to Del Awa's petition to reopen DRBC's decision, the Commission reaffirmed its position that the (Point Pleasant) project would be necessary for
- 1016 either one or two units at Limerick and that alternatives cited by petitioners were less efficient, cost-effective or environmentally acceptable.
- 1017 Witness quoted this position as Commission's rejection of Blue Marsh for use to supply two units. He stated
- 1017 that Blue Marsh was not considered for use with one unit.
- 1018 DRBC Commissioners have not been polled with respect to the use of Blue Marsh for one unit.
- 1019 DRBC position is that Blue Marsh would not be adequate for 2 units and would be marginally adequate to support 1 unit. Hypothetical discussion follows in testimony as to whether docket decision would permit PECO to withdraw water from Schuylkill during low flows even if they supplied a similar quantity of water upstream from their own reservoir.
- 1028 DRBC would not make a decision on the use of Blue Marsh unless an application was formally submitted.
- 1050 DRBC discussed use of Blue Marsh at time of preparing 1973 EIS. Blue Marsh could yield limited water supply but would not be ready in time and anticipated population
- 1051 growth and industrial expansion needs were expected.
- 1068 Prior to 1971 at meetings DRBC staff suggested to PECO that Blue Marsh would not be available for a Limerick water supply. Later discussed with entire Commission which upheld the staff position.
- 1071 Commissioners again considered Blue Marsh in 1982.

- 1072 Blue Marsh was reserved for public, not industrial use where high return flows could be expected.
- 1081 Witness feels between 20 and 25% of Blue Marsh could be allocated to PECO, but rest of storage must be available for other water quantity and quality demands.
- 1082 This represents 2,000 a-f out of 8,000 a-f. This allocation would be the extreme upper limit.
- 1082 Other demands on Blue Marsh are currently Western Berks Water Authority, replacement of other consumptive water uses and quality control.
- 1083 Blue Marsh was used between Sept. 1980 and Feb. 1981 for low flow augmentation to help the Delaware River meet salinity standards. It was also used for low flow augmentation in the Schoeykill River.
- 1090
- 1095 Witness was not including the 6,600 a-f of low flow augmentation capacity when talking about allocating the Blue Marsh water supply.
- 1097 Western Berks Water Authority is projected as needing 17.6 cfs in year 2010. Contract of 1971 projected 5.7 cfs in 1980, and actual use is only 4.8 cfs.
- 1098 These uses are allocated in Blue Marsh.
- 1098 DRBC requested a reduction in conservation releases from Blue Marsh during 1980 drought.
- 1099 41 cfs release lowered to 21 cfs for conservation and 9 cfs for Western Berks, or a revised total drought release of 30 cfs.
- 1116 Limerick's use of water is consumptive; and if Blue Marsh was dedicated to Limerick, the water could not be reused in the 38 miles to Philadelphia. The Limerick water would not be used to augment flows and improve downstream quality.
- 1117 Allocation of Blue Marsh to Limerick could impact current recreational use because drawdowns would be at a faster rate and would reduce the available pool acreage.
- 1120 Commission made a decision that dedication of all or any of Blue Marsh would not be looked on favorably.

6. Witness R. Timothy Weston (continued)

- 1151 Weston's 12/4/80 letter to Col Ton indicated State's willingness to reduce min. releases from 41 cfs to 21 cfs plus water for Western Berks. Fish agencies agreed for drought periods.
- 1152 A technical committee is working on reservoir operating plan.

- 1153 (Can) different of storage and releases are discussed
1162 but are so confusing no notes can be made.)
- 1163 The original 14,000 a-f (approx.) was for water quality, water supply, and recreation. If 8,000 a-f are for supply, the remaining 6,000 a-f (approx.) must be for quality and recreation. This storage was used during 1980/81 for quality control in Schuylkill and Delaware Rivers.
- 1165 Assignment of some of 6,600 a-f quality storage would require COE to complete a reformation study. Weston has been involved in 3 such studies. One lasted 3 years and was accepted. One study was rejected, and one is still in progress. If the quality storage is to be used for water supply, the FAPC would have to pay construction costs plus interest.
- 1171 Water projection for 1990 estimates 56.6 MGD additional
1172 needed. Equates to 88 cfs. This is consumptive use. The storage requirement for 167 days is about 14,600 cfs-days. This need is more than the existing storage. Adding Limerick's need of 32.5 cfs gives total need of 120 cfs. PECO need is about 26% of consumptive water use; and if Blue Marsh is made available, PECO should only be allotted about 26%.
- 1174 PE is the only user with ability to build a reservoir so DRBC may just say build your own reservoir.
- 1175 One unit at Limerick Ave. consumptive use for 167 days needs 4,509 cfs-days storage and peak need is 5,428 cfs-days. Blue Marsh inflow and storage minus present commitments is 5,000 cfs-day, and 26% is about 1,300 cfs-days. Blue Marsh is not adequate for 1 unit.
- 1192 Weston's recommendation to supply water in Schuylkill basin would be to build a new reservoir.
- 1192 Before a new reservoir could be completed, DRBC has 3 options: 1) order river-follower operation of Limerick, 2) make temporary allocation from Blue Marsh and 3) reduce flow ratios (criteria in RFR).
- 1193 The Commission action is difficult to predict. A temporary use of Blue Marsh would require a year to approve and another year for the environmental impact statement. The same time requirement would be needed to reduce Schuylkill minimum flow requirements.
- 1214 The COE makes Blue Marsh releases from storage and
1215 whether it is conservation storage, quality storage, or supply storage is - (testimony is confusing).
- 1229 Witness identifies alternatives for water supply. He later (page 1230) prioritizes them.

- 1230 Witness lists alternatives in order of preference.
- 1) Project as proposed, based on environmental impacts and water management considerations.
 - 2) Portion of water from Bradshaw and some from Blue Marsh.
- 1231 3) Flow adjustment on Schuylkill and Blue Marsh, by tol of its storage.
- 1232 4) 45) Red Creek or committing all of Blue Marsh.
- 6) Transfer of Philadelphia water.

MECHANICAL ENGINEERING DIVISION
N2-1 2301 Market Street

Testimony Before PUC Relating To
Blue Marsh Reservoir

1. Witness Jonathon Phillippe (continued)

Page

- 1449 Reviewed Weston's testimony on water use in Schuylkill
1453 River and amplifies. Daily use per Weston is 716 MG/day
of which 465 MG is once-through by utilities. 716 MGD is
about 1000 cfs which is about $\frac{1}{2}$ of the average daily
1454 flow (Daily ave = 1821 cfs).
- 1454 Q7-10 is around 250 cfs and is sufficient to maintain
water quality and the DO objective.
- 1454 Flow (530 cfs) and temperature (15°C) criteria are very
arbitrary.
- 1457 Blue Marsh can support 1 unit marginally in worst drought
year. But some witnesses say it should not be allocated
to PECO only, and 20 to 25% would be maximum. Witness
disagrees.
- 1458 Fish Commission and USF & WS desire as much flow as
possible in stream. However, PFC set 15% of average
1459 daily flow as a minimum. 15% of average flow (1,821
1461 cfs) is 273 cfs at Pottstown. A second minimum flow
1460 criteria is the Q7-10 which is approximately 250 cfs.
In 1965 the 273 cfs would have not been met 20 days.
Calculations follow to show that during 25 days of
1461 shortage Blue Marsh can supply the water and will even
increase its storage by not releasing the total natural
stream inflow.
- 1465 Weston has letter from Col. Ten saying conservation
release can be reduced to 20 cfs.
- 1466 Using 1,300 cfs-days (2600 a-f) from Blue Marsh for
Limerick would mean a minimum flow criteria of about 300
cfs would have to be accepted. If DRBC allowed PE to use
50% of Blue Marsh storage, the minimum flow criteria
would have to be between 330 and 350 cfs.
- 1468 If PE were allowed all Blue Marsh storage, the minimum
river flow criteria could be 450 cfs.
- 1468 Proposal to lower Schuylkill flow criteria has not
considered recreation impacts.

Page

- 1479 The temperature restriction which only applies to the Schuylkill withdrawals would have to be removed.
- 1480 River modelling showed DO objective would be met with flow of 280 or 250 cfs and temperature of 82°F (26 or 28°C).
- 1526 "Water Supply & Water Quality Study, Blue Marsh Reservoir, June 1968" set temperature criteria according to DRBC, but witness does not find any support for temperature.

Testimony Before DER-Environmental Hearing Board
Blue Marsh Reservoir

Transcript
Page No.

Witness - David K. Erickson, COE
Chief, Reservoir Regulation

- 1541 Blue Marsh is under control of COE. Operated by COE.
- 1542 Filling started April 1979, officially filled Sept., 1979. Reservoir regulation manual (prel.) of Feb. 1980 has been updated. There are two storage levels-
- 1543 1) winter storage-14,600 a-f, conservation release 39.6 cfs.
2) summer storage = 19,000 a-f, " " 40.0 cfs.
Storage difference is for recreation--the DRBC only has a contract for the 14,600 a-f.
- 1545 During drought of 1980/82, State and DRBC reduced min. release from 41 cfs to 21 cfs.
- 1546 Letter 12/4/80 Weston to Col. Ton, reduced conservation release during drought warning or drought conditions to 21 cfs. Water supply release for Western Berks shall be added resulting in a total of 30 cfs.
- 1550 COE physically operates the dam, but DRBC daily calls COE to request releases from their contracted storage. The final say on actual operation is the COE. Water supply storage belongs to DRBC.
- 1552 Minimum conservation release is set by State Water Plan. Considered the COE criteria. COE helped
- 1554 formulate min. release criteria during design period to meet federal requirements, fish and wildlife, aquatic and all agencies. Min. release criteria is a coordinated effort.
- 1554 Min. summer release of 40 cfs was based on Q7-10 for
(1563) Tulpehocken Creek before dam.
- 1556 Min. release is just that--the flow that must always be released. If DRBC requests a release for low flow augmentation, the same water can satisfy both requirements--the releases are not additive.
- 1557 COE is operating on a 41 cfs release regulation.
- 1559 Western Berks release is in addition to conservation
1560 release. Regulation Manual states 41 cfs for min. conservation release and 9 cfs for Western Berks. Western Berks intake is about 1 mile below the dam.

Transcript

- 1568 COE operates dam according to regulations manual. DRBC can request water from their storage, but COE can overrule. DRBC storage is 14,600 a-f and is stored above the conservation pool.
- 1569 Reduction in conservation release came through DRBC
1570 with coordination of State. Reduction was to enable returning storage as fast as possible.
- 1571 Elevation 285 is top of winter, water supply pool. The top of the 14,600 a-f storage. Elevation 290 is top of summer or recreation pool. Summer pool maintained April 1 to October 1.
- 1572 Recreation facilities are designed for elevation 290.
- 1572 Western Berks required releases as planned. 9 cfs through 1989, 13 cfs for 1990 to 1999, 18 cfs for 2000 to 2009 and 27 cfs beyond 2010.
- 1573 Water is stored under flood conditions based on downstream gage readings to protect property.
- 1573 We would never release less than 41 cfs.
- 1574 If inflow was less than 41 cfs, COE would only store water to get pool to required normal level.
- NOTE: There seems to be some confusion for several pages as to when storage would occur at low flow.
- 1577 Augmentation flows (requests) come from DRBC.
- 1579 A study has been made to determine the impact on recreation of different pond elevations.
- 1581 Water supply comes before recreation because water supply is under contract with DRBC.
- 1582 DRBC provided future data for Western Berks needs and will request releases as required.
- 1585 Net yield is for worst drought of record. Net yield is 30.6 MGD.