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ROBERT RAYMOND ELLIOTT, P.C.*
COUNSEL

* NOT ADMITTED IN PA

September 23, 1982

50-352
50-353

Mr. Harold Denton
Director
Division of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Denton:

I acknowledge receipt of Mr. Eisenhut's letter of September 10, 1982, concerning Del-AWARE's Section 2.206 Request regarding the Limerick Generating Station.

Unfortunately, as I have repeatedly stated to the staff, the current proposal is for this project to be under construction on December 15, 1982. Mr. Eisenhut's letter continues the Staff's refusal to act on the Request in a timely fashion. Indeed, reviewing the NRC regulations, I observed that the Commission reserves a 25 day period following the staff decision in order to decide what to do about such decisions. See 10 CRF Section 2.206 (C-1). Thus, the staff timetable will preclude any assurance that the Commission will reach a decision or take action prior to the time of proposed inception of construction.

The staff's non-responsiveness to the merits of the Petition is inexplicable. This is especially true in light of the decision of the Pennsylvania PUC, which I called to your attention on September 3, 1982, calling for the cessation of construction on Unit 2, and the consequent need for a new benefit-cost determination to reflect the need for the Delaware River diversion. I call your attention to people of the <u>State of Illinois vs. NRC</u>, U.S. Ct. App. September, 1980, and the <u>Boston Edison</u> case of 1981.

It is with some growing frustration over Del-AWARE's inability to obtain any responsive answer that I now request once again that the staff respond to our Request in a timely manner. I also wish, once again, to call your attention to the fact that we have been requesting such action of the staff since June, 1981, and in fact, the staff letter to PECo dated January 5, 1981, indicated that the staff was aware of its responsibility at that time.

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Any indication that the Licensing Board hearings should be relied upon as the basis for decision on this Request is obviously inappropriate, in view of the fact that the Licensing Board itself stated that we should apply to the staff for this relief because the issues to be raised here are not appropriate in the Licensing Board proceeding.

Again, in view of the overlapping factual setting of this request with the Operating Licensing Board hearings scheduled for October 4-8, I think I am at least entitled to an answer to the questions, "Why does it not make sense to combine these proceedings?" "Why cannot the staff take timely action in eighteen months?"

A responsive response, I suggest, is the least relief to which Del-AWARE is entitled.

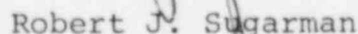
I am also enclosing another copy of the Pennsylvania PUC Order directing the cessation of construction on Unit 2, and in light of recent electrical utilization trends as reported, showing continuing downward use, I suggest that the staff must take account of the fact that there will likely never be any need for any further action with respect to Unit 2, and the consequent necessity to reevaluate supplemental cooling water alternatives.

In this connection, I also wish to bring to your attention a September 14, 1982 letter from U.S. Fish & Wildlife Service to the Army Corps of Engineers suggesting the necessity for reconsidering their alternative evaluation in light of the Pennsylvania PUC action, and further proposing an alternative in the Schuylkill River basin for obtaining supplemental cooling water, in light of the likely reduced need.

While the Operating License Board has noted, without endorsing or relying upon, the statement of the director of the Neshaminy Resources Authority that the project would be constructed even without PECo participation, I wish to bring to your attention a letter obtained from PECo files showing that the opposite statement was in fact made by the same individual, thus rendering his affidavit unbelieveable and incredible. A copy is enclosed.

I request a responsive answer by September 30, 1982.

Sincerely,



Robert J. Sugarman

RJS/llw

Enclosures

UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
Suite 322
315 South Allen Street
State College, PA 16801

September 14, 1982

Lt. Colonel Roger L. Baldwin
District Engineer, Philadelphia District
U.S. Army Corps of Engineers
Custom House, 2nd and Chestnut Streets
Philadelphia, PA 19106

Dear Colonel Baldwin:

This refers to the Neshaminy Water Resource Authority's permit application, Public Notice NAPOP-R-80-0534-3, dated April 6, 1981, concerning an intake structure and associated activity in the Delaware River at Point Pleasant, Pennsylvania. As you may recall, on July 12, 1982, Mr. Norman R. Chupp sent you a letter with a list of specific questions to be addressed as part of your independent environmental assessment of the permit application. To date, we have not received a response to that letter.

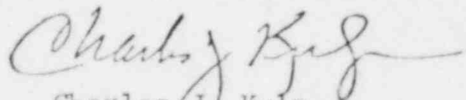
In a matter related to the permit application, it has been brought to our attention that Unit 2 of the Limerick Nuclear Generating Station may not be completed. Should this be the case, the Philadelphia Electric Company would only need about half of the proposed 49 mgd diversion from the Delaware River, and, if implemented, would reduce demands and provide several other, less environmentally damaging alternatives to the proposed Point Pleasant Diversion project, such as water storage in the Schuylkill River Basin. Have you taken into account all other alternatives that are less environmentally damaging that would meet the water supply needs for Limerick and the Neshaminy Water Resource Authority?

The draft Environmental Impact Statement for the proposed Merrill Creek project (the proposed source of make-up water for Limerick) indicates that there are less environmentally damaging alternatives to the Merrill Creek project in the Schuylkill River Basin. The Merrill Creek project would also supply 149 cfs of make-up water for nine other consumptive water users in the Delaware River Basin. Only 26 cfs of that amount is for two power plants above the confluence of the Schuylkill River. Therefore, there is a less environmentally damaging reservoir site on Red Creek in the Schuylkill River basin that would supply water to the same users and eliminate the need for the Point Pleasant Diversion. To approve the permit for the Point Pleasant Diversion project would result in adverse environmental impacts in the lower Delaware River and upper Delaware Bay, and encourage construction of a more environmentally damaging make up reservoir on Merrill Creek.

In another matter related to the permit application, we are aware that Philadelphia Electric Company received a nationwide permit in July 1980 for an intake structure on the Perkiomen Creek along Route 29. However, the Environmental Report for the Operating License Stage of the Limerick Nuclear Generating Station describes another type of intake on the Perkiomen Creek. Therefore, it seems that a new application should be filed for a Department of the Army permit to cover the most recent design changes for the Perkiomen Creek intake.

In order to avoid a fragmented review of the total project impacts, we recommend that intakes for the proposed Merrill Creek, Point Pleasant, and Perkiomen Creek projects be considered together. This will ensure that the total adverse impacts from these interrelated projects are given full consideration before any decision is made to commit these valuable natural resources. Please let us hear from you on these matters as soon as possible.

Sincerely,



Charles J. Kulp
Field Supervisor

WHD/FILE

SEP 17 1979

Mr. Robert A. Flowers, Executive Director
Neshaminy Water Resources Authority
Box #6 Cross Keys Office Center
4259 Swamp Rd.
Doylestown, Pa. 18901

Subject: Point Pleasant Project Combined Facilities

Dear Mr. Flowers:

This is to confirm our telephone conversation on September 13, 1979, relating to the completion of final engineering design of the dual use portion of the Point Pleasant Diversion Project.

I request that you authorize the completion of engineering of the joint water supply facilities which are the subject of the proposed Agreement transmitted to you by my letter dated June 15, 1979. By completing such engineering at this time, construction may start soon after the required approvals have been received. The project can therefore be completed earlier and at a lower cost than if engineering is delayed any further.

I understand the NWRA's hesitance to spend additional funds at this time in the absence of firm agreements with the potential users of these facilities. Therefore, we hereby offer to reimburse the NWRA for its share of pertinent costs for such engineering, performed subsequent to the date of this letter, if no agreement is reached between the NWRA and Philadelphia Electric Company within one year of the Delaware River Basin Commission's final action on the project.

I look forward to the continued cooperative efforts of the NWRA and Philadelphia Electric Company in assuring the completion of these mutually beneficial joint facilities.

Sincerely,

V.S. Boyer

AHD/dmc

bcc: J. H. Austin, Jr.
V. S. Boyer
J. S. Kemper
E. C. Kistner
J. L. Allen
D. Marano
E. J. Bradley

SEP 9 1982
SUGARMAN AND DENWORTH

PENNSYLVANIA
PUBLIC UTILITY COMMISSION
Harrisburg, PA 17120

Public Meeting held May 7, 1982

Commissioners Present:

Susan M. Shanaman, Chairman
Michael Johnson
James H. Cawley (opinion and statement attached)
Linda C. Taliaferro, concurring in part and dissenting in part (opinion attached)
Clifford L. Jones

Limerick Nuclear Generating Station I. stigation — I-80100341

OPINION AND ORDER

BY THE COMMISSION:

Before us for disposition is the Initial Decision of Administrative Law Judge (ALJ) Joseph J. Klovekorn in the above-captioned proceeding, wherein the ALJ makes several findings regarding, inter alia, the construction of the Limerick Nuclear Generating Station. For the reasons stated below, we disagree with several of these findings and shall modify the ALJ's Initial Decision.

Prior to the discussion of the positions advocated by the parties and our disposition of the issues presented, we note that this fact finding investigation and this Opinion and Order is the result of countless hours of preparation on the part of the parties and of the ALJ. We commend the parties and the ALJ on their fine efforts in dealing with the complex issues raised.

In rendering a decision in this investigation, we are aware that our options are limited. Unlike a traditional ratemaking case, in this proceeding, we are not presented with any claim which would affect current rates or rates for the immediate future. Rather, we have undertaken this investigation to ascertain the appropriateness of the decisions underlying the construction of the Limerick Nuclear Generating Station and the need to continue construction at this time, given the potential for load growth in PECO's service territory, alternative means of meeting that load growth, and the financial ability of PECO to continue construction of this station. In performing our analysis, we are cognizant of the fact that many of the calculations and figures presented in the context of this proceeding are somewhat speculative. Although no one can perfectly see the future, we are convinced that those estimates represent more than educated guesswork on the part of the witnesses.

I. Background

On August 7, 1980, the Office of Consumer Advocate (OCA) filed a Petition, docketed at P-80080236, seeking (1) an Order to Show Cause why the continued construction of the Limerick Nuclear Generating Station (Limerick) of Philadelphia Electric Company (PECO or the company) is in the public interest and (2) a Commission investigation into the need for and economy of Limerick.

On August 26, 1980, an Answer was filed by the Company opposing the OCA's request for an order to show cause, taking no position on the request for an investigation, and petitioning that any investigation be consolidated with PECO's then pending rate investigation at R-80061225.

By Order entered October 10, 1980, we concluded that an investigation should be opened "so that information can be gathered in an orderly and expeditious manner, _before_ PECO seeks to include Limerick in its rate base as used and useful property." Further, we concluded that an independent investigation of Limerick was appropriate so as to prevent the then pending rate investigation from becoming burdened with additional issues which would have had to be decided within the statutory period set forth in Section 1308 of the Public Utility Code. In initiating the investigation, we ordered:

1. That the issue we incorporated into the rate proceeding at R-80061225 on August 28, 1980, concerning an estimate of the additional costs occasioned by deferrals of the Limerick construction schedule, be eliminated from that proceeding.

2. That an investigation be, and is hereby, undertaken to determine:

   (a) The cost of construction delays at Limerick and whether those delays were reasonable;

   (b) The escalation of cost estimates for Limerick and whether those costs for the plant are reasonable; and

   (c) The eventual impact of Limerick on PECO's capacity and reserve margins and the reasonableness thereof.

3. That the petition filed by the OCA, and docketed at P-80080236, be denied, except to the extent that it is granted by the opening of this investigation.

4. That Commission staff, Philadelphia Electric Company and the Office of Consumer Advocate are hereby made parties to this investigation proceeding.

5. That copies of this order be served on all parties to the proceeding at R-80061225, Pennsylvania Public Utility Commission v. Philadelphia Electric Company.

6. That the Office of Administrative Law Judge assign this matter to an Administrative Law Judge for prompt hearing and initial decision.

By letter dated November 8, 1980, believing that our initial Order may have been too restrictive, we directed that the investigation address, but not be limited to, the following issues:

(a) The costs of construction delays at Limerick and whether those delays were reasonable.

(b) The escalation of cost estimates for Limerick and whether those costs for the plant are reasonable.

(c) The eventual impact of Limerick on PECO's capacity and reserve margins and the reasonableness thereof.

(d) What alternatives PECO considered at the time the decision was made to build the plant and the projected cost of each alternative.

(e) Could any currently available alternate sources of energy, conservation/load management activities, improvements in existing power plants' performance, etc. [to] replace Limerick at a lower cost to the consumer assuming that:

(1) expended costs are amortized over a reasonable period; or

(2) expended costs are not amortized or collected from ratepayers; or

(3) expended costs are shared among stockholders and ratepayers.

(f) The potential of large electric consumers directly buying the capacity and/or energy associated with Limerick.

Thirty-eight days of evidentiary hearings and three non-evidentiary hearings were held in Philadelphia, Harrisburg, Doylestown, and Pottstown.

Briefs have been filed by PECO, the OCA, the Pennsylvania Public Utility Commission's Trial Staff (Trial Staff), the City of Philadelphia (City), the Consumer Education and Protective Association, et al. (CEPA), the Philadelphia Area Industrial Energy Users Group (PAIEUG), Limerick Ecology Action (LEA) and the Keystone Alliance (Keystone). Reply Briefs were filed on February 3, 1982, by the above parties as well as Mr. Marvin Lewis. On March 26, 1982, Administrative Law Judge Klovekorn issued the Initial Decision currently before us. Exceptions have been filed by the OCA, CEPA, Keystone, the City, PECO, Trial Staff, and thirty-two individuals. Reply exceptions have been filed by OCA, CEPA, PECO, and Trial Staff.

After an extensive review of the record, the Initial Decision and all briefs, exceptions, and reply exceptions we find and conclude:

1. That based upon all of the facts presented in the proceedings before us, particularly the Commission's inability and unwillingness to provide the necessary revenues to complete both units at the Limerick Nuclear Generating Station as proposed, the completion of Limerick II by 1987 is not financially feasible. In order to ensure the continued maintenance of reliable and safe service to the public, this Commission finds that either the cancellation or suspension of construction at Limerick Unit II would be in the public interest.

2. That should the Company choose to cancel Limerick Unit II then the future treatment of any sunk costs associated therewith shall be determined at such time as the Company specifically requests recovery of such costs.

3. That should Philadelphia Electric Company choose not to suspend construction of Limerick II, then the Commission, pending completion of Unit I: (a) shall not approve any new securities issuances, the proceeds of which will be used, in whole or in part, for construction at Unit II, and (b) shall deny recovery of AFUDC (Allowance for Funds Used During Construction) on any additional investment in Unit II at such time as recovery is sought.

4. That Philadelphia Electric Company shall inform this Commission of its decision regarding the implementation of paragraph 1 above within 120 days of the entry of the final Opinion and Order in this proceeding.

5. That it would be in the public interest for the Company to pursue an aggressive conservation program designed to substantially offset the cancellation or suspension of Limerick II.

6. That the Commission immediately open a general investigation designed to implement a policy, applicable to all electric utilities, whereby regulatory incentives would be afforded to any conservation inducing investment designed to lower a utility's need to install additional capacity.

   Further, at a minimum the investigation should address: conservation financing programs for residential and small commercial customers, joint customer/company financed alternate supply projects, rate induced or company controlled load management programs with corresponding investment programs, appropriate company informational activities required to support the company's programs, any necessary changes in existing service regulations in order to ensure efficient utilization of electricity, and any legislation which may be necessary to implement or enhance conservation or provide alternative supply opportunities.

   That the Commission invite all interested electric utilities or other parties to participate and shall direct the Commission's Bureau of Conservation, Economics and Energy Planning to actively participate in the investigation.

II. The Construction Delays

The initial issue to be addressed is an examination of the decision by PECO to begin construction of the Limerick Nuclear Generating Station. PECO witness, Vincent Boyer, Senior Vice President, Nuclear Power, and Emil Kasum, Chief System Planning Engineer, System Planning Division, testified at length to the planning process and decisions to build Limerick (PECO Stmts. 1 & 2). Mr. Boyer begins by expressing the view shared by many utilities in the late 1960's and early 1970's; that regulatory measures enacted during that period encouraged utilities to add new capacity. He cites the prospect of PECO being faced with a capacity shortage which, in turn, could lead to brownouts and blackouts. Specifically, he recites regulatory actions taken in 1966 when PECO and other companies, parties to the Pennsylvania - New Jersey - Maryland Interconnection Agreement (PJM) were told by their respective regulatory commissions to increase reserve capacity from the then existing 12-15% to a point where the reserve margin equalled 20%. To indicate the Commission's concern, PECO points to our March 12, 1972 Order instituting an investigation to determine the need for additional generating and transmission facilities. In light of this regulatory concern, and PECO's forecast of future annual sales peak demands,[1/] PECO, in 1967, determined that additional capacity was necessary.

1/ PECO's 1967-1968 forecast projected reserve margins of 11.5% in 1975, 6.0% in 1976, and 0.9% in 1977 even including Peach Bottom Nuclear Generating Units No. 2 & 3 then under construction.

Having reached the conclusion that additional capacity was needed, PECO analyzed the options available. A 1965 study claimed that the levelized cost of nuclear power was 3.63 mills/kwh as compared to a levelized cost of 4.71 mills/kwh of coal.[2/] Moreover, an analysis of the capital costs of coal and nuclear units indicated that the capital costs of nuclear plants, $206 to $230 million, exceeded coal plant capital costs, $176 to $205 million. However, it was anticipated that the initially higher capital costs of the nuclear unit would be recaptured within three years because of the operating savings derived from the lower cost of nuclear fuel compared to coal. It was anticipated that over its life, the nuclear plant would produce a levelized annual revenue savings to the ratepayers of $6,500,000 over the coal alternative.

Having decided that a nuclear plant was the best alternative, PECO was faced with the prospect of choosing a site. In choosing the existing site, PECO considered topography, access to road and rail facilities, availability of water supply, land procurement costs, general geology and seismology, population density and proximity, meteorology, costs of transmission rights-of-way and facilities, and improvements to roads and bridges necessary for the transport of the reactor vessel and other super-heavy components to the site. In this proceeding, the primary objection to the site chosen was raised by Limerick Ecology Action which pointed out that the plant's construction permit is contingent upon the units being operated as a "river follower", i.e., would only be permitted to operate providing the Schuylkill River contained sufficient water to service the plant in addition to meeting the needs of those downstream, which would cause the kwh output of the units to flucuate depending upon the flow of the Schuylkill River. While we are convinced that PECO appropriately considered relevant options in choosing the plant site, we acknowledge that there may be occasions when the supply of water will be such as to affect the simultaneous operation of Limerick Units I and II at full capacity. However, even with this possible infirmity, we agree with the finding of the Nuclear Regulatory Commission, that the site chosen was the best available. Further, it should be relatively simple to chart the rise and fall of the river and adjust usage accordingly. We also note that construction of the Point Pleasant Pumping Station and the Merrill Creek Reservoir will be necessary to provide Limerick with the necessary water. We cannot speak for the Neshaminy Water Resources Authority's ability to finance such projects, but based upon the record before us, we do not foresee any long-term inability to secure water from these projects.

2/ In further support of its position PECO points to a 1976 study by Mr. Leonard Reichle, Senior Vice President of Ebasco Service, Inc. which concluded that nuclear power was 27% cheaper than a comparable coal alternative (PECO St. 1C, p. 10); testimony by Mr. Gordon Casey of Commonwealth Edison which concluded that nuclear generation was 20% cheaper than coal in its service territory; and a 1979 report published by the National Academy of Sciences which endorsed the need to develop nuclear energy given its "competitive economics" (PECO St. 1B, p. 5).

Having determined that construction of a nuclear facility at Limerick was appropriate, PECO selected General Electric (GE) as the vendor for nuclear equipment and the turbine generator.[3/] In August 1969, PECO awarded a contract to Bechtel Corporation to perform architectual/engineering and construction work on the proposed stations.

For the purpose of our discussion of the construction and any delays in that construction, we shall divide the construction schedule into three parts: (1) the planning and early construction phase; (2) the 1974-1977 phase; and (3) 1978 to the present.

A. Planning and Early Construction

At the heart of PECO's decision to build the Limerick Station was PECO's perception, shared by many in the industry, that the high rate of load growth experienced in the 1960's and early 1970's would continue unabated. As was stated earlier, PECO's forecasts which assumed the continuation of high load growth and a need to increase its reserves from 15% to 20%, showed an ever decreasing reserve during the 1975-1977 period. Concerned about preserving the general one-in-ten year service interruption rule,[4/] PECO committed itself to build base load plant.

Primary criticism of the Company's actions prior to 1974 comes from the OCA. The OCA points to the deterioration of PECO's finanical condition in the late 1960's (PECO Stmt. 9, p. 4) concomitant with a $500 million production plant construction program for the two Peach Bottom units[5/], the Croydon combustion turbines and the Eddystone No. 3 oil-fired unit (Id. p. 5; OCA Ex. 1, IR-2, 7-30), and the construction budget associated with the Salem[6/] and Limerick Units. The OCA considers the estimated $3.3 billion construction budget for the 1974 through 1978 period, forecast in 1974 and amounting to 165% of the 1974 rate base, to be indicative of potential future financial difficulties by creating, at this early date, cash flow constraints and virtually eliminating any financial flexibility. Compounding PECO's difficulties

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3/ It should be noted that GE presented PECO with the lowest capital costs of three bidders and furnished equipment similar to PECO's Peach Bottom Units.

4/ The one-in-ten rule represented a desire to only permit a service interruption due to a forced outage once in a ten year period.

5/ PECO owned a 42.59% interest in these plants.

6/ 42.59% owned by PECO.

was the escalation in the price of oil,[7/] high interest rates, general inflation, and a sharp reduction in the rate of growth of sales. Although the OCA admits that many of these factors were beyond the control of PECO, the OCA opines that these factors should have indicated to PECO that it had vastly underestimated the costs and subsequent construction periods of its incomplete nuclear units and should have caused PECO to question any financial planning which was based upon a reliance on the 1974 architect/engineer estimates.

Second, the OCA faults PECO for its lack of a detailed generation planning study, pointing out that the most detailed comparison of nuclear and alternative forms of generation was carried out in 1965 "prior to the commitment decision for the Peach Bottom and Salem Units." (PECO Stmt. 1a p. 16.)

In his Initial Decision, ALJ Klovekorn finds that PECO's "actions in the 1968-1974 period were reasonable and its decision at that time to construct a nuclear unit at Limerick was a valid exercise of managerial discretion." We agree.

In addressing these concerns, initially, we note that PECO's financial condition in the late 1960's and early 1970's was not as precarious as it is at present. While it is true that PECO embarked upon an ambitious construction program, it could not have forseen the extent of those factors which influenced the entire economy, i.e. the OPEC oil embargo, rapid inflation, etc., which served to exacerbate PECO's financial condition. Further, PECO constantly reviewed its decision as to capacity type considering changing capital, fixed costs, and fuel costs (PECO Ex. VSB-2, §B). We find that although PECO's construction plans may have been somewhat optimistic, its financial condition was not such as to indicate its future difficulties or that the units were not economically feasible.

As further support for PECO's construction plans, during this period of time, we granted PECO's application for a finding of necessity associated with certain construction at Limerick. We stated:

> In this connection, the Commission is of the opinion that it is of paramount importance that applicant proceed forthwith with all such construction as it may lawfully undertake preliminary to the final AEC determination with respect to the nuclear facilities involved. Applicant is faced with the necessity of expending many millions of dollars to augment its electric generation within the next several years in order to provide adequate and reliable service to its patrons. The proposed

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7/ As PECO was a heavy oil user for generating purposes, the Company was particularly vulnerable to oil price increases and the 1973 OPEC oil embargo.

Limerick Generating Station is one of several important power production facilities which applicant must complete on schedule in order to meet its ever-growing customer demands for electric service.

Application of Philadelphia Electric Company, A. 96108 (1971). As is readily apparent, even at this early date, we foresaw the need for the rapid construction of the units.

Similarly, the Atomic Energy Commission, Directorate of Licensing found, in its November 1973 Final Environmental Statement, PECO's expansion of plant capacity to be a prudent and necessary action to satisfy the growth requirements of its service area (PECO Ex. VSB-2, §D).

In view of the foregoing, we are of the opinion that PECO's initial decision to build a nuclear station at Limerick, was reasonable at the time it was made, and was a valid exercise of managerial discretion.

B. The 1974 Extension

Due primarily to a delay in the receipt of a construction permit from the Atomic Energy Commission,[8/] construction on the station did not begin until the summer of 1974. In October 1974, PECO announced a delay in Limerick's construction schedule, postponing the projected in-service dates by two years.

As stated by Mr. Joseph F. Paquette, Jr. Vice President of Finance and Accounting, the decision to delay construction was due to adverse financial factors affecting the company. Mr. Paquette noted that during the 1950's and 1960's, PECO's financial condition improved considerably resulting in regular increases in its dividend. Beginning in the late 1960's, increasing inflation caused PECO's financial condition to deteriorate. For example, PECO's return on equity, approximately 12% from 1965 to 1967, dropped to 9.4% in 1970 and remained in the range of 10%-11% for the next three years. PECO's pre-tax interest coverage ratio decreased from 5.1 times in 1968 to 2.6 times in 1970, and remained in the range of 2.7 to 2.9 times through 1973. Further, PECO's mortgage coverage ratio declined from 5.8 times in 1965 to 2.4 times in 1973. PECO's stock dropped in price from $40.50 per share to $17.00 in 1973. As a result of this deteriorating condition, PECO's credit rating was lowered by Standard and Poor's from AAA to AA in 1968 and to A in 1974.

Compounding PECO's financial problems was the 1973 Arab oil embargo. The experienced price increases in oil, which caused PECO's

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8/ The permit was received June, 1974.

fuel adjustment surcharge to increase substantially, the general recession then in progress, and increased consumer awareness of conservation methods, led to reduction in energy consumption.[9/] Concurrently, PECO placed into service approximately $500 million of new plant[10/], increasing its rate base from $1.5 to $2.0 billion. Further depletion of PECO's earning was occasioned by the cessation of the accrual of AFUDC (Allowance for Funds Used During Construction.)[11/]

Although PECO was confident that it could complete its five-year construction financing,[12/] Consolidated Edison Company's omission of its dividend in April 1974, significantly shook investors' confidence in the electric industry, causing common stock prices to drop.[13/] In addition, AA utility bond interest rates, changed significantly, rising from about 8% to 11%. Of greater significance to the Company specifically, was the decline of PECO's interest coverage ratio below 2.0 times, foreclosing the possibility of PECO issuing new mortgage bonds.[14/] Mr. Paquette testified that as conditions deteriorated, the company decided to cut its near-term construction expenditures. The obvious method of cutting costs, according to Mr. Paquette, was to reduce spending at Limerick, as that project represented the major portion of PECO's construction budget. PECO claims that the 1974 decision to delay construction cost $36.6 million, while the OCA estimates the cost at $372 million.

9/ PECO's peak load for 1974 was 5,431 megawatts, a reduction of about 6% from 1973. Further kwh sales decreased in 1974 by approximately 3% from 1973.

10/ New plant consisted of the two Peach Bottom units, the Croydon combustion turbines, and the Eddystone No. 3 oil-fired unit.

11/ Accrual of AFUDC is an accounting treatment recognizing the cost of the carrying charges associated with plant investment. This amount is added to the basic cost of the plant when included in rate base to be recovered from ratepayers over the life of the plant.

12/ In 1974, PECO predicted that its five year construction expenditures would amount to $3.3 billion for the period 1974 through 1978 and that it would have to finance about $2.5 billion of that with new securities.

13/ The price of PECO's stock decreased from over $19.00 per share to below $10.00 per share immediately after the Con Ed action and fluctuated between $10.00 and $12.00 a share approximately 50% of book value, for the rest of the year.

14/ Under the terms of PECO's indenture, when the interest coverage ratio falls below 2.0 times, new bonds could be issued only upon retirement of older bonds.

The OCA and Staff, while not disputing the fact that the preceding events have occurred, both point to 1974 as the turning point in Limerick's construction. The OCA argues that the company should have been aware then of the quagmire of direct construction cost escalations and in-service delays experienced by PECO at its other principal construction sites (OCA Main Brief, p. V-11). The Trial Staff argues that PECO should have either cancelled the units at this time or built the plant as quickly as possible. Staff criticizes the Company for choosing the worst possible path--not cancelling before the bulk of construction was begun, but not pressing forward in completing the plant in light of the optimistic economic forecasts for 1976-1978 (OCA Ex. 23, N.T. 1, 9).

C. The 1976 Extension

In 1976, to match growth in capacity additions with a lower spring 1976 load forecast, PECO further delayed construction and revised the in-service dates for the Limerick Units Nos. 1 & 2 from April '81/ April '82 to April '83/April '85 respectively.

According to Mr. Paquette, the decision to further delay construction was based upon a continued deterioration of PECO's return on common equity, the price of its stock, and a further reduction in its bond rating to A-. Additionally, the wave of conservation continued to reduce PECO's peak load.[15/] At this time, PECO revised its forecast growth rate from its pre-1974 level of 7% per year downward to 5%, a revision which effectively lowered PECO's estimated peak load by almost 1,000 megawatts. As a further delay of the Limerick units would lower its projected capacity by 1,055 megawatts in the years 1981 to 1984 inclusive, construction was delayed.

Mr. Paquette stressed that in evaluating the 1976 postponement, "it is important to appreciate the context within which these decisions were being made." (PECO Stmt. No. 9, p. 10). He noted that concern about bringing a unit on line prior to its being necessary, creating excess capacity, was brought to the fore in the company's 1975 and 1976 rate proceedings. Although any excess capacity adjustment was rejected in that proceeding, we required PECO to justify its installed capacity in its next proceeding. According to Mr. Paquette, in such an environment the company concluded that the public interest did not warrant a speedy completion of Limerick. It appears that the company felt that there was some risk that if the Limerick units were brought on line in 1981 and 1982, the Commission might deem the plants to be unnecessary for the service of its customers and exclude any costs from rate base and prohibit recovery of any expenses associated with the operation of the units with dire financial consequences to the Company (PECO Stmt. No. 9, p. 11).

15/ PECO's peak load was [illegible] 530 megawatts, again below the 1973 record.

The OCA raises two major objections to PECO's 1976 decision to delay Limerick's construction schedule, arguing that the slippage evidences a corporate attitude to react to load growth by building more and more capacity instead of attempting to control such growth (OCA Main Brief, p. V-15) and criticizes the company for failing to analyze what capacity would be needed if load growth continued to deescalate. The OCA contends that it would have been appropriate for PECO to consider cancellation of one or both units at this time. The OCA sets the cost of this delay at $202 million of direct costs (OCA Ex. No. 20, IR-2, 1-3).

Trial Staff criticizes the delay, contending, through testimony of Witness Donald Muth, that PECO's financial condition was such that it would have been able to issue sufficient additional mortgage bonds in 1976-1978 to eliminate the need for the postponement (T.S. Stmt. DHM-2, pp. 2-3). In addition, Mr. Muth concludes that the Company could have financed the construction in a variety of ways in 1976, i.e. the issuance of a combination of common stock, short term debt, and long term debt, rather than delaying construction. In addressing PECO's argument that construction was delayed because of a reduction in load, Trial Staff opines that if this were the case, construction at Limerick would still be delayed, as load has not grown significantly in recent years. If however, financial considerations were foremost, Staff suggests that instead of postponing constructing in 1976 and 1978, PECO should have either cancelled in 1974 when PECO's financial position was bleakest, or it should have built the plant as quickly as possible.

In rebuttal, PECO maintains that Trial Staff's hypothetical financing program is not fiscally sound. If its suggested financing proposals were added to the amounts actually issued by the Company through the same period, PECO would have been left with an indenture coverage below 2.0 times in 1979, precluding further mortgage bond financing (PECO Stmt. 11D, p. 5). PECO claims that in the 1975 to 1979 period, it could have issued only a total of about $30 to $40 million in additional mortgage bonds while maintaining a 2.0 times mortgage ratio in 1979. Finally, PECO argues that the issuance of common stock as suggested by Staff would merely have diluted earnings to a level insufficent to cover PECO's dividend. (PECO Stmt. 11D, p. 5).

D. 1978 Extension

In May 1978, PECO announced a decision to reschedule Units I and II from 1983-85 to 1985-87 respectively. Although PECO witness Paquette testified that from 1978 to 1980 the Company authorized and spent monies to maintain the 1983-85 service dates, the record indicates that direct expenditures during that period were reduced from the budgeted amount of $529 million to $479 million (OCA Exh. 23, N.T. 1, 7). According to the witness, the 1978 delay was caused by the same factors as the 1976 delays, i.e. no load growth, inadequate rate relief increasing financial constraints, and a concern about a possible excess capacity adjustment.

PECO, however, maintained its options with regard to its construction timetable due to the fact that escalating oil costs made it appear that completion of Limerick at an early date might be advantageous to customers, even if the capacity was not required, since the fuel cost savings resulting from Limerick's operations would more than offset the carrying costs of the plant (PECO Stmt. No. 9, p. 14).

Unlike the 1976 delay (N.T. 502), PECO performed an analysis to determine the level of short-term savings vs. long-term costs attributable to deferring completion of the plant.

The OCA points out, in response, that PECO's concern over an excess capacity adjustment should not have entered into PECO's planning picture, in that ALJ Matuschak's decision in R.I.D. 438 recommending an excess capacity adjustment, came months after the decision to delay was announced. OCA also claims that PECO failed to adequately analyze the economic and financial implications of the delay and the possible cancellation of at least one unit (OCA Brief p. V-24-26).

Trial Staff takes the same position with regard to this delay as the 1976 delay.

E. Discussion

We note at the outset of our discussion, that to adopt any proposed adjustments or calculations presented to us, at this time, would be inappropriate. The record presented is inadequate to accurately guage the costs of delay. Nor is the issue ripe for decision. Only when the plants are complete and the attendant cost claimed will the costs of delay be susceptible to accurate assessment. Accordingly, we shall not attempt to quantify the costs of the various delays at this time.

In order to judge the reasonableness of the actions taken by PECO's management in delaying the construction of the Limerick plants, we must initially establish a standard by which we can measure PECO's actions.

PECO would have us apply a standard of management imprudence arguing that so long as there exists a <u>rational basis</u> for the rendering of any of its decisions, those decisions may not be criticized. We are guided by <u>Coplay Cement Manufacturing Company v. Public Service Commission</u>, 271 Pa. 58, 114 A. 649 (1921) wherein the Pennsylvania Supreme Court stated:

> It was not intended by the legislature that the Commission should be a board of managers to conduct and control the affairs of public service companies, but it was meant that where certain of their powers and obligations had intimate relation to the public through fairness, accommodation or convenience, the commission should have an inquisitorial and corrective authority

to regulate and control the utility in the field specifically brought within the commission's jurisdiction.

While it is not our duty to become PECO's Board of Directors, it is our duty to ascertain what the conduct of a prudent management would have been under a given set of circumstances and utilize that standard to determine whether actions taken by a particular utility, resulting in costs to be borne by ratepayers, are reasonable. Pennsylvania Power and Light Company v. Public Service Commission, 128 Pa. Superior Ct. 195, 216-217 (1937). Our process may be analogized to that of a court of law when it applies a reasonable man standard to proceedings before it. We find the opinion of the New York Public Service Commission is appropriate to utilize in determining whether management practices were reasonable. In Consolidated Edison Company of New York, Case 27123, Opinion 79-1 (January 16, 1979), the New York Public Service Commission stated:

> ...the company's conduct should be judged by asking whether the conduct was reasonable at the time, under all the circumstances, considering that the company had to solve its problems prospectively rather than in reliance on hindsight. In effect, our responsibility is to determine how reasonable people would have performed the tasks that confronted the company.

See also, Case 27565, Niagara Mohawk Power Corp. (Opinion 80-25 issued June 24, 1980), Case 27869, Consolidated Edison Company of New York, Inc. (Opinion 82-2, issued January 21, 1982). Thus, a standard of "reasonable care" rather than a "rational basis", as suggested by PECO, appears appropriate. Perhaps the ALJ summed up this approach best when he stated that "PECO's conduct in delaying construction shall be judged on the basis of how reasonable people would have responded to the events of 1974-1978 and whether PECO's response was satisfactory in light of all those conditions and circumstances". By utilizing such a standard we are attempting to balance the right of the ratepayers to be treated fairly and the inherent right of PECO to manage its own affairs.

With this standard in mind, the ALJ concluded that PECO's 1974 delay was reasonable and that the 1976 and 1978 delays may have been unreasonable. As previously noted, the ALJ did not find it appropriate to recommend any specific action regarding the 1976 and 1978 delays be taken at this time. However, he did conclude that the risk of large units should be shared by stockholders (R.D. at 54). He states: "Consumers should not be expected to pay for delay which results from a conscious management decision to protect its own interests without adequate weight being given to its ratepayers interests. To these findings PECO, the OCA, and the Keystone Alliance except.

In its exceptions, the OCA argues that if, in a future rate proceeding, the Commission determines that an adjustment is appropriate, "then in all fairness to ratepayers the effect on stockholders should be

assessed and compared to the approximate $200-300 million loss spread over ten years that would result from stockholders' absorption of one-half of the after-tax sunk cost of Limerick Unit No. 2."

Keystone Alliance excepts to that portion of the Initial Decision wherein the ALJ found PECO's pre-1974 actions to be prudent, arguing that PECO was committed to nuclear power plant construction rather than viewing nuclear generation with prudence. They also argue, that the ALJ erred in not finding that construction should have been halted in 1974.

PECO, in its exceptions, initially lends its support to the ALJ's conclusion that we lack authority to order prospective rate base adjustments and that such an adjustment, if adopted at this time, would interfere with PECO's ability to finance plant completion on the least cost Forecast 5 Schedule and would increase financial costs. However, PECO excepts to the ALJ's criticisms of its 1976 and 1978 scheduling decisions. Briefly, PECO argues that we should reject the ALJ's conclusions:

> because (1) the Initial Decision has erroneously summarized PECO's evidence as to the reasons for its scheduling decisions, (2) has failed entirely to discuss or describe a material and substantial part of PECO's evidence in support of those decisions and (3) has erroneously accepted unproven and erroneous cost-benefit assumptions presented by Trial Staff.

Initially, we disagree with Keystone's assertions that the 1974 construction extension decision was not prudently undertaken. As noted previously, at the time the construction permit was issued, PECO had no firm indication that demand would be reduced substantially. It is readily apparent that the decrease in demand was due primarily to the increased price of oil and rapid inflation, which in turn resulted in ever increasing rates. As there was no indication that this demand decrease would continue, we cannot conclude, as did Keystone, that construction should have been halted at this point in time. If anything, we would have concluded, as did Trial Staff, that in light of subsequent developments, the Limerick construction schedule should have been advanced. However, placing ourselves in the position of PECO's management with the facts and trends available to it at that time, we cannot conclude that management was imprudent and unreasonable in its decision in 1974 to delay construction.

With regard to the OCA's exception, we reiterate our position that as no claim has been made for inclusion or exclusion of costs associated with Limerick, we deem it inappropriate to allocate those costs. The issue of any allocation or sharing of costs is properly reserved for a future rate proceeding.

Turning to the 1976 and 1978 extensions, we note that at the time of these decisions, PECO had two and four years of additional information indicating that the decline in demand was continuing, and,

despite increases in rates approved by us, further deterioration of PECO's financial condition had occurred.

The ALJ has found that the 1976 postponement was "made without careful analysis of the impact of such delay on ratepayers" and that "[c]onsumers should not be expected to pay for delay which results [from] a conscious management decision to protect its own interests without adequate weight being given to its ratepayers' interest." To the ALJ's finding of imprudence PECO has excepted, arguing that the Initial Decision fails to provide an assessment of the relative economic benefits and detriments to ratepayers and shareholders of earlier versus later plant completion, in addition to disregarding the evidence of PECO's precarious financial condition during the 1974-80 period and evidence that the reduced load growth permitted delaying completion of Limerick without threatening service reliability.

It appears, from the record before us, that PECO's 1976 and 1978 construction delays were caused by PECO's financial difficulties, which in turn were caused by its ambitious construction program and its ever decreasing load growth; conditions similar to those causing the 1974 delay. While it is true that PECO's financial condition deteriorated from its 1974 levels, we are of the opinion that, at the least, PECO's ambitious construction plans exacerbated its financial difficulties. We are convinced that PECO's financial difficulties, proffered as a reason for delaying construction, would have been less acute if construction at Limerick had been terminated.

PECO now argues that one of the prime considerations in delaying construction was a continued reduction in PECO's load growth. Although PECO's spring 1976 load forecast projected a lower load growth than earlier anticipated, it appears that even this projection was overly optimistic. We note that in PECO's 1977-78 rate proceeding, PECO reduced its forecasted growth rate from 5% to 3%. Pennsylvania Public Utility Commission v. Philadelphia Electric Company, R.I.D. 438 (February 5, 1979). Apparently, this 1978 reduction was an acknowledgement that the trend evidenced in 1974 was continuing. Despite this now obvious trend, PECO delayed construction in the hope that load would improve.

PECO's final argument, that the relative economic benefits and detriments to ratepayers and shareholders of earlier versus later plant completion favored delay, is unpersuasive. We find this argument curious in light of the fact that PECO stresses that, because load growth has declined, the Limerick Units' main purpose is to replace oil fired generating capacity. If Limerick can be economically justified when compared to a combination of alternative sources of power and the retirement of oil fired plants, which by now have been extensively depreciated, the relative benefit to current ratepayers would have been greater if the oil capacity, and their associated costs, had been retired earlier by way of compressing rather than expanding the construction schedule. Further, as the nation as a whole experienced a period of double digit inflation and rising interest rates, delaying the necessary financing did and will continue to increase the ultimate costs of the plant financing.

Considering the foregoing, we are of the opinion that PECO management did not exercise judgment sufficient to meet our reasonable man standard in delaying construction at Limerick in 1976 and 1978. Having so found, we are requested by Staff and the OCA to quantify the cost of the delay to ratepayers. We are of the opinion that to do so at this time is inappropriate. We have not been presented, in this proceeding, with a claim for recovery of any of the costs associated with the construction of the plants. Consequently, we can make no adjustment to any claim. Further, should PECO sell all or part of the Limerick plant or its capacity to other utilities, the deduction of all or part of the costs of delay from PECO's claim, if any, would be materially affected. We therefore find it unnecessary to quantify, at this time and in this proceeding, the costs associated with the 1976 and 1978 delays.

III. Management Oversight of the Project

Following the selection of Bechtel Power Corporation as the architect/engineer and contractor for Limerick, and General Electric to provide the steam generator, PECO management assigned responsibility for planning, scheduling and cost control to its Engineering and Research (E & R) Department.

The management of this department holds weekly meetings with the heads of the six divisions comprising the department. Individual divisions have bi-weekly meetings to review Limerick activities. A departmental report is prepared and sent monthly to PECO's Chairman of the Board. The Vice President of PECO's E & R Department reports significant events to top management at weekly and bi-weekly meetings. In addition, a major project coordination meeting is held monthly, usually at the construction site and is attended by PECO and Bechtel personnel. Additional periodic meetings are held between General Electric, Bechtel and PECO management groups to review the overall project status (PECO Statement No. 1B, p. 2).

As noted above, PECO's E & R department is composed of 6 divisions. As described by PECO, the overall coordination and administration of the project rests in the Mechanical Engineering Division, and the designated Project Manager, Richard A. Mulford, is located in that division. This division also follows the mechanical design aspects of the plant, reviews and interacts with the piping and instrument system diagrams and plant layouts prepared by Bechtel, reviews and approves equipment specifications and drawings, and reviews bidders lists and equipment purchase recommendations. The division also performs a similar monitoring function for General Electric, the vendor of the nuclear steam supply system. Following the start of construction, a PECO Resident Project Manager was assigned to Bechtel in San Francisco; there are now three PECO employees situated there.

The Electrical Engineering Division follows the electrical aspects of the plant's design. Personnel in this division perform functions parallel to their counterparts in the Mechanical Engineering Division, working through an electrical project Engineer who coordinates his activities and reports through Mr. Mulford.

The Construction Division is responsible for monitoring the actual construction of the project and as such, works closely with Bechtel. A Project Manager--Construction, James Clarey, is assigned to directly supervise site activities.

IV. Future Construction and the Need for Limerick

A. The Need and Justification for Limerick

The central focus of this investigation has been whether continued construction and completion of the Limerick Units is in the best interest of the Company and its ratepayers from the perspective of reasonable rates and system reliability. Large investments have already been made in the two units. As of April 30, 1982 (hearings were completed on November 13, 1981), PECO estimated that $2.23 billion would be spent at the Limerick site. Approximately $1.8 billion of that amount represents the investment in Unit 1, which would be 76-79% complete. The remaining $410 million is attributable to Unit 2, which PECO forecasts would be 42-43% complete.

When originally conceived and proposed, the Limerick project was considered necessary to meet system demand, which was growing at 6% annually and forecasted to be 7%. However, since approximately 1974, load growth has severely diminished. In this proceeding PECO has projected system load growth of 2.3-2.8% and the OCA's growth figures for PECO range from 1.1% (base case) to -0.5% (conservation case).

Generally, declining growth rates may translate into "excess" capacity if no response to reduce planned capacity additions is made by the utility. For PECO the late 1970's have been a period of large reserve capacity (PECO St. 2, p. 14). In 1973 PECO's reserve capacity was 10.7%. By 1977 the reserve margin was 39.3%, declining to 26.3% in 1980. The Company anticipates growth in peak demand of 100 MW annually or an average growth factor of approximately 1.6%. Assuming the addition of Limerick Units 1 and 2 (1,055 MW per unit) in 1985 and 1987, respectively, and Salem 2 in 1985 (474 MW), as well as the retirement of 1,215 MW of various oil and gas turbines, the Company anticipates reserves of 36% in 1985 and 37% in 1988, declining slightly to 33% by 1990 (PECO St. 2, Table 11). These margins would be much higher without the retirement of the fossil fuel plants prematurely, prior to the end of their useful life. Prior to 1966 a reserve margin of 12-15% was considered adequate. Concern in the 1960's about blackouts triggered a revised requirement of a 20% margin. PJM's present reliability standard of one day in ten years requires a reserve margin of 26.5% (See, Footnote 4, supra). The Commission held at R.I.D. 865 that an average reserve of 18% (range of 14-22%) was reasonable. Pennsylvania Public Utility Commission v. Philadelphia Electric Co., R-79060865, 54 Pa.PUC 220, 226, 37 PUR 4th 381 (May 9, 1980).

No party to this investigation has attempted to justify the continued construction and completion of Limerick on the basis of growing system demand and the need to add new capacity. The central controversy turns on whether the Limerick Units are the most reliable and

economic method of replacing PECO's fossil fuel fired generation. The cost of continued use of the Company's fossil fuel plants, as contrasted to replacement of these units with Limerick or some other alternative (e.g., conservation, smaller coal-fired units, purchase of capacity at PP&L's Susquehanna Steam Station), has been extensively debated by the parties.

Both PECO and the OCA, as well as the other parties, have performed extensive analysis of the many options available to determine which is the most cost effective. The conclusions reached by the parties vary widely depending upon the assumptions made regarding the capital and operating costs of Limerick, outage rates, capacity factors, future cost of fuel, PJM wholesale rates and a host of other factors. ALJ Klovekorn has performed an admirable job of distilling and discussing the various proposals, and we shall not attempt to repeat his detailed discussion here, but shall instead summarize the positions of the parties.

Analyzing the 1980 through 1994 time frame, PECO witness Lawrence claimed that completion of both units would result in savings ranging from $1.9 to $7.5 billion depending upon the alternative studied. Completion of Limerick Unit 1 and cancellation of Limerick Unit 2 without replacement would "cost" consumers $1,930,000,000 relative to completion of both units, whereas cancellation of both Limerick Units without replacement would cost ratepayers an additional $7,470,000,000 in revenue requirements. Analysis of the alternatives to Limerick does not include recognition of the additional capital costs associated with Limerick's sunk investment of approximately $2.23 billion at April 30, 1982. Dr. Perl performed a second PECO study focusing on the coal alternative only. The results of his statistical analysis are that the "most likely" levelized cost of Limerick will be 13 cents per KWH. The cost of replacement by coal is forecasted at 19.4 cents per KWH. Over the life of Limerick, Dr. Perl claims, savings of $5.7 billion will accrue to ratepayers compared to reliance upon the coal capacity alternative.

Due to the computational and other errors discovered during the hearings, the OCA presented a progressive series of analyses. The "bottom line" of the OCA's positions, however, is a SOBIG computer run by PECO witness Hieronymus which includes OCA assumptions regarding the capital and operating costs of Limerick, capacity factor, PJM wholesale rates and all other factors (PECO Exh. WMH-3, Sch. G). The results indicate savings ranging from $21 million to $364 million (present value) under the conservation scenario[16/], if one agrees with a prospective average load growth rate of <u>negative</u> .5%. All other growth scenarios indicate that completion of both units is the cheapest alternative.

16/ It should be noted that the estimates under the conservation case include savings to non-electric heating customers (oil and gas customers) of approximately $2.3 billion and assumes ratepayers pay all costs of conservation.

The City of Philadelphia presented a conservation study modeled after programs undertaken by the Tennessee Valley Authority and several west coast electric utilities and claimed that if an agressive conservation program were implemented by PECO with expenditures of $45-60 million annually, the need for Limerick Unit 2 would be offset with attendant savings of $445 million. This analysis covers the time frame 1982 through 1989.

After hearing and considering all of the evidence presented, ALJ Klovekorn concluded:

> [T]here can be no doubt as to the economics of and need for the completion of both Limerick units. There has been no analysis presented which, using plausible assumptions, has shown Limerick to be uneconomic. Rather, all reasonable analyses have shown that Limerick will produce economic benefits to ratepayers over any proposed alternative.

Recommended Decision at 238. The ALJ recommended that the plants be brought on line as soon as possible and that the Commission monitor the Company's progress.

As the above brief recitation of the evidence illustrates, the range of forecasted savings is broad depending upon the assumptions made and the alternatives studied. While we generally agree with the conclusions of Administrative Law Judge Klovekorn, a short review of the appropriateness of some of these adjustments is proper. Several of PECO's assumptions, specifically the $4.6 billion cost of Limerick, a 70% capacity factor and a future load growth of 2.3%/2.6% (PECO/ PJM) seem exaggerated. Limerick will likely cost more in the range of five to six billion dollars with a mid-point of $5.5 billion. A capacity factor of 60-65% is more realistic, although all nuclear power plants, as Pennsylvania painfully learned at Three Mile Island, carry the potential for lengthy and unpredictable shutdowns. The ESRG (OCA) base case load growth factor for PECO of 1.1% is reasonable, as is their PJM forecast. On the other hand, the OCA's forecast of a 14.7% discount rate, 14% inflation in O&M expense and $6.6 billion cost of Limerick seem high, although the latter is not at all impossible. Our discussion of the conservation issue may be found in a subsequent section.

Recovery of the existing investment at Limerick (sunk costs) and the question of whether amortized expenses should be given rate base treatment is a decision to be made by this Commission. Depending upon the position taken, completion of one or both units may or may not be economic, due to the magnitude of capital already invested at Limerick. The treatment of sunk costs is, therefore, a key imput assumption. PECO's total sunk investment in Limerick at April 30, 1982 was estimated to be approximately $2.23 billion (PECO St. 11G, pp. 1-2). Approximately $410 million of that total represents PECO's investment in Limerick Unit 2. It should be noted that <u>recovery of sunk costs is an issue only if one (or both) of the units is cancelled.</u>

At this time, prior to the presentation of any claim by the Company for recovery of the sunk costs, the Commission is not prepared to definitively state how it will treat such costs. To do so might be construed as prejudicial to the resolution of any claim the Company might make in the future. We have no such desire and repudiate any such intent. Further, an insufficient record exists to adjudge the issue here. For the purposes of their analysis all parties have assumed sunk costs in Unit 2 of approximately $410 million as of April 30, 1982. This figure, however, is a projection and does not include any additional losses (e.g., cost to modify Limerick to a single unit station and to terminate Unit 2) or gains (e.g., salvage) which may be attendant to cancellation. Further, the tax effect of abandonment is an important factor which should be considered. Undoubtedly, there are other items which are also relevant. The absence of these adjustments renders the present record incomplete.

B. Financial Condition

The greatest impediment to a timely and, hence, economic completion of the Limerick units is the financial condition of the Company. As the preceding discussion makes clear, the continued and repeated delays of the project undertaken largely for financial reasons has resulted in massive cost overruns and the resultant loss of savings which consumers might have realized. While there still do exist potential savings which we desire to retain for the benefit of consumers, we are concerned that, given the present financial straits of PECO and the prospective improbability that such stress will abate until Unit 1 is on line and in reflected rates, the cost savings claimed in this proceeding will be diminished and deferred.

PECO's financial condition has deteriorated to a grossly substandard level. As we noted in PECO's recent base rate proceeding, Pennsylvania Public Utility Commission v. Philadelphia Electric Company, R-811626 (May 21, 1982), "PECO's most recent mortgage debt issue (April 1982) sold for 18.2%" and currently carries a BBB rating. In that proceeding it was projected that without substantial rate relief earnings per share would decrease from $2.26 in 1981 to $2.09 in 1982, and $1.75 in 1983, which would be insufficient to cover PECO's current $2.00 dividend. More importantly, interest coverage (with AFUDC) would fall to 2.03 times and 1.76 times in 1982 and 1983, respectively, and to 1.42 times and 1.08 times without AFUDC. Despite our recent allowance of an increase in annual operating revenues of approximately $221,708,000, PECO's interest coverage is less than 2.7 times with AFUDC and is dangerously close to those levels which will prevent the issuance of the bonds necessary for the continued construction of both units. In light of PECO's BBB rating, issuance of the amount of new bonds required to finance construction on both units would certainly be at a high cost and at great risk, which in turn would lead to a further downgrading of its securities. PECO's current rate precludes inclusion of PECO's bonds in various institutional portfolios and any further downgrading would further restrict the population of investors willing or able to purchase

those bonds.[17/] Indeed, in 1974, 1975 and 1980, BBB rated securities could not be sold by a number of companies (PECO St. 13, p. 17).[18/]

For 1981, the Company's achieved equity return was approximately 12%, although the Commission authorized return was 15.5% (PECO St. 1A, Table 4). The Company's actual returns during the latter part of the 1970's and early 1980's place PECO "at or near the bottom of the actual returns within the utility industry" (PECO St. 1, p. 7). Cash coverage of its dividend in 1980 was only 1.06 times. In 1981 the Company increased its dividend to $2.00 per share, only the second increase in ten years (PECO St. 1, p. 8). PECO's 1981 equity offerings sold at a mere 65% of book value per share (PECO Exh. JFB 1, Sch. 12, p. 13). Should the market to book ratio fall much further, PECO may be unable to issue additional equity shares because the cost, in terms of dilution to existing shareholders, would be prohibitive.

The single most important reason for PECO's present financial ills is the large magnitude of its construction program. AFUDC represented a staggering 84% of PECO's 1981 earnings (PECO St. 1A, Table 4). Over the five year period ended 1980, cash as a percentage of construction expenditures averaged only 26% and in 1980 fell to 12% (PECO St. 13, pp. 5-6). In 1981 this figure dropped to a dismal 5.2%. Nor will the pressure of construction abate in the near future. PECO has budgeted an $876 million construction budget for 1982, with an additional $870 million planned for 1983 (PECO St. 1A, pp. 1-2).

The Company's financial plight endangers its construction program. Mr. Paquette stated on behalf of PECO that:

> The Company has an urgent need for substantial rate relief which is required to achieve an adequate rate of return on our investment in electric facilities serving the public and improve our extremely low levels of internal cash flow and interest coverage ratios. Unless we are able to substantially improve our financial performance, I believe we will be unable to continue to finance our planned construction program. If that occurs, it could have severe, long-run adverse effects on our customers and the entire Delaware Valley.

17/ PECO's current rating by Standard and Poor of BBB represents a corporate bond of the lowest investment grade rating. A decrease in rating to BB represents a speculative bond considered below investment grade.

18/ Unless otherwise noted, statement and exhibit references in this section are from Pennsylvania Public Utility Commission v. Philadelphia Electric Company, R-811626.

(Emphasis in original) PECO St 1, pp. 3-4. In the rate case at R-811626 a major element of the "substantial rate relief" referred to by Mr. Paquette was in the form of PECO's request to include $500 million of Limerick related CWIP in rate base. The Company further stressed that allowance of the CWIP claim was necessary to improve its bond rating above the BBB level.19/

> If the Company cannot improve its bond rating above BBB, I believe there is a serious possibility that we would have to delay the Limerick project because of our inability to sell additional securities in a limited market.

(PECO St. 5, p. 5). We denied the Company's claim for inclusion of Limerick-related CWIP in our Order at R-811626 for the reasons stated there.

C. Commission Conclusion

We find that continued construction of both Limerick units simultaneously is not in the public interest. The public interest requires:

19/ Mr. Paquette stated that with a revenue allowance of $238 million at R-811626, substantially above that increase the Commission actually allowed PECO, "we would be able to temporarily delay another downgrading. However, we would not expect to see an improvement in our rating for some time to come" (PECO St. 1A, p. 5). The Company also stated that the ALJ's allowance of almost $210 million would most likely occasion a downgrading, because PECO's financial indicators for 1982 at that level of revenues would be only marginally within indicators achieved by other BBB companies. PECO Exceptions, at 1-27.

As was stated in the Moody's Bond Survey of February 8, 1982 with regard to PECO specifically:

> Without CWIP in rate base, it would be difficult to achieve adequate financial measurements and internally generated funds for the continuing heavy capital needs expected to total almost $3.5 billion over the next four years....Maintenance of the current "baa" rating is highly doubtful if Limerick construction proceeds according to the present schedule without CWIP in rate base.

See, also, PECO Sts. 13 and 14.

a) Preservation of PECO's financial integrity;

b) Protection of the public from unjust and unreasonable rate increases;

c) Protection of adequate service; and

d) Timely completion of Limerick Unit 1.

For these reasons, we find that either the cancellation or suspension of construction at Limerick Unit 2 is in the public interest.

Given our inability and unwillingness to provide rate base recognition of Limerick related CWIP at R-811626 and the resultant probability that the Company's bond rating will not improve above its present BBB and may in fact slide further, it would not be in the public interest for the Company to continue present construction of Limerick Unit 2. Were the Company to attempt the impossible feat of continuing to build both units as scheduled, we believe the impact on PECO's finances would be catastrophic and would occasion further slippage in coverages and a downgrading of PECO's bond rating. This slide downward into a financial abyss would in all likelihood preclude PECO's access to the financial markets altogether. Even were the BBB rating maintained, construction of both units could be accomplished only at an exorbitant cost of capital, as evidenced by PECO's most recent debt issuance at a cost of 18.2%.

The only other meaningful alternative to adjusting the Limerick construction schedule is to recognize the capital costs of construction in present rates by including the construction work in progress (CWIP) in rate base. For the reasons we stated in our rate order at R-811626, based upon the record adduced there, our statutory duty to protect the public from unjust and unreasonable rate increases precludes this avenue for PECO.

If we were to do nothing, allowing the Company to continue the Sisyphean task of building both units simultaneously with endless delays and attendant cost overruns, the ultimate cost of the plant could well be excessive and the resultant tariff charges, were the plant included in rates, unjust and unreasonable. As of this point in time, customer savings associated with the completion of the units still do exist, albeit smaller in magnitude than if the original construction schedules had been adhered to. Further delays of both units will only further erode, and might possibly extinguish, the remaining savings.[20/]

20/ The Company has estimated that a six month delay in completion of the Limerick Units as a result of financial pressure would add $250 million in costs (Tr. 1113).

To sanction the continued construction of both Limerick units under these circumstances could jeopardize PECO's ability to adequately fund its continuing operations thereby resulting in a deterioration of service. We find the completion of both units by 1985 and 1987 is not financially feasible if PECO is to insure the continued maintenance of safe and reliable service to the public.

On the other hand, we are of the opinion that sufficient funds at reasonable cost are available to allow PECO to complete construction of Unit 1 on schedule[21/] and we encourage the Company to complete this unit as rapidly as possible consistent with the public safety. In reaching this conclusion we are driven by the desire to retain for ratepayers the lower future revenue requirements and customer savings which both the Company and the OCA have identified in their various computer models relative to any plausible alternative, including continued reliance on fossil fuel fired capacity.

Having decided that continued construction of Unit 2 at the present time is not in the public interest, we are of the opinion that it is proper to defer to Company management the decision as to whether construction on Unit 2 should be suspended or cancelled. This decision is properly within the domain of management and an area into which we do not desire to intrude.

However, in view of the above findings, at the present time and before Unit 1 is completed, we declare that we shall not approve any new securities issuances, the proceeds of which would be used, in whole or part, for construction at Unit 2 and, further, we shall deny recovery of AFUDC on any additional investment in Unit 2 (at such time as recovery is sought)[22/] pending completion of Unit 1. We will also permit the Company to finance and accrue AFUDC on the incremental costs attendant to shutting down construction at Unit 2 and maintaining that unit in a safe condition pending the resumption of construction should the Company opt to suspend construction at that unit. The former may include items such as: the cost of terminating presently effective construction contracts; protecting the site from the elements; or completing certain portions of the project so that construction may be resumed efficiently. The latter would encompass any additional investment necessary to protect the safety of the public or the construction employees.

21/ We deem PECO's currently scheduled in-service date for Unit 1 of 1985 to be appropriate.

22/ We will allow PECO to continue to accumulate AFUDC on the existing CWIP balance at the Unit, if it elects to suspend construction. Under our Uniform System of Accounts AFUDC may not be accumulated if Unit 2 is cancelled and, hence, no longer under construction.

D. Legal Authority

In view of the unique nature of these proceedings, we deem it appropriate to clearly set forth the legal authority upon which this decision is grounded. It has been repeatedly held that the Commission has exclusive, original jurisdiction over the reasonableness, adequacy, and sufficiency of public utility service. Elkin v. Bell Telephone, 491 Pa. 123, 420 A.2d 371 (1980); Duquesne Light Co. v. Borough of Monroeville, 449 Pa. 573, 298 A.2d 252 (1972); Allport Water Authority v. Winburne Water Co., 258 Pa. Superior Ct. 555, 393 A.2d 673 (1978); Elkin v. Bell Telephone, 247 Pa. Superior Ct. 505, 372 A.2d 1203 (1977).

The Commission's jurisdiction to supervise the operations of public utilities is clearly expressed in the Public Utility Code. Section 501 of the Code, 66 Pa. C.S. §501, provides in pertinent part:

> (a) Enforcement of provisions of part. In addition to any powers expressly enumerated in this part, the commission shall have full power and authority, and it shall be its duty to enforce, execute and carry out, by its regulations, orders, or otherwise, all and singular, the provisions of this part, and the full intent thereof; and shall have the power to rescind or modify any such regulations or orders. The express enumeration of the powers of the commission in this part shall not exclude any power which the commission would otherwise have under any of the provisions of this part.
>
> (b) Administrative authority and regulations. The commission shall have general administrative power and authority to supervise and regulate all public utilities doing business within this Commonwealth. The commission may make such regulations, not inconsistent with law, as may be necessary or proper in the exercise of its powers or for the performance of its duties. (Emphasis added).

The character of the service which must be provided by a public utility is defined in Section 1501 of the Code, 66 Pa. C.S. §1501, which provides in pertinent part:

> Every public utility shall furnish and maintain adequate, efficient, safe, and reasonable service and facilities, and shall make all such repairs, changes, alterations, substitutions, extensions, and improvements in or to such service and facilities as shall be necessary or proper for the accommodation, convenience, and safety of its patrons, employees, of the public. Such service also shall be reasonably continuous and without unreasonable interruptions or delay. Such service

and facilities shall be in conformity with the regulations and orders of the commission.... (Emphasis added).

The standards by which the rates charged by a utility must be evaluated by the Commission are set forth in Section 1301 of the Code, 66 Pa. C.S. §1301, which provides:

> Every rate made, demanded, or received by any public utility, or by any two or more public utilities jointly, shall be just and reasonable, and in conformity with regulations or orders of the commission. Only public utility service being furnished or rendered by a municipal corporation, or by the operating agencies of any municipal corporation, beyond its corporate limits, shall be subject to regulations and control by the commission as to rates, with the same force, and in like manner, as if such service were rendered by a public utility. (Emphasis added).

Taken together, these sections provide the Commission with the power and authority to supervise and regulate the rates and service of all public utilities subject to its jurisdiction. Each utility is required to provide service which is adequate, efficient, safe, and reasonably continuous. At the same time, the rates charged for that service must be just and reasonable.

It is our view that this investigation goes to the very core of PECO's ability to fulfill its obligation to render adequate service at reasonable rates at present, while the Company is involved in the construction of both Limerick units, and later, after the units have been completed. The findings set forth in this Order clearly support this conclusion. We would be derelict in our duty to protect the ratepayer, if we declined to act.

Having undertaken this investigation and having made the various findings alluded to, we find it appropriate to issue this order in accordance with Section 331(f) of the Code, 66 Pa. C.S §331(f), which authorizes us to issue a declaratory order to terminate a controversy or remove uncertainty.

Section 1903 of the Code, 66 Pa. C.S. §1903, requires this Commission to register a securities certificate if we find the issuance of the securities proposed therein is necessary or proper for the present and probable future capital needs of the public utility filing the certificate. Based on the record established in this proceeding, which we believe reflects the present and possible future capital needs of PECO in regard to the simultaneous construction of Units 1 and 2, we declare that at this time the approval of new securities issuances to finance construction of Unit 2 would be neither necessary, proper, nor in the public interest. Therefore, no new securities issuances should be approved to finance Unit 2, and further, we must deny recovery of

AFUDC on any additional investment in Unit 2 pending completion of Unit 1.

We are of the opinion that we would be remiss if we did not declare these conclusions in this Order. We believe that the public interest demands that we exercise our discretion and issue this declaratory order so that PECO can take appropriate action in response.

IV. Conservation

As was stated earlier, a portion of PECO's experienced decline in consumption and load growth has been due to a commendable effort on the part of PECO's customers to conserve electricity. Several parties to this proceeding, OCA, the City and CEPA, have set forth conservation and alternate energy source programs which they claim are feasible and lower cost alternatives to the completion of Limerick. However, the record developed on these programs is not sufficient for us to initiate specific programs at this time. There are still too many unanswered questions regarding the potential costs and benefits of the proposed conservation options and alternate energy sources, as well as unforeseen institutional barriers. We must be confident that these programs are the most desirable supply options available.

Throughout this proceeding, PECO has been criticized for failing to pursue an active conservation program (e.g. City M.B. pp. 21-26; OCA M.B. pp. IV 34-45; CEPA M.B., pp. 60-63; Keystone M.B., pp. 14-25), and unfavorable comparisons have been drawn between PECO's expenditures in this area and those of several other utilities. We did not intend to reach a conclusion as to the adequacy of PECO's past and current conservation programs. However, we strongly urge PECO to develop and implement aggressive conservation and alternate energy programs to offset future energy demands.

To these ends we will direct PECO to pursue an aggressive conservation program designed to substantially offset the suspension or cancellation of Limerick Unit 2. Further, we will direct the Secretary to open an investigation docket in order to develop a Commission policy, applicable to all electric utilities, whereby regulatory incentives would be afforded to any cost-effective conservation inducing investment designed to lower a utility's need to install additional capacity; THEREFORE,

IT IS ORDERED:

1. That the Philadelphia Electric Company inform us of its decision to suspend or cancel construction at Limerick Unit 2, in light of the conclusions of this Opinion and Order, within 120 days of the entry of this Opinion and Order and provide an explanation thereof.

2. That the Philadelphia Electric Company pursue an aggressive conservation program designed to substantially offset the suspension or cancellation of Limerick Unit 2 in consultation with our Bureau of Conservation, Economics and Energy Planning. The Company shall submit

an initial conservation program plan within 120 days of the entry of this Opinion and Order.

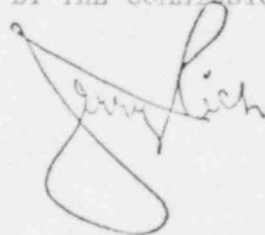
3. That the Secretary immediately open an investigation docket the purpose of which is to develop a Commission policy, applicable to all electric utilities, whereby regulatory incentives would be afforded to any cost-effective conservation inducing investment designed to lower a utility's need to install additional capacity.

4. That at a minimum the aforementioned investigation should address: conservation financing programs for residential and small commercial customers, joint customer/company financed alternate supply projects, rate induced or company controlled load management programs with corresponding investment programs, appropriate company informational activities required to support the company's programs, any necessary changes in existing service regulations in order to ensure efficient utilization of electricity, and any legislation which may be necessary to implement or enhance conservation or provide alternative supply opportunities.

5. That the Secretary invite all interested electric utilities or other parties to participate and direct the Commission's Bureau of Conservation, Economics and Energy Planning to actively participate in the investigation.

6. That the Initial Decision of Administrative Law Judge Joseph Klovekorn is adopted to the extent consistent with this Opinion and Order.

BY THE COMMISSION,



Jerry Rich
Secretary

(SEAL)

ORDER ADOPTED: May 7, 1982

ORDER ENTERED: August 27, 1982

PENNSYLVANIA PUBLIC UTILITY COMMISSION, et al.
V.
PHILADELPHIA ELECTRIC COMPANY
R-811626

Limerick Nuclear Generating Station Investigation

CONCURRING OPINION OF COMMISSIONER JAMES H. CAWLEY

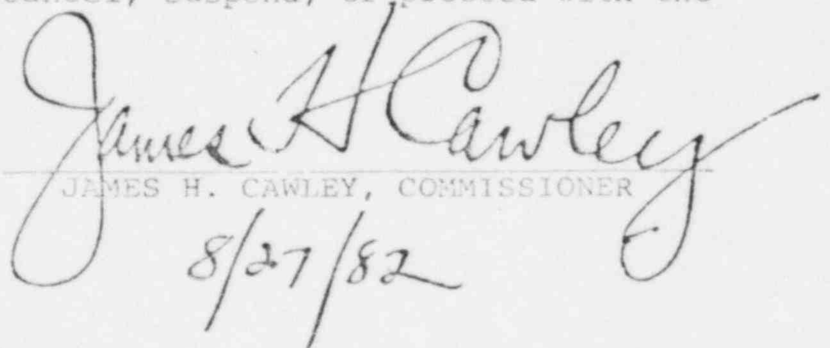
I supported the Chairman's motion in this case, the intent of which is carried out in this Order, but I feel compelled to express my misgivings about this action.

I believe that if we were to base our determination in this proceeding strictly upon the record evidence, this Commission should have reached the same conclusion as the Administrative Law Judge. At page 245 of his Recommended Decision the Judge states, "the timely completion of Limerick Units I and II is in the best interests of PECO and its ratepayers." No one knows what the future will bring, but, based upon the information available to us today, there does not appear to be an economical alternative to Limerick.

Unfortunately, we cannot make decisions of this magnitude in a vacuum. The Company's ability to proceed with this project is inextricably linked to the amount of rate relief which it receives. The company has stated on the record here that maintenance of its construction schedule assumes adequate rate allowances.

This Commission, in the Company's last rate case, voted to disallow the Company's claim for major project construction work in progress (CWIP) related to the Limerick Project (my views on the subject of CWIP, as stated in that rate case, are attached hereto as an appendix). By so doing the Commission rejected a significant portion of the Company's total rate increase request.

It would be foolish for this Commission not to consider the potential impact of this disallowance in its deliberations on the Limerick investigation. Likewise, I believe it would be foolish for the Company not to carefully weigh this action in its decision to either cancel, suspend, or proceed with the construction of Unit II.



JAMES H. CAWLEY, COMMISSIONER
8/27/82

PENNSYLVANIA PUBLIC UTILITY COMMISSION, et al.
v.
PHILADELPHIA ELECTRIC COMPANY
R-811626

PRELIMINARY STATEMENT OF COMMISSIONER CAWLEY CONCERNING CONSTRUCTION WORK IN PROGRESS (CWIP):

When discussing the subject of construction work in progress (CWIP), I am reminded of a conversation between California Governor Jerry Brown and Robert Batinovich. Brown was trying to persuade Batinovich to accept a position on the California Public Utilities Commission. As Batinovich recalls it, Brown said, "It's a terrible job. You won't please anybody, but it has to be done and I want you to do it."

Should CWIP be included in an electric utility's rate base?

Using the premise that a primary objective of rate regulation is assuring that utility companies are able to pursue all capital programs necessary to assure reliable electricity supply at a minimum cost, CWIP SHOULD BE CONSIDERED AS ONE OF SEVERAL REGULATORY TOOLS THAT CAN BE USED TO THIS END. A decision on CWIP can only be evaluated in the context of the Commission's entire set of regulatory policies, including policies on allowed rate of return, rate base assessment, suspension periods, etc.

The arguments on both sides of the CWIP issue have matured to a point where new perspectives are infrequent. The opposition of CWIP is generally on the grounds of:

1. INTERGENERATIONAL INEQUITIES--Current consumers should not pay for a plant from which they may not be around to benefit.

2. "USED AND USEFUL" CRITERION--Strict interpr ation of this regulatory principle can lead one to a conclusion that because construction programs are not yet "used and useful" they should not be allowed in the rate base.

3. AVERCH-JOHNSON PHENOMENON--This concept, developed in the early 1960's, maintains that the utilities will invariably seek to overbuild their systems. The financial disincentive of not allowing CWIP in the rate base is seen as counteracting this tendency.

4. ANTI-NUCLEAR AND ANTI-CENTRAL STATION BIAS--Anti-nuclear interests have used the CWIP issue to retard construction of new nuclear plants. The relatively lengthy construction cycles of nuclear power plants make them more subject to problems of inadequate internal cash generation if the utility constructing the plant does not have CWIP in the rate base. This explains much of the opposition to CWIP in jurisdictions with nuclear power plants planned or under construction.

5. CWIP INCREASES RATES--A switch to CWIP on a given system will generally cause rates to rise for some period of time. Although the early rate increases associated with <u>any</u> particular plant will be offset by decreases in subsequent years, this causes CWIP to be perceived as anti-consumer.

For each of these arguments against CWIP there are corresponding arguments in favor of CWIP:

1. NEW CONSTRUCTION SERVES EXISTING RATEPAYERS--The intergenerational inequity and "used and useful" objections to CWIP are generally countered with arguments that the need to meet the power demands of current ratepayers leads to the need for new plants, and, therefore, current ratepayers should shoulder their share of the burden. Others make statistical arguments that the majority of ratepayers will stay on the system through a normal construction cycle.

2. THE AVERCH-JOHNSON PHENOMENON IS NO LONGER APPLICABLE--Even if it did apply in the early 1960's, there is little current credibility to the A-J phenomenon given the current depressed financial condition of the industry.

3. CWIP DOES NOT INCREASE RATES OVER TIME--Even though it can increase rates in the short term, CWIP will not increase rates in the long term or increase the net present value of all future rates paid.

4. INCLUSION OF CWIP LOWERS THE COST OF CAPITAL--This argument augments the point that CWIP does not increase rates on a net present value basis and has been the focus of substantial statistical analysis.

5. CWIP GIVES A MORE "MARKET-LIKE" SIGNAL TO CONSUMERS--With CWIP in the rate base, electricity prices are a closer surrogate to marginal cost pricing in many circumstances. This is an interesting argument in concept, but its validity is a

function of the particular circumstances of any given utility. It is probably most appropriate for utilities which do not have oil and natural gas generation in baseload since this can cause long run marginal cost to be less than average cost.

It is unlikely that these arguments will ever lead to a satisfactory resolution of whether CWIP is innately fair and equitable. It is far more important not to lose sight of the vital issue of how necessary future system expansion will be accomplished. We could better spend our time focusing on whether undue and unnecessary financial constraints are leading us toward a future of insufficient electricity supply and the attendant problems of unnecessarily high electricity prices, unnecessarily high oil consumption and reduced economic growth. These questions transcend the close-in arguments on CWIP that turn on relatively technical points of consumer discount rates and impacts on cost of capital.

If current financial constraints will prevent utilities from making prudent investments in the best interest of ratepayers, the rate regulatory policy must adjust. Clearly, such change is in the best interest of both the consumer and the investor. CWIP is one of several tools that can and should be used to make this judgment.

I believe that an electric utility should finance its construction program without charging current customers for the financing of construction as long as such financing is cost effective. However, in recent years, the costs of construction

programs have increased to the point that continued reliance only on internally generated funds (without CWIP and with a reasonable return on equity), borrowed funds and stock sales, is often unsatisfactory. When this occurs, necessary construction projects are either postponed or the utility's security rating falls, driving borrowing costs up.

When utilities face coverage problems, we are forced to choose between increasing the utility's allowed rate of return to an unrealistically high level or including CWIP (or some portion of CWIP) in the rate base.

Given a need to improve cash flow or coverage, including CWIP in the rate base benefits consumers in two ways, relative to arbitrarily increasing the allowed return on common equity. First, upon completion of the asset, it will be put in the rate base at a lower amount than if AFUDC had been accrued. This should lead to lower future rates. Second, there is an income tax advantage associated with interest payments. Since current ratepayers are providing a return on the CWIP, they should also benefit from any available tax deductions for interest expense.

Alternatively, we could improve an electric utility's financial rating by increasing the overall rate of return. Since the coupon rate on both bonds and preferred stock is fixed, increases in the overall rate of return can only be accomplished by allowing substantial increases in the return on common equity. Allowing unreasonably high returns on common equity violates the regulatory principle that calls for only reasonable returns on invested capital.

To the extent that ratepayers pay financing costs on uncompleted projects, they are paying for assets that are not at that moment used and useful. However, as noted previously, inclusion of CWIP in the rate base may be the best remedy for a cash flow or coverage problem, a cure for which ultimately benefits ratepayers.

The regulatory process works best when all considerations to an issue are weighed. We should not be restricted with mandated requirements. We should have flexibility to rule as circumstances and the record before us dictate.

However, before this regulatory tool can be used with any effectiveness in Pennsylvania, important legislation is needed.

This Commission (or some other appropriate agency) should be given the authority to approve large construction projects at their inception--so-called "certificate of need" legislation.

Then, as the project progresses, periodic re-approvals should be required. A Commonwealth-appointed (and paid) construction engineer should be onsite at all times so that the Commission could be independently assured of the accuracy of completion estimates, the necessity for cost overruns, and the like.

As the <u>quid pro quo</u>, the utility would be permitted a percentage of CWIP depending on the percentage of construction completed.

Projects presently underway would require special treatment.

This proposal has several advantages.

<u>The principal point is this: It is in everyone's best interest to complete needed plant as quickly as possible in times of inflation</u>.

Investor capital (if the project is not to be entirely financed with CWIP, which is probably the more prudent course) will be more easily obtained at lower cost if ratepayers demonstrate financial resolve to speed completion of the project.

If CWIP is utilized, less money will be borrowed and therefore less interest will be paid.

When the plant is completed and allowed in rate base, its value for purposes of return <u>on</u> the investment will be far less, as will the returns <u>of</u> the investment (depreciation expense) and tax expense.

<u>In short, there will not be the sudden and dramatic jump in rates as presently occurs when the actual construction costs plus accumulated and compounded carrying charges go into the rate base upon completion of a project</u>.

Perhaps most importantly, if, because of a decline in growth or customer usage, or because of a lack of Nuclear Regulatory Commission approval, or because of many other unforeseen difficulties, the plant is no longer needed or capable of operating, this proposal would detect such an eventuality sooner in order to stop, postpone, or end the project before any more money is poured into it.

Thoughtful consideration to the details of this proposal is required, and legislative hearings before drafting legislation is essential. This would provide an opportunity for comments and suggestions from interested parties.

Unless this kind of legislation is forthcoming, I cannot support CWIP for major project construction, even though I firmly believe that CWIP can be very beneficial to ratepayers and utilities alike.

As was said in a utility regulation treatise in 1941: "It should be borne in mind, by those in charge of the administration of the laws, that the course which may be popular at the moment may be neither just nor for the best interest of the public in the long run."

For these reasons, my position is this:

1. Whenever their financial position permits, we should require utilities to finance construction programs without the inclusion of CWIP in rate base.

2. However, when the use of these traditional financing methods creates severe financial problems for a utility, proposals to include some CWIP in the rate base--without corresponding offsets for AFUDC--should not be rejected out of hand. However, certificate of need/CWIP legislation must exist before major project CWIP can be utilized in order to mitigate or prevent financial calamity.

3. In instances where a utility cannot meet financial tests without including a portion of CWIP or being allowed an

inordinately high rate of return, it is preferable to include some CWIP in the rate base without AFUDC offsets.

4. CWIP should not be used as a technique to cure all utility ills, but rather should be applied judiciously in concert with a determination of a realistic rate of return on equity. Rates should be designed and perform so that a utility can maintain its bond rating and be able to sell common stock without dilution of the ownership of present stockholders (meaning the market/book ratio of the company's shares must equal at least 1; if the shares are selling for less than the book value of a share, the ratio will be less than 1).

5. Utility ratemaking practices should not be adopted that would tend to absolve utility management from pursuing improvements in performance. It is the responsibility of utility management to pursue construction project completion and general operations in an effective, efficient manner.

6. Statues should not be enacted that prescribe the ratemaking treatment of CWIP for utilities. CWIP treatment should remain a matter of regulatory discretion, which should not be foreclosed by legislation.

May 7, 1982

Release Date: May 7, 1982

Public Meeting Date: May 7, 1982

OPINION OF COMMISSIONERLINDA C. TALIAFERRO

I-80100341 - LIMERICK NUCLEAR GENERATING STATION INVESTIGATION

When I began my term as a Commissioner, I was given some advice, namely, to never compromise principles but where and if necessary, to compromise only on questions of tactics.

One of the principles in which I strongly believe is maintaining the integrity of the administrative process and procedural safeguards followed by this Commission for our investigations, and rate cases, and rulemaking procedures, and informal investigations. All of these proceedings are done in accordance with publicly available, published rules and regulations which are largely modeled upon the practices of the Judiciary.

The controversy presently surrounding this investigation into Limerick is, in my view, largely still a reflection of strong feelings existing in this State as in other parts of this Nation about using nuclear power to generate electricity. As I see it, this is primarily because of most people's safety-related questions or concerns. The feelings run strong for both the Pro as well as the Anti-nuclear positions. However, the safety question or questions are not before this Commission -- can not legally be reviewed and ruled upon by this Commission and, properly, were not addressed by the Administrative Law Judge. Nor shall I address such issues. The "jury" for these pressing question(s) concerning nuclear safety and reliability, namely -- the NRC and the U.S. Congress, are still

out . . . debating. I join many of you in wishing that this Country could get on with the business of doing something about these questions, rather than debating.

However, be that as it may, I set aside the safety-related questions to only focus on the issue before this Commission as a result of our initiated investigation into Limerick. The questions this Commission asked are spelled out on pages one through three of the Initial Decision. As usual, all interested groups were free to participate in this investigation, to have their say regardless of age, race, creed, financial status. Several thousand pages of transcript and documents exchanged hands among parties, were reviewed by them and our Administrative Law Judge, Joseph Klovekorn.

The hearings for this investigation into Limerick Station were conducted by one of the best Administrative Law Judges at the PUC. His opinion has been written and the record he compiled I have reviewed. Beginning at page 30 of that Decision and continuing as on page 54, and at page 70 and at page 147 and again at page 153, 154, 155, this Administrative Law Judge answers each question carefully, thoughtfully, reasonably.

I have reviewed his answers and I hope both he and I are proven wrong -- I really do. But I can find no legal reason to arbitrarily set aside his decision, developed carefully and in accordance with the existing regulatory law, rules and procedures. Therefore, while I can support wholeheartedly paragraph six of the motion and do vote "yes" as to that part, I cannot support paragraphs 1-4, and I cannot do so for the following reasons:

AS TO MOTION PARAGRAPH 1

The United States Supreme Court has long established the legal guidelines, which are consistent with relevant, applicable economic principles. I am referring to the Hope and Bluefield cases[1/] which spelled out that the criteria of reasonableness to be followed and applied by State Public Utility Commissions requires that the returns allowed to utility equity owners be sufficient:

> -- to maintain the credit of the enterprise and confidence in its financial integrity;
>
> -- to permit the enterprise to attract the required capital on reasonable terms; and
>
> -- to provide the enterprise and its investors an opportunity to earn a return on the value of the property used and useful in providing the utility service commensurate with the returns available on investments in other enterprises having corresponding risks.

The three tests telling independent utility regulatory bodies what we must do are all interrelated and stand in direct contradiction to line one, paragraph one of the Motion which says ". . . particularly the Commission's inability and unwillingness to provide necessary revenues to complete both units . . . ." In my opinion this could clearly be viewed as to constitute a basis for reversible error by the Courts; let alone to be against our oath of office.

1/ FPC v. Hope Natural Gas Co., 320 US 591, 88 L.Ed 333; 51 PUC (NS) 192, 200, 201 (1944).
Bluefield Water Works & Improvement Co. v. West Virginia Public Service Commission, 262 US 679, 692-3, 67 L.Ed 1176, PUC 1923D 20-21.

AS TO MOTION PARAGRAPH 2

In my view, there is little dispute as to the proper treatment to be accorded by this Commission for all sunk costs associated therewith. I refer particularly to the Initial Decision of the Administrative Law Judge at pages 202-209, wherein the strong position of the Consumer Advocate's Office on these points is closely scrutinized.

The ALJ says:

> The carrying costs associated with sunk investment are not avoided or made to disappear simply because (this) Commission non-recognition upon Limerick termination.
>
> As the OCA witness, Mr. Czahar stated these costs are very substantial and very real. (TR 3495).
>
> If not recognized in the revenue requirement analysis, these costs are simply as borne by the investors. However, the Commission is obligated, both under PA statute law and the Federal Constitution, to consider the interests of investors as well as those of rate payers. Commission action (see Motion Paragraph 1) which would threaten a utility's financial integrity as would, . . . disallowance of carrying costs on sunk investment . . . would not be in the public interest.

As to the sunk costs themselves, at p. 208 the ALJ shows how the Consumer Advocate's own position is pierced by the Consumer Advocate's own expert witness' words taken from the transcript at (TR 2111-2113).

Finally, there is the additional comparison developed by OCA's Expert Witness which established that when one compared the revenue requirements necessary for completing both Units I and II

and even OCA assumed the inclusion of an allowance of 60% CWIP for the 1982-86 period, with the 1979 present revenue requirements for only completing Unit I. (Schedule E, OCA Statement 2-B). The results were $22,340 and $22,341, respectively. Translated into plain English, the total revenue requirements are approximately equal. So, in my view, anyone who has the mistaken impression that cancellation saves ratepayers or investors money, or is in any way an economic advantage to someone is, in my view, mistaken. However, I can hope that I am proven wrong. For all Pennsylvania ratepayers of any PA utility, I hope that I am wrong.

AS TO MOTION PARAGRAPH 3

As for this paragraph, in my view, it is redundant, merely restating the obvious fact that if Unit II is suspended, no new securities for it will be needed. However, the AFUDC -- so-called "funny money" to investors continues to accrue.

For the above reasons, I dissent from Paragraphs 1-3 but I support paragraph 6 of the Motion.

Commissioner