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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

'84 NOV -2 P4:32

Before the Atomic Safety and Licensing Appeal Board

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

APPLICANT'S OPPOSITION TO MOTIONS
FOR STAY BY DEL-AWARE UNLIMITED, INC.
AND FRIENDS OF THE EARTH

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Preliminary Statement

On October 25, 1984, intervenor Del-Aware Unlimited, Inc. ("Del-Aware") filed a pleading which purported to appeal an Atomic Safety and Licensing Board ("Licensing Board") Memorandum and Order, dated October 15, 1984. Del-Aware also sought a stay of that decision, which confirms the Licensing Board's Second Partial Initial Decision ("Second PID", dated August 29, 1984, which, in turn, had authorized the Director of Nuclear Reactor Regulation to issue a license permitting fuel load and low-power testing up to five percent rated power for the Limerick Generating Station ("Limerick").^{1/}

^{1/} Philadelphia Electric Company (Limerick Generating Station, Units 1 and 2), LBP-84-31, 20 NRC _____ (August 29, 1984).

On October 23, 1984, Robert L. Anthony, for himself and for Friends of the Earth in the Delaware Valley (collectively "FOE") filed an appeal of the Licensing Board's Second PID and petitioned the Atomic Safety and Licensing Appeal Board ("Appeal Board") to stay the authorization of a low power license for Limerick.^{2/} Applicant, Philadelphia Electric Company ("PECO"), opposes the requested relief in both instances.

Argument

I. Del-Aware Has No Standing And The Appeal Board Lacks Jurisdiction With Regard To The Issues Del-Aware Has Raised.

Del-Aware's participation as an intervenor in the instant proceeding has been limited to issues associated with the supplementary cooling water system for Limerick. The First PID issued by the Board disposed of Del-Aware's contentions relating to this system.^{3/} Subsequently, the Appeal Board reviewed this decision and, except for two

^{2/} By Order dated October 29, 1984 (slip op. at 1-2), the Appeal Board noted that the low-power license for Limerick had issued on October 26, 1984, and that it would therefore treat both FOE's and Del-Aware's stay requests as motions to suspend the underlying authorization for the low-power license. The Board ordered the other parties to respond to "the two motions in one document." The Board ordered the other parties to "respond to the two motions in one document." Id. at 2 n.2.

^{3/} Limerick, supra, LBP-83-11, 17 NRC 413 (1983).

aspects not at issue in Del-Aware's instant appeal and request for a stay, affirmed the First PID in ALAB-785.^{4/}

On August 24, 1984, well after the issuance of the First PID, but before ALAB-785, the Licensing Board issued a Memorandum and Order which specifically addressed Del-Aware's claims regarding the issuance of a low-power license for Limerick.^{5/} In that Order, the Licensing Board reiterated its previous finding "that jurisdiction over Del-Aware's claims regarding the supplemental cooling water system now lies with the Appeal Board, as part of its appellate review of our March 8, 1983 Partial Initial Decision (P.I.D.)"^{6/} The Licensing Board then stated:

The only matter deserving comment at this point is the possible inference (it is far from clear) from Del-Aware's May 17 filing before us that a low power license could not be issued until it is either certain that the proposed Point Pleasant diversion found acceptable by this Board will be finally approved by State and local authorities, or that an alternative supplemental cooling system

^{4/} Limerick, supra, ALAB-785, 20 NRC _____ (September 26, 1984). In an Order dated October 10, 1984, the Appeal Board denied a petition by Del-Aware for reconsideration of two other aspects of ALAB-785.

^{5/} Limerick, supra, "Memorandum and Order Rejecting Late-Filed Contentions from FOE and AWPP, Denying AWPP's Second Request for Reconsideration of Asbestos Contention, Denying AWPP's Motion to Add a PVC Contention and Commenting on an Invalid Inference in Del-Aware's May 17, 1984 Filing" (August 24, 1984) (slip op. at 22-25).

^{6/} Id. at 23.

will be proposed by the Applicant and litigated before us. We disagree.^{7/}

The Licensing Board therefore held that "issuance of a low power or even a full power operating license would provide no basis to alter our decision not to consider any further supplemental cooling water system issues which depend on the predictive assumption that the proposed Point Pleasant diversion will not be completed."^{8/}

On August 29, 1984, the Licensing Board issued its Second PID, which authorized the Director of Nuclear Reactor Regulation, upon making the findings required under 10 C.F.R. §50.57(a), to issue to Applicant "a license or licenses to authorize low power testing (up to five percent of rated power of each unit) of the Limerick Generating Station, Units 1 and 2."^{9/} Del-Aware did not appeal either the August 24, 1984 Memorandum and Order or the Second PID.

Subsequent to the issuance of the Second PID, the NRC Staff indicated its belief that the Director of Nuclear

^{7/} Id. The Licensing Board then explained that the supplemental cooling water system is needed only to optimize commercial operation of the Limerick plant, and not for safe shutdown. The Board emphasized that Del-Aware had provided no basis "for finding that low power testing cannot be conducted at least at times (particularly from the fall of '84 into the spring of '85), if not at all times, through use of the primary Schuylkill River cooling water intake." Id. at 24.

^{8/} Id. at 25.

^{9/} Limerick, supra, LBP-84-31, 20 NRC ____ (August 29, 1984) (slip op. at 264).

Reactor Regulation could not issue a low-power license without an order from the Licensing Board determining that the possible resubmission and litigation of the two contentions permitted by ALAB-785 would not preclude license issuance.^{10/} On October 15, 1984, the Licensing Board issued a Memorandum and Order determining that it had jurisdiction to confirm its authorization to the Director, that the supplemental cooling water system is indeed unrelated to low-power testing and that the Appeal Board had not intended to stay the issuance of a low-power license in permitting Del-Aware an opportunity to pursue its unrelated contentions.^{11/} The Licensing Board therefore confirmed its Second PID to authorize the Director to issue the low-power license.

Del-Aware now purports to appeal the October 15, 1984 Memorandum and Order, but nothing it raises relates to the issue decided by the Licensing Board in its October 15 Order. As noted, that Order dealt with the possible resubmission and litigation of two new contentions on salinity impacts in the Delaware River and esthetic impacts in the Point Pleasant Historic District. Del-Aware lacks

^{10/} See "Applicant's Motion for Confirmation of Authorization to Issue Low-Power License Confirming Its Oral Motion by Telephone Conference Call on October 3, 1984" at 2 (October 3, 1984).

^{11/} Limerick, supra, "Memorandum and Order" (October 15, 1984).

standing to raise the different matters addressed in the instant appeal, and the Board lacks jurisdiction to hear them.

Del-Aware's first point on appeal relates to operation of an allegedly "unapproved supplemental cooling water system." This cryptic reference is unclear,^{12/} but the Appeal Board in ALAB-785 disposed of this issue against Del-Aware,^{13/} as did the Licensing Board in its August 24 Memorandum and Order.^{14/}

Del-Aware's second point, which discusses tornado impacts on the Limerick cooling tower,^{15/} does not even pertain to any proposed or admitted contention. The Appeal Board certainly has no residual jurisdiction to consider such a contention.^{16/} Likewise, the Licensing Board may

^{12/} In denying reconsideration of ALAB-785, the Appeal Board noted its previous criticism of the quality of Del-Aware's pleadings and its caveat that Del-Aware must bear the risk of such shortcomings. Limerick, supra, ALAB Order (October 10, 1984) (slip op. at 3).

^{13/} Limerick, supra, ALAB-785, 20 NRC ____ (September 26, 1984) (slip op. at 61-64).

^{14/} Limerick, supra, "Memorandum and Order" (August 24, 1984) (slip op. at 25).

^{15/} As discussed at page 10, infra, nothing concerning the supplementary cooling water system is safety-related.

^{16/} Florida Power and Light Company (St. Lucie Nuclear Power Plant, Unit No. 2), ALAB-579, 11 NRC 223 (1980); Virginia Electric and Power Company (North Anna Nuclear Power Station, Units 1 and 2), ALAB-551, 9 NRC 704 (1979); Public Service Company of New Hampshire
(Footnote Continued)

consider only the contentions authorized by ALAB-785, plus emergency planning contentions, which were not decided in the First or Second PID's.^{17/} Any such issues must be pursued by a request for relief under 10 C.F.R. Section 2.206 now that the Appeal Board lacks jurisdiction and the license has issued.^{18/}

It is unclear what Del-Aware's third point attempts to raise. It is equally difficult to discern any particular environmental or safety issue from the previous pleading to which Del-Aware refers.^{19/} In any event, this point plainly does not relate to either of the two issues remanded to the Licensing Board pursuant to ALAB-785 and thus covered by the Board's October 15 Order. Del-Aware lacks standing to raise those matters, nor can Del-Aware now appeal earlier orders for which the time to appeal has long since elapsed.

(Footnote Continued)

(Seabrook Station, Units 1 and 2), ALAB-513, 8 NRC 694 (1978).

17/ Cf. Limerick, supra, ALAB-726, 17 NRC 755 (1983) (explaining jurisdiction to rule on a motion to reopen an initial decision).

18/ See note 16, supra.

19/ See Del-Aware's "Answer to Applicant's Motion for Affirmation of Authorization" (October 10, 1984).

II. Del-Aware's And FOE's Arguments Do Not Meet The Requirements For A Stay And Do Not Justify A Suspension Of The Low-Power License.

A. Requirements For A Stay

In determining whether to grant or deny an application for a stay, the Appeal Board is required, pursuant to 10 C.F.R. §2.788(e), to consider:

- (1) Whether the moving party has made a strong showing that it is likely to prevail on the merits;
- (2) Whether the party will be irreparably injured unless a stay is granted;
- (3) Whether the granting of a stay would harm other parties, and
- (4) Where the public interest lies.^{20/}

As the moving parties, Del-Aware and FOE bear the burden of persuading the Appeal Board that they are entitled to a stay.^{21/} Neither Del-Aware nor FOE have met this burden as to any of the four governing criteria and, accordingly, their respective applications for a stay should be denied.

^{20/} See generally Alabama Power Company (Joseph M. Farley Nuclear Plant, Units 1 and 2), CLI-81-27, 14 NRC 795, 796-97 (1981); Environmental Radiation Protection Standards for Nuclear Power Operations, CLI-81-4, 13 NRC 298, 301 (1981); United States Department of Energy (Clinch River Breeder Reactor Plant), ALAB-721, 17 NRC 539, 543 (1982).

^{21/} Farley, supra, CLI-81-27, 14 NRC at 797. Public Service Company of Indiana (Marble Hill Nuclear Generating Station, Units 1 and 2), ALAB-493, 8 NRC 253, 270 (1978).

B. Del-Aware Has Failed To Show That It Is Entitled To A Stay.

Even if the Appeal Board finds that it has jurisdiction, Del-Aware's arguments concerning impacts associated with the Point Pleasant diversion and the possibility that it might not be completed have previously been rejected. Its new argument, that the supplemental cooling water system is necessary for the safe shutdown of the plant, is incorrect. Nor has Del-Aware satisfied the other criteria for a stay, much less suspension of an operating license.

As discussed above, the Appeal Board in ALAB-785 and the Licensing Board in its August 24, 1984 Memorandum and Order conclusively rejected Del-Aware's argument that possible obstacles to completion of the Point Pleasant diversion necessitate further evaluation of an alternative to the supplementary cooling water system. Further, as the Licensing Board recently reiterated, the supplementary cooling water system is necessary only for the optimal operation of the Limerick plant, not safe shutdown or even low-power testing:

It is not needed for even full power operation for certain times of the year (generally the fall through spring months when low flow and high water temperatures do not preclude use of the Limerick plant's Schuylkill River water intake). It also is not needed for safe operation of the plant, as the ultimate heat sink for safe shutdown is the onsite spray pond.

Issuance of a low power operating license would not change this. Del-Aware provides no basis, nor does

one appear, for finding that low power testing cannot be conducted at least at times (particularly from the fall of '84 into the spring of '85), if not at all times, through use of the primary Schuylkill River cooling water intake.22/

Del-Aware cites no factual basis to support its claim that Applicant "had expressly relied upon the supplemental cooling water system for this purpose [for a safe shutdown in the event of destruction through tornado impact of the cooling tower] in the SER." Reference to the discussion of this issue in Limerick SER §3.5.2 reveals no discussion of the supplementary cooling water system. Indeed, in a recently submitted draft revision to the FSAR, Applicant made clear that there is no reliance upon Perkiomen Creek water sources for safe shutdown capacity. Perkiomen sources necessarily include water supplied via the East Branch Perkiomen via the Point Pleasant diversion. In amending its answer to NRC RAI 410.70, Applicant stated:

While an additional source of water is available from the pump station providing the Perkiomen makeup supply located at a distance of approximately 8 miles from the plant site, no reliance is being placed on this intake for the purpose of safety analysis or the safety licensing basis for the facility.23/

22/ Limerick, supra, "Memorandum and Order" (October 15, 1984) (slip op. at 4), quoting "Memorandum and Order" (August 24, 1984) (slip op. at 24).

23/ See letter dated October 19, 1984 from Vincent S. Boyer, Sr. Vice President, Nuclear Power, (Footnote Continued)

Moreover, it has long been understood that Schuylkill River water would be available even in the very unlikely event that it were needed to achieve a safe shutdown of the plant. In approving the allocation of Schuylkill River water for the facility, the Delaware River Basin Commission expressly stated: "Both sets of constraints [limiting Schuylkill withdrawals to certain river water temperatures and flows, and to meet applicable water quality standards] would be suspended in the event of any operational emergency requiring a shutdown of the plant."^{24/} Accordingly, Del-Aware's argument is without factual basis, even assuming

(Footnote Continued)

Philadelphia Electric Company to Albert Schwencer, Division of Licensing, Nuclear Regulatory Commission (copy attached). This amendment of the FSAR reiterates the fact that Perkiomen water sources need not be considered in assuring a safe shutdown capacity for the plant. A draft of this revision had been provided to the NRC Staff by letter dated September 4, 1984, which stated that both Schuylkill and Perkiomen makeup water would be available, but did not state that Perkiomen water was necessary for safety purposes. The later FSAR revision submitted with Mr. Boyer's October 19, 1984 letter makes it clear that, even if the Limerick spray pond (i.e., the ultimate heat sink) is temporarily lost, adequate makeup water can be provided solely from the Schuylkill.

^{24/} DRBC Docket No. D-69-210 CP, Philadelphia Electric Company, Limerick Nuclear Generating Station (March 29, 1973) (page 5). This decision was incorporated by reference in the final decision authorizing use of Schuylkill River water in DRBC Docket No. D-69-210 CP(Final) (page 15) (November 5, 1975). Copies of both decisions are provided for the convenience of the Board. Those decisions were reviewed and affirmed by the federal courts in Delaware Water Emergency Group v. Hansler, 536 F. Supp. 26 (E.D. Pa. 1981), aff'd mem., 681 F.2d 805 (3d Cir. 1982).

that Del-Aware has standing to raise this safety issue.

Finally, the averment of alleged "environmental and safety implications of the low power testing without the supplemental cooling water system" is entirely too vague to justify a stay. The earlier pleading to which Del-Aware refers is merely a collection of arguments previously rejected as to the necessity for the NRC to redo its environmental analysis based upon the possibility that the supplementary cooling water system as planned might not be available. Thus, Del-Aware has failed to show that it is likely to prevail on the merits and has not even attempted a showing on the remaining three requirements for a stay. Those three criteria weigh against Del-Aware for the reasons discussed with respect to FOE's petition for a stay, infra.

C. FOE's Late-Filed Motion for A Stay Is Without Merit.

Preliminarily, FOE's motion for a stay of LBP-84-31 is very late. FOE had filed a motion for a stay of that decision with the Licensing Board on September 1, 1984, which the Licensing Board denied on September 7, 1984.^{25/} Pursuant to 10 C.F.R. §2.788(a) and (h), FOE was required to appeal the denial of its stay request within ten days of its

^{25/} Limerick, supra, "Order Regarding FOE Motion to Set Aside Partial Initial Decision and Motion to Reopen Record" (September 7, 1984).

service. See Metropolitan Edison Company (Three Mile Island Nuclear Station, Unit No. 2), CLI-78-3, 7 NRC 307, 308 n.2 (1978); Public Service Company of New Hampshire (Seabrook Station, Units 1 and 2), CLI-78-1, 7 NRC 1, 30 n.44 (1978). Accordingly, FOE's motion for a stay should be denied.

Aside from being late-filed, FOE's motion also fails to meet the criteria necessary to support a stay. With regard to the first factor, FOE asserts, without more, that "[t]he reactor building is not able to withstand overpressures from postulated external explosions." The Licensing Board, however, found that this claim has no merit.^{26/} FOE has added nothing here that would justify a different conclusion. Accordingly, FOE, the party with the burden of persuading the Appeal Board that it is entitled to a stay, has not made any showing that it is likely to prevail on the merits.

FOE's unsupported claim that "nuclear fuel was not brought to the plant in accordance with NRC regulations, and AEA and NEPA," and its accompanying statement that its appeal of this issue is pending in the Third Circuit Court of Appeals, clearly do not warrant a stay. The fact that FOE has appealed the Commission's denial of its contention

^{26/} Limerick, supra, LBP-84-31, 20 NRC ____ (August 29, 1984) (slip op. at 76).

that new fuel should not be stored onsite^{27/} certainly does not indicate that it is likely to prevail on the merits. More importantly, the Commission and the Third Circuit have previously rejected virtually identical requests by FOE for a stay.^{28/} The matter is now before the Court of Appeals for the Third Circuit. Having previously considered and rejected such request, this Appeal Board now lacks jurisdiction to reconsider this matter.^{29/}

As to the second factor, relating to irreparable injury, FOE provides absolutely no basis for its claim that "[i]f Limerick is operated, an inexorable process will start which will threaten my safety, increase electric rates, impair [the] regional economy, and force me to move from the area." In the absence of affidavits or other evidence to support these bald assertions, no finding of irreparable harm, perhaps the most critical of the four criteria,^{30/} can be made.

With respect to the third and fourth factors, as recognized by FOE, the granting of a stay would obviously

27/ Limerick, supra, ALAB-765, 19 NRC 645 (1984).

28/ Limerick, supra, Commission Order (April 26, 1984); Anthony v. Philadelphia Electric Company, No. 84-3409 (3d Cir., July 12, 1984).

29/ See note 16, supra.

30/ Farley, supra, CLI-81-27, 14 NRC at 797; Clinch River, supra, ALAB-721, 17 NRC at 543.

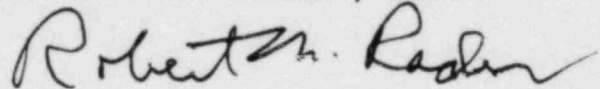
delay low-power testing and, ultimately, commercial operation of Limerick, thus inflicting serious harm upon the Applicant. Likewise, it is not in the public interest to delay the licensing of Limerick in order to explore what has previously been determined to be meritless claims postulated by FOE. Accordingly, FOE's late-filed motion for a stay should be denied.

Conclusion

For the reasons discussed above, Del-Aware's and FOE's respective petitions for a stay should be denied.

Respectfully submitted,

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November 2, 1984

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CERTIFICATE OF SERVICE

I hereby certify that copies of "Applicant's Opposition to Motions for Stay by Del-Aware Unlimited, Inc. and Friends of the Earth," dated November 2, 1984 in the captioned matter, have been served upon the following by deposit in the United States mail this 2nd day of November, 1984:

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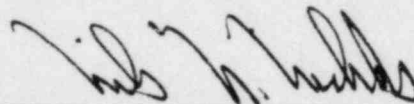
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DELAWARE RIVER BASIN COMMISSION

Philadelphia Electric Company
Limerick Nuclear Generating Station
Limerick Township, Montgomery County, Pennsylvania

PROCEEDINGS

This is an application submitted by the Philadelphia Electric Company to the Delaware River Basin Commission on March 5, 1970, for review of a project to withdraw surface water and discharge wastewater used in the operation of a proposed nuclear-fueled steam-electric generating station consisting of two nuclear units. By letter dated July 30, 1971, the Philadelphia Electric Company amended its original application to include emergency shutdown water supply. Meanwhile, a special public hearing on the project, together with the concurrently pending Newbold Island project, was held by this Commission on July 16, 1970. This hearing was for the stated purpose of receiving testimony on the effects of these two projects on the water resources in the area.

The application was reviewed for inclusion of the project in the Comprehensive Plan and approval under Section 3.8 of the Delaware River Basin Compact. The applicant has also filed two applications, for an industrial waste permit covering effluents from the proposed station and for a stream encroachment permit for intake and outfall structures, with the Commonwealth of Pennsylvania's Department of Environmental Resources (PaDER). These are expected to be forwarded to the Commission under Administrative Agreements, after action by the department.

An application for a construction permit is pending before the Atomic Energy Commission as Docket Nos. 50-352 and 50-353.

COMPREHENSIVE PLAN DESCRIPTION

Purpose -- The purpose of this project is the construction and operation of a nuclear power plant with two units having a net electrical capacity of 1100 megawatts each, with circulating cooling water for the steam turbines to be furnished from cooling towers with makeup water to be drawn from the Schuylkill River or Perkiomen Creek.

Location -- The project will be located on a 587-acre site on the east bank of the Schuylkill River, in Limerick Township, Montgomery County, Pennsylvania, about 1.7 miles south of the nearest part of the Borough of Pottstown. A water intake structure will be located on the Schuylkill River at river mile 92.47 - 48.22 and a blowdown and liquid waste discharge structure will be located at river mile 92.47 - 47.94. An additional water intake structure will be located on Perkiomen Creek at river mile 92.47 - 32.3 - 10.5, from which water will be pumped by pipeline to the power plant site.

Service Area -- The Philadelphia Electric Company will be the sole owner of the Limerick project and the power developed at the plant will be distributed throughout its service area. The power will also be available for transmission to other areas via the Pennsylvania-New Jersey-Maryland Interconnection.

Physical features -- (a) Facilities: The main facilities at the site will be two reactor buildings, two turbine buildings, two hyperbolic cooling towers, administrative building, service buildings, fuel handling building, and water treatment building.

The principal structures involved in the cooling water system are:

(1) Water intake structures, both on the Schuylkill River and on the Perkiomen Creek to furnish non-consumptive needs and makeup water to cooling towers. The applicant states that these intake structures will be designed, installed, operated and maintained in accordance with all state, federal and Commission requirements.

(2) Two hyperbolic natural-draft cooling towers, each approximately 475 feet in diameter at the base and 500 feet high.

(3) Pumping stations and pipelines to move the required quantities of water.

(b) Water Requirements: The water requirements of the plant are made up of consumptive, non-consumptive, and emergency shutdown use as follows:

	<u>Consumptive Use</u>		<u>Non-consumptive Use</u>	
	<u>1 unit</u>	<u>2 units</u>	<u>1 unit</u>	<u>2 units</u>
<u>Normal Operating</u>				
Average rate - cfs (mgd)	27 (17.5)	54 (35)	10 (6.5)	20 (12.9)
Maximum rate - cfs (mgd)	33 (21.3)	65 (42)	12 (7.8)	22 (14.2)
<u>Emergency Shutdown*</u>				
Average rate - cfs (mgd)			31 (20)	
Maximum rate - cfs (mgd)			38 (24.7)	

ACTION BY ATOMIC ENERGY COMMISSION STAFF

The applicant, in accordance with established procedures, has applied to the Atomic Energy Commission for a construction permit (which would ultimately be followed at a later stage by an operating permit). During the course of the proceedings before the AEC, staff concluded that it would not be appropriate to assume at this time that the large quantities of water required by the project would necessarily be available from the Tocks Island Dam and Reservoir which has been designed by the Corps of Engineers but is still awaiting clearance from the CEQ. Accordingly, the AEC Director of Licensing, on November 30, 1972, wrote to the applicant stating:

* (Emergency Shutdown Use - This use assumes both cooling towers knocked out by

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"In view of this uncertainty, you are requested to furnish evidence of a firm commitment, not contingent on the approval of the Tocks Island project, from the Delaware River Basin Commission to allocate the required amount of water for plant operation. The regulatory staff will not recommend that a construction permit for Limerick Generating Station be issued until all appropriate and necessary permits, certification, and allocation to assure an adequate supply of water have been obtained from the Delaware River Basin Commission."

Effect of NEPA -- The applicant, thus barred from further consideration by the AEC, pending resolution of its water supply problem, thereupon pressed this Commission for favorable action upon its long-pending application for approval under Section 3.8 of the Compact, upon which a special public hearing had been held in July 1970. In view of the NEPA, however, the Commission, as a federal-interstate body, cannot approve the project until the full disclosure provisions of NEPA have been satisfied.

In December 1972, a draft environmental statement was circulated by the AEC staff in accordance with applicable guidelines. This Commission and 12 other federal, state and local agencies have been requested to comment on the draft statement (a document of some 500 pages). Such comments have been prepared by this Commission's staff and are about to be approved by the Commission for forwarding to AEC.

The AEC draft statement of December 1972 concludes as follows:

"7. On the basis of the analysis and evaluation set forth in this Statement, after weighing the environmental, economic, technical, and other benefits of Limerick Station, Units 1 and 2, against environmental costs and considering available alternatives, it is concluded that the action called for under NEPA and Appendix D to 10 CFR Part 50 is the issuance of a construction permit for the facility as described subject to the following conditions for protection of the environment...

"8. This Draft Environmental Statement has been prepared based upon the assumption that the Delaware River Basin Commission will issue a permit for allocation of an adequate water supply for the Point Pleasant Diversion project. Serious questions have been raised concerning this assumption. We have concluded that until the question of water availability is resolved, we will not continue the licensing process further than issuing the Draft Environmental Statement and evaluating the resulting comments."

It is thus clear from the AEC letter of November 30 and the concluding sentence of the Draft Environmental Statement, that the AEC is calling upon the Delaware River Basin Commission to act upon the water supply aspects of the application before this Commission before a final environmental impact statement will be prepared.

This Commission could take the view that there is no way that it may lawfully proceed under NEPA in the absence of a final environmental impact statement under Section 102 of NEPA. Yet the agency which is charged as the "lead agency" under Section 5(b) of the CEQ Guidelines in the environmental assessment process will not bring that process to a conclusion unless this Commission first acts.

The impasse as described is the occasion for consideration by this Commission of some form of action which would comply with the letter and spirit of NEPA and also resolve the legitimate concerns of AEC. The problem is peculiarly related to the uniquely complicated type of project under consideration, where more than one agency is involved and the major federal actions significantly affecting the quality of the human environment are divided but inter-related among the involved agencies. The CEQ Guidelines for the preparation of Section 102 statements under these circumstances have suggested the use of a "lead agency" concept. CEQ has advised as follows:

"Whichever procedure is followed, the two critical considerations inherent in the provisions of Section 5(b) are: (1) evaluation of the entire project; and (2) preparation of the 102 statement before any of the participating agencies has taken major or irreversible action with respect to the project. See *Upper Pecos Ass'n v. Stans*, 23 ERC 1418 (10th Cir. 1971), pet'n for cert. pending, 40 USLW 3444 No. 71-1133, Mar. 6, 1972." *

This Commission has concluded that the only sensible way of proceeding, given the legal and administrative constraints which have been described, would be for this Commission to consider the water supply aspects of the application, and to act in light of such consideration in such a way that its action will have no environmental effect unless and until an environmental evaluation of the entire project has been completed under Section 102 of NEPA. This can be done by withholding any of the formal approvals which are required under the Delaware River Basin Compact before a project may proceed, and by making any water allocation specifically contingent upon the acceptance by the CEQ of the environmental impact statement prepared and filed by the lead agency. In the Commission's view, such an action would be neither major nor irreversible in its effect on the human environment, within the meaning of the statute, particularly in view of the unique inter-relationship of the AEC as "lead agency" with the proceeding before this Commission.

* Same case, 452 F. 2d 1223, certiorari granted but dismissed as moot after action challenged was withdrawn.

FINDINGS

According to the Commission's projections of water demand throughout the basin and of the available water supply, there would be insufficient supply without the Tocks Island Reservoir to meet the needs of the applicant together with other basinwide needs. (See staff report, "Water Demands in the Delaware River Basin as Related to the Tocks Island Reservoir Project - November 1971", and Section 2-3.4 of the Comprehensive Plan, Section X, Water Quality Standards for the Delaware River Basin.) The doctrine of equitable apportionment would not permit the approval of the water supply aspects of the application under such circumstances, unless other compensating sources of water supply are developed. To require the applicant to await the outcome of the environmental and economic assessment of the Tocks Island project which is currently under way, however, could greatly prejudice the public interest in having adequate electric power supplies available to meet the anticipated demand. Since it will be several years before the project will actually need a water supply, and the Tocks Island questions can meanwhile be resolved one way or the other, it would be both equitable and prudent to permit the project to proceed, given the safeguard of an alternative source of water supply if Tocks Island were not to be available.

Within this framework of decision, the Commission finds:

Sources of Water Supply1. Schuylkill River

Schuylkill River water at the plant site may be used for nonconsumptive use whenever the effluent discharged back to the river meets all applicable water quality standards.

Schuylkill River water at the plant may be used for consumptive use when flow (not including future augmentations of flow from Commission-sponsored projects) as measured at the Pottstown gage is in excess of 530 cfs (342 mgd) with one unit in operation and 560 cfs (362 mgd) with two units in operation with the following exceptions:

- (a) There shall be no withdrawals when river water temperatures below the Limerick station are above 15° C except during April, May and June when the flow as measured at the Pottstown gage is in excess of 1791 cfs (1158 mgd).
- (b) Use of the Schuylkill River will be limited to a withdrawal that will result in an effluent that meets all applicable water quality standards.

The constraints on nonconsumptive use of Schuylkill River water are necessary to prevent violation of total dissolved solids, stream quality objectives and effluent quality requirements of the Commission's water quality regulations. The constraint on consumptive use of Schuylkill River water is to protect water quantity and water quality below the Limerick Station. Both sets of constraints would be suspended in the event of any operational emergency requiring a shutdown of the plant.

2. Perkiomen Creek

Perkiomen Creek water may be used when flows as measured at the Graterford gage are in excess of 180 cfs (116 mgd) with one unit in operation and 210 cfs (136 mgd) with two units in operation, exclusive of any water pumped from the Delaware River.

The constraint on the use of Perkiomen Creek water would permit the use only when the flow at Graterford was above the long-term median flow of 150 cfs.

3. Delaware River

The Delaware River, as augmented for the purpose of water supply by upstream reservoirs may be used via the Point Pleasant pumping facilities, a pipeline, the East Branch of Perkiomen Creek and Perkiomen Creek with the limitations that such use will not reduce the flow as measured at the Trenton gage below 3000 cfs (1940 mgd), and that such use will not be permitted when the flow as measured at the Trenton gage is less than 3000 cfs (1940 mgd), provided that annually after pumping from the Delaware River has commenced, the rate of pumping will be maintained at not less than 27 cfs (17.5 mgd) throughout the normal low flow season for the protection of aquatic life in Perkiomen Creek and its East Branch 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 a level so as not to aggravate high water levels.

This constraint would prohibit the use of the Delaware River water when such use would reduce the flow in the river at the Trenton gage below 3000 cfs, which is required to meet the salinity objective in the estuary of 250 mg/l at mile 92.47 (mouth of the Schuylkill River).

Other

The facilities, techniques and procedures for the disposal of liquid, solid and gaseous wastes, as described in the application and supporting documents, and their effect on water quality, and the adequacy of the applicant's proposed program of monitoring the environment cannot be evaluated without an environmental impact statement required by law.

DECISION

I. Full consideration of the project, as described above, including Comprehensive Plan addition and section 3.8 review, is deferred pending the completion of an environmental impact statement as required by law.

II. The water supply features of the project are conditionally approved within the limitations of the above Findings, and subject to the following conditions:

a. Approval is subject to all conditions imposed by the United States Atomic Energy Commission and the Pennsylvania Department of Environmental Resources, and it is subject to further review and modifications in accordance with the findings of an environmental impact statement, for which the Atomic Energy Commission is the

b. Whenever the flow constraints cited in the above Findings prevent the applicant from operating the plant at full load, the applicant shall operate the plant only at such percentages of full load as the available water supply allows, as determined by the Commission.

c. Prior to January 1, 1977, the Commission will, in its sole discretion, determine the adequacy of the then existing storage facilities on the Delaware River or its tributaries together with additional storage to be built to supply all needs (including the applicant's) for water supply from that source by the year 1980. If the Commission then determines that the storage will not be adequate for all projected needs of the basin, the applicant will build or cause to be built, at its own expense, at a location approved by the Commission, for service in 1980, a reservoir of sufficient storage capacity to assure the water supply needed for consumptive use by the Limerick plant, during periods when such use would reduce the flow in the Delaware River at the Trenton gage below 3000 cfs. Storage and release of water in such facility will be under the Commission's regulation, at the expense of the applicant.

d. Beginning one year prior to the first commercial operation date of Unit 1 at the Limerick plant, the applicant will pay for metered quantities of water withdrawn thereafter at the several locations described above. The price of waters so taken from the Schuylkill River, Perkiomen Creek, and the Delaware River will be determined in accordance with the Commission's water supply policy, heretofore adopted or as may be amended hereafter.

III. Prior to any use, withdrawal or taking of water pursuant to this decision, the applicant shall re-submit the project pursuant to Section 3.8 of the Compact, and this decision shall not be construed to commit the Commission to any particular final action nor will such action be taken unless and until it is justified by a final environmental impact statement.

BY THE COMMISSION

DATED: March 29, 1973

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DOCKET NO. D-69-210 CP (Final)
DELAWARE RIVER BASIN COMMISSION

Philadelphia Electric Company
Limerick Nuclear Generating Station
Limerick Township, Montgomery County, Pennsylvania

PROCEEDINGS

This is an application submitted by the Philadelphia Electric Company to the Delaware River Basin Commission on March 5, 1970, for review of a project to withdraw surface water and discharge wastewater used in the operation of a proposed nuclear-fueled steam-electric generating station consisting of two nuclear units. By letter dated July 30, 1971, the Philadelphia Electric Company amended its original application to include emergency shutdown water supply. The application was reviewed for inclusion of the project in the Comprehensive Plan and approval under Section 3.8 of the Delaware River Basin Compact.

A special public hearing on the project was held by this Commission on July 16, 1970. This hearing was for the stated purpose of receiving testimony on the effects of the project on the water resources in the area. A second public hearing was held on January 23, 1974 to hear additional testimony on the project.

The project has been approved by the Pennsylvania Department of Environmental Resources, but it is withholding its permit until the project is approved by the Delaware River Basin Commission.

The Atomic Energy Commission (now Nuclear Regulatory Commission) was responsible as lead agency, for preparing the Environmental Impact Statement. It decided to stop proceedings until this Commission gave adequate assurance that an adequate water supply would be available for the project. As a result, this Commission approved the project for withdrawal of surface water subject to conditions as specified in Docket D-69-210 CP on March 29, 1973 (herein "decision of March 29, 1973"), subject to a final environmental impact statement.

The Atomic Energy Commission filed its Final Environmental Impact Statement with the Council on Environmental Quality in November, 1973 and issued an Initial Decision authorizing the release of the construction permits on June 14, 1974. The Final Environmental Impact Statement has been appealed through the Nuclear Regulatory Commission ("NRC") procedures of review by the Atomic Safety and Licensing Board ("Licensing Board") and the Atomic Safety and Licensing Appeal Board ("Appeal Board"). The decision of the Appeal Board became administratively final on May 23, 1975 and appeal therefrom is now pending in the United States Court of Appeals for the Third Circuit. Meanwhile the project is under construction.

The application is now again before this Commission for final decision, consistent with the findings and conclusions of the decision of March 29, 1973.

The present phase of Commission consideration was initiated when the Commission published notice of intention to act upon Docket No. D-69-210 CP (Supplement No. 1) at its July 31, 1974 meeting, and objections were filed by the Environmental Coalition on Nuclear Power ("objector"). The Executive Director acting under the Administrative Manual, deferred further consideration by the Commission, and scheduled an adversary hearing on the objections. The Chairman of the Commission appointed Honorable Sidney Goldman as hearing examiner, and Judge Goldman conducted a hearing upon the objections on August 14, 1974. At the hearing, a voluminous record of relevant documents were marked in evidence by consent, including pertinent parts of the testimony taken before the Atomic Energy Commission (now Nuclear Regulatory Commission).

The hearing examiner has submitted an able and scholarly report. It was duly served upon the applicant, the objector and counsel to the Commission. Pursuant to the Commission's Rules of Practice and Procedure, the objector filed objections to the report, requesting oral argument before the Commission. Meanwhile on August 18, 1975 Judge Goldman, by letter to the Executive Director, reported that he had thoroughly reviewed the objections and found no reason to amend his report. The Commission heard oral argument by counsel for the objector and the applicant on August 27, 1975. The Commission's decision on this aspect of the case is incorporated below.

DESCRIPTION

Purpose.-- The purpose of this project is the construction and operation of a nuclear power plant with two units having a net electrical capacity of 1,055 megawatts each, with circulating cooling water for the steam turbines to be furnished from cooling towers with make-up water to be drawn from the Schuylkill River or Perkiomen Creek.

Location.-- The project will be located on a 587 acre site on the east bank of the Schuylkill River, in Limerick Township, Montgomery County, Pennsylvania, about 1.7 miles south of the nearest part of the Borough of Pottstown. A water intake structure will be located on the Schuylkill River at river mile 92.47 - 48.22 and a blowdown and liquid waste discharge structure will be located at river mile 92.47 - 47.94. An additional water intake structure will be located on Perkiomen Creek at river mile 92.47 - 32.3 - 10.5, from which water will be pumped by pipeline to the power plant site.

Service area.-- The Philadelphia Electric Company will be the sole owner of the Limerick project and the power developed at the plant will be distributed throughout its service area. The power will also be available for transmission to other areas via the Pennsylvania-New Jersey-Maryland Interconnection.

Physical features. (a) Facilities.-- The main facilities at the site will be two reactor buildings, two turbine buildings, two hyperbolic cooling towers, administrative building, service buildings, fuel handling building, and water treatment building.

The description of the cooling water system and the proposed operating water requirements remain as described in Docket D-69-210 CP, March 29, 1973. A copy of that Docket Decision is attached hereto for reference.

Other facilities of major concern to this Commission because of potential substantial effect on the water resources of the Basin are as follows:

1. Water intake structures-- The intake structure proposed for withdrawal of water from the Schuylkill River will permit water to enter the front and sides through trash bars. The water then passes through traveling screens into a pipeline to the pump station. The intake on Perkiomen Creek will be similar but the pumps will be installed in the structure housing the intakes.

Both structures are designed to limit the velocity of the water approaching the traveling screens to a maximum of 3/4 foot per second.

2. Wastewater discharge structure-- The wastewater discharge structure will be of the multi-port diffuser type. Wastewater will be piped to the center of the Schuylkill River and then flow into a 30 inch diameter diffuser pipe heading toward the shore. The diffuser pipe will have 400 one inch diameter outlet holes to insure rapid mixing and will be installed in the river bed.

Liquid wastes will be discharged via this diffuser outfall and will consist of the following:

a. Liquid radioactive wastes (radwastes) will be handled by four basic aqueous liquid collection and treatment subsystems and an environment discharge subsystem. The collection and treatment subsystems are: (1) the equipment-drain subsystem for low-conductivity wastes (high-purity water); (2) the floor-drain subsystem for high-conductivity wastes; (3) the chemical-drain subsystem for solution wastes; and (4) the laundry-drain subsystem for cleaning-agent wastes.

Tanks, equipment, and piping that contain liquid radioactive wastes are enclosed within radwaste areas in buildings or tunnels and are shielded where required to permit operation, inspection, and maintenance. Any equipment that handles potentially radioactive water located outside the plant building structures will be enclosed within water-tight dike structures. In the event of leaks, spills, or overflows from this equipment, sumps would collect liquid from each such dike structures, and the liquid would be either drained by gravity to the liquid radwaste system for processing or would be released to the storm sewers if, after testing for gross radioactivity, these liquids met the criteria for release to the environment. Any spillage, leakage, or overflows that occur within the building will be contained in the building, thus assuring no releases to the environment.

Description - Liquid radioactive wastes

Normally, aqueous liquid radwastes from the Limerick Station would be released only from the laundry drain subsystem. These liquids will be diluted with cooling-tower blowdown before being released to the Schuylkill River. The resulting concentration of any radwastes discharged into the river will be less than one percent of the maximum permissible concentration (excluding tritium) of 1×10^{-7} Ci/ml. specified in the AEC regulations (10 CFR 20). The amount of liquid radio-active wastes discharged will normally not exceed 0.00545 mgd.

b. Cooling tower blowdown. Consumptive evaporative losses of water in the cooling towers will require average blowdown of 13.0 mgd. Because the dissolved solids content of Schuylkill River water is considerably higher than that which would be drawn from the Perkiomen Creek, the maximum increase in dissolved solids content is expected to occur as a result of blowdown discharges to the Schuylkill when 100% of make-up water is drawn from that stream. This increase in concentration is expected to average about 11.6% just below the blowoff discharge pipe or 50 mg/l (430 mg/l to 480 mg/l). However, this concentration will be diluted by flow from the Perkiomen further downstream so that overall average increase in concentration at that point will amount only to 4%.

When the measured flow at the Pottstown gage is less than 342 mgd (530 cfs) when one unit is operating or 362 mgd (560 cfs) when both units are operating, make-up water will be taken from Perkiomen Creek. Water taken from Perkiomen Creek will have a lower concentration of dissolved solids and therefore the blowdown will have lower dissolved solids concentration. At the critical low flow in the Schuylkill River, the blowdown will increase the dissolved solids concentration in the Schuylkill River approximately 2.5%.

The thermal effects of blowdown would be most critical at extreme low flow periods in summer. It is estimated that mid-summer blowdown would have a temperature of 90°F, about 6.2°F above the river temperature of 83.8°F and that heat added to the river would be about 0.027×10^9 BTU per hour which is only about 0.17% of the waste heat handled by the cooling tower system, 99.83% of which would be discharged to the atmosphere. The discharge of blowdown would be from a submerged pipeline with outlets spaced to effect rapid mixing with approximately half the flow of the river. For the design low flow of 149 mgd (230 cfs), as measured at Pottstown, the heat content of the blowdown would raise half the design flow, 74.5 mgd (115 cfs), from its background temperature of 83.8°F to about 84.9°F.

c. Chemical additives. Various chemicals would be added to the water in the station for quality control and for control of fouling organisms on heat-exchanger and piping surfaces. The regenerant wastes from the plant make-up water demineralizing system would be discharged to the river via the blowdown system. The added solids content of the discharge water due to the use of chemicals will be about 324 pounds per day. This would add an incremental dissolved-solids concentration of 3.0 mg/l to the 13.0 mgd (20 cfs) discharge from the station. After mixing with the seven-day, ten-year low flow of 149 mgd (230 cfs) as measured at Pottstown, which is expected to have a maximum dissolved-solids concentration of 500 mg/l, the mixture would have a maximum concentration of 500.29 mg/l. This increment of dissolved solids added by the Limerick plant would have no measurable effect on the water quality of the Schuylkill River.

d. Sanitary sewage wastewater: A small sewage treatment plant will be constructed to serve the personnel at the site. The maximum sewage flow will occur during construction and is estimated to be 37,500 gallons per day. During construction, the treatment plant will operate as a contact stabilization plant, and then, when serving only the permanent personnel, it will be operated using the extended aeration process. The plant is designed to remove 85% of the BOD₅ and 90% suspended solids and the treated effluent will be chlorinated for disinfection. The sewage treatment plant is not of sufficient size to require a Delaware River Basin Commission review; however, the treatment plant has been reviewed by the Pennsylvania Department of Environmental Resources. The Pennsylvania Department of Environmental Resources has approved the project, but is withholding its permit until the industrial waste discharge permit is issued.

3. Other wastes. -- These wastes include solid and gaseous radioactive wastes (radwastes) as follows:

a. Solid radwastes. Solid radwastes would include spent demineralizer resins, evaporator bottoms, waste sludges, filter elements, contaminated equipment, and paper, rags, plastic sheeting, and other materials used in decontamination and contamination control. These solid wastes would be placed in containers appropriate for the different types of waste materials, as approved by the U.S. Department of Transportation (D.O.T.) for off-site disposal. All evaporator bottoms would be immobilized before being placed in containers. Loaded containers would be monitored for radiation levels and stored in a special area until shipped to an off-site disposal facility. Solid wastes would be disposed of by licensed contractors in accordance with regulations of the A.E.C., the D.O.T. and the Interstate Commerce Commission (I.C.C.).

b. Gaseous radwastes. The gaseous radwastes of the proposed Limerick station are of concern to the Delaware River Basin Commission because of their potential for contaminating the water resources of the Basin--via fallout of particulate radwastes carried by the gaseous wastes, or by absorption of the gaseous wastes by surface water or rain falling within the Basin.

The potential sources of gaseous radwastes include the main condenser off-gas, primary containment atmosphere, reactor building atmosphere, and gases from chemical laboratories and building services.

Off-gas removed from condensers would consist of air that leaks into the condensers, radiolytic hydrogen, radiolytic oxygen, and radioactive noble gases (krypton and xenon).

Radioactive hydrogen and oxygen would be recombined to form water, which would be returned to the plant.

The radioactive air would undergo a delay time of at least 30 minutes to allow decay of short-lived isotopes, such as nitrogen-13, nitrogen-16, and oxygen-19.

The remaining gases--air, krypton, and xenon--would be cryogenically liquified and distilled to separate the krypton and xenon from the air. The separated krypton and xenon would be stored to allow radioactive decay. After decay time sufficient to insure that only the long-lived krypton-85 remains, the stored gases would be released to the atmosphere under controlled conditions, via a vent located at an elevation approximately 200 feet above local grade elevation. Release of radioactive gases would be at a rate such that the levels of radioactivity in these gases would be significantly below the AEC regulations (10 CFR 20). The design of the gaseous radwaste system is based on limiting the off-site whole-body dose levels to one percent of the level allowed (500 mrem) by the AEC regulations (10 CFR 20).

4. Domestic water supply- The permanent domestic water supply will be taken from the surface water river intakes. The water will be treated and chlorinated as necessary. Two small wells will be used during construction. The total withdrawal from both wells is less than 100,000 gallons per day and therefore does not require review by the Delaware River Basin Commission.

5. Dredging- As part of the construction of both intakes, a small amount of stream-bed excavation is necessary.

FINDINGS

The findings in the decision of D-69-210 CP on March 29, 1973 are reaffirmed with respect to the availability of water supply, except that the Commission by vote of July 31, 1975 has eliminated the option of relying upon Tocks Island water supply.

The final environmental impact statement prepared by the Atomic Energy Commission and filed with the Council on Environmental Quality contained the following summary of environmental impacts:

- a. "The Limerick Generating Station and its substations are expected to occupy 85 of the 587 acres of farm and wood land in the site, requiring the clearing of only a few acres of woods. The adverse effect of the loss of this farmland and wildlife habitat is not great since this acreage is an insignificant percentage of the land committed to these uses in the region. Some construction activity in the form of site excavation at the location of major components of the station has already been accomplished. About 7 acres of land will be cleared for a corridor for construction of a transmission line from the substations to existing transmission systems. Land activities will be stabilized and seeded with native trees and grasses."

- b. "The use of two natural draft cooling towers to dissipate the waste heat from the Limerick station will result in the consumptive use of water by evaporation and drift at a maximum rate of 65 cubic feet per second (cfs) (estimated average annual rate of 54 cfs). The applicant has received a conditional permit from the Delaware River Basin Commission (DRBC) to withdraw this water from the Schuylkill River and/or the Perkiomen Creek, augmented as necessary by water from the Delaware River. This allocation of water for consumptive use was made by DRBC after full consideration of the water resources of the Delaware River Basin in comparison to the present and projected future needs for municipal, industrial and recreational purposes."
- c. "The intake structures in the Schuylkill River and Perkiomen Creek have been designed to limit velocities to less than 3/4 foot per second in order to minimize damage to fish and other aquatic biota by impingement on intake screens and entrainment in the cooling water system."
- d. "The cooling tower blowdown water will be discharged through a submerged diffuser pipe in the Schuylkill River. The maximum surface excess temperature is expected to be about 1°F in summer and 3°F in winter. The thermal effect of the discharged water is insignificant."
- e. "Chemicals may be discharged from the plant as water solutions, principally in the cooling tower blowdown, or as vapor drift from the cooling towers. The chlorination system proposed by the applicant should result in a total chlorine residual concentration (maximum) of 0.2 ppm in the cooling tower blowdown. Chemical deposition from the drift is expected to be insignificant."
- f. "Construction of the Limerick Generating Station is expected to produce temporary adverse impacts from increased automotive traffic and construction noise. The modern industrial buildings should have very little adverse visual impact because of the screening available from natural vegetation. The cooling towers are the most visible of the plant structures, and the thermal plumes from these towers are not expected to increase significantly the formation of fog or ice."
- g. "The construction of the plant is expected to result in the employment of more than 2,000 people in the three years of maximal activity. It is estimated that 70% of these workers will commute from nearby population centers and the others will reside in the area. Local business and school population will increase, but community facilities appear to be adequate to accommodate the expected growth. The total increase in the number of permanent residents after completion of construction is expected to be less than 500."

- h. "Unoccupied land on the site will be made available to the public for recreational purposes and a public information center will be established. Therefore, the educational and recreational impact within the community is beneficial".
- i. "The risk associated with accidental radiation exposure is very low."
- j. "No significant environmental impacts within a 50 - mile radius are expected from normal operational releases of radioactive materials. The estimated dose to the population within 50 miles from operation of the plant is 33 man-rem/yr, which is less than the normal fluctuation in the 1,200,000 man-rem/yr background dose this population receives."
- k. "The calculated radiation dose to the thyroid of a child from radioactive iodine via the atmosphere - pasture - cow-milk pathway is within the guidelines of the Atomic Energy Commission for "as low as practicable" emissions of radioactivity from nuclear power plants."

The proposed project is designed to produce a discharge meeting the effluent requirements and stream quality objectives, as set forth in the Water Quality Standards, of the Delaware River Basin Commission.

The project does not conflict with nor adversely affect the Comprehensive Plan. It provides beneficial use of the water resources, is financially and physically feasible, conforms to accepted policy, and does not adversely influence the present or future use and development of the water resources of the Basin.

Objections and Report Thereon by the
Hearing Examiner

The Report of the hearing examiner referenced above, found four issues raised by the objections to the docket decision proposed for action on July 31, 1974:

1. Did the objections as filed specify "particularly the grounds thereof" as required by the Administrative Manual, Sections 2-3.10 and 2-3.11?
2. Does the environmental review process as to water availability and the disclosure of AEC's Final Environmental Statement and DRBC's Point Pleasant Diversion Environmental Impact Statement justify the Commission's proposed decision (Docket No. D-69-210 CP (Supplement No. 1) -- Exhibit 10 for Identification) under Section 3.8 of the Delaware River Basin Compact and under NEPA?

3. What is the status of AEC's Final Environmental Statement in view of the then pending appeal -- i.e., in regard to the "finality" of the FES for purposes of NEPA in light of the CEQ guidelines?
4. In light of the conclusion reached with respect to the previous issues and the Initial Decision by AEC on June 14, 1974, is DRBC still free to consider the "river follower" mode of operation in its Docket decision?

After thoroughly considering the briefs and argument on the first issue, Judge Goldman concludes and recommends that one of the four objections filed by the Coalition was specific enough to alert the Commission as to the Coalition's principal complaint; namely, that not until the Commission has considered a specific reservoir site to meet the needs of the Limerick Station during low flow conditions, and has subjected the site to the environmental review required by NEPA, may the Commission lawfully approve the application. Having determined that this objection met the requirements of the rule as to specificity, the report of the hearing examiner proceeds to deal with each of the remaining three issues and concludes and recommends that the Commission "may proceed in regular course with the proposed decision in Docket No. D-69-210 CP (Supplement No. 1)." A copy of the complete report of the hearing examiner is part of the Commission's file in this case, as is a stenographic transcript of the oral argument of counsel.

The merits of the case turn on the viability of what is described as the "river follower" mode of operation of the power plant. The "river follower" mode may be defined as the mode required by condition "b" of the decision of March 29, 1973, that is:

- b. Whenever the flow constraints cited in the above Findings prevent the applicant from operating the plant at full load, the applicant shall operate the plant only at such percentages of full load as the available water supply allows, as determined by the Commission.

Counsel for the Coalition asserts "that the record does not support the alternative of a river follower." Accordingly it is his argument that the project may not be approved under the requirements of NEPA unless and until a site for supplementary reservoir storage (condition "c" in the decision of March 29, 1973) is selected and subjected to a NEPA analysis. The applicant contends to the contrary; that the river follower mode of operation is feasible, and that the issue of supplementary storage is a separate one to which the applicant would address itself by separate application to the Commission in due course.

The Commission's consideration of the issue thus posed at this time suggests the need to restate also condition "c" of approval stated in Docket No. D-69-210 CP, decided March 29, 1973, as follows:

c. Prior to January 1, 1977, the Commission will, in its sole discretion, determine the adequacy of the then existing storage facilities on the Delaware River or its tributaries together with additional storage to be built to supply all needs (including the applicant's) for water supply from that source by the year 1980. If the Commission then determines that the storage will not be adequate for all projected needs of the Basin, the applicant will build or cause to be built, at its own expense, at a location approved by the Commission, for service in 1980, a reservoir of sufficient storage capacity to assure the water supply needed for consumptive use by the Limerick plant, during periods when such use would reduce the flow in the Delaware River at the Trenton gage below 3,000 cfs. Storage and release of water in such facility will be under the Commission's regulation, at the expense of the applicant.

At the time of the March 29, 1973 decision, the Tocks Island Dam and Reservoir was a possible source of additional water supply storage from which the depletive needs of the Limerick Station could be satisfied along with other needs of the Basin. The future of the project was then in a state of uncertainty, which has since been resolved by the Commission vote of July 31, 1975.

The applicant is willing to accept water availability limited to the river follower mode of operation. The objector contends that such a mode of operation would be uneconomic and that supplementary storage is an inseparable part of the project.

The Commission here deals primarily with issues of water supply, and not with issues of nuclear generating plant economics. From this point of view alone, on the basis of Judge Goldman's report and recommendations, and Commission's independent consideration of the record and argument before it, this Commission may conclude that the viability of the river follower mode is an issue in the first instance for the applicant itself and then for the Nuclear Regulatory Commission. The NRC decided, through its Appeal Board decision which became final on May 23, 1975, that the Limerick Station could proceed to construction. This decision, which affirmed in part and reversed in part an initial decision of the NRC's Licensing Board included certain conditions as to water availability, to which there will be further reference below.

For present purposes, this Commission may begin with the contention of the applicant that the river follower mode is feasible, and that the applicant is willing to proceed on that basis. Nevertheless, under this Commission's powers and practice pursuant to Section 3.8 of the Compact and Article 13 of the Compact, conditions may be imposed as part of any project approval. In that context, this Commission's concerns transcend the issue of "river follower" viability. This Commission, like the NRC, prefers to avoid the secondary effects of ordering a reduction or interruption of power generation in low flow periods. To that end, the Commission may well ultimately find it necessary to call for supplementary water supply storage to make up for depletive usages by atomic fueled power plants in the Basin.

The objector contends that the Limerick Station "would supply approximately 2,300 megawatts of power, would supply the capacity for approximately 50% of the Philadelphia Electric system's base load." Based upon data furnished by the applicant, however, it appears that Limerick Unit No. 1 will be only 10% of Philadelphia Electric's generating capacity in 1981 and only 2% of the PJM interconnected capacity at that time (Table 1 following).

TABLE 1

Generating Capacity of the Philadelphia Electric Company
 and the PJM Interconnection ^{1/}

	Philadelphia Electric (MW)	PJM (MW)
(1) Present Generating Capacity (as of May 31, 1975)	7,508	41,810
(2) Commercial Operation of Limerick Unit 1 (May 1981) ^{2/}	9,971	53,341 ^{3/}
% Limerick to Total	10.6%	2%

1 Source: Philadelphia Electric Company

2 The net capacity of each of the Limerick Units is 1,055 MW.

3 These data include the Summit nuclear fueled generating station, which later information indicates will not be built.

The Commission is concerned, however, with the cumulative effect of a mandated shut-down or reduction of generation of all power generating stations under the river follower option, in the Basin. As shown in Table 2, the five generating stations under the river follower option (Limerick, Summit, Hope Creek, Gilbert and Martins Creek) could all be shut down simultaneously and still have sufficient generating capacity including interconnections and reserves to meet the load. Moreover Martins Creek already has the use of Lake Wallenpaupack and this source could conceivably be made available to other utilities.

An effective use of the resources of the Basin demands that supplementary storage, as needed for all other generating stations should be coordinated and planned with reference to the Master Siting Study of Major Electric Generating Projects, Delaware River Basin, 1972 - 1986 (December 1971, as revised through 1975). From the viewpoint of water supply, a total of eight generating stations is involved. Five stations, using 86 cfs (including Limerick), are or may be, subject to the 3000 cfs operating condition by provisions inserted into the Sections 3.8 dockets. Three of these five stations, using 70.7 cfs, are owned by the same three companies that own the three stations which have not been made subject to the 3000 cfs flow constraint, Salem, Eddystone and Edge Moor.

TABLE 2 ^{1/}

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Year	Company	Plant	Plant Cap. mw	Acc. Plant Cap. by Company mw	Est. Comp. Cap. mw	Comp. Reserve percent	Acc. Plant Cap. as percent of Comp. Cap.	Est. PJM Cap. mw	PJM Reserve percent	Acc. Plant Cap. as percent of PJM Cap.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)=(5)/(6)x 100	(9)	(10)	(11)=(4)/(9)x 100
1975	PP&L	Martins Cr. #3 Accumulated Cap.	800 800	800	NA	NA	NA	41810	30.9	1.9
1977	GPU PP&L	Gilbert Martins Cr. #4 Accumulated Cap.	130 800 1730	130 1600	6688 6237	13.8 55.2	1.9 25.4	45203	26.3	3.8
1981	PECO DPL PECO	Limerick #1 Summit #1 ^{2/} Summit #1 Accumulated Cap.	1055 655 115 3555	1055 655 115	9971 3364 9971	11.4 28.9 11.4	10.6 19.4 1.1	53341	21.5	6.7
1982	PECO PSE&G ACE	Limerick #2 Hope Cr. #1 ^{3/} Hope Cr. #1 Accumulated Cap.	1055 990 110 5710	2110 990 110	10904 11184 2257	15.6 20.2 18.0	19.4 8.8 4.9	58477	26.9	9.8
1984	PSE&G ACE DLP PECO	Hope Cr. #2 ^{3/} Hope Cr. #2 Summit #2 ^{2/} Summit #2 Accumulated Cap.	990 110 655 115 7590	1990 220 1310 230	12174 2547 4019 12050	19.9 17.0 22.9 16.1	16.3 8.6 32.6 1.9	62757	23.9	12.1

^{1/} Compiled from data furnished to DRBC by Delaware River Basin Electric Utility Group, September 22, 1975, and MAAC Report, April 1, 1975. Note that these data will change over time as the Utilities adopt their plans to changing conditions and technology; for example, the Summit Generating Station (included above) has been withdrawn within recent days.

^{2/} Joint ownership - DPL (85%); PECO (15%)

^{3/} Joint ownership - PSE&G (90%); ACE (10%)

These three stations have an effective depletive use of 10 cfs. It is reasonable to assume that if these companies decide to build water supply facilities to meet the requirements of the docket decision for one project, they could satisfy similar requirements for all of their projects easily and economically at the same time. For example, Philadelphia Electric Company could readily add storage space to yield 3.9 cfs for PECO's Eddystone station to any facility provided to meet the 54.3 cfs needed by Limerick.

The Commission recognizes that over time changes will be made in the utilities' plans for some of these generating stations; some may be abandoned and others added. (See Master Siting Study, June 1975). For example, very recent information indicates that the sponsor has abandoned its present plans for the Summit station. The data are sufficient, however, to illustrate the cumulative effect of the river follower mode on available power generating capacity in the Basin, were five stations to be operating under its full constraints. The Commission concludes that the river follower mode is a viable alternative; but it still requires further consideration in the context of overall Basin water resources management.

Following its action of July 31, 1975, on the Tocks project, the Commission has undertaken a comprehensive reexamination of the basic water supply elements of the Comprehensive Plan. Studies now in progress are reevaluating the base flow criteria (including the flow of 3,000 cfs at Trenton); the drought frequency planning assumptions; and the priorities to be accorded competing uses under the new conditions of water supply. The results of these studies could substantially influence the Commission's judgment as to the extent of the need for supplementary water supply storage to make up depletive uses by the utilities.

In the present case the Commission by its decision of March 29, 1973 prescribed the condition that prior to January 1, 1977, the Commission will, in its sole discretion, determine whether additional water supply storage is required to meet the applicant's needs, and that the applicant will provide such storage, if required, for service in 1980 (see Text of condition "c" quoted above). While that condition reflected the context of uncertainty as to the future of Tocks Island, the same condition is now pertinent to the outcome of the Commission's current reassessment of its entire water resource management plan without Tocks Island.

In the proceedings before the Nuclear Regulatory Commission which followed this Commission's decision of March 29, 1973, a similar water availability condition was included as Section 3.E. (8) of the Construction Permits. That condition requires the applicant to take such measures as may be necessary to assure the availability of compensating water storage capacity at the time of initial operation, as may be required by this Commission, and to submit a schedule to accomplish this objective. On December 19, 1974, the applicant did submit such a schedule, following review and recommendations by DRBC staff, as follows:

The schedule is based on meeting three significant dates:

1. December 19, 1974, the date when the schedule should be presented to the AEC Director of Licensing (as per the AEC Construction Permit for the Limerick Generating Station).

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2. January 1, 1977, the latest date the DRBC has scheduled for a decision on a decision on the need for a cooling water supply reservoir (as per DRBC Docket for Limerick).

3. April, 1981, the date when the Limerick plant will begin commercial operation.

The schedule is divided into phases as follows:

1. Site Selection Studies. The objective of this phase is to select the three most promising sites for further study. Factors to be evaluated in these studies are cost, environmental impact, and land acquisition and relocation problems. Only reconnaissance-type field work would be scheduled.

2. Evaluation of Priority Sites. The scope of work and timing for this phase is to select a site, design the project and have ready for transmittal to the proper agencies by January 1, 1977, all required data reports and applications needed to obtain clearance for construction. DRBC established this date as the latest date to determine the need for the reservoir. Some field surveying, sub-surface exploration and on-site environmental studies will be required for this phase.

3. Land Acquisition. Land acquisition could begin after selection of the preferred site. However, there is always the possibility that the site may not be acceptable to the state and federal reviewing agencies.

4. Project Review, Environmental Review, and Issuance of Permits by Responsible Agencies. A period of 16 months beginning January 1, 1977, is shown for this phase. To meet this schedule, the environmental report must be submitted soon after this date. A draft Environmental Impact Statement (EIS) by the lead agency, the review thereof, preparation of a final EIS, and the Council of Environmental Quality Review can be accomplished during this period. All necessary permit applications will be filed as early as possible during this phase.

5. Preconstruction Engineering. Detailed engineering and data collection will proceed concurrently with the Environmental review described as Phase 4. The work for this phase will include topographic surveying, sub-surface exploration and detailed design of project facilities to produce the engineering plans and specifications required for contract bidding. A bidding period is scheduled to follow immediately the review period (Phase 4).

6. Construction. A period of 30 months is shown on the schedule for construction. Procurement and installation of the electrical and mechanical equipment is the critical item during this phase. However, it is expected that manufacturing, installation and testing of the equipment can be completed prior to January 1, 1981. This will permit reservoir releases to be available, if needed, in the summer of 1981.

7. Filling of the Reservoir. A period of five months is allowed for the first filling, after completion in January, 1981. This will permit the commercial operation of the Limerick plant scheduled for April, 1981, with sufficient water available to meet cooling requirements for the summer of 1981.

It remains to determine what, if any, environmental real world value would be vindicated by insisting upon a reservoir site selection now, including NEPA review, rather than following such a schedule as above. The Commission concludes that all of the requirements of NEPA have been satisfied and approval of the application can proceed at this time.

DECISION

I. The project as described in Docket D-69-210 CP and supplemented above, with the modifications included in the docket decision of March 29, 1973 and specified hereinafter, is hereby added to the Comprehensive Plan.

II. The project is approved pursuant to Section 3.8 of the Compact, subject to the following conditions:

a. Approval is subject to all conditions imposed by the U.S. Nuclear Regulatory Commission (formerly the U.S. Atomic Energy Commission) and the Pennsylvania Department of Environmental Resources.

b. Whenever the flow constraints cited in Docket D-69-210 CP (Findings) prevent the applicant from operating the plant at full load, the applicant shall operate the plant only at such percentages of full load as the available water supply allows, as determined by the Commission from time to time.

c. Prior to January 1, 1977, the Commission, in its sole discretion, determine the adequacy of the then existing storage facilities on the Delaware River or its tributaries together with additional storage to be built to supply all needs (including the applicant's) for water supply from that source by the year 1981. If the Commission then determines that the storage will not be adequate for all projected needs of the Basin, the applicant will build or cause to be built, at its own expense, at a location approved by the Commission, for service in 1981, a reservoir of sufficient storage capacity to assure the water supply needed for consumptive use by the Limerick plant, during periods when such use would reduce the flow in the Delaware River at the Trenton gage below 3,000 cfs. Storage and release of water in such facility will be under the Commission's regulation, at the expense of the applicant.

- d. Beginning one year prior to the first commercial operation date of Unit 1 at the Limerick plant, the applicant will pay for metered quantities of water withdrawn thereafter at the several locations described above. The price of waters so taken from the Schuylkill River, Perkiomen Creek, and the Delaware River will be determined in accordance with the Commissions' water supply policy, heretofore adopted or as may be amended hereafter.
- e. The facility shall be available at all times for inspection by the Delaware River Basin Commission.
- f. The facility shall be operated at all times to comply with the requirements of the Water Quality Standards of the Delaware River Basin Commission.
- g. The Philadelphia Electric Company shall maintain records of suspended solids discharge and shall furnish a record of net quantities of suspended solids discharge to the U.S. Army District Engineer at the completion of each six month period, or at such other frequencies as the District Engineer may require.
- h. The discharge of the wastewater shall not increase the natural temperature of the receiving waters by more than 5°F (above the average daily temperature gradient displayed during the 1961-66 period), nor shall such discharge result in stream temperature exceeding 87°F, except within an assigned heat dissipation area consisting of one-half the stream width and 3,500 feet downstream from the discharge point.
- i. Sound practices of excavation, backfill, and reseedling shall be followed to minimize erosion and deposition of sediment in streams.
- j. The turbidity standards for the Delaware River, as established by the Delaware River Basin Commission, may not be exceeded outside of mixing areas, as described herein: a distance of 100 feet upstream and 500 feet downstream and 1/2 of the stream width at each discharge and intake structure during their construction.
- k. The Executive Director of the Delaware River Basin Commission may direct a suspension of streambed excavation operations whenever in his judgment the operations are not being conducted in accordance with this approval, are adversely affecting water quality, or are harmful to the passage of anadromous or catadromous fishes.
- l. Upon completion of construction of the approved project, the sponsor shall submit a statement to the Delaware River Basin Commission, signed by the sponsor's engineer or other responsible agent, certifying to the Commission under oath, that the construction has been completed in compliance with the approved plans and giving the final construction cost of the approved project.

m. Any future requirements imposed by the U.S. Environmental Protection Agency shall supersede the requirements of this approval insofar as they impose more stringent treatment criteria.

n. This approval shall not take effect unless and until the applicant shall file with the Commission its undertaking signed by its duly authorized officers and in a form approved by General Counsel to the Commission, accepting and agreeing to the conditions "b" through "m" above.

III. The Executive Director is authorized to issue a water quality certification in accordance with Section 401 of the Federal Water Pollution Control Act Amendments of 1972.

BY THE COMMISSION

DATED: November 5, 1975