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

May 14, 1986

IN REPLY PLEASE REFER TO OUR FILE
R-850152
R-850152C001
through
R-850152C014

To All Parties

Pennsylvania Public Utility Commission
v.
Philadelphia Electric Company

DOCUMENT
FOLDER

TO WHOM IT MAY CONCERN:

Enclosed is a copy of the Recommended Decision prepared by Administrative Law Judge Joseph P. Matuschak.

An original and nine (9) copies of signed exceptions to the decision, if any, MUST BE FILED WITH THE SECRETARY OF THE COMMISSION IN ROOM B-18, NORTH OFFICE BUILDING, NORTH STREET AND COMMONWEALTH AVENUE, HARRISBURG, PA OR MAILED TO P.O. BOX 3265, HARRISBURG, PA 17120 and a copy served on each party of record on or before May 23, 1986. The signed exceptions will be deemed filed on the date actually received by the Secretary of the Commission.

Replies to exceptions, if any, must be served on the Secretary of the Commission, in the manner described above, on or before May 30, 1986.

Exceptions and reply exceptions shall obey 52 Pa. Code 5,533 and 5.535, particularly the 40 page limit for exceptions and the 25 page limit for replies to exceptions. Exceptions should be clearly labeled as "EXCEPTIONS OF (name of party) - (protestant, complainant, staff, etc.)".

Any reference to specific sections of the Administrative Law Judge's Recommended Decision shall include the page number(s) of the cited section of the decision.

All timely filed exceptions and replies thereto will be attached to the decision for consideration at Public Meeting. Late filed exceptions and late filed replies will not be attached.

ALJ Matuschak, Office of ALJ, Bureau of Rates, Law Bureau, Chairman, Commissioners, Mr. Bramson, OSA, Our File, Correspondence

William H. Smith
William H. Smith
Chief Administrative Law Judge

lg/JZ
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BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	R-850152
Philadelphia Area Industrial Energy Users Group (a)	R-850152C001
David M. Barasch, Consumer Advocate	R-850152C002
Consumer Education and Protective Association, International, Inc.	R-850152C003
United States General Services Administration	R-850152C004
City of Philadelphia	R-850152C005
Utility Users Committee of Philadelphia, Inc. and Board of Trustees of The University of Pennsylvania	R-850152C006
National Railroad Passenger Corporation	R-850152C007
Southeastern Pennsylvania Transportation Authority	R-850152C008
Pennsylvania Business Utility Users Group (b)	R-850152C009
SAGE (Senior Action Group Endeavor)	R-850152C010
Temple University - of Commonwealth System of Higher Education (c)	R-850152C011
Pennsylvania Food Merchants Association	R-850152C012
United State Steel Corporation	R-850152C013
Pennsylvania Energy Ratepayers Coalition, Institute for the Study of Civil Values, Krestin Dawkins and Gwen Stallsworth	R-850152C014
v.	
Philadelphia Electric Company	

Governor's Energy Council - Intervenor
Occidental Chemical Corporation - Intervenor
Scott Paper Company - Intervenor

(a) Allied Fibers & Plastics
Boeing-Vertol Company
BP Oil, Inc.
Budd Company - The Hunting Park Plant

Liquid Air Corporation
Lukens Steel Company
Babisco, Inc.
SDC/A Burroughs Company
Smith Kline Beckman Corporation
Sun Refining and Marketing Company
3 M Company
Wyeth Laboratories

(b) Sears, Roebuck & Co.
John Wanamaker, Philadelphia
J. C. Penney Company, Inc.
Gimbels Brothers, Inc.
Marshalls, Inc.

(c) Temple University
Bryn Mawr College
Gwynedd-Mercy College
Haverford College
Lincoln University
Medical College of Pennsylvania
Philadelphia College of Art
Philadelphia College of Pharmacy and Science
Philadelphia College of Textiles and Science
Rosemont College
Saint Joseph's University
Swathmore College
Villanova University
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For: Occidental Chemical Corporation

Stephen Bosch
For: Temple University, et al.

Nancy Shuster
For: SAGE (Senior Action Group Endeavor)

TABLE OF CONTENTS

TABLE OF CONTENTS

TABLE OF CONTENTS

RECOMMENDED DECISION

Before

Joseph P. Matuschak
Administrative Law Judge

I. HISTORY OF THE PROCEEDING

On September 27, 1985 Philadelphia Electric Company (PECO or Company) filed Supplement No. 15 to its Tariff Electric - Pa. P.U.C. No. 26 to become effective November 27, 1985. Supplement No. 15 is designed to produce an increase in the Company's annual electric revenue of approximately $670.7 million or 28.2% of test year revenues, based on budget sales for a future test year ending June 30, 1986.

The proposed net increase of $670.7 million is comprised of two components - an $878.2 million increase in rates to reflect additional plant in service and increased operating expenses, and a $207.5 million rate decrease to reflect the reduction in energy costs occasioned by the operation of Limerick Unit No. 1 (Limerick 1) if it operated at a certain capacity level. Limerick 1 is one unit of a nuclear electric generating station composed of Limerick 1 and Limerick 2. Limerick 1 went into actual commercial operation in February 1986. Limerick No. 2 is still under construction. A Common Plant will be utilized by both units.

Absent the projected performance by Limerick 1, the estimated savings would not materialize, or, if the performance was greater than projected, the savings could be greater. In any event, however, the savings are not guaranteed by PECO.

By its order dated November 1, 1985 the Commission directed that an investigation be held to determine the lawfulness, justness and reasonableness of the proposed rates and existing rates. Supplement No. 15 was suspended by operation of law for the seven month period under 66 Pa. C.S. §1308(d), or to June 27, 1986. The matter was thereafter assigned to us for hearings and issuance of a Recommended Decision.

A total of 14 Complaints were filed against the proposed rates, which Complaints were consolidated with the Commission's investigation for hearing and decision purposes.

Commission Trial Staff (Trial Staff) filed its Notice of Appearance and Intention to Participate on November 5, 1985.

Petitions to intervene were received on behalf of the Governor's Energy Council, Occidental Chemical Corporation and Scott Paper Company, and such petitions were granted.

A Prehearing Conference attended by all active parties was held before us on December 3, 1985.

Four public-input sessions were held in the Company's service territory. In addition, a total of 33 days of hearings were held in Philadelphia and Harrisburg, producing 5200 pages of transcripts and 217 exhibits.

An extensive discovery period was conducted in this proceeding. In total, approximately 1,380 data requests and interrogatories were propounded to PECO. Over 100 written statements comprising direct, rebuttal, surrebuttal and sur-surrebuttal testimony and exhibits prepared by 38 witnesses were submitted by PECO during the course of this proceeding. Opposing parties submitted 76 written statements and exhibits presented by 41 witnesses. The record was officially closed on March 17, 1986.

Briefs and Reply Briefs were submitted by PECO, Trial Staff, David M. Barasch, Consumer Advocate (OCA), City of Philadelphia, Philadelphia Area Industrial Energy Users Group (PAIEUG), Governor's Energy Council (GEC), Utility Users Committee and University of Pennsylvania (UUC/UP), Pennsylvania Business Utility Users Group (PBUUG), Consumers Education and Protective Association (CEPA), United States General Services Administration (GSA), National Railroad Passenger Corporation (AMTRAK), Southeastern Pennsylvania Transportation Authority (SEPTA), and United States Steel Corporation (U.S. Steel).

II. THE COMPANY

Philadelphia Electric Company is an operating utility which provides electricity, gas and steam service to the public in southeastern Pennsylvania and to certain portions of northeastern Maryland through a subsidiary - Conowingo Power Company.

The total area served by the Company and subsidiaries covers 2,475 square miles. PECO's Pennsylvania electric service territory includes all or substantially all of Philadelphia, Montgomery, Bucks, Delaware and Chester counties and a portion of York County. Electric service is supplied in an area of 2,340 square miles with a population of approximately 3,700,000, including 1,700,000 in the City of Philadelphia. Approximately 95% of the electric service and 63% of the retail kilowatt hour sales are in the Philadelphia suburbs and in northeastern Maryland, and 5% of the service area and 37% of such sales are in the City of Philadelphia.

As of June 30, 1985, the Philadelphia Electric Company had 1,340,153 electric customers.

PECO's electric transmission system consists of 12 generating stations, of which 8 are wholly owned, plus combustion turbines, about 1100 miles of transmission lines at 65 kv volts or higher, and about 27,000 miles of distribution lines of 33 kv volts or lower. The system includes many substations and general facilities necessary for the supply of electric service. The PECO system generating capacity as of April 1, 1986 is 7858 MW.

In addition to operating its own system, PECO is a member of the Pennsylvania - New Jersey - Maryland (PJM) Interconnection, consisting of eleven operating companies in Pennsylvania, New Jersey, Maryland, Delaware and the District of Columbia, which pools resources to achieve the benefits of reliable and economical operation.

III. INTRODUCTION

In this proceeding, Philadelphia Electric Company has proposed in its Supplement No. 15 the largest single request for base rate increase by a Pennsylvania jurisdictional utility in the history of the Commonwealth.

It goes without saying that the magnitude of the proposed rate increase, the immense record and the number of presentations, the complex issues over and above those usually addressed in a traditional rate case, and the conflicting positions taken by the parties on those issues -- with limited time for resolution -- requires our involvement greatly beyond the confines of the usual rate case.

And yet, by maintaining the proper perspective and by focusing upon the guiding light of establishing a fair and reasonable result with the proper balance between the interests of the Company and its customers and investors, our task is eased and our resolution of the issues becomes clearer.

We have attempted to meet the major issues with some sense of priority. Even where some adjustments may, under proper circumstances, bear merit, we must treat each proposed adjustment in its relation to its overall effect upon the financial stability of the Company and upon adequate electric service to the consumers. Singularly, an adjustment may pose no problem; in combination with other adjustments, it may tilt the scales into an excessive burden upon the Company or undue risk to safe and adequate service to the consumers. Proper and adequate electric service to 1,340,153 customers imposes a responsibility upon us all.

A. Effect of Limerick 1

The huge rate increase request is primarily based on the proposed inclusion of Limerick 1 and 100% of Common Plant at a cost of $3.82 billion as an addition to PECO's rate base. Since the rate base submitted by the Company is $6.9 billion, Limerick 1 and 100% of Common Plant represents roughly 55% of the requested rate base total.

B. PECO's Reasons for Rate Increase Request

PECO submits two principal reasons for the revenue increase requested in this proceeding:

(1) To reflect the increase capital and operating costs, and decreased energy production costs associated with the Limerick Nuclear Generating Station Unit 1 (Limerick 1) and 100% of Common Plant; and

(2) To maintain the Company's minimally accepted financial condition, which if allowed to deteriorate, could jeopardize the ability to provide adequate and reliable service at reasonable cost.

The Company asserts that its proposed rate increase achieves an equitable balance of the interests of PECO ratepayers and shareholders. It states that its principal objective is to provide reliable service to its customers at a reasonable cost, while at the same time, properly compensating its investors. It insists that in order to achieve this goal, the Company must maintain a level of financial integrity that will allow it to attract capital at a reasonable cost in the marketplace to finance plant additions and replacements required to provide continued reliable and economic service.

C. Phase-In of Proposed Rate Increase

In order to ameliorate the impact of the proposed 28.2% rate increase, and to prevent "rate shock", the Company has voluntarily proposed to phase-in the total requested rate increase over three years.

The Company's phase-in proposal provides for a three-step phase-in of the rate increase. Each step would increase rates by approximately 9.4% or $223.6 million, so that the total increase of 28.2% or $670.7 million will be billed by the third year after the rate increase is granted. The amount of revenue not billed during the first two years of the phase-in would be collected over a three-year "phase-out" period beginning in the fourth year and continuing through the fifth and sixth years. The Company does not seek any recovery of the approximately $250 million carrying charges resulting from the deferral of revenue collection over the life of the plan. (PECO St. 17, pp. 5-6).

D. Stay-Out Proposal of PECO

PECO intends not to request an additional base rate increase before September 27, 1987, unless, in the Company's judgment, a failure to file such a request would jeopardize its financial integrity.

E. Comparison of Rate Increase Recommended

There is no consensus in the amount of the rate increase recommended:

- PECO requests an increase in base rates of $670.7 million.
- OCA submits the PECO is entitled to a rate increase of not more than $136 million.
- Trial Staff recommends that PECO's requested rate increase of $670.7 million (net) be denied in its entirety by the Commission, and that the level of currently permitted revenues by reduced be $369,000.
- PAIEUG recommends a $404 million increase in PECO's base rates, which "increase may be reduced if the Commission finds that its imprudence finding in the initial Limerick 1 investigation requires the exclusion of additional costs from being forced on PECO's ratepayers."
- PBUUG does not disagree with the proposition that PECO requires rate relief in order to integrate Limerick 1 into its inventory of operational generating plants.
- U. S. Steel supports a $404 million rate increase over six years.
- GEC recommends a rate increase of $205 million, or 30% of the Company's request.

IV. TEST YEAR

The use of a "test year" in a rate proceeding provides a basis to examine as accurately as possible a utility's rate base, revenues and expenses for the future period during which any modified rates will be in effect. Such a determination assists the Commission in establishing the lowest reasonable rates consistent with providing the utility a reasonable opportunity to earn a fair return on its investment to compensate its investors.

It is essential that the rates authorized be predicated upon a normal volume and reasonable cost of operation to show the revenue requirements of the utility during the period when the proposed rates will be effective. The test year concept assumes that the operating results during the test period are sufficiently representative of the time in which the new rates will be in effect, to provide a reliable testing vehicle for new rates.

Test year revenue and expense data, however, may not always provide a suitable basis for determining rates. Because of abnormal operating conditions, such as unusual weather conditions, strikes, a typical equipment outage or expenses, etc., the test year's revenues or expenses, or both, may not reliably reflect normal conditions. In such cases, where the test results are unrepresentative, appropriate adjustments must be made to correct the defects.

Pursuant to Section 315 of the Public Utility Code, 66 Pa. C.S. 315, and this Commission's regulation at 52 Pa. Code §3.271 governing the use of a future test year, PECO predicated its base rate increase request on a future test year ending June 30, 1986, fully normalized to the level of operations at the end of that test year, and reflecting the latest information available as of the final hearing day.

V. BURDEN OF PROOF

The burden of proof in this proceeding is placed upon PECO, pursuant to Section 315(a), of the Public Utility Code, 66 Pa. C.S. 315(a), which states:

> Sec. 315. Burden of proof.
>
> (a) Reasonableness of rates. -- In any proceeding upon the motion of the commission, involving any proposed or existing rates of any public utility, or in any proceeding upon complaint involving any proposed increase in rates, the burden of proof to show that the rate involved is just and reasonable shall be upon the public utility. The commission shall give to the hearing and decision of any such proceeding preference over all other proceedings, and decide the same as speedily as possible.

On July 6, 1984, the Public Utility Code was amended to include the following provision:

> Sec. 1308. Voluntary changes in rates.
>
> * * *
>
> (f) Limitation on rate increases by certain public utilities. -- Whenever there is filed with the commission any tariff stating a new rate based in whole or in part on the cost of constructing an electric generating unit, the commission shall compare the estimated construction cost filed in accordance with section 515(a) (relating to construction cost of electric generating units) with the actual construction cost submitted by the utility in support of the tariff. If the actual construction cost exceeds the estimated construction cost, the rate determined by the commission under this section shall

> not be based on any part of that excess unless the public utility proves that part of the excess to have been necessary and proper. In making its determination under this subsection, the commission shall consider all relevant and material evidence, including evidence obtained pursuant to section 515. For purposes of this subsection "construction" includes any work performed on an electric generating unit which required, or is expected to require, the affected public utility to incur an aggregate of at least $100,000,000 of expenses which, in accordance with generally accepted accounting principles, are capital expenses and not operating or maintenance expenses.
>
> 66 Pa. C.S.A. 1308(f)

Thus, the Public Utility Code places the burden of showing that the proposed rate increase establishes rates that are just and reasonable squarely on the utility, and the evidence adduced by the utility must be substantial. Lower Frederick Township Water Co. v. Pa. P.U.C., 48 Pa. Cmwlth Ct. 222, 409 A.2d 505 (1980). This burden of proof does not shift at any point to another party. Berner v. Pa. P.U.C., 382 Pa. 622, 116 A.2d 738 (1955); Pa. P.U.C. v. Laurel Pipe Line Co., 29 Pa. Cmwlth Ct. 351, 370 A.2d 1252 (1977).

As in all rate proceedings, PECO has been given the opportunity to present evidence in meeting its burden to show that its proposed rates are lawful, just and reasonable. It is upon such evidence, together with all other evidence presented, that we must determine whether PECO has met its burden on the various issues involved.

VI. THE FULL CIRCLE

We have come the full circle . . .

In Pa. P.U.C. v. Philadelphia Electric Co., R.I.D. 438 (1978), we said in our Recommended Decision, in discussing the propriety of the Company's delays in the construction of Limerick No. 1 and No. 2 from 1983 and 1985, respectively, to 1985 and 1987.

> . . . Further, Limerick cannot entirely be excluded from consideration of the overall needs of the Company.
>
> * * *
>
> Cross-examination established that the delay in the completion of these units would increase the cost to the Company's customers in the sum of $1,600,000,000 over their projected life span.
>
> The Company explained that it was delaying completion of these projects for two years because of its recently lowered projected growth rate of energy and peak load from 5 per cent to 3 per cent per year, so that Limerick is not required for its reserve margins until 1985-87. By the testimony of its witness, Joseph F. Paquette, Jr., it contended that such delay would reduce construction spending by $270 million over the next three years, and that the overall effect would benefit its customers in the short run.
>
> Complainants urge that such delay is costly to the ratepayers, and suggest that they intend to object in subsequent rate proceedings to the inclusion of the cost engendered by such delay.
>
> In our view, if such delay is to be questioned, then in fairness to the Company, to its investors and to its customers, such question should be raised and resolved now, before the delay is implemented. Once the additional cost is incurred, this Commission's recourse is limited, and the customers' interests will not be adequately protected. On the

other hand, if the investors are not to be credited with such additional expense in the ratemaking process, they should now be informed.

We recommend to the Commission, therefore, that it fully develop the prudence and the consequences of such proposed delay, to the end that a determination of the propriety and effect of such delay may be made "before the fact."

[Mimeo, pp. 148-150]

VII. LIMERICK 1

The Limerick Generating Station is situated on an approximately 600 acre site, the major portion of which is located in Limerick Township, Montgomery County. It consists of two 1055 Megawatts (MW) turbine generator units, each of which operates at 1,800 rpm and is served by its own nuclear steam supply system - a single cycle, forced circulation, boiling water reactor system (BWR). In a BWR, the heat from nuclear fission causes water to boil, turning it to steam which flows directly to the turbine. The turbine spins a generator where a magnetic field, spinning inside huge coils to wire, produces electricity. Leaving the turbine, the spent steam passes into a condenser where it is cooled and changed back into water. Pumps return the water to the reactor and the cycle begins again.

The Company decided to build the Limerick Station as a base load unit in the late 1960's. In January 1971, the Commission entered an order granting the Company's application for a finding of necessity for the siting of the plant on the east bank of the Schuylkill River. A construction permit was issued for the plant in 1974.

The Company announced deferrals in the completion of the Limerick Station in 1974, 1976 and 1978.

PECO submitted an application for an operating license for Limerick 1 in March 1981. After protracted hearings, the Nuclear Regulatory Commission (NRC) issued a full power operating license for Limerick 1 on August 8, 1985.

Limerick 1 entered into commercial operation in February 1986.

VIII. RATE BASE

The rate base is defined as the dollar amount of a utility investment in the utility property that is determined by the Commission to be "used and useful" in supplying the service that the utility has undertaken to furnish. Usually, the largest single item in a utility's rate base is its investment in plant, less accrued depreciation, although other items may be included.

From such utility investment are deducted such matters as deferred taxes, deferred investment tax credits, customer contributions and advances, and the like, which the utility can use to meet its capital needs.

In many cases, a cash working capital allowance is permitted to be included in the rate base where the investors have provided additional funds for working capital purposes. This follows from the fact that utilities, like other substantial business enterprises, need cash to meet current expenses of operation until payments from customers for services rendered have been received, and at the same time maintain a sufficient bank balance. This necessity, however, does not justify placing cash working capital in the rate base and saddling ratepayers with the cost of providing such funds unless it can be shown clearly that these cash requirements have been supplied by utility investors. Otherwise, there should not be a rate base allowance for cash working capital.

Additionally, investment by the utility in fuel stock, supplies and materials, and such other items as the Commission may allow are generally included in the rate base.

In the process of setting rates, the rate base figure, when multiplied by the rate of return, produces the allowed revenues which a utility must be afforded the opportunity to achieve.

PECO's claimed measure of value for its electric and allocated common plant at June 30, 1986 is based on original cost less depreciation in accordance with Commission practice permissible under applicable Pennsylvania law. Pa. P.U.C. v. Pennsylvania Gas and Water Company, 492 Pa. 326, 424 A.2d 1213 (1980); Pa P.U.C. v. Carnegie Natural Gas Company, 54 Pa. P.U.C. 381 (1980). We adopt the original cost measure of value basis in determining fair value.

In this connection, PECO claims a rate base investment level of \$6,943,888,000. In contrast, the OCA recommends a rate base for PECO of \$5,578,739,000; Trial Staff recommends a rate base of \$5,349,558,000; and GEC recommends a rate base of \$5,578,739,000.

A. Salem 1 Imprudence Findings

In the PECO rate case at R.I.D. 438, the Commission found imprudence on the part of the Company in the construction of Salem Nuclear Generating Station No. 1. The Commission reduced PECO's rate base claim in that proceeding by \$10.5 million to reflect its findings. The Commission reaffirmed its findings and the reduction in the Company's rate proceedings at R-79060865 and R-80061225 and determined that its prior conclusions were res judicata.

On appeal of R.I.D. 438, the Commonwealth Court affirmed the Commission's conclusion that its decision was res judicata but reversed the Commission on the amount of the reduction. On remand the Commission reaffirmed the imprudence aspect of its decision but reduced its original rate base disallowance from $10.5 million to $5.9 million.

In each case subsequent to the remand order the Commission has adjusted PECO's rate base claim to reflect the Commission's findings. Pa. P.U.C. v. Philadelphia Electric Co., R-822291 (1983) and Pa. P.U.C. v. Philadelphia Electric Co., R-842590 (1985).

In this proceeding, the Company has not made the appropriate rate base reduction to reflect the original findings.

Both Trial Staff and OCA submit that consistent with prior Commission decisions, PECO's rate base should be reduced to reflect the finding of imprudence in the construction of Salem Unit No. 1.

While the Company continues to believe that this adjustment is in error, it admits that such adjustment is consistent with adjustments approved by the Commission in PECO's last six electric rate proceedings. PECO's witness Hill stated that the remaining amount of this reduction as of June 30, 1986 is $4,379,899. (Tr. 466, OCA Ex. 26).

Both Trial Staff and OCA recommend a reduction on this account by $4,380,000.

We find that the contentions of Trial Staff and OCA are correct, and we reduce PECO's rate base on this account by $4,380,000.

B. Limerick Common Plant

The Company's rate base claim includes 100 percent of Limerick Common Plant (to serve Limerick 1 and Limerick 2), which represents approximately $139 million of the Company's requested increase in this proceeding.

An allowance in rates of 50 percent of the Limerick common facilities, instead of the 100 percent requested by PECO, has the effect of reducing the Company's plant-in-service in rate base by $639,512,000. (OCA St. 7A, Rev. Sch TEK-4).

PECO claims support for its inclusion in rate base of 100 percent of the Limerick common plant on the ground that such Company's investment in common plant is used and useful in providing service to PECO ratepayers, for the following reasons:

1. The use of common plant at Limerick was a prudent and reasonable decision which will produce substantial cost savings to PECO ratepayers;

2. The construction and completion of the common plant was required both for the operation of Limerick 1 and for the efficient and cost effective completion of the plant; and

3. The inclusion of 100% of common plant in rate base will reduce the total cost of Limerick station.

(PECO St. 1, pp. 26-27)

PECO further supports its 100% inclusion of Limerick common plant in rate base at this time on the basis that 92% of the costs of Limerick common plant would have been required solely for Limerick 1 and is currently providing service to PECO customers. (PECO St. 1, pp. 28-29).

While PECO recognizes that the Commission has allowed only 50% of common plant in rate base with the first plant in several cases, it asserts that the Commission has never articulated any substantial basis for its decisions, relying instead on its prior decisions as its _ratio decidendi_.

Trial Staff, OCA, PAIEUG, U. S. Steel and GEC recommend disallowance of 50% of common plant in rate base.

The Commission's practice since _Pa. P.U.C. v. Philadelphia Electric Co._, R.I.D. 129 (1975) has rejected all claims for 100% common plant in rate base with the first unit. And since _Pa. P.U.C. v. Metropolitan Edison Co._, 50 Pa. P.U.C. 82, 100 (1976) the Commission has reasoned that the second half of common facilities were "property not used and useful in rendering electric service until such time as the second unit goes into commercial operation." The Commission, however, did permit the utility to accrue AFUDC on the second half of common plant until the second unit entered commercial operations, which policy the Commission has retained. See also: _Pa. P.U.C. v. Duquesne Light Co._, 52 Pa. P.U.C. 552, 27 PUR 4th 555 (1978); _Pa. P.U.C. v. Duquesne Light Co._, 54 Pa. P.U.C. 695, 43 PUR 4th 27 (1981); _Pa. P.U.C. v. Philadelphia Electric Co._, 52 Pa. P.U.C. 511, 32 PUR 4th 245 (1977).

When Pennsylvania utilities remaining nuclear plants -- Salem and Susquehanna -- were proposed for inclusion in rates, the utilities recognized this Commission's clear policy and requested the inclusion into rates of 50% of the common facilities with the first unit. _Pa. P.U.C. v. Philadelphia Electric Co._, 52 Pa. P.U.C. 772, 31 PUR 4th (1978) (Salem); _Pa. P.U.C. v. Pennsylvania Power and Light Co._, 57 Pa. P.U.C. 559 (1983) (Susquehanna).

When PECO proposed inclusion in its Pennsylvania jurisdictional rates of 50% of the Salem common plant, PECO provided the following rationale for this policy (including the accrual of AFUDC on the second half of common) to the Federal Power Commission with respect to FPC accounting:

> We believe that the above described accounting is proper for the Philadelphia Electric Company because it provides a better matching of costs and revenues and because it also meets the economic objective of allocating large common costs in proportion to savings and benefits of sequentially installed units.
>
> (OCA Ex. 70, Tr. 1519)

We agree with the OCA and the other parties opposing the allowance of 100% of common plant with the first unit, as explained by PECO to the Federal Power Commission, that the allowance of 50% common plant continues to be appropriate.

PECO argues, however, that Limerick is somehow different from other nuclear plants in which the Commission has denied utility attempts to include more than 50% of common plant in rate base with the first unit. It states that 92% of Limerick's common plant will be used with Limerick 1.

The Company, however, ignores this Commission's most recent decision on common plant in Pa. P.U.C. v. Duquesne Light Co., 54 Pa. P.U.C. 695, 43 PUR 4th 27 (1981). There, Duquesne made precisely the same argument which PECO makes in this proceeding (except that Duquesne alleged that more than 99% of common facilities were used with the first unit). There, the Commission rejected this argument, stating:

> Duquesne has claimed in these proceedings 100 percent of its share of the investment in the common and shared facilities that were in service at the end of the test year. Duquesne states that the inclusion of such common and shared facilities in rate base is consistent with the Uniform System of

> Accounts, and, therefore, Duquesne has terminated accruing AFUDC on these facilities. Duquesne also claims that 99.4 percent of the total investment in common facilities of Beaver Valley would have been required regardless of the status of Beaver Valley No. 2. In regard to Mansfield power station, it is claimed that 99.5 percent of the total investment would have been required without Mansfield Unit No. 3.
>
> * * *
>
> The commission policy, expressed in many prior cases, as well as in the commission order in the prior Duquesne proceeding at R.I.D. 373, is to spread these costs proportionately among generations of ratepayers. This policy indicates in this proceeding that one-half of the Beaver Valley common facilities and two-thirds of the Mansfield shared facilities, only, would be permitted in rate base.
>
> * * *
>
> The respondent's exception regarding the policy of allowing in rate base only a pro rata share of common and shared facilities merely reiterates the discussion in its brief and reply brief. These arguments are ones which have been heard before and they do not convince us that our policy is inappropriate. We will therefore recognize only a pro rata share of common and shared facilities in rate base.
>
> Id., 54 Pa. P.U.C. at 715; (emphasis added).

By dividing the common plant between two units, the Commission effectively divides the risks, costs, and benefits. Such division is both fair and appropriate and should be applied in this case.

OCA witness Knudsen explained how the experience with second units has proven the wisdom of this Commission's policy:

> Experience has shown that the ratemaking treatment applied to second units by this Commission often has been different from the treatment of the first units for the same plant.
>
> For example, when Salem 1 entered rates, only one-half of common facilities were included. When Salem 2 was sold to JCP&L, PECO ratepayers thus were not only relieved of the costs of that unit, but also the costs of the second half of common.
>
> Similarly, the Commission arrived at a different result for Susquehanna 2 and the second half of common. The difference was that the excess capacity adjustment for the first unit involved a "slice of the system", while in the adjustment for Unit 2, the Commission identified Unit 2 itself as being excess capacity and disallowed the equity return on this unit plus 50% of common. Also, the events at TMI-2, and the extraordinary delays in completion of Beaver Valley 2, give added support to the Commission's policy on common plant.
>
> (OCA St. 7 at 22-23)

We are also not unmindful of the cap which the Commission had placed upon PECO's ratemaking costs for Limerick 2. In establishing such cap, we must assume that the Commission and PECO, in following the Commission's long-standing policy on allowing only 50% of common plant with the first unit, had contemplated such cap to include 50% of common plant. To exclude Limerick 2 of 50% of common plant, in effect, would enable PECO to renege, in part, with its agreement to the cap established by the Commission in Limerick 2 cost, by reducing Limerick 2 cost by $330.4 million by 1991:

> . . . [T]he inclusion of 100% of common plant in rate base will significantly reduce the final cost of Limerick station to ratepayers due to reduced AFUDC

> accruals which, if 50% of common plant is excluded from rate base, will amount to $330.4 million of additional cost to Limerick Station by 1991.
>
> (PECO St. 1, p. 29)

Just how *either* present or future ratepayers will benefit by allowing 100% of Limerick common plant in PECO's rate base at this time we cannot fathom.

The Company had revised its claim for rate base treatment of 100% common plant by withdrawing its claim to include Bradshaw Reservoir. (PECO St. 18-K). With such withdrawal, the allowance in rates of 50% of Limerick common facilities, instead of 100% requested by PECO, has the effect of reducing PECO's plant-in-service by $639,512,000. (OCA St. 7A Rev. Sch. TEK-4).[1/]

We find that the Company should be allowed only 50% of its claim of 100% for Limerick common plant for inclusion in it rate base. Accordingly, we disallow 50% of PECO's claim for Limerick common plant, and reduce the Company's rate base on this account by $639,512,000.

C. Land Held for Future Use

The Company has claimed a balance of $8,651,000 for land held for future use, which it seeks to include in rate base. (PECO Ex. TPH-2A C-9).

1/ Corresponding adjustments must also be made to depreciation expense, depreciation reserve, tax depreciation, excess tax depreciation, and investment tax credits.

The OCA urges rejection of this claim in its entirety on the basis that Section 1315 of the Public Utility Code, 66 Pa. C.S. §1315, provides that all land which is not "used and useful" during the future test year must be excluded from the Company's rate base, under the Code's following provision:

> [T]he cost of construction or expansion of a facility producing, generating, transmitting, distributing or furnishing electricity shall not be made a part of the rate base nor otherwise included in the rates charged by the electric utility until such time as the facility is used and useful in service to the public. Except as stated in this section, no electric utility property shall be deemed used and useful until it is presently providing actual utility service to the customers.

The Commission has expressly rejected this argument in PECO's last two rate proceedings, R-822291 and R-842590, and has repeatedly rejected it is other recent proceedings: Pa. P.U.C. v. Pennsylvania Power Co., R-832409 (April 11, 1984); Pa. P.U.C. v. Pennsylvania Electric Co., R-822250 (October 19, 1983); Pa. P.U.C. v. Metropolitan Edison Co., 56 PUR 4th 185 (1983); Pa. P.U.C. v. Pennsylvania Power & Light Co., 55 PUR 4th 185 (1983). In these cases, the Commission found, consistent with the extensive legislative history, that Section 1315 was intended to apply only to major generating plant construction work in progress. The Commission's interpretation of Section 1315 was recently affirmed by the Commonwealth Court in Philadelphia Electric Co. v. Pa. P.U.C., ______ Pa. Cmwlth Ct. ______, 502 A.2d 722, 732 (1985), in which the Court held that Section 1315 does not apply to land held for future use.

In the alternative, OCA submits that if the Commission rejects OCA's argument under Section 1315, the Company's claim for land held for future use claim for the Middletown substation should be denied since this substation was admittedly placed in service on October 11, 1985 and is now in the Company's plant in service and the Company's claim must be reduced by $388,000 for the Middletown Substation.

In its reply brief, the Company agrees that the Middletown substation should be removed from the Company's land held for future use claim, but it denies that the substation is already included in the Company's plant in service account. Thus, it contends that if the Middletown substation is removed from the Company's land held for future use claim, it must be reflected in the Company's plant-in-service account balance.

In view of the fact that such change-over would have no rate base effect, we deny OCA's downward adjustment of $388,000, for the Middletown Substation, and direct that the change-over be made in the next rate case, rather than confuse the plant-in-service submissions in this proceeding.

However, one adjustment must be made to the Company's plant held for future use account. While it is true that the Company withdrew the Bradshaw Reservoir from the Company's plant-in-service account (TPH-2A, C-2), it still retained it under plant held for future use in TPH-2A, C-9 in the amount of $2,515,000. Such $2,515,000 is included in the Company's claim for property held for future use $8,615,000 claim. Since PECO witness Boyer indicated that this project is part of Limerick's common plant (Tr. 1045), the $2,515,000 Bradshaw Reservoir should be given similar treatment as the common plant in our allowance of only 50% thereof. Therefore, 50% of the $2,515,000 Bradshaw Reservoir property held for future use, or $1,258,000, should be reduced from the Company's total property held for future use claim.

Accordingly, we reject OCA's recommendation for disallowance of all of the Company's claim for property held for future use, but we reduce PECO's property held for future use by $1,258,000 to $7,393,000.

D. Normalized Outage Rate Base Adjustment

Trial Staff has proposed an adjustment in this case, resulting in a proposed revenue reduction of $19,324,000, based on an alleged excessive forced outage rate for PECO's generating units. The proposed penalty adjustment would penalize PECO by disallowing the common equity return associated with 3.21% of the Company's installed generating plant.

However, Staff has presented no evidence to support the contention that PECO's outage rate is excessive. Showing that PECO's forced outage rate exceeds that of a comparison group of other PJM utilities -- without more -- does not demonstrate that PECO's outage rate is unreasonable or the result of imprudence. Staff witness Gruber, who proposed the adjustment, admitted that he made no examination whatsoever of the reasons for the forced outage rate for which he proposed to penalize PECO. (Tr. 3004).

The Company asserts that Staff ignores several factors unique to PECO which may account for its forced outage rate:

- During the 1981 to 1983 period examined by Trial Staff, PECO had more low cost generating units on its system than other PJM utilities, and under PJM economic dispatch practice, these low operating cost units were called upon to operate more often than other PJM units. Increased operation contributes to increased forced outages.

- Greater environmental constraints in northeastern Pennsylvania air basin.

- Salt water cooling of major generating stations.

- Higher proportion of nuclear capacity, which, while economically beneficial, results in higher forced outage rates, especially during periods of active NRC regulation changes from 1981 to 1983.

- Additional technical complexity of major coal base load units such as scrubber units on Eddystone 1 and 2 and Cromby 1, which equipment is susceptible to breakdown, thus adding to overall forced outage rates.

- The unique design of plants such as Eddystone 1 and 2, which were designed to operate at high temperatures and pressures to achieve lower operating costs, but which are also thereby susceptible to greater forced outage.

The Company further submits that Mr. Gruber's adjustment is in direct contravention of Commission decisions respecting PECO outage prudency. For example, it stated that in 1983 the Company experienced three extraordinary forced outages:

1. Peach Bottom 2 had experienced an extended forced to comply with an NRC order to inspect and, if necessary, repair reactor coolant piping.

2. Eddystone 1 experienced a substantial outage due to a main line failure.

3. Salem 1 had a lengthy outage due to the failure of its reactor trip circuit breaker to open and thus actuate important plant safety equipment.

PECO further explains that a major investigation of these outages was conducted and an order entered by the Commission (ECR No. 8, P. 830453, et al) ruling that all of Peach Bottom 2 outage and all but two days of Eddystone 1 outage were prudent and justified. (PECO St. 14-A, pp. 12-13). Although the Salem 1 outage was mandated by the NRC and resulted from improper maintenance procedures by PSE&G's contractor, Westinghouse, the Company was denied recovery of replacement power cost. Salem 2 also contributed to the Company's average forced outage rate even though it was not included in PECO's rate base until January 25, 1985. Since PECO had been denied replacement power costs for Salem outage, it claims that any further penalty on this account would constitute double counting.

The Company contends that the Commission can disallow costs only were they are found to be the result of imprudent or unreasonable actions, citing UGI Corp. v. Pa. P.U.C., 49 Pa. Cmwlth Ct. 69, 410 A. 2d 923 (1980) and Western Pennsylvania Water Co. v. Pa. P.U.C., 54 Pa. Cmwlth Ct. 187, 422 A.2d 906 (1980).

Staff also asserts that the 3.21 forced outage adjustment required PECO to install generating capacity, but Staff provided no record support for this conclusion. On the contrary, Company witness Rush explained that PECO has employed a 25% reserve margin for planning purposes for many years, wholly apart from the 3.21% adjustment to PECO's reserve requirement. (PECO St. 14, pp. 4-6; St. 14A, pp. 11-13). As PECO has sufficient installed capacity, the 3.21% forced outage rate did not cause PECO to incur any PJM capacity charges. (PECO St. 14A, p. 11).

Finally, the Company explained that Staff's computation of PECO's forced outage rate is in error because it includes Salem 2 during the time that its output was sold to another utility and employs an erroneous percentage figure with respect to PECO's reserve requirements.

We find no merit in Trial Staff's adjustment as reduction in the Company's revenue requirement of $19,324,000 because of an alleged forced outage rate as penalty disallowing common equity return associated with 3.21% of Company installed generating plant. Accordingly, this proposed adjustment by Trial Staff is rejected.

E. Materials and Supplies

1. Coal Inventory

Trial Staff has proposed that PECO's Philadelphia coal inventory level be reduced from a 60 day supply to a 50 day supply.

The basis for the recommendation is the diminished percentage of generating capacity that Philadelphia area units represent of the PECO system. Staff alleges that with Limerick 1 in service, Philadelphia area coal fired generation will represent about 10% of the Company's generating capacity.

Staff witness Prowell has recommended a decease in the number of days' supply of coal maintained at PECO's Philadelphia area coal units because the units now comprise a minor fraction of PECO's generating capacity and because the lower number of days is in line with levels maintained by other utilities in Pennsylvania.

Mr. Prowell proposes a downward adjustment of $1,623,500 to the Company's claim for Philadelphia area coal inventory, claiming that PECO no longer requires a 60 day supply.

PECO witness Carroll explained that total coal inventory is the product of two factors: (1) the number of days of inventory required, and (2) the daily burn rate of the coal units; and that any comparison of inventory requirements must examine both factors.

PECO has the same megawatts of coal capacity before and after Limerick 1, but this capacity will operate less often, and the Company has already reflected the burn rate at these units. The Company claims that this reduction will affect the burn rate at these units, but will not affect the number of days of inventory required to provide reliable service. It explains that the days of inventory required is not affected by the addition of Limerick 1, but is maintained to safeguard against external circumstances (e.g. weather, strikes, etc).

The Company, recognizing the reduced importance of Philadelphia area coal, has reduced its request for coal inventory to 204,000 tons, which represents a significant reduction from the level approved by the Commission in the Company's last rate proceeding.

Witness Prowell claims that his recommendation of a 50-day inventory is consistent with recent Commission decisions which reduced to 45 days the inventory of two other Pennsylvania utilities, Pennsylvania Power & Light Co. (PP&L) and Pennsylvania Electric Co. (Penelec). He further asserts that his 50-day recommendation takes into account the greater distance of PECO Philadelphia-area coal plants from the coal fields. (TS St. RVP-1, pp. 3-4).

The Company claims that its inventory claim in this proceeding represents a daily inventory of only 3,400 tons of coal, using a 60-day inventory and a burn rate based on the average monthly projected coal burns during the two years subsequent to Limerick 1's inclusion in rate base. (PECO St. 22B, p. 14). In contrast, PECO says, PP&L bases its burn rate on the two highest historic monthly burns during the most recent two-year period, and that Penelec also relies on historic data in developing its inventory claim. The Company states that if it had used the historic method for establishing its burn rate and employed the 50-day inventory recommended by witness Prowell, the Company's inventory claim in this case would increase to 237,000 tons or 33,000 tons more than PECO's actual claim. (PECO St. 22B, pp. 14-15).

We note that the current UMWA contract expires in February, 1988. While PECO's inventory claim in this proceeding does not include a build-up in anticipation of the UMWA contract expiration, the Company may have to build up its inventory in the fall of 1987 to safeguard against a delivery interruption caused by a potential strike, whether or not a strike actually occurs. The Company considers it prudent and appropriate to reflect this possibility in its inventory requirement. (PECO St. 22B, p. 16).

It is noted that neither OCA nor any of the other parties seek any adjustment to the Company's coal inventory account.

We find that under the circumstances, the Company's claim to be a reasonable basis for the level of inventory that will be required during the period during which the rates are to be in effect. We reject the adjustment recommended by Trial Staff on this account.

2. Coal Inventory Claim

The Company's rate base claim includes $17,979,000 for coal inventory. (PECO Ex. TPH-2A, C-10). While OCA has not challenged the Company's stated coal inventory levels for the future test year in this case, it submits that the Company's June 30, 1986 coal price projections for coal at the Keystone Station is excessive.

OCA's review of coal prices for PECO for the period January 1985 to November 1985, the price at Keystone never exceeded $32 per ton. OCA witness Bleiweis observed that:

> [E]ven taking into account the effects of seasonality, Keystone and Conemaugh coal prices appear to have been heading down, or at the very most to be leveling off. It appears doubtful that the inventory price of $34.47/ton for Keystone forecast by the Company for June, 1986 will be realized.
>
> (OCA St. 4 at 17).

In light of the clear evidence that the Company's Keystone coal is overstated, Mr. Bleiweis recommended an adjustment as follows:

> Considering the above information for Keystone and Conemaugh coal, I would propose that a price of <u>$32.00</u> be utilized for Keystone and that the Company's estimate of $37.34 be used for Conemaugh Coal. This reflects a slight upward trend to present inventory prices at each station.
>
> (OCA St. 4, p. 18); (Emphasis added).

The result of this adjustment is to reduce the Company's inventory claim by $300,000. The Company did not rebut this proposed adjustment. (PECO St. 22B).

We find this recommendation of the OCA to be proper, and we accept the same. Accordingly, we reduce PECO's rate base on this account by $300,000.

3. Oil Inventory Claim

OCA also recommends that the Company's projected inventory prices be rejected and its rate base claim of $19,264,000 be reduced by at least $1,111,000 to reflect a more reasonable price in light of the recent drastic decline in oil prices.

The Company's claim is based on oil price projections developed in the second quarter of 1985 based on first quarter 1985 data. (Tr. 303). The Company, however, did not revise its projections, and had continued to assert that it would pay $26 per barrel for No. 6-1% sulphur oil, and $27 for No. 6-0.5% sulphur oil, and $31.92 for No. 2 oil. (PECO Ex. TPH-2A, C-10).

Data Resources, Inc. (DRI) is the only fuel price consulting service utilized by PECO. (Tr. 307, 4359).

In early January, 1986, OCA witness Bleiweis recommended use of the latest DRI forecast (OCA Ex. 15) as the source for more appropriate oil prices in this case. Mr. Bleiweis stated:

> I believe the Company's forecast for the second quarter of 1986 is unreliable. Since DRI's August forecast is the most current forecast available for the second quarter of 1986, I am using that forecast.
>
> (OCA St. 4 at 15).

Mr. Bleiweis then arrives at the following oil inventory costs for PECO:

No. 6-1.0%	sulphur	100,000 bbls @ $24.21 =	$ 2,421,000
No. 6-0.5%	sulphur	350,000 bbls @ $25.15 =	$ 8,803,000
No. 2		226,000 bbls @ $30.66 =	$ 6,929,000
	Total oil		$18,153,000

(OCA St. 4, Sch 4)

The above projection would reflect a $1,111,000 reduction in PECO's claimed inventory cost of $19,264,000.

The Company's Manager of Fuel Procurement, Mr. English, testified in March 1986 that the Company in early March had actually paid $17 per barrel for No. 6 oil. (Tr. 4357). Asked for his prediction for the rest of the year, Mr. English predicted a price in the range of $17-$20, in the upper $20's in 1987. (Tr. 4358, 4359).

In its main brief (Page VI-5) OCA states that:

> While the OCA would not oppose the use of Mr. English's $17 to $20 per barrel prices for No. 6 oil, the OCA submits that at a minimum, Mr. Bleiweis's original proposed adjustment should be adopted.

We agree with the Company that one spot price of $17 per barrel does not reflect the average value of PECO's oil inventory either now or over the period the rates will be in effect. Oil prices are currently very volatile, and it is well known that attempts are being made to stabilize and increase world wide oil prices. We believe that a more appropriate projection of PECO's oil inventory costs, as set forth in PECO Ex. JJC-3 may be warranted. Based on such projections, we have reconstructed PECO's oil inventory costs as follows:

No. 6-1.0%	sulphur	100,000 bbls @ $22.991 =	$ 2,299,000
No. 6-0.5%	sulphur	350,000 bbls @ $23.991 =	$ 8,397,000
No. 2		226,000 bbls @ $30.46 =	$ 6,784,000
	Total		$17,480,000

We find the Company's oil inventory costs during the period the new rates will be in effect to be $17,480,000, which is $1,784,000 less than PECO's claim. Accordingly, we adjust PECO's rate base downward by such amount on this account.

4. Non-Fuel Materials and Supplies 28% Surcharge

Trial Staff has proposed a 28% reduction or $2,431,000 to the Company's future test year claim for Limerick materials and supplies based on Staff witness Prowell's review of the Company's Audit of Materials and Supplies at Limerick. (TS St. TVP-1, pp. 5-7; Ex. TVP-1B). Mr. Prowell's adjustment is based on a misunderstanding and misinterpretation of information contained in the audit report. The report states in pertinent part:

> Bechtel Purchase Orders
>
> Effective July 1, 1984, PECO Purchasing Department requested Bechtel Construction, Inc. to temporarily assume the duties of procuring operational spare parts and materials for Limerick Generating Station. Purchasing stated that it was unable to meet the needs of Limerick, at the time, and that expected duration of the Bechtel assistance was 12-18 months. According to terms of the agreement, Bechtel is to pay for the ordered materials and, in turn, PECO will be billed at their cost of labor with a 28 percent markup. Two hundred seventy eight payments for $212,102 were made by Bechtel during August, September and October. Associated labor costs was $18,438, or about $66 per order (PECO's costs is approximately $70).

(T.S. St. TVP-1, p. 5).

However, as was explained by Company witness Wright, Mr. Prowell is in error in his assumption that anything purchased by Bechtel has a 28% surcharge added to it, since the 28% Bechtel surcharge was applicable only to the cost of labor associated with procurement activities and was not added to the direct cost of the material. The 28% Bechtel surcharge was not additional profit to Bechtel. Rather, it represents payroll taxes, unemployment compensation, insurance and employee fringe benefits. (PECO St. 20A, p. 10).

Staff's additional objection that this is an extraordinary "one time" proposition is unfounded. Procurement of operational spare parts is an activity that continues over the life of the plant.

We find no support for Trial Staff's recommendation to reduce PECO's rate base on this account by $2,431,000, and hence reject such adjustment.

F. Construction Errors by Bechtel

Trial Staff recommends an adjustment to PECO's Limerick claim which would disallow the costs associated with various construction errors by Bechtel. It proposes an adjustment representing a reduction of $8,890,000 in direct costs and $4,388,000 in AFUDC for a total rate base reduction of $13,278,000. (T.S. St. MJG-1, p. 5). The corresponding adjustment to depreciation expense would be $364,000. (Tr. 2991).

The basis for Staff's adjustment was set forth in Staff witness Gruber's testimony:

> PECO should not be allowed to recover this investment because it was money spent on work that had to be redone because of errors in construction. As such these costs are not for plant which will be used and useful in the public service. To recognize these dollars would double count the cost of placing these items in service.
>
> (T.S. St. MJG-1, p. 5).

With regard to whether these items represent actual claims of PECO against Bechtel, Mr. Gruber testified as follows:

> Q. Now with regard to the claims against Bechtel, are you aware that these items only represent potential claims against Bechtel and were compiled principally to enhance Philadelphia Electric's bargaining power in contract and fee negotiations with Bechtel?
>
> A. I know that they represent potential claims and as yet no formal claim has been made. However, if its an error in construction I don't think the ratepayers should pay for it regardless of whether its being used as a bargaining chip or whether or not PECO is honestly trying to get their money back.
>
> (Tr. 3012).

The Commission's filing requirements at 52 Pa. Code §53.53, Item-A-3 Provides, in part:

> Q.3. Whenever a utility proposed to add a major generating station to rate base,the utility shall identify:
>
> * * *

b. All outstanding claims against project managers, contractors and/or suppliers and their estimated costs.

Pursuant to this requirement, PECO submitted the list of contractor errors which are the subject of Staff's adjustment. The list consists, apparently, of errors in construction which have resulted in the work being redone. Staff submits, and we agree, that it would be inappropriate to allow such items in rate base. To do so, would result in double counting for the work by allowing a return on both the correct and incorrect construction, resulting in ratepayers providing a return on portions of the plant twice.

We find Trial Staff's proposed adjustment on this account to be reasonable and we accept such adjustment. The rate base on this account is adjusted downward by $13,278,000.

G. Audit Adjustments

In 1985 the Commission's Bureau of Audits completed an audit of the Company's utility plant in service for the period 1979-1983 and proposed fourteen Adjusting Entries to the Company's continued property records. Of the fourteen entries, the Company has accepted eleven, and these adjustments are reflected in the Company's final accounting exhibit in this proceeding. (PECO St. 25A, p. 7). The Company filed objections to three of the fourteen proposed Adjusting Entries, Nos. 4, 9 and 13.

1. Adjusting Entry No. 4

In Adjusting Entry No. 4, Trial Staff proposes to eliminate from the Company's plant in service account claim of $801,000 of PECO's investment in the System Automatic Monitoring and Control (SAMAC) project, which was complete in 1973, and has been in service since that time.

The SAMAC facility was at the time of installation, a "state of the art," newly developed computer system. (PECO St. 18C, p. 25 and Sch. 6). Staff witness Prego alleges that the Company was imprudent in not formally seeking to recover from the vendor certain additional costs associated with SAMAC beyond the original contract amount. (TS St. JPP-1, p. 11).

As explained by Company witness Hill, the additional $801,000 represents costs resulting from failure of certain electronic circuits in the computer facility and costs resulting from the Company's requests for additional service.

As to the first component of these costs, Company management, after due consideration, decided not to pursue legal action on two bases: (1) the lack of justification for the legal expense that would be involved, and (2) the concern over litigating one portion of a multiple contract. The Company asserts that it is within the discretion of management to review the economics of legal action and weigh these costs against possible recovery and to consider the likelihood of a successful litigation outcome. (PECO St. 18C, 24-25).

As to the second portion of the additional cost, Company management decided that additional services beyond the scope of the original contract was required for efficient operation of the computer system.

Some management discretion must be allowed in such circumstances. PECO has provided a reasonable explanation of the additional costs involved and its resolution of the same, especially in view of the "state of the art" computer project as it existed in the 1970s. Certainly it is not enough to look at the additional costs in isolation; the matter must be analyzed in light of all attending circumstances. Trial Staff has shown no imprudence in the Company's treatment of this matter. The Company has met its burden in showing that such treatment was proper and reasonable. Beyond that, the position of Staff is stale; this expenditure apparently had been approved and reapproved in prior Commission audits.

We reject Trial Staff's recommended adjustment.

2. Adjusting Entry No. 13

Trial Staff would also remove from PECO's rate base $121,381 of the costs of surveying and designing the above ground section of a 13kv distribution line between PECO's Callowhill and Delaware Substations, which costs were capitalized. Staff witness Prego proposes to remove these costs from the Company's rate base claim because he stated that PECO customers did not benefit from the engineering work. (TS St. JPP-1, pp. 10-11).

PECO in its Statement 16-C, Schedule 7, explains the nature of this cost and the reasonableness of its inclusion in its plant in service claim:

> Capital Authorization 216301 was initially approved to construct a two

mile 138 kv line from Callowhill to Delaware Substations. Initially the line was to be underground, but before any design was started, a feasibility study indicated a combined aerial/underground line would be significantly less costly to construct.

> City of Philadelphia approval to construct an aerial/underground line was obtained and actual design of the line was started and completed. Just prior to ordering the steel transmission poles, community opposition to the aerial portion of the line developed and in June 1982, the City Planning Commission reversed its earlier decision and stated that the line should be all underground.
>
> The Company therefore redesigned the line as underground which was completed and placed in service in 1983. The engineering cost to survey and design the aerial portion of the line amounted to $121,381, was prudently incurred, was unavoidable and beyond the control of the Company. Since it was incurred solely by the construction of the transmission line, it is a proper component of the capital cost of the line and was accounted for in this manner.

We must conclude that it is the position of Trial Staff in recommending disallowance that is unreasonable, and not the Company's incurrence of the contested costs and inclusion of the same in its plant in service claim.

Accordingly, this recommended adjustment of Trial Staff is rejected.

3. Adjusting Entry No. 9

Adjusting Entry No. 9 proposes two reclassifications to the Company's continuing property records. The first is a reclassification from capital to maintenance expenses and deferred debit accounts of

PECO's share in the costs incurred for the inspection, re-evaluation and modification of the anchor bolts, anchor plates and pipe supports for all safety-related piping systems at Salem and Peach Bottom plants. The second reclassification is to reclassify from capital to maintenance expense PECO's share of the costs at the Peach Bottom project to mitigate the corrosive cracking in the steel piping.

As a result of such reclassification, Trial Staff proposes to remove these expenditures from rate base.

PECO contends that the rate base adjustment should be rejected because (1) the Bureau of Audits is in error as the proper accounting treatment for these two items; and (2) that even if the accounting reclassification were correct, no ratemaking adjustment should be adopted because the net result would be to increase PECO's revenue requirement in this proceeding.

Adjusting Entry No. 9 totaled $15,596,177. Of this amount, the Company agreed with the reclassification of $261,747, but disagreed with the reclassification of the remaining $15,334,430.

Trial Staff asserts that these contested reclassifications represented costs incurred by the Company that, according to the provisions of the Uniform System of Accounts, were improperly capitalized. Staff urges that these costs were for work done at the Company's nuclear stations which involved minor items of property that were not significant enough to satisfy the resultant substantial addition criteria required to be classified as capital items.

From our review of the record, we are of the opinion that Staff's adjustment is in compliance with the provisions of the Uniform System of Accounts.

PECO contends that if such reclassification is required to bring the Company's accounting records into conformity with the Uniform System of Accounts, we should approve an expense amortization allowance of these expenses to enable the Company to recover these costs since they were never included in any test year data on which the Company's rates were set. This position is without merit, since we agree with Trial Staff that it is contrary to basic ratemaking, which does not require dollar for dollar matching of revenue collected and revenue requirement established and approved. The items claimed in this Adjusting Entry should have been claimed as an expense instead of a capital item. It would be a violation of standard ratemaking concept to go back and expense such items and seek to recover them through rates. This would constitute retroactive ratemaking which is precluded.

Accordingly we adopt the recommendation of Trial Staff and reduce PECO's rate base on this account by $15,334,430.

H. <u>1976 and 1978 Decisions to Delay Construction of Limerick 1</u>

We have not independently reviewed the reasonableness or prudency of PECO's decision in 1976 to delay construction of Limerick 1 from April 1981 to April 1983, and its decision in 1978 to further delay construction of Limerick 1 from 1983 to 1985. We herein adopt the findings of the Commission at I-80100341 regarding the imprudency and unreasonableness of such delay decisions. We have incorporated so much of the record at I-80100341 as relates to such matter. We permitted the parties to submit an exhibit containing the portions of I-80100341 they consider as relating to the 1976 and 1978 delay decisions. (See PECO Ex. 37; Trial Staff Ex. 41).

In Re Limerick Nuclear Generating Station, I-80100341, 56 Pa. P.U.C. 47 (1982), the Commission had determined that PECO's delay decisions in 1976 and 1978 were unreasonable and imprudent:

> . . . 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 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. . .
>
> (56 Pa. P.U.C. at 61).

Thus adopting the Commission's finding at I-80100341, we find that PECO was unreasonable and imprudent in its 1976 and 1978 delay decisions.

In ruling upon Trial Staff's Motion in limine, by our December 20, 1985 Bench Ruling, we held, inter alia,

> . . . that Staff's motion that we determine that the Commission's prior findings at I-80100341 that Philadelphia Electric Company's decisions in 1976 and 1978 to delay Limerick construction were unreasonable are conclusive upon the parties in this proceeding is hereby granted.
>
> (Tr. 1384).

On interlocutory review, the Commission affirmed our Bench Ruling on January 21, 1986.

In discussing the effect of our Bench Ruling, as affirmed by the Commission, at a hearing held on January 22, 1986, we cited three issues that we considered relevant in the quantification of the impact on ratepayers of the 1976 and 1978 Limerick delays in construction costs of Limerick 1 in this proceeding:

> JUDGE MATUSCHAK: Well, I think its quite evident that it appears that there are at least three categories that could be discussed here:
>
> First is the cost, the additional cost of the construction of Limerick caused by the decisions;
>
> Second, external matters which affected the construction; and
>
> Third, any offsetting matters that could be used in evaluating the cost effect of those decisions.
>
> (Tr. 2044).

In the discussion at the hearing immediately proceding our listing of the issues for litigation, the issue of whether financial constraints were contained in the category of external factors was discussed in the following colloquy:

> MR. WERSAN:
>
> . . . The Company has referred to the financial constraints as an externally imposed condition and that, I think, is a key area of disagreement, certainly, that we have.
>
> The Commission's decision was made in 1982. They had been aware of the company's financial condition through a number of rate cases ----
>
> JUDGE MATUSCHAK: Not only that but that matter was litigated in that investigation and I don't have the decision before me, but <u>I believe that the Commission</u>

determined that the company was able to finance construction as originally planned. We think that clearly is out of the purview of our quantification issues.

(Tr. 2041; Emphasis added).

By our order dated March 10, 1986, on Trial Staff's motion to strike testimony, we said, in part:

2. That to the extent that any testimony submitted by Philadelphia Electric Company which relates solely to the issue to the reasonableness of the Company's 1976 and 1978 decisions to delay construction of Limerick 1 is hereby stricken and may not be relied upon by the parties. For clarification, such stricken testimony shall include, but not be limited to:

(a) Testimony relating to the financial constraints and the impact of such alleged constraints on the Company's 1976 and 1978 decisions, as fully litigated at I-80100341.

(b) Testimony as to load growth, capacity needs, excess capacity concerns, fear of Commission sanctions, and economic benefits of the Company as resulting in the Company's 1976 and 1978 delay decisions, as fully litigated at I-80100341.

(c) Testimony relating to Company's concern for ratepayers' interests and extent of rate relief granted as related to the reasonableness of the Company's 1976 and 1978 delay decisions.

(d) Any other testimony to supplement the record at I-80100341 regarding the reasonableness of 1976 and 1978 delay decisions.

(Ruling on Commission Trial Staff Motion Dated January 6, 1986, To Strike

Testimony of Philadelphia Electric Company. Mimeo at 6; emphasis in original).

At the time of the Company's receipt of its Construction permit in 1974, the estimated total cost of Limerick 1, Limerick 2 and Common Facilities was $1.738 billion. (Limerick 2 Investigation (December 5, 1985) at 66). The final cost of Limerick 1 and 100% of Common Facilities alone is $3.8 billion. (PECO Ex. AW-3 at A5).

Section 1308(f) of the Public Utility Code, 66 Pa. C.S. §1308(f) places a specific burden of proof upon PECO to prove that the costs of Limerick 1 in excess of the Company's original estimate were necessary and proper. This specific burden of proof on the prudent cost of the plant is in addition to the general burden of proof with which all of PECO's claims in this case are reviewed under Section 315, 66 Pa. C.S. §315. Thus, PECO has the burden in this case to prove that the costs of Limerick 1, and in particular, the costs incurred due to the construction delays are reasonable and prudent.

Both Trial Staff and OCA had presented considerable testimony in their respective proposals for an adjustment to PECO's rate base to reflect a quantification of the cost of the delays in Limerick 1 construction as found imprudent by the Commission.

The Pennsylvania Supreme Court has long recognized, even before the enactment of Section 1308(f), that the burden to establish the value of utility plant is by statute placed on the utility. Berner v. Pa. P.U.C., 382 Pa. 622, 116 A.2d 738 (1955).

In assessing the possible long-term effects upon huge construction programs, it is necessary to differentiate between prudent and imprudent management. Some of the same ills befall both classes, but the latter category will have created an environment that can hasten adverse conditions, snowballing them into disastrous losses for the company's security holders and/or back-breaking rates for the consumers.

The Commission had already in I-80100341 determined the imprudency of PECO's 1976 and 1978 delays in construction of Limerick 1. In this proceeding we have the difficult duty to quantify the costs of such imprudent management actions upon the ratepayers.

While the Company throughout its testimony, and in its briefs, refer to the 1976 and 1978 "deferral announcements," as having no substantial effect upon the Limerick 1 construction, we are not convinced that such "deferral announcements" were mere harmless press releases for public and investor consumption, with no intention to actually delay construction of Limerick 1; PECO's subsequent reduced financial commitments to Limerick 1 construction show otherwise.

In our CAPCO - Report of Investigation, I-79070315 and I-79070317 (1982) we said:

> Absent the protection afforded by the competitive market, the captive utility customers must be protected from imprudent or unreasonable management decisions, resulting in inefficiency, unnecessary expenses, or excessive rate requirements.
>
> (Mimeo, p. 24).
>
> * * *
>
> There is no question that the efficiency, the prudence and the reasonableness of a utility's construction program, in all respect, has an impact upon current as well future rates to its ratepayers.
>
> (Mimeo, p. 25).

It follows, then, that the Commission has the responsibility, in its balancing of the interests of both the Company's shareholders and ratepayers, to disallow construction costs of utility plants in its rate base which have been imprudently or unreasonably incurred. As the Public Service Commission of New York recently observed:

> The disallowance of imprudently incurred costs is fundamental to the law of utility regulation as traditionally practiced in the United States, and we regularly deny recovery of costs that have resulted from imprudent actions. These disallowances are a fundamental part of our responsibility to set just and reasonable rates and are necessary to protect the public from being victimized by the monopoly power of a public utility. If a competitive enterprise tried to impose on its customers costs from imprudent actions, the customers would take their business to a more efficient provider. A utility's ratemakers have no such choice. A utility's motivation to act prudently arises from the prospect that imprudent costs may be disallowed. We, therefore, have an obligation to impose such disallowances when warranted.
>
> Case 27563, Proceeding on Motion of the Commission to Investigate the Cost of Construction of the Shoreham Nuclear Generating Facility. (Issued December 16, 1985, Mimeo at p. 4).

In Pa. P.U.C. v. Philadelphia Electric Co., 52 Pa. P.U.C. 772 (R.I.D. 438, 1978), in finding that the Company has been imprudent in supervising the construction of Salem Unit No. 1, this Commission said:

> . . . we can hold regulated utilities accountable for abuse of discretion or imprudent management in the rate-making process.
>
> (52 Pa. P.U.C. at 787).

Addressing the issue of the underlying reasons for PECO's delays in construction of Limerick 1, as stated by ALJ Klovekorn at I-80100341, OCA witness Knudsen stated, in part, the rationale for the OCA's adjustment in the present case, as follows:

> The ALJ concluded that PECO may have essentially attempted to hedge its bet on Limerick #1 - at ratepayer expense - by delaying the unit and thus avoiding the excess capacity adjustment that might have been imposed. The Company could finesse the issue of excess capacity simply by delaying the unit and accruing AFUDC during the delay.
>
> If this approach is not challenged, then the Company will escape the brunt of an excess capacity adjustment which could have applied in 1982/83, run up additional cost for the customers to pay back at a future period, and, in a real sense, receive a reward, or at least be held harmless for the delay.
>
> (OSA St. 7 at 20; Emphasis added).

There is no question that the delays have significantly increased the cost of the plant.

Our task is to determine what additional costs resulted from the Company's imprudent management decisions in 1976 and 1978 to delay the construction of Limerick 1. Like "all the king's horses and all the king's men," we cannot reconstruct or replay with exactness the construction of Limerick 1 over the years, so as to arrive at dollar precision of the costs arising out of PECO's imprudent delays which the Company would impose upon ratepayers. At best, we must exercise reasonable judgment, based on our review of all the evidence, in the quantification of such costs for disallowance in rate base.

PECO has taken the position that the 1976 and 1978 decisions of the Company had no effect upon the cost of Limerick 1 construction.

On the other hand, Trial Staff and OCA presented evidence proposing to quantify the additional cost of Limerick 1 resulting from the Company's 1976 and 1978 imprudent delay decisions. Other parties have adopted one or other, or both, of the positions of Trial Staff or OCA. In approaching their attempt to quantify the additional cost of Limerick 1 resulting from the Company's 1976 and 1978 delay decisions, Trial Staff and OCA utilized different methodologies. We shall review each in turn.

The company, in this proceeding, would distinguish between the prudency of its 1976 and 1978 "deferral announcements," and the prudency of its Limerick construction. In effect, PECO is saying, that while it still disputes the Commission finding of imprudency of the 1976 and 1978 delay decisions, even if these "deferral announcements" could be held to be imprudent, its construction of Limerick 1 was not. We cannot so isolate these two to conclude that the "decisions to delay" had no effect upon the construction delays. PECO not only made the <u>decisions</u> to delay, it implemented such decisions by its curtailment of the <u>means</u> for the expeditious completion of Limerick 1 by reducing its financial commitments for such construction in aid of that objective. <u>We take the Company at its word. When it said that it was going to delay construction of Limerick, it meant just that -- and it did just that</u>.

In the spring of 1976, PECO lowered its five-year construction program by about $750 million, or an average of $150 million a year. PECO reduced its direct expenditures from 1978-1980 from the budgeted amount of $529 million to $479 million.

As OCA witness O'Brien observed: ". . . the simple fact is that Limerick was not completed sooner because PECO did not try to complete it sooner." (Tr. 5050).

At all stages, PECO had recognized that delay in construction would result in increasing the cost. In this connection, PECO's Senior Vice President for Nuclear Power, Mr. Boyer said (Tr. 5052):

> The engineering Department's view was always that the quicker we could get the plant completed, the capital costs would be the least amount, since AFUDC is an overriding cost.

Further, in PECO's rate case at R.I.D. 438 (1978), Mr. Boyer presented testimony regarding the costs of delaying the completion date of Limerick 1. In that testimony, Mr. Boyer made a number of statements, both qualitative and quantitative, regarding the cost of delay. Concerning delays both at Salem and Limerick 1, he stated:

> All three have been delayed from their original service date. <u>Further delay in the installation of these units would be uneconomical</u>.
>
> (OCA Ex. 56 and Tr. 1049); Emphasis added).

In supplemental testimony in that proceeding, Mr. Boyer said:

> The completion of the generating units [Limerick and Salem] on a timely schedule insures the lowest possible construction cost for the unit because the equipment can be purchased at a lower cost and there would be less AFUDC if the schedule is not delayed.
>
> (OCA Ex. 56 and Tr. 1050).

In a presentation Mr. Boyer made to Commission Staff on July 20, 1980, he discussed:

> Additional economic studies . . . made to . . . further demonstrate the advantage of completing Limerick as soon as possible.
>
> (OCA Ex. 57).

The Company has presented several analyses which compare the achieved cost and schedule of Limerick 1 to the costs and schedules at other contemporaneous nuclear generating units as evidence to dispel any allegation that Limerick 1 has been an unreasonably costly plant or experienced long time for its construction; and as a basis for measuring what, if any, effect the 1976 and 1978 deferral announcements had upon Limerick's cost and schedule. It performed adjusted plant cost and schedule comparisons performed by its witnesses, Dr. Hieronymus and Dr. Perl, with 12 BWR plants in the country, and again as against 5 northeast plants. These studies purported to show that the cost of Limerick 1 was 12% lower than the 12-plant average costs, and 21% less than the 5 northeast plants, by kilowatt. On the basis of such studies, Drs. Hieronymus and Perl concluded that the Limerick 1 cost and schedules were reasonable and that its schedule does not appear to have been delayed by the 1976 and 1978 deferral announcements. (PECO St. 11, p. 4, 9; PECO St. 15, p. 63). Dr. Perl formulated his regression analysis based on his judgment, experience and knowledge of nuclear plant cost and schedule causation. (Tr. 864). On the other hand, Dr. Hieronymus, in order to show that he was not biased in his study, used the computer to select "predictive characteristics" and "avoided using his common sense." However, Dr. Hieronymus admitted that there was a flaw in his technique in having the computer select such predicted characteristics:

> The principal flaw I see in it is that it is mindless. That is the flip side of being biased. . .
>
> If you let the computer, which is very stupid, do the selection for you, it may select some things that, at least in my opinion, may not make any sense . . ." (Tr. 700).

On the basis of his delay cost analysis, Dr. Perl concluded that:

> Based upon reasonable assessments of financial markets in 1977 and 1978, PECO believed that attempting to raise sufficient funds to build the project on the fastest possible track would adversely affect its bond rating and thereby its ability to attract capital at reasonable interest rates. If this were the case, my analysis suggests that it was clearly economic to delay the project because it would result in lower costs to consumers. Moreover, even if the Company's assessment was wrong and the more rapid construction schedules could have been achieved without any interest rate effect, the delay had no significant impact on consumer costs.
>
> (PECO St. 11, pp. 23-24).

Evidently the best defense is a good offense ---. Dr. Perl calculated that when increased financing impacts were considered, the 1976 delay would result on a $105 million <u>benefit</u> to consumers, while the 1978 delay resulted in a $136 million <u>benefit</u>. (PECO St. 11, p. 26).

Based on such testimony, the Company contends that the economic effect on system revenue requirements was shown to be *de minimus*. We reject such conclusion as not being supported by the evidence. We agree with the Commission's conclusion in the Limerick Investigation, 56 Pa. P.U.C. at 61:

> PECO's final argument, that the relative economic benefits and detriments to rate payers and shareholders of earlier versus later plant completion favored delay is unpersuasive.
> (Emphasis supplied).

The comparison study evidence submitted by PECO is not necessarily conclusive. Both Dr. Hieronymus (PECO St. 11, p. 58) and Dr. Perl (Tr. 879-881) admitted that such comparison with the cost and schedules of Limerick with other plants do not, in themselves, establish a particular utility's prudency or imprudency. And the Commission, in Pa. P.U.C. v. Philadelphia Electric Co., 52 Pa. P.U.C. 772 (R.I.D. 438, 1978) commented on value of nuclear power plant surveys when examining construction prudency issues:

> In our view, the evidence presented by TB&A shows a lack of prudent management in connection with the construction of Salem No. 1. Philadelphia Electric Company offered no testimony through PSE&G to rebut TB&A's findings. Instead, in defense, PECO offered evidence of a comparison of the Salem No. 1 per kilowatt cost to other nuclear projects in Northeast United States, as proof that the overall installed costs per kilowatt generated by Salem No. 1 were within the range of other comparable plants. Theodore Barry & Associates admits that Salem No. 1 costs are in a line with other Northeast plants, but avers that such comparison does not provide the best evidence of the appropriate and proper cost for Salem No. 1. While such comparable evidence submitted by the company has some probative value, it is not sufficient weight to override the TB&A evidence. Such comparison do not reflect unique costs of environment protection, labor, and other variable aspects in building a particular nuclear plant.

(52 Pa. P.U.C. at 787; Emphasis supplied).

If it were intended that the "imprimatur" of Theodore Barry and Associates (TB&A) -- which previously in other rate cases had been engaged by OCA and Trial Staff, and which submitted testimony against PECO at R.I.D. 438 (1978) -- to the Company's construction management of Limerick 1 would allay problems with the additional cost effect of PECO's 1976 and 1978 Limerick 1 construction deferrals, such intention fell short of its mark.

Initially, in this connection, TB&A presented its <u>Independent Assessment of the Prudence and Reasonableness of Limerick 1 and Common Plant Project Management</u> as an "introspective" analysis. We agree with Trial Staff that TBA's appearance in this proceeding was solely in PECO's behalf, whose business it solicited, at a fee of almost $2 million (Staff Ex. 23; Tr. 5184-85; Tr. 1257). TBA's role in this case is exactly the same as that of any other expert, and is subject to the same scrutiny as any other testimony adduced in this proceeding. While neither Trial Staff nor we question the ethics of TBA's witnesses, we cannot consider such testimony as that of an impartial "independent" witness.

We find TBA's conclusion and that of PECO's other construction witnesses that Limerick 1 construction could not have been completed and placed in operation prior to February 1986 as unpersuasive.

TBA and PECO construction witnesses rely heavily on as-built analyses. An as-built analysis incorporates the impact of <u>all</u> delays regardless of their cause, including those caused by unreasonable and imprudent decisions, management or a discretionary action. TBA and PECO construction witnesses conclude that regulatory changes that had occurred during the course of construction at Limerick 1 project had a major impact on construction costs and schedules at the plant. It may be true that regulatory approvals as granted would have prevented earlier completion of Limerick 1 construction, if one takes the dates of such approvals as a given. But there is no reason to conclude that regulatory approvals would not have been implemented in timely fashion had construction been completed without delay.

The insistence of PECO that its 1976 and 1978 deferrals of the construction of Limerick 1 were in no way contributions to the extension of Limerick 1 construction period are not borne out by the record.

PECO's testimony, including that of TBA, largely attempts to relitigate financial constraints and other matters which were litigated and rejected by the Commission at I-80100341.

Staff's Proposed Adjustment

Trial Staff, through its witnesses Dougherty and Rosenthal, propose a $1.12 billion rate base disallowance based on its quantification of additional costs of Limerick and Common Plant allegedly incurred as a result of the project not meeting an April 30, 1981 in-service date.

Staff's delay and calculation is based on a comparison of actual to-date project expenditures as of October 31, 1984, when fuel load commenced, to its own computation of project costs if the unit had been both completed and in service in April 1981.

Staff emphasizes that its recommended adjustment:

(1) Does not purport to establish when Limerick 1 should have been completed or in service; and

(2) Does not represent the cost of a plant that would have been completed and in service at April 1981.

Rather, Trial Staff took the cost of the unit as actually built -- including all actual quantities of materials and labor manhours -- and priced it to remove the escalation in costs caused by inflation during the delay period. In other words, Staff recommends that the Commission recognize the 1984 plant, which incorporates all NRC-mandated design changes, at a 1981 cost level.

Trial Staff recommends that PECO be permitted to completely recover:

(a) <u>All</u> costs (direct and AFUDC) incurred prior to April 30, 1981;

(b) The <u>reasonable</u>, de-escalated direct costs incurred from April 30, 1981 through October 1984 as associated AFUDC; and

(c) <u>All</u> direct costs (unadjusted) incurred after October 1984.

In short, Trial Staff recommends that PECO recover all its investment except for the escalation in costs that occurred as a result of inflation during the delay period of April 30, 1981 through October 1984.

Finally, Trial Staff urges that should the Commission not choose to adopt Staff's recommendation, that it adopt OCA's proposed adjustment.

Trial Staff's quantification analysis is grounded on the assumption that Limerick would have been simultaneously completed and in service in April 1981, absent the 1976 and 1978 deferral decisions. (T.S. St. DPD-1, pp. 2-3).

While such an approach, in view of PECO's burden in this proceeding, may have been acceptable as a <u>starting point</u>, Trial Staff could not properly persist in blindly refusing to go forward to meet PECO's evidence tending to show the impossibility of the April 30, 1981 in-service date.

Trial Staff's approach does not comport with the Commission's direction in this proceeding to quantify the costs resulting from PECO's 1976 and 1978 delay decisions -- and the consequent effect of the implementation of those decisions in the construction of Limerick 1 -- upon the Company's ratepayers.

In <u>Pa. P.U.C. v. Philadelphia Electric Co.</u>, Energy Cost Rate No. 8, M-840375, et al, Order pp. 9-10 (October 30, 1985) this Commission held:

> Cost disallowances based on imprudence is not permitted unless the alleged imprudence was the real and approximate cause of some injury. Thus, for example, if the alleged imprudent conduct did not cause any extension of outage time, such conduct could not be the basis for denying a utility's recovery of replacement power costs.

Staff witness Dougherty admitted that neither he nor any of the auditors who performed Staff's quantification analysis are qualified to determine whether Limerick 1 could actually have been completed and in service by April, 1981. (T.S. St. DPD-1, p. 3). Moreover, Mr. Dougherty has admittedly performed no analysis to make such as investigation. (Tr. 2665).

Mr. Dougherty's original position was that the Commission at I-80100341 (1982) "determined that the Company did not act prudently when it delayed construction in 1976 and 1978, and that without these delays, Unit 1 would have been completed in April 1981." (T.S. St. DPD-1, p. 2). However, on cross-examination, he acknowledged that nowhere in the Commission's Order was there a conclusion that the Company could actually have completed or placed Limerick 1 in service in April, 1981. (Tr. 2668-2671). In addition, Staff witness Rosenthal, when questioned by us, admitted that the Commission at I-80100341 Order did not make any finding at all as to when Limerick 1, absent the 1976 and 1978 deferral decisions, could have been completed or in service. (Tr. 4723-4725).

Thus, Trial Staff's assumption of an April 1981 in-service date, which is the foundation for its entire quantification analysis, is neither based on an independent evaluation nor supported by any determination of the Commission. In fact, Trial Staff counsel stated that:

> . . . the question of a potential completion date for Limerick other than the February 1986 [actual] date is not relevant. We are not saying the plant could have been done in April 1981.
> (Tr. 4727).

Trial Staff's quantification analysis is thus clearly based on an in-service date which is completely hypothetical and unrelated to when Limerick 1 should or could have been placed in service.

Trial Staff's attempt at quantification of the 1976 and 1978 delay decisions upon ratepayers is a simplistic mathematical computation based on an assumed hypothetical in-service date of Limerick 1. As such, it fails to establish any causal relationship between the imprudent deferral decisions and the costs which it seeks this Commission to disallow.

The quantification of the costs associated with the 1976 and 1978 deferral decisions is impossible without a thorough analysis and demonstration of the schedule and cost impact of those decisions, i.e., when Limerick 1 could have been completed and in-service absent the deferrals. Staff's analysis admittedly and designedly does not include such a demonstration and is, therefore, not meaningful to the quantification determination which the Commission directed to be made in this proceeding.

Further, in cross-examination, Staff witness Rosenthal stated that Trial Staff's $1.12 billion adjustment is not necessarily based on the actual costs of the 1976 and 1978 deferrals, but is at least a "penalty" for those imprudent actions. (Tr. 4710-4719). Such penalty is not involved in our quantification of the intended construction delays.

As we indicated in our March 10 Ruling, p. 7 (Tr. 4726-4721) the extraneous factors which would have prolonged the project schedule beyond April 1981 and which impacted completion independent of the deferral decisions, go to the heart of the quantification issue.

We find that Trial Staff's recommendation of a disallowance of $1.12 billion in rate base inclusion of Limerick 1 is unfair, improper and without any legal or rational support. Accordingly, this recommendation of Trial Staff is rejected.

OCA Adjustment

The OCA's analysis in this proceeding concludes that, but for the 1976 and 1978 delays, Limerick 1 could have been completed and ready for loaded fuel by July, 1982, and could have been in commercial operation by November, 1983, representing a 27 month delay.

The OCA submits that these dates are reasonable and could have been achieved had PECO sought to finish Limerick 1 as expeditiously or prudently possible. The substantial costs incurred by PECO due to the delays in construction are not properly chargeable to ratepayers.

The OCA has presented two technical experts on the cost quantification of the 1976 and 1978 delays, James J. O'Brien and Dr. Stephen H. Hanauer.

Mr. O'Brien, who presented the actual construction schedule and cost analysis, is Chief Executive Officer of O'Brien Kreitzberg and Associates (OKA). He is a registered professional engineer in the states of Pennsylvania, New Jersey, New York and Georgia. He is an expert in the field of critical path management CPMP and is the author of several management books.

Dr. Stephen H. Hanauer has spent 35 years in the field of nuclear engineering, including 12 years with the NRC and its predecessor the Atomic Energy Commission.

Underlying the construction delay cost quantification and ratemaking adjustment proposed by the OCA in this proceeding is the discussion presented by ALJ Joseph H. Klovekorn in his Initial Decision in the Limerick Investigation, 56 Pa. P.U.C. 47 (1982). In his concluding paragraphs on the issue of PECO's delays in construction, ALJ Klovekorn stated as follows:

> It appears therefore that PECO's decision to postpone construction was influenced in part by the fear of an excess capacity adjustment by the Commission in a subsequent rate case. Rather than run the risk of such a revenue loss, the company chose to delay construction while at the same time continuing to accrue AFUDC on this plant costs that will eventually be borne by the ratepayers.
>
> In the past this Commission has held that there should be some sharing of the risk associated with bringing large plants on line and the resultant excess capacity which typically results. See Pa. P.U.C. v. Pennsylvania Power Co., R-77110521; Pa. P.U.C. v. Philadelphia Electric Co., R-79060865. This risk should not be effectively placed entirely on the ratepayer by permitting a utility [to] delay the commercial operation of a plant until the optimal time, while still allowing the company to earn a return, albeit non-cash, on its investment during this interregnum.
>
> In summary, it appears that the company's action in postponing Limerick in 1976 and 1978 was made without careful analysis of the impact of such delay on its ratepayers.
>
> In addition, the record shows that a factor in these decisions was the potential impact of Limerick on the company's capacity and reserve margins and the adverse effect this would have on the company's rate allowances. 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' interest.
>
> (Initial Decision at 53-54; emphasis added).

We note that if Limerick were in service in 1981, PECO would have a summer reserve margin of 66%. (PECO St. 9, p. 18).

With respect to the 1978 delay, ALJ Klovekorn stated:

> The reasons for announcing a delay in 1978, according to PECO witness Paquette, were similar to those which were involved in the 1976 decision. In other words, by 1978 there were two more no-growth years. PECO's load forecasters lowered peak load estimates from 5% to 3% per year. In addition, PECO claims, the Commission permitted inadequate rate relief during this period. <u>One important factor in this decision to postpone was apparently the recommendation of Administrative Law Judge Joseph Matuschak at R.I.D. 438 that an adjustment be made to PECO's rate base for "excess capacity." This was viewed as a message to the company not to optimize installed capacity but to minimize current costs and rates</u>.
>
> (Initial Decision, at 44-45; emphasis added).

The OCA has presented an analysis that the 1976 and 1978 delays in construction of Limerick 1 materially delayed the commercial operation date and significantly increased the cost of Limerick 1. Based upon the testimony of OCA witnesses O'Brien and Hanauer, the OCA submits that but for the 1976 and 1978 delays, Limerick could have loaded fuel in July, 1982, and entered commercial operation by November, 1983. This would have been 27 months sooner than actually occurred. OCA places the cost of the delay for Limerick 1 and 100% of common facilities at $792.7 million and for Limerick 1 and 50% of common facilities at $652.7 million. (OCA St. 1B at 35; OCA Main Brief at III-2 and III-16).

The delay analysis presented by the OCA witnesses is based upon a specific critical path schedule analysis of Limerick 1. In developing this reconstruction, certain facts or conclusions were accepted by the OCA. First, the analysis started with the Commission's finding in the Limerick Investigation that the 1974 delay in construction of the plant was reasonable. (OCA St. 1, at 11). Second, the analysis accepted that certain engineering or design constraints to construction completion, such as the resolution of the Mark II redesign, had to be recognized. Finally, the impact of NRC regulatory requirements which could delay fuel load and commercial operation was reviewed.

Mr. O'Brien stated the purpose of his analysis as follows:

> The primary task of OKA's analysis became the determination of when Unit 1 could have been completed, had PECO not delayed the project unnecessarily. For the purpose of this testimony, I have accepted the completion of Unit 1 as a given condition as PECO's management did. Once that decision was made, however, it must be recognized that a large component of the final cost of the plant would be time related, i.e., these costs would continue to accrue until plant completion but would be independent of the level of construction activity. Examples of these kinds of costs, generally called "overheads," are taxes, legal, security, accounting, document and drawing control, and Project Management. Escalation and AFUDC would also have a significant impact on the final cost of the plant. Further, delayed completion would increase exposure to regulatory (and Owner) changes and/or fine tuning and financial pressure.
>
> (OCA St. 1 at 6-7).

Mr. O'Brien expended upon this during cross-examination, as follows:

> It was an attempt to identify the escalation costs, the AFUDC increases and other delay-related costs in what we perceived to be a 27-month overrun.
>
> * * *
>
> We did not attempt to then go out and say: could the company have found this money, could they have avoided building

> their new headquarters; could they have done this,that or the other thing. We didn't get into that all.
>
> (Tr. 3136).

A critical path analysis, as presented by Mr. O'Brien, focuses on those activities which limit or determine the progress toward completion of a job. These activities are important to or affect the construction schedule and, therefore, the duration of a project. Mr. O'Brien discussed the use of a critical path analysis as follows:

> The logic network is a construction road map for scheduling when things will be done and why, and also for monitoring the project's status during construction.
>
> The overall duration of the project is fixed by computing the longest continuous string of activities from start to finish, and this route is defined as the Critical Path. With complex networks, computers can start and finish dates for each activity. Parallel paths of shorter overall duration are termed to have a certain amount of "float," or scheduling flexibility. Clearly, delays suffered in progressing critical path work extend the project's duration, while problems in other cases do not, as long as they are resolved before the available float evaporates.
>
> (OCA St. 1 at 9).

Dr. Hanauer concluded that if the Limerick plant had been completed in April 1982, and met all non-Mark II requirements, then the Mark II problem could have been resolved by mid-1982. He also concluded that the NRC requirements would not have prevented Limerick 1 from meeting the July, 1982 schedule.

The OCA compared Limerick's cost and schedule to those of Susquehanna and LaSalle, also GE Boiling Water Reactors with a Mark II pressure suppression containment design. Susquehanna loaded fuel in July, 1982 and entered commercial operation in June, 1983. LaSalle loaded fuel in April, 1982, and entered commercial operation in January 1984. Both plants cost considerably less than Limerick 1. PECO witness Clarey (PECO St. 4, Sch. 2) shows a total direct cost excluding AFUDC for LaSalle of $1,043 million, for Susquehanna $1,611 million, and for Limerick 1 $2,357 million.

The quantification of the costs of delay has two components. The first component is identification of actual work as expenditures that would not have occurred if commercial operation had occurred 27 months earlier. These costs are the result of what is commonly called Indirect Costs. Indirect Costs are the costs required to support construction as it proceeds over time. For Limerick 1, these costs are incurred by both PECO and Bechtel. Mr. O'Brien estimated Bechtel's share of these costs as $171.9 million for Limerick 1 and 100% of common facilities, including AFUDC on those costs; and $140.6 million including AFUDC on those costs for Limerick 1 and 50% of common facilities. For PECO, he estimated the indirect costs for Limerick 1 and 100% common facilities at $101.5 million, including AFUDC; and $83.0 million, including AFUDC for Limerick 1 and 50% common facilities.

The second component of the costs of the 27-month delay is the increased escalation and AFUDC which incurred due to the longer period over which construction continued. Mr. O'Brien estimated the direct costs for Limerick 1 and 100% common facilities at $552.4 million; and for Limerick 1 and 50% common facilities at $445.7 million. (OCA St. 1B Sch. JJO'B-30, 30.1).

Mr. O'Brien, adjusting for Bechtel and PECO indirect costs, found the direct imprudent costs of the delay for Limerick 1 and 50% of common plant to be $428.8 million. (OCA St. 1B, Sch. JJO'B-30.2).

OCA in its Main Brief, at page III-16 and 30, found the effects of imprudent delays in the cost of Limerick 1 and 50% of common plant, as calculated by Mr. O'Brien, to be $652.4 million. ($428.8 million direct costs plus indirect costs of $140.6 million for Bechtel and $83 million for PECO).

Further, Mr. O'Brien, in adjusting for the disallowance of the Bechtel and PECO indirect costs and Mark II rework, found the imprudent direct costs for Limerick 1 and 50% common plant to be $386.8 million. OCA in its final accounting calculations, by utilizing such estimate of $386.8 million, plus alleged Bechtel and PECO indirect costs, arrives at a $610.4 million reduction to the costs of Limerick 1 and 50% of commoon plant for reduction to rate base.

However, PECO witness Clarey (PECO St. 4C, pp. 6-8) claims that Mr. O'Brien had overstated PECO's direct costs in his calculations. The claimed indirect PECO costs include costs for public notification, training, plant/startup staff, and maintenance. Mr. Clarey stated that his research of historical costs to determining the timing of actual expenditures for alleged PECO indirect costs considered by Mr. O'Brien, showed that only about 10% of such indirect costs were expended prior to July 1982. He computed the PECO indirect costs to be $33.6 million for Limerick 1 and 100% of common plant, rather than the $101.5 million computed by Mr. O'Brien. For 50% of common plant, we computed and find that the correct PECO indirect costs are $27.5 million, rather than the

$83 million computed by Mr. O'Brien. Further, we find no imprudency by PECO in its re-working of Mark II.

Taking Mr. O'Brien's $386.8 million imprudent direct delay costs, plus $140.6 million Bechtel indirect costs and PECO's $27.5 million indirect costs, we arrive at a quantification of $554.9 million as the quantification of the effects of PECO's 1976 and 1978 imprudent decisions to delay the construction of Limerick 1 and 50% of common plant.

PECO's attempt through voluminous testimony on the issues involving the prudent cost of Limerick 1 fails to override the OCA testimony in this matter.

We find the recommendation of OCA, as adjusted, to be reasonable. Since we have allowed only 50% of common plant for PECO's rate base inclusion, we adjust PECO's cost of Limerick and 50% of common plant downward by $554.9 million for exclusion in rate base.

I. Excess Capacity

The OCA, PAIEUG and UUC/UP allege that Limerick 1 contains excess capacity, and request the Commission to deny base rate recognition to such excess capacity. OCA requests the Commission deny the Company an equity return on <u>at least</u> 450 megawatts of such excess capacity. GEC supports such disallowance. UUC/UP recommends a base load reduction of $3,535,734. PAIEUG would place such excess capacity at 962 megawatts.

They assert that PECO seeks to evade the regulatory consequences of adding enormously excess capacity simply by prematurely retiring extremely low cost existing capacity.

Having first proposed excess capacity adjustments in Pa. P.U.C. v. Pennsylvania Power Co., 52 Pa. P.U.C. 459 (1978) and in Pa. P.U.C. v. Philadelphia Electric Co., 54 Pa. P.U.C. 220 (1980), which recommendations were adopted by the Commission, we profess some familiarity with such subject.

Initially, we disagree with PECO witness Dr. William Hieronymus, that rate base inclusion of a plant must be made where the original and continued construction of the unit were prudent when made.

In Penn Power, the Commission, in approving our recommendation held:

> We share Judge Matuschak's concern over the impact upon the ratepayers by the sudden doubling of the investments of the company since February 1975, and the large amounts of capacity generated thereby that is not now needed.
>
> For purposes of this proceeding we agree with the judge that the sudden burden of this new plant investment on the company's customers was no fault of Penn Power or of its investors; but neither was it the fault of the ratepayers. Under such circumstances, there must be some sharing of the risk associated with bringing large plants on line.
>
> (52 Pa. P.U.C. at 471).

The Commission thus held that when a utility had capacity which was substantially in excess of its requirement (including a reasonable reserve margin), the costs of supporting the excess capacity should be apportioned between ratepayers and investors.

Also, the Commission, in adopting our recommendation on excess capacity adjustment in Philadelphia 80, held:

> Philadelphia Electric Company argues that the standard we must apply in our

> determination of necessary capacity is one of prudence viewed at a time when the units in question were built. As stated above, we find this to be partially true. We also see our duty to review continually the functioning of a utility to insure reliable service at just and reasonable rates. While not questioning PECO's management decisions made when these units were constructed, we are of the opinion that they have served the purpose for which they were constructed and cannot be considered used and useful for ratemaking purposes.
>
> (54 Pa. P.U.C. at 227).

In 1981, this Commission's decision in <u>PECO 1980</u> was affirmed by the Commonwealth Court, which held:

> It does not follow that a unit prudently constructed must always be included in the rate base. The touchstone for determining whether or not a prudently constructed unit should be included in a utility's rate base is whether or not, during the test year involved, the unit will be used and useful in rendering service to the public.
>
> (<u>Philadelphia Electric Co. v. Pa. Pa. P.U.C.</u>, 61 Pa. Cmwlth Ct. 325, 329, 433 A.2d 620, 623 (1981).

<u>Having said that, we must conclude from a review of the record, that there is no justification for an excess capacity adjustment in this proceeding</u>.

The Company insists that it has no excess capacity; that it has too small a mix of baseload capacity as compared to peaking capacity, and that Limerick 1 enhances PECO's generating mix by supplying needed base load generation. It asserts that Limerick 1 will be useful in supplying a substantial portion of PECO's continuous load, and will substantially decrease the necessity of importing baseload energy from the PJM system. (PECO St. 14, pp. 20-22). The Company further states that PECO will still be a net importer of energy even with Limerick 1 on line. (PECO St. 14A, p. 4).

PECO's calculation of peak load is 6160 MW in 1986, which is reasonable. In 1985 PECO's actual peak load equaled 6034 MW, weather adjusted to 6139 MW, which virtually matched the normalized peak of 6140 MW forecasted by PECO.

PECO's total capacity is 7858 MW with the inclusion of Limerick 1 and with certain scheduled and approved retirements commensurate with PECO's projected peak load of 6160 for 1986, plus a reasonable reserve margin.

PECO uses as a minimum planning objective a required reserve margin of 25%. As explained by PECO witness Rush, the 25% figure "is based on engineering judgment of the Company's requirement needed to meet the PJM reliability objective and also provide reliable service at a reasonable cost". Such reserve requirement has been accepted by the Commission over a number of years.

The Company's total capacity is greater than its requirement for peak demand by 28%, which is only 3% higher than PECO's minimum required reserve of 25%, which will drop to 2% in the second year and to 1% by the fourth year after Limerick 1 is in service.

We recognize that the addition of capacity cannot be added megawatt by megawatt. Some reasonable increase in reserve capacity must be allowed before excess capacity comes into play.

In Pa. P.U.C. v. West Penn Power Co., R-842632, the Commission found no excess capacity existed where the Company's reserve margin was over 10% above its required reserve because the reserve margin "will fall to within 2% or 3% of the Company's planned optimum range in the first or second winter that the planned facility will be on line." (R-842632, p. 45). In contrast, the Commission found excess capacity in PP&L II, where the excess was expected to extend until the end of the century. (R-842651, pp. 18-19).

Several of the complainants have proposed the inclusion of additional generating capacity represented by generating units that already have been retired - 338MW of Southwark 1 and 2; and 458 MW of Combustion Turbines (CTs). (OCA St. 5, pp. 6-9; UUC/UP St. 1, pp. 26-27; PAIEUG St. 1, p. 22). PAIEUG would add another 166 MW of Richmond 9. In its brief, however, OCA avers that <u>at least</u> 450 megawatts should be recognized as excess capacity.

The thrust of the complainants' position is that Limerick 1 is not needed (and therefore excess) because these fossil fuel units could have been retained for a longer period in the absence of Limerick 1's commercial operation.

PECO has provided independent system planning considerations that support the retirement of the units singled out by complainants. Richmond Unit 9 and Southwark Units 1 and 2 are old and inefficient to operate. The 458 CTs no longer serve any useful purpose. The Richmond 9 unit and the Southwark Units 1 and 2 have been retired primarily because they are old and inefficient steam units. (PECO St. 14, p. 23). PECO routinely has been projecting a 35-year nominal life for most of its fossil-fueled steam units. Richmond 9 was 35 years old when retired and the Southwark units were about 38 years old when retired. (PECO St. 14A, p. 7). The fact that the retirements of these units might have been scheduled at one time or another for a year or two before or after their actual retirement is irrelevant. Furthermore, such contentions are without merit, since the Commission has already approved the retirement of these steam units and CTs. In addition, as explained by PECO witness Rush:

> These units do not spontaneously collapse on that date, but they are worn out. It is like a car with 150,000 miles of use. You may be able to nurse a few more miles out of it or you may not. With the nominal retirement date in mind, PECO will adjust a few years around it, if it can, in order to meet capacity requirements. For example, in the last few months, PECO has decided to delay the retirements of Delaware 7 & 8 units for two years past their nominal life of 35 years. Indeed, the decision to delay the retirements of Delaware 7 & 8 units was precisely because Limerick 1 does not by itself totally satisfy even our short term capacity requirements. The Richmond 9 unit was 35 years old and the Southwark 1 & 2 units were about 38 years old when retired. This is not accelerated retirement.
>
> (PECO St. 14A, p. 7).

The OCA further states that such units and CTs should be included in finding Limerick 1 as excess capacity by reason of the fact that in 1982 PECO offered to sell over a ten year period, 250 megawatts of Limerick 1 and 250 megawatts of Limerick 2. The Company explains that such proposed sales, which did not materialize, were for economical reasons only, and that since such sales had not materialized, it was no longer economical to delay the retirement of such units or to keep the CTs in service.

We make no adjustment for excess capacity because our review of the record fails to substantiate any PECO excess capacity. The recommendations of the various complainants for excess capacity adjustment are rejected.

J. Mark II

Limerick 1 is a General Electric (GE) Boiling Water Reactor (BWR) based on a Mark II reactor containment design. Due to problems that arose in the Mark II design, the owners of plants with that design, including Limerick 1, had to incur substantial costs to correct the design of their plants. The OCA alleges that the cause of the inadequacy in the Mark II design was GE's imprudent failure to adequately analyze the design and specify the forces that would occur in the containment. The OCA submits that the costs which were incurred at Limerick 1 due to the original alleged improper design should not be passed on to ratepayers. As quantified by the OCA in this case, those costs as to Limerick 1 total $194.1 million, including AFUDC, which the OCA recommends should be disallowed in the inclusion of Limerick 1 in PECO's rate base.

OCA bases its position on the testimony of its expert witness, Dr. Stephen H. Hanauer, who had been employed by the AEC and/or NRC for 12 years (1972-1982), and upon the testimony of Mr. James J. O'Brien and various exhibits.

Dr. Hanauer described the Limerick 1 Mark II containment as follows:

> All containments provide an enclosure around the reactor and the primary system to "contain" radioactive fluids. The Limerick uses a containment concept developed at General Electric called "pressure suppression," which includes, inside the containment enclosure, a large pool of water to absorb the heat and

steam released from any leaks in the primary reactor system. The Limerick plant uses the Mark II configuration of the GE pressure suppression containment. The containment system includes the large pool of water, called the suppression pool, and a separate large enclosed space, called the drywell, in which the reactor and the primary system are located. The drywell is connected the suppression pool by large pipes called downcomers, which have open ends located far below the surface of the water in the suppression pool.

Steam or hot water coming out of a leak or break in the primary system is directed by the downcomers into the suppression pool, where the relatively cool water absorbs the heat and turns the steam back into additional water. This process is called "quenching."

In a boiling water reactor, such as Limerick, there are valves on the main steam pipes which open automatically if the pressure gets too high, and let out some of the steam to lower the pressure and protect the primary system against overpressure. These valves open not only during accidents, but during certain plant maneuvers which are expected typically a few times a year in a power plant. The steam coming out of these safety/relief valves is another source of high temperature fluid. Pipes from these valves are used to carry this steam below the surface of the suppression pool so that the water can absorb the energy in this steam just as it would in an accident. The suppression pool thus serves to quench hot water and steam from two sources: (1) from the safety/relief valves during plant maneuvers and certain accidents, via the safety/relief valve discharge pipes; and (2) from leaks or breaks in the primary system (and other classes of accidents) via the downcomers.

(OCA St. 2 at 7-8).

The original GE pressure suppression system was designed in the 1950's. The tests performed at that time provided the basis for future development of the Mark II design, its predecessor the Mark I design, and the later Mark III.

OCA through Dr. Hanauer, alleged error in GE's design and analysis in that GE did not adequately measure, predict, or specify the loads and forces which Mark II would develop during the steam quenching process.

This exact issue of alleged GE imprudence in design of the Mark II containment had already been adjudicated by the Commission after a thorough review of identical OCA allegations in Pa. P.U.C. v. Pennsylvania Power & Light Co., R-822169, 57 Pa. P.U.C. 559 (1983). In that case, the OCA argued that GE was imprudent in the testing and design of the Mark II containment, and that the costs of Susquehanna 1 associated with such imprudence should be disallowed from PP&L's claim.

The OCA's position was considered and rejected by ALJ Klovekorn in that proceeding, as follows (Recommended Decision, p. 61):

> It is undisputed that PP&L's expenditures to solve the containment problem were necessary to build a safe and licensable plant. Failure to expend these dollars would have resulted in a completed plant without a license. PP&L's effort to evaluate and incorporate the new loads in the design of Susquehanna was prudent and essential to commercial operation of the plant and the investment to solve this problem should be recognized in rate base. Secondly, there is no showing that GE was imprudent in the design of the Mark II containment.
>
> The record shows that GE analyzed both Mark I and Mark II containments and the Mark II design was repeatedly approved by the AEC and was purchased by many utilities. Additionally, OCA has failed to

demonstrate that the containment problem was reasonably discoverable by CE at any earlier point in time. The SRV loads were first identified at operating Mark I plants (PP&L St. R-5, p. 4). The additional LOCA loads were discovered during testing at GE's Mark III test facility, which was not even constructed until 1973.

(Footnote omitted; Emphasis added).

In a final order entered August 22, 1983, the Commission affirmed the ALJ on this issue. The Commission ruled that the evidence presented by the OCA was insufficient to establish prudence on the part of GE and rejected the OCA's proposed adjustment to the costs of Susquehanna with respect to its Mark II containment, stating at page 23 of its Order and pages 578-79 of 57 Pa. P.U.C.):

> Based upon a thorough consideration of PP&L's management philosophy during the design and construction of the Susquehanna project, and a detailed analysis of OCA's arguments relative to the proposed adjustments, the ALJ concluded that there is no support for the $38.6 million adjustment because (1) it is undisputed that PP&L's expenditures to solve the containment problem were necessary to build a safe and licensable plant; (2) PP&L's efforts to evaluate and incorporate the new loads in the design of Susquehanna were prudent and essential to commercial operation of the plant; (3) the record does not demonstrate that the containment problem was reasonably discoverable at an earlier point in time; (4) the problem was not in identifying the loads, but determining the impact of the loads on the plant and how to design for the impact; (5) there is no showing that General Electric was imprudent in the design of the containment; (6) there are serious deficiencies in the components of the $38.6 million adjustment. Likewise, the ALJ rejects the $125 million proposed adjustment because (1) there is no evidence to

support a finding that the "new load" problem was solely responsible for the specified delay in fuel load; (2) the six-month period incorporated into the $125 million adjustment has no evidentiary support; (3) PP&L was not imprudent.

(Emphasis added).

On January 22, 1986 PECO filed its motion in limine to strike portions of OCA's Statement No. 2 (testimony and exhibits of Dr. Stephen H. Hanauer) and portions of OCA Statement No. 1 (testimony and exhibits of James J. O'Brien) from the record of this proceeding. An answer was filed by the OCA and oral arguments were held on February 13, 1986. Following oral arguments we entered a bench order on February 13, 1986 denying the motion, followed by a Memorandum Opinion discussing the basis of our order on March 10, 1986.

The Company moved to strike the aforementioned testimony on the ground of collateral estoppel in that in Pa. P.U.C. v. Pennsylvania Power and Light Co., R-822169, 55 PUR 4th 185 (1983) the identical issue of GE's prudence with respect to the design and testing of the Mark II containment structure was raised and fully litigated by the OCA; and that this Commission entered a final order finding that there was no showing of GE imprudence in the design and testing of the Mark II containment and rejecting the OCA's proposed rate base adjustment.

In our Memorandum Opinion we compared the problem with that presented in the case of Walter W. Cohen, Consumer Advocate v. West Penn Company, C-823151, in our Ruling on Preliminary Objections of West Penn at pages 11-12 (December 7, 1982), holding that the OCA occupied a unique position here in representing PECO, not PP&L customers.

OCA witness Dr. Hanauer contended that GE and/or PECO should have recognized the significance of the hydrodynamic loads connected with Mark II affecting Limerick containment. However, Dr. Hanauer admits that, despite his position as Chairman of the Advisory Committee on Reactor Standards (ARCS) of AEC, when that body reviewed the Mark II containment for the first time in approving the construction of the Shoreham plant, and despite having available to the ACRS and/or the AEC Staff virtually all of the results of the tests presented in this record and referenced for both Mark I and Mark II licensing, he did not recognize the significance of these loads. (Tr. 2771).

PECO submitted the bulk of its evidence on this issue through the following witnesses:

> Dr. Salomon Levy, founder and President of S. Levy, Inc., a engineering/management consulting firm which, among many other activities assists industry and government in various areas of nuclear power regulation and operation. For 24 years prior to 1977 he was employed by the General Electric Company where he had a direct management role in the adequacy and the development of the Mark II containment design.
>
> Dr. Roger J. Mattson, Vice-President of Nuclear Safety and Operation Services for International Energy Associates, limited, with 17 years of experience in the development and implementation of nuclear power safety development. He served with the AEC and NRC from 1967 through early 1984 as a senior NRC Staff licensing manager.
>
> H. William Vollmer, Supervising Engineer of Structural Branch of Engineering Research Department of PECO.

As this Commission found in Pa. P.U.C. v. Pennsylvania Power & Light Company, 57 Pa. P.U.C. 559, 579 that "The problem was not in identifying the loads, but determining the impact of the loads on the plant and how to design for the impact."

The testimony of all three experts of PECO and of Dr. Hanauer, support the Commission's determination. This concept was explained by Drs. Mattson and Levy:

> One conclusions that seems inescapable is that the problem of characterizing the new hydrodynamic loads was extremely complex. While it is true, as Dr. Hanauer states, that no new laws of nature were discovered that showed the need for new design loads, it is abundantly clear that the ways in which the laws of nature would be manifest in the hydrodynamic behavior of pressure suppression containment was unsuspected and unknown until they were illuminated by operating experience and advancing knowledge. The Mark II program can be seen as a classic example of an improved understanding first clarifying the questions before supplying the answers. It confirms for me that these phenomena and their potential effects were not known in the 1950s and 1960s so as to justify Dr. Hanauer's view that neglecting to include them in the design basis was a technical error.
> (PECO St. 9A, p. 14).
>
> * * *
>
> The characterization and significance of the hydrodynamic loads referenced by Dr. Hanauer were not known by the utilities, vendors or the AEC until after Limerick licensing and construction was initiated. Immediately following recognition of the significance of these loads, an intensive effort was begun to characterize and design for them. However, because of the complexity of the matter and substantial lack of information respecting the nature or effects of these loads, this program required a full seven years to be successfully completed. Indeed, the length and complexity of this program, its many iterations of testing and evaluation, clearly establish the error

> of Dr. Hanauer's position. Certainly, if the loads had been so obvious that their non-recognition prior to the 1974-1975 time period could constitute "technical error", then it would not have taken seven years for the combined resources of the NRC, the BWR utilities, GE and many other domestic and foreign contractors to define their nature and develop design solutions. (PECO St. 34, p. 5).

Dr. Hanauer has expressly recognized the complexity of the Mark II resolution effort and the lengthly process of redesign and rework necessitated by repeated changes in the NRC load definition requirements. (OCA St. 2, p. 5):

> The utilities owning Mark II plants undertook a long and expensive program of theoretical and experimental work to develop acceptable load definitions. These were finally accepted by the NRC in 1981 and 1982, although some load specifications were provisionally approved as early as 1978. Each Mark II owner had to apply the revised load definitions to reanalyze its plant and make necessary modifications.

The NRC/AEC played a role in the development of Mark II, first without accounting for the hydrodynamic loads, and later by a very stringent accounting of these loads. As PECO witness, Dr. Mattson stated:

> Simply said, the government approved the development work and, along with others, shares in any imperfections.

The AEC and NRC had been approving the Mark I and Mark II designs, and it was not until 1974 or 1975 that the NRC concluded that further testing of the hydrodynamic forces should be made. It is apparent from the record that a state-of-the art problems were involved, which problem could not be resolved without computer application.

We must conclude and find that by virtue of the overwhelming evidence in this record, both as to quantity and quality, there was no imprudency either by GE or PECO in connection with the design, redesign and rework relating to the Mark II containment as affecting Limerick 1.

We must quality our conclusion and finding by stating that the same is made upon the record presented in this proceeding. We do not intend to adjudicate any claims against GE or others that may be litigated in civil proceedings upon the evidence there presented. In this connection, OCA submitted into the record the fact that the owners of the Zimmer nuclear plant and the Washington Public Power Service had instituted legal action against GE, alleging errors in the design of Mark II. We recommend that both PECO and the Commission monitor such civil actions, and upon their resolution, determine whether further action should be taken either by the Commission or PECO as the result thereof.

PECO also disputes strongly the computations performed by OCA witness O'Brien in quantifying the cost of the alleged imprudency as a Mark II as involved with the Limerick 1 construction. In view of our finding that there was no imprudency relating to the Mark II design upon PECO either directly or by imputation through GE design of Mark II, we see no need to address the quantification issue.

The recommendation of the OCA that PECO's rate base be reduced by $194.1 million on account of alleged errors in the design of the Mark II containment is rejected.

K. Cash Working Capital

The Company claims a cash working capital requirement of $76,451,000. Commission Trial Staff recommends that PECO's cash working capital requirement be reduced by $40,680,000. The OCA would increase the cash working requirement by $2,686,000.

Upon review, we find PECO's cash working capital requirement to be increased by $4,997,000.

IX. RATE OF RETURN

A finding of fair rate of return is one of the most subjective determinations the Commission must make in arriving at a decision concerning the proper level of rates for the utility to charge its customers.

The Commission has the duty to make this determination based upon the controlling legal standards laid out in the landmark Bluefield and Hope cases.

In the 1923 case of Bluefield Water Works & Improvement Company v. West Virginia Public Service Commission, 262 U S 679, 67 L. Ed. 1176, 43 S Ct. 675, The United States Supreme Court established the basis standards for a fair rate of return:

> A public Utility is entitled to such rates as will permit it to earn a return on the value of the property which it employs for the convenience of the public equal to that generally being made at the same time and in the same general part of the country on investments in other business undertakings which are attended by corresponding risks and uncertainties; but it has no constitutional right to profits such as are realized or anticipated in highly profitable enterprises or speculative ventures. The return should be reasonably sufficient to assure confidence in the financial soundness of the utility and should be adequate, under efficient and economical management, to maintain and support its credit and enable it to raise the money necessary for the proper discharge of its public duties. A rate of return may be reasonable at one time and become too high or too low by changes affecting opportunities for investment, the money market and business conditions generally.

While Bluefield set forth the guiding standards for rate of return determinations, the 1944 Supreme Court decision of Federal Power

Commission v. Hope Natural Gas Company, 320 U. S. 591, 51 PUR (NS) 193, expanded on the theory of rate of return. This decision largely repeated the standards established in Bluefield, but also established what is commonly termed the "end result" doctrine in the ratemaking process:

> Rates which enable the company to operate successfully, to maintain its financial integrity, to attract capital and to compensate investors for the risks assumed certainly cannot be condemned as invalid, even though they might produce a meager return on a so-called fair value rate base.
>
> * * *
>
> Under the statutory standard of just and reasonable it is the result reached, not the method employed which is controlling. It is not theory but the impact of the rate order which counts.
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> * * *
>
> The rate-making processing, under the Act [Natural Gas Act], i.e., the fixing of "just and reasonable" rates involves a balancing of the investor and consumer interests. . . "regulation does not insure that the business shall produce net revenues."

PECO's rate of return request in this proceeding is actively opposed by the OCA, GSA and Trial Staff. Our recommendation will not summarize in detail the positions of each active participant; for such details we refer to the record. However, our recommendation will set forth sufficient evidence of record to substantiate our findings.

A. Capital Structure

Capital structure of a utility is of major concern because it may affect not only the cost of the individual components, but may also affect the overall cost of capital itself. Since capital is not homogenous, and usually consists of a long-term debt, preferred stock and common equity (common stock), in different proportions, and at different cost rates. The cost of capital is the weighted average of the cost of each of these types of capital.

PECO's claimed capital structure ratios consist of 50.9% long-term debt, 10.7% preferred stock, and 38.4% common equity. (JFB-3, Schedule 1). Although there was some variance in the capital structure as to some of the parties, the OSA, GSA and Trial Staff finally accepted such capital structure for PECO. (OCA Main Brief, page VII-1; GSA St. 1-A, Schedule 1; Trial Staff St. ARO-2 Schedule 1).

We accept the capital structure submitted by PECO as agreed to by OCA, GSA and Trial Staff. We find PECO's capital structure ratios to be 50.9% long-term debt, 10.7% preferred stock, and 38.4% common equity, projected to June 30, 1986.

B. Debt

The following table provides a summary of debt cost rates claimed by the parties actively addressing this area:

Type of Capital	PECO[1/] %	OCA[2/] %	GSA[3/] %	Staff[4/] %
Debt	10.86	10.86	10.36	10.86

1/ PECO Ex. JFB-3, Sch. 1.

2/ OCA St. 4-A, Sch. 1.

3/ GSA St. 1-A, Sch. 1.

4/ Trial Staff St. ARO-2 Sch. 1.

PECO's claimed cost rate of 10.86 percent reflects the Company's updating of its financing plans. (PECO St. 28B, pp. 2-3). The updated calculations reflect the following:

1. Actual issuance of $41 million of 10-1/2% Pollution Control Revenue Bonds in October 1985, not originally contemplated.

2. Actual issuance of $250 million of 11-3/4% and $150 million of 10-7/8% First Mortgage Bonds in November 1985, not originally contemplated.

3. Actual tender of $78.096 million of 17-5/8%, $76.131 million of 18-3/4%, and $62.621 million of 18% First Mortgage Bonds in December 1985 for redemption, not originally intended.

4. Cancellation of plans to sell $100 million of First and Refunding Mortgage Bonds for November of 1985. The Company plans to sell $100 million of First Mortgage Bonds in May of 1986.

5. Proposed issuance of Debentures in the amounts of $100 million in February 1986, $225 million in April 1986, and $225 million in June 1986,

none of which was originally contemplated.

6. Proposed repayment of $550 million of Limerick Revolving Credit Line derived from proceeds of the sale of new debentures in February, April and June, 1986. The Company did not propose originally to repay the $550 million Limerick Revolving Credit Line.

7. Proposed call in July 1986 of $46.904 million of 17-5/8% First Mortgage Bonds, not redeemed as a result of the tender offer in December 1985.

(PECO St. 28B, pp. 2-3).

The net effect of the debt cost update is to increase the Company's claim from 10.84 percent to 10.86 percent or two basis points. (PECO Ex. JFB-1, Sch. 4 and PECO Ex. JFB-3, Sch. 4). Trial Staff accepts PECO's updated debt cost rate claim. (T.S. St. ARO-2, Sch. 1).

The OCA accepts the Company's claimed cost of long term debt of 10.86% as presented at the close of the Company's case. (OCA St. 4A, Sch. 1).

The GSA's debt cost claim of 10.36 percent differs from PECO's 10.86 percent in the following areas:

1. GSA employs a forecasted T-Bill yield of 7.15 percent in forecasting the effective costs of the floating rate notes. PECO employs 7.29 percent based upon T-Bill Future Contract yields. (GSA St. 1-A, pp. 2-3, Sch. 14).

2. The GSA recommends the disallowance of the $550 million exchange of revolving credit for an equal amount of debentures. (GSA St. 1-A, p. 4). GSA witness Winter contends that current interest rates may continue or even decline as a result of possible downward changes in inflation

from oil costs declines, adequate supplies of raw material and labor, Federal Reserve monetary policy and the possibility of an improvement in PECO's debt rating before the required repayment of the credit line starting in 1988. (GSA St. 1-A, pp. 4-5).

3. The current line of credit with an effective cost rate of 9.75 percent would be replaced under PECO's proposal with debentures costing 11.88 percent. (GSA St. 1-A, pp. 5-6).

4. The GSA proposal does not reflect amortization of the premium associated with the redemption of First Mortgage Bonds with cost rates of 17.62 percent, 19.75 percent, and 18 percent, not the associated adjustment to the principal amount of debt outstanding. (GSA St. 1-A, pp. 7-8). Although witness Winter agrees that the cost effective of redemption should be recovered by the Company, the witness contends that PECO method leads to excessive results. (GSA St. 1-A, pp. 8-10).

The GSA proposal to employ T-Bill rates rather than future contract yields as employed by the Company does not reflect the market expectations as well as future contract yields employed by the Company, therefore, the GSA proposal in this area is not accepted.

The GSA proposal to reject the Company's $550 million debenture exchange for an equal amount of revolving credit is based upon a belief that current cost rates will stay the same or decline. The Company calls this contention speculative. However, the Company's forecast of future events is equally just as speculative. The Company argues that short-term interest rates upon which the revolving credit cost rate is based are volatile while the cost rate for debentures would be fixed.

The Company's position is sound, and if the cost rate difference between the Company's position and that of the GSA were smaller, then the conservative approach would be to accept the fixed costs of the debentures. However, since in this proceeding the cost rate difference is over 200 basis points and interest cost rates have not shown a trend upward, we find the GSA position to be reasonable, and we find that this adjustment lowers the debt cost rate by 24 basis points.

In connection with the GSA position on recognition of the Company's $2.441 million amortization relative to the premium for redeeming high coupon first mortgage bonds, we find the Company's redemption to be reasonable, inasmuch as it lowers the Company's capital costs, and that the company is entitled to recover reasonably incurred costs. The Company's ratemaking treatment of the premium is identical to the treatment of gains or losses on the reacquisition of debt and the recovery of selling and issuance expense in connection with the issuance of long-term debt. The GSA position is rejected in this area.

Therefore, we find a debt cost rate of 10.62 percent (Company claim of 10.86% - 24% recalculation employing GSA's position of revolving credit = 10.62%).

C. Preferred Stock

PECO claims a preferred stock cost rate of 10.50 percent projected as of June 30, 1986. The OCA and Trial Staff accept such cost rate. The GSA claims a preferred stock cost rate of 10.41 percent.

GSA's claim is nine basis points lower than that of the Company solely because GSA witness Winter contends that PECO witness Brennan has over estimated the cost rate at which PECO's May 1986 preferred stock issuance will be issued. Mr. Winter states that preferred stock issuances typically sell at yields below those associated with a company's mortgage bonds. (GSA St. 1A, Sch. 16). Actual costs of preferred stock issuances by triple-B rated companies in December, 1985 were only 9.5%. (GSA St. 1, p. 5). This actual data from the marketplace, along with recent actual yields on PECO's mortgage bonds support Mr. Winter's conclusion that a 10.10% cost rate is a reasonable estimate for the proposed issue's cost. (GSA St. No. 1A, pp. 10-11). Use of 10.10%, instead of the Company's figure of 11.8%, leads to GSA's 10.41% finding for the cost of PECO's preferred stock.

PECO witness Brennan states that on PECO's last occasion of concurrently issued long-term debt and preferred stock, the Company's preferred stock commanded an effective cost rate in excess of that demanded by the long-term debt issuance. (PECO Ex. JFB-1, Sch. 4-5). Further, PECO claims that GSA's contention that "BBB" rated utilities issued preferred stock for 9.5% in December 1985 is meaningless in light of PECO's greater investment risk than the average "BBB" rated utility.

The Company has shown that recently (December 1984), when it issued preferred stock and long-term debt concurrently, preferred stock demanded a premium over and above that of long-term debt. Whether December 1984 is a totally accurate gauge of the cost rates to be faced by the projected issue is irrelevant, insofar as cost rates are concerned, but it does indicate the manner in which investors compare PECO's preferred stock to its long-term debt.

Therefore, we reject GSA's recommended preferred stock cost rate and accept the Company's claimed rate of 10.50 percent.

D. Common Equity

The cost of common equity, or risk capital, is more difficult to evaluate than the fixed charge capital of long-term debt and preferred stock. Equity capital does not always pay dividends; all profits after fixed charges accrue to it, and it must withstand all losses.

The cost of common equity capital cannot be read or computed from the Company's books. Its determination involves a judgement of what return is necessary to enable the utility to attract capital to satisfy its service obligations. The conclusion arrived by the Commission, the utility, complainants and their experts, may vary greatly. The return on equity is that portion of the utility's return available for distribution to the equity owner after payment of fixed capital charges.

Determining the cost of common equity is a most difficult task. The difficulty is inherent in the concept itself which calls for the return expected by investors over a prospective period. It is not a return which is set by contract, nor can it be observed directly in the marketplace. For the above reasons, the cost of common equity cannot be estimated mechanically by reliance on any particular financial variable or formula.

The following summarizes the primary common equity cost rate methodologies and claims of each active party:

Methodology *	PECO[1/] Brennan %	OCA[2/] Rothschild ** %	GSA[3/] Winter %	TS[4/] O'Donnell %
Discounted Cash Flow	15.6	13.71	13.72-15.41	12.4-14.7
Risk Spread	16.25			12.3-13.8
Common Equity Cost	15.9	14.0	14.56	14.25

* Methodologies listed in the table are the methodologies given primary consideration by the individual parties and does not consider methodologies employed by the parties as testing tools.

** The OCA common equity cost rate is based upon the DCF method and judgement.

1/ PECO's common equity cost rate gives equal weight to the DCF method and the Risk Spread and is before adjusting for selling and issuance expense. (PECO St. 28B, pp. 13-15).

2/ The OCA's common equity cost rate is based upon Moody's 24 Electric Companies sub-group of non-nuclear construction electric utilities. (OCA St. 3, pp. 39-41).

3/ GSA's common equity cost rate is based upon recent macroeconomic conditions, market analysis of utility stocks, PECO's common stock, and an analysis of prospective cost of capital trends. GSA's recommendation is based on its DCF funding. (GSA Main Brief, pages 13-14).

4/ The TS' common equity cost rate is based upon the DCF and Risk Spread methods and judgment. (TS Main Brief, Appendix B. Table, III).

OCA witness Rothschild contends that current market conditions indicate a common equity cost rate of 14 percent or less irrespective of the treatment of Limerick 2 risk upon the cost of equity. (OCA St. 3A, page 3). However, witness Rothschild further states that if the cost of equity recommendation would exceed 14 percent, then the risk effect of Limerick 2, which he finds to be approximately 75 basis points, should be considered at least to the extent necessary to lower the cost of equity to no more than 14 percent. (OCA St. 3, pp. 4 and 41). He testified that the risk associated with Limerick 2 should not be collected by ratepayers in this proceeding.

The OCA bases this position on the following excerpts from the Commission's Limerick 2 Investigation at I-840381:

> We conclude that at a minimum PECO has not carried its burden of proof, which is to demonstrate by a preponderance of the evidence that the unconditioned completion of Limerick Unit No. 2 is in the public interest.
>
> Further, based upon the credible and probative evidence of the record, we find that the other parties have satisfactorily demonstrated by a preponderance of the evidence that the unconditioned completion of Limerick Unit No. 2 is contrary to the public interest. . . .
>
> Accordingly, we conclude that based upon the record before us, and in the absence of evidence of changed circumstances, it would be incumbent upon us to deny the registration of any securities certificate which would directly provide funds for, or otherwise facilitate the completion of Limerick Unit No. 2, unless the Company agrees to a capital cost containment and operational incentive plan.

(Limerick 2 Investigation, Order at 85).

In discussing the type of cost containment program to be required, the Commission then stated:

> [PECO] should be willing to accept various of the risks which are inherent in continuing construction of Limerick

> Unit No. 2, and not seek to absolve itself of certain risks and, thereby, to place them on the ratepayers.
>
> (ID.)

One such cost created by the Company's decision to construct Limerick 2 is an increase in the Company's cost of capital. Thus, in the Limerick 2 Order, this Commission recognized that permitting the Company to complete Limerick 2 under a cost cap might result in an increase in PECO's cost of capital. For example, in quoting PECO's Vice-President of Finance, Mr. Paquette, the Commission noted:

> A construction cost containment program . . . would increase the investor's perceived risk in PECO's securities, which would increase PECO's cost of capital.
>
> (Order at 78).

Mr. Rothschild's 75 basis point Limerick 2 risk rate is premised upon the difference between PECO's common equity costs and those experienced by a group of non-nuclear construction companies. Since, as of the end of the future test year, PECO's only nuclear construction is Limerick 2, the cost difference is the result of Limerick 2 construction.

Thus, Mr. Rothschild recommended:

> To the extent that PECO has determined to go forward with Limerick No. 2, the resultant higher cost of equity needs to be segregated.
>
> If the Company wishes to reflect a higher cost of equity resulting from its Limerick No. 2 investment, then it should

> do so in its Limerick No. 2 AFUDC rate rather than through a subsidy from current ratepayers.
>
> (OCA St. 3 pp. 11-12).

GSA witness Winter states that if part of or all of the Limerick investment is excluded from rate base then his cost of common equity should be reduced to reflect this finding. (GSA St. 1, p. 6). Witness Winter finds the Limerick risk rate range to be 50-100 basis points as a minimum adjustment. He asserted that without Limerick, PECO's dividend would be more secure, its stock price would be less volatile, and the likelihood of dilution from common stock would be less. Mr. Winter contends that without Limerick risk costs, PECO's common equity risk rates would be more in line with those experienced by companies with bonds rated "B" by Moody's and Standard and Poors. (GSA St. 1, page 7). In surrebuttal, he stated that because of improved PECO cost rates which he attributes to general interest rate trends and lower investment risk associated with PECO, that the 50-100 basis point adjustment is no longer needed. (GSA St. 1-A, p. 12).

The risk associated either with Limerick 1 and/or Limerick 2, as set forth by GSA and OCA, does exist. To determine otherwise would be disregarding reality. However, a general market improvement in which PECO benefitted would not lower the risks associated with Limerick, as GSA witness Winter asserted in his Statement 1-A at page 12. The investor's view of the risks associated with Limerick would not disappear simply because its stock price improved. The risk would still exist and must be considered.

The OCA position that Limerick 2 risk related costs should be used to lower a PECO equity cost finding only if it exceeds 14 percent is without basis. Limerick 2 risk costs exist whether PECO's cost of equity exceeds 14 percent or not.

While we do not deny that risk associated with Limerick 1 or 2 exists, we do question the level of the cost associated with those risks, and the manner in which they are to be considered or not considered. In our recommendation we will not find a market related cost of common equity to be adjusted to reflect Limerick risk costs whatever they may be.

The cost of common equity is what investors expect it to be and, as such, it does not lend itself to precise quantification. In this proceeding, two parties disregard money market based evaluations of PECO's common equity cost rate to remove, in part, the cost they view as associated with PECO's nuclear construction. This approach disregards the fact that PECO's cost of common equity should reflect the Company's reality and not some idealistic situation. Furthermore, if the adjustments of Limerick associated costs are accepted, there is nothing in the record that would indicate that investors would not require greater compensation for the resulting regulatory risk than they currently do for nuclear risk. The simple fact is that investors, as indicated by PECO's market/book value ratio for the last five years, view PECO's earnings as unsatisfactory.

We have considered the data presented for all the proposed barometer companies groups with no one barometer group being given primary weight. All the barometer groups proposed by the parties contained certain flaws; however, this is not unusual.

Our common equity finding is based upon the Discounted Cash Flow and Risk Spread methodologies. The following table summarizes the dividend yield and growth rate recommendations of the active parties:

DCF	PECO 1/ %	OCA 2/ %	GSA 3/ %	TS 4/ %
Dividend Yield	13.20	8.71	13.27	12.7
Growth	2.40	4.94	1.29	1.5
Total	15.60	13.65	14.56	14.2

1/ PECO's DCF cost rate components are found at PECO Ex. JFB-3, Schedule 2, and is before an adjustment for issuance and selling expense. The dividend yield before growth adjustment is 13.05 percent.

2/ The OCA DCF cost rate after adjustments is 13.71 percent (OCA Statement 3, pages 40-41). The 13.71 percent is the OCA DCF cost rate claim in this proceeding. The adjustments to the 13.65 percent DCF cost rate are 0.34 percent, one half of the change in dividend yield and a .40 percent allowance for financing costs.

3/ The GSA DCF cost rate is a range 13.72-15.41 percent from which the GSA witness Winter concludes a 14.56 percent common equity cost rate which is the mid-point of the range. The dividend yield is 13.10 percent times 1.013 percent for next period growth or 13.27 percent. The growth is the average of .5 percent and 2.1 percent or a growth of 1.3 percent or approximately the 1.29 percent growth rate developed by subtracting the dividend yield from the 14.56 total cost rate. (GSA Statement 1A, page 17 and Schedule 1).

4/ The 14.2 percent DCF cost rate in the table above consists of a dividend yield of 12.7 percent (TS Statement ARO-2, Schedule 5, page 3) and the mid-point of the growth rate range of 1-2 percent. (TS Statement ARO-2, Schedule 5, page 3). PECO's statistics employed because of statement indicating barometer group data used by TS as a checking tool. (TS Statement ARO-2, page 5, TS Main Brief, p. 15).

We find a dividend yield cost rate range of 12.7-13.1 percent for PECO in this proceeding. Recognizing the subjectivity of the common equity cost determination, we find that the average of the range, 13.00 percent (12.9% adjusted by half the growth rate of 1.0075% = 13.0%), to be reasonable.

The OCA dividend yield was not considered as a separate component of our DCF finding because it was based upon non-nuclear construction electric companies which does not represent a similar risk group to PECO. However, although witness Rothschild's component DCF parts were not considered, the final product of his DCF cost rate study was given consideration.

Our growth rate finding is the 1.5 percent average of the range 1.29-1.7 percent. Although PECO witness Brennan contends that PECO stock price increase of 26 percent indicates investor expectations of higher growth rates, he does not quantify his 70 basis point increase in the growth rate to 2.4 percent. (PECO St. 28B, pages 17-18). Further, if as some of the parties have asserted in the record, the investors are worried that dividends may be cut, then it does not seem reasonable that investors would have such a change of heart, regardless of the common stock price increases experienced by PECO, which to some degree resulted from the general improvements in the money market.

The OCA growth rate was considered in the same manner as the OCA's dividend yield recommendation.

The parties active in the area of rate of return in this proceeding agree that the Commission should employ the most recent experienced capital costs of PECO. Since rates to be established herein are prospective, the use of as current a capital cost rate as available should be made. Therefore, we recommend that Commission consider the most current capital cost rates available during its deliberations.

In our recommendation, we have followed the common stock price of PECO with the thought of considering the current trends in PECO's common stock price. The current dividend yield[2/] is 11.07 percent. This dividend yield is 83 basis points below the updated dividend yield considered by witness Brennan as of January 27, 1986, 43 basis points below witness O'Donnell's February 7, 1986 update. Since the trend toward lower common equity cost rates continues, we would be remiss if we did not consider this continuing trend. In our judgment and recalculations of PECO's DCF method, employing the updated spot data, we find that the DCF cost of equity based upon such data, should be reduced 41 basis points.

Therefore, we find a DCF common equity cost rate to be 14.09 percent (DCF cost rate of 14.50% - .41% = 14.09%).

The following table summarizes the Risk Spread technique recommendations of the parties employing the technique as a primary common equity cost determinant.

2/ Wall Street Journal, April 11, 1986, page 51.

Risk Spread	PECO[1/] %	TS[2/] %
Forecasted Bond Yield	11.75	
Risk Spread	4.50	
Difference in Forecasted Bond Yields		(.1)
DCF Determined Cost Rate	___	12.4-13.9
Total	16.25	12.3-13.8

1/ PECO's risk spread common equity cost rate is found at PECO Exhibit JFB-3, Schedule 2.

2/ TS's risk spread common equity cost rate is found at TS Statement ARO-2, Schedule 6.

Witness O'Donnell for Trial Staff explains his risk spread method as follows:

> The theory behind the method is that risk can be more accurately quantified by computing the spread that exists between a firm and other companies. That quantification can be approximated by comparing the yield to maturity of a company's bond with a similar coupon, maturity date and call feature. That spread is then added to the barometer group DCF results to arrive at the indicated rate of return on common equity.
>
> I have provided a summary of my risk spread analysis on Schedule 6, page 1. The average risk spread that was added to the 12.6-14.2 percent DCF result result range to the barometer group of four electrics is approximately -.1 percent. The resultant risk spread method indicated rate of return is in the range of 12.5-14.1 percent.
>
> (Trial Staff Statement ARO-1, p. 18).

The weakness in Trial Staff's methods were pointed out by PECO witness Brennan, summarized as follows:

1. There is no need for any adjustment since PECO's common equity cost should be based on PECO market related data as much as possible.

2. The bond differences could easily be the result of factors unaccounted for by Trial Staff.

Furthermore, witness O'Donnell methodology is not consistent with what the Commission has recognized as the risk spread in its recent orders.

We find the methodology and bond yield rate employed by witness Brennan to be reasonable. The methodology is consistent with previously accepted Rish Spread methodologies, and the bond yield of 11.75 percent appears acceptable to the parties of record, inasmuch as the witnesses employed that cost rate in the determination of their respective debt cost rate claims.

However, the forecasted bond yield should be adjusted to reflect improved financial conditions. In this connection, we find a 41 basis point adjustment reasonable, which is equal to the adjustment applied to our dividend yield calculations. Therefore, we find the bond yield employed by us in the risk spread to be 11.34 percent.

The risk spread reflective of the risk spread for common equity proposed by witness Brennan is 4.5 percent. GSA witness Winter finds risk spreads for PECO in the range of 2.2-5.9 percent. (GSA Statement 1, p. 43). The OCA witness Rothschild quotes a FERC Order No. 424 which found a reasonable risk premium for public utility stock in excess of the cost of public utility bonds to be 2 percent. (OCA Statement 3A, p. 7).

Trial Staff witness O'Donnell did a study comparing witness Brennan's and Commission allowed rates of return on common equity to long-term bond yields, indicating that the average Commission allowed common equity cost rate less bond yield is 1.64 percent and Brennan's common equity claim less bond yield to be 2.29 percent. (Trial Statement ARO-2A, Schedule 1).

The determination of the risk spread premium for common equity is subjective in the extreme, as the range of positions in this proceeding shows. As a result of the lack of consensus in this area between the Company and the complainants, we find a risk premium rate range of 1.6-4.50 percent, with a 3.07 risk premium, as the mid-point of the range, to be reasonable. This approximates the risk premium rate historically granted by this Commission and represents a best estimate of a risk premium rate based upon the strongly judgmental recommendations on this record.

Therefore, we find the risk premium common equity cost rate for PECO to be 14.41 percent (bond yield of 11.34% + 3.07% premium = 14.41%).

A common equity cost rate finding does not lend itself to a precise formula, but represents a gray area of money market related ratios and the application of judgment. As the result of our perception of market place data, our application of our judgment, and the consideration of the relative recommendations of the parties, we find a common equity cost rate for PECO to be 14.25 percent (DCF - 14.09% + 14.41% Risk Spread = 28.50% ÷ 2 = 14.25%).

The Commission in numerous proceedings has disallowed adjustments for selling and issuance expenses. A review of the record does not warrant a change in the current Commission policy. Therefore, we have not accepted any adjustment to common equity to reflect selling and issuance expenses.

Summary of Recommendation

Type of Capital	Ratio %	Cost Rate %	Weighted Cost %
Debt	50.9	10.62	5.41
Preferred Stock	10.7	10.50	1.12
Common Equity	38.4	14.25	5.47
Total	100.0		12.00

Summary of After Income
Tax Interest Coverage Levels

	PECO 1/	OCA 2/	GSA 3/	TS 4/	ALJ
Coverage Level	2.3	2.2	2.3	2.2	2.2

1/ Interest coverage levels from PECO Exhibit JFB-3, Schedule 1.

2/ Interest coverage levels calculated from OCA Statement 3, Schedule 1.

3/ Interest coverage levels calculated from GSA Statement 1A, Schedule 1.

4/ Interest coverage levels calculated from Trial Staff Main Brief, Table III.

Interest coverage levels are observed as a testing of overall rate of return levels. Our overall rate of return of 12.00 percent based on after tax income levels is reasonable.

In connection with the establishment of a rate of return for PECO in this proceeding, it must be noted that although the Company in its brief requests the approval of a common equity cost rate of 15.9% (PECO Main Brief, page 7-70), in its Main Brief at page 2-2, it states:

> . . . the Company has undertaken a number of steps to minimize the impact of the requested revenue increase on PECO customers and on the economy of the Company's service territory. For example, the rate increase as initially filed was based on a 15.75% rate of return on common equity, which is less than the 16.75% granted in the Company's last rate case.

(See also PECO St. 3, page 5).

X. REVENUES, EXPENSES AND TAXES

The net operating income of a utility consists of its revenues, less its expenses, depreciation and taxes. The annual depreciation is considered as a part of the operating expenses. In determining the appropriate net income of PECO in this proceeding, under the rate-making process, the Commission must assure that all applicable revenues are accounted for, and that only justified expenses, depreciation and taxes are deducted therefrom.

A. Revenues

1. Normalized Outage Rate Base Revenue Adjustment

Trial Staff proposes a reduction in the Company's revenue requirement of $19,324,000 because of an alleged high forced outage rate. The proposed penalty adjustment would penalize PECO by disallowing the common equity return associated with 3.21% of Company installed generating plant.

We have discussed this matter under rate base under Section "D" – Normalized Outage Rate Base Adjustment.

This Staff's recommended adjustment to PECO's revenue requirement is rejected.

2. Pro Forma Revenues

The Company has budgeted total weather-adjusted electric sales of 27,653,130 megawatt hours for the test year ended June 30, 1986. (PECO Ex. TPH-2A, A5). The Company additionally has shown an annualization adjustment for growth in usage of existing customers and annualization of new customer growth, amounting to 490,000 megawatt-hours. (PECO Ex. TPH-2A, D3a). The OCA contends, however, that the Company's actual weather-adjusted sales are significantly above its budget. It submits that the Company's claimed revenues should be adjusted upward to reflect the known additional weather-adjusted sales above those budgeted by the Company.

The OCA proposes to increase PECO's pro forma sales and revenues, based on a computed difference in weather-corrected actual and budgeted sales for the first five months of the future test year. (OCA Brief, pp. VIII - 2 to 4). The OCA proposes to increase PECO's sales and revenues by approximately $11 million, resulting in an adjustment to operating revenue of approximately $3.607 million. (OCA St. 4, pp. 39-41 and Sch. 11)

OCA witness Bleiweis testified:

> As shown on [my] Schedule 11, for the first five months of the future test year, actual weather-adjusted sales have exceeded the budget by approximately 128,000 megawatt hours. Valuing this variance at the average revenue per kilowatt hour by revenue class results in additional weather-adjusted revenues of approximately $11.0 million.

(OCA St. 4 at 40)

Witness Bleiweis asserts that since PECO presents its budget sales as a weather-adjusted basis, actual sales should be adjusted for meaningful comparison. (Tr. 2546)

While weather adjustment may be appropriate for comparison purposes, it is not proper when calculating a revenue adjustment; it is inappropriate to impute additional sales for ratemaking purposes which never actually occurred.

Company witness Hill explained that actual sales for the first six months of the future test year were below budgeted sales by 22,844 MW, or 0.2%. It is only after weather correction to express actual sales on a weather-adjusted basis that sales exceed budgeted levels. However, as witness Bleiweis admitted on cross-examination (Tr. 2557), a weather adjustment to actual sales does <u>not</u> represent sales actually made by the Company, nor does it produce any revenue for the Company.

Not only have actual sales been below budgeted levels, actual revenues have been even more under budgeted levels. As explained by Company witness Hill (PECO St. 18C, p. 36):

> Schedule 12, appended to this testimony, compares the budgeted base rate revenues for the first six months of the future test year with the actual base rate revenues for the same period. <u>As this schedule shows, actual sales for the first six months of the year are only slightly below budget estimates. However, actual base revenues were $16.2 million below budget</u>. This decrease in base revenue can be attributed to the pattern of actual consumption by customers as compared to budget projections. Increases in load factor and shifts in usage by large industrial customers can reduce base revenue even without a decline in the absolute level of sales. I would further note that the reduction in base revenues as compared to budget is well in excess of the $11 million base revenue adjustment proposed by Mr. Bleiweis.
>
> (Emphasis added)

Witness Bleiweis' adjustment would not only disallow recovery of the $16.2 million below budget in revenue for the first six months of the future test year, but would impute an additional hypothetical $11 million in revenue over that budgeted by the Company, thereby overstating revenues by $27 million.

Furthermore, Bleiweis' adjustment incorrectly assumes that an increase in the Company's sales over the budgeted level would result in a commensurate increase in the Company's revenue. As Mr. Hill explained, this is simply not true. (PECO St. 18C, p. 36):

> Sales can increase over budgeted levels for many reasons, including abnormally warmer or cooler weather, variations in customer use patterns, as well as general improvement in the economy. When sales increases occur they may or may not have a significant impact on the Company's total revenues or income.

Finally, witness Bleiweis' adjustment is incomplete. He looks only at actual vs. budgeted sales, and does not consider actual vs. actual expenses, which also will significantly affect PECO's income available for return. As shown in Exhibit TPH-3 and TPH-4, PECO's operating income for the first six months of the future test year was $21.8 million below budget.

This recommended adjustment to revenues by the OCA is rejected.

B. Expenses

1. Inflation Factors

In developing expense levels for the 1985 and 1986 Company budgets, PECO used a general inflation factor where specific known cost changes were not available and the level of activity budgeted was expected to remain essentially unchanged, except for inflation. The calculated inflation factors were 5.25% for 1985 and 6.4% for 1986.

Trial Staff, OCA and GSA have proposed adjustments to the Company's operating and maintenance expense claim to reflect a corporate inflation factor (TS Brief, pp. 52-54; OCA Brief VIII 4 to 9; GSA Brief pp. 19-21). They submit that the Company's inflation factors are overstated.

Downward adjustments recommended are: Trial Staff - $6,782,000; OCA $645,000; and GSA of $1,741,164.

The Company does not challenge the inflation factors based on the GNP-IPD developed by Staff, OCA and GSA. The focus of the Company's opposition to these inflation adjustments is the improper and erroneous application to the Company's claim in this proceeding.

The adjustment proposed by Trial Staff incorrectly assumes that PECO's corporate inflation factor was applied to all components of the Company's budget. As explained by the Company, PECO's inflation factor was applied only in the absence of known cost changes. One of the known cost changes was PECO's wage increase of 5.4% granted on August 1, 1985. No party has challenged this increase as unreasonable. Thus, the labor portion of the accounts analyzed by the opposing parties was not increased by the corporate inflation factor; they were increased by the known 5.4% general rate increase. Staff's application of its inflation factor to entire balances rather than the non-labor portion is incorrect. (PECO Brief, 7-pp. 103-104).

The Company performed an extensive re-analysis of Accounts 500-556, 902, 903 and 920 to determine what portion of these accounts a general inflation was applied. The results of this analysis are described in pages 7-104-105 of the Company's Initial Brief, and show that a maximum adjustment of $947,000 is correct, using the inflation assumptions of opposing parties. This adjustment has been incorporated into the Company's final accounting exhibit PECO Ex. TPH-2A, D-10.

It is noted that GSA mistakenly applied this adjustment to the figure on D-10 of Ex. TPH-2A which already reflected this adjustment. Thus GSA double counts the $947,000.

The Company's adjustment of $947,000, as already accounted for, is accepted, and the recommended adjustments of Trial Staff, OCA and GSA are rejected. No further adjustment by us is required.

2. <u>Cost Associated with Replacement of Transition Tubes at Eddystone No. 1</u>

PECO has included in its test year expense claim one-half of the cost of the replacement of the transition tubes at Eddystone No. 1. (PECO St. 22B) The total cost of the project is $3,400,000.

Trial Staff proposes that the cost of this project be amortized over a period of ten years instead of the two years for recovery by PECO, since Trial Staff contends that the replacement has a life span of 22.9 years which is the remaining life of the boiler. Trial Staff would reduce the Company's expense claim by $1,360,000.

The replacement of the transition tubes at Eddystone 1 is being undertaken to preserve the availability of the unit. The Commission in past rate proceedings has accepted the recovery of maintenance expenditures for availability consideration as on as-spent basis. For example, at Docket No. R-842590, the Commission approved recovery of additional expense for early completion of the Eddystone Restoration Program over three years, the period completion would have taken if the program had not been accelerated. The transition tube replacement is the same type of project and should be recovered on an as-spent basis, that is, over a two-year period. (PECO St. 22C, pp. 23-24)

Trial Staff's proposal of a ten-year amortization is unprecedented in Pennsylvania regulatory practice in which expenses, if amortized, are amortized over a three to five year period.

But, more importantly, Trial Staff's recommendation of amortizing an expense over ten years without a return on the amortized balance is to disallow a substantial portion of expense through lost time value of money. In effect, it treats this expense as a capital item entitled to rate base inclusion, yet would deny a return on such portion of rate base. We consider this to be unreasonable and improper.

We find the inclusion of one-half of this expense in PECO's expense claim to be warranted. Accordingly, we reject the recommendation of Trial Staff to reduce the Company's expense claim by $1,360,000.

3. Wage Expenses

Trial Staff submit that the Company's wage expense claim is overstated by 331 employees. It proposes a $4,590,000 reduction in PECO's wage expense for the future test year.

Staff witness Weakley noted that the Company had budgeted 11,286 employees for the future test year. He then compared the number of actual and budgeted employees for the first five months of the future test year, and determined that the average monthly difference was 354. (TS St. CTW-1, Sch. 6) He than analyzed the Company's experience for the years 1983-1985 and found the average percentage of employees associated with 331 positions, which is 3% of the average number of employees budgeted for the future test year, which he claims should be disallowed. In calculating the amount of wage expense Mr. Weakley used a weighted average of starting salaries of $18,624 and fringe benefits at 26.2%. (TS St. CTW-1, Sch. 3, 4)

Staff relies on Pa. P.U.C. v. Pennsylvania Electric Co., R-842771 (October 25, 1985). In that case, as the Commission stated, Penelec's "historical experience. . . evinces a pattern of budgeted expectations not being achieved." On that basis, the Commission adopted Staff's adjustment. The Company claim that Staff's reliance thereon is misplaced.

The Company explains that its total wage and benefit claim reflects a number of components, including the number of employees, level of over-time, and the amount of contract labor. Staff witness Weakley has considered only one component of the Company's total wage and benefit expense -- the number of employees -- and ignoring all other components of the Company's claim. (PECO St. 18C, pp. 3-4)

On a total payroll basis, PECO's actual payroll expense for the first six months of the future test year exceeded budgeted payroll by $1,444,515, or 0.6% of budget. This result was influenced in part by the September 1985 payroll which was high due to additional overtime associated with Hurricane Gloria. However, PECO states that when these expenses are removed from the calculation, actual total Company payroll for the first six months still exceeded budgeted payroll expenses by $296,044, or 0.13% of the budget.

However, when actual to budgeted payroll expenses for the three-year period examined by Mr. Weakley is examined, the results show that the actual payroll exceeded budgeted payroll by 0.17%. (PECO St. 18C, pp. 2, 3).

Staff claims that "budget payroll dollars do not include wage increase by PECO [and] thus the comparison between budgeted dollars and actual payroll dollars is not made on an equal basis." (TS Brief, p. 57).

As explained by PECO witness Hill, Staff's assertion is incorrect, since PECO's claimed test year labor costs have been adjusted to reflect the actual (5.4%) of the August 1, 1985 increase in wages and benefits and to annualize the effect of such increases which were not fully reflected in the 1985-1986 budget. The Company's future test year, however, does <u>not</u> reflect the anticipated August 1, 1986 wage and benefit, one month after the end of the future test year. (PECO St. 18, pp. 22-23, PECO Ex. TPH-2 and TPH-2A, p. D-5).

After review of all of the circumstances, it is apparent that Trial Staff's consideration of only one aspect of the Company's wage expense does not present the full picture. The Company's <u>total</u> wage expense, on the other hand, over the last three years appears to be consistent.

We find PECO's wage claim expense to be reasonable, and reject Trial Staff's recommendation of a downward adjustment of $4,590,000.

4. <u>Salem No. 1 Management Evaluation Program</u>

The Company has claimed a two-year amortization of its share of $7,283,000 of the $17 million cost of the Salem 1 management evaluation program.

The nature of this "management evaluation" audit was explained by PECO witness Carroll:

> At the time of the Salem No. 1 breaker incident Public Service Electric and Gas Company (PSE&G) was questioned by the Nuclear Regulatory Commission on the Company's ability to operate and manage a nuclear facility. When PSE&G addressed this question, it took advantage of the timing to perform a complete management review of their procedure and policies with regard to nuclear power operation. PSE&G in conjunction with Management Analysis Company, a consultant hired for this project, developed an Action Plan for operation and management of their nuclear facilities.
>
> (PECO St. 22, at 18-19).

At P-830453, the Commission considered the Salem 1 breaker incident, which occurred in February, 1983, and denied recovery of the Company's resulting replacement power cost because the Commission found:

> We are not satisfied that PECO's management involvement in establishing perspective, in requiring attention to detail and in ensuring adherence to procedures represented the degree of care we require of a public utility in the operation of a nuclear generating facility.
>
> (Re Salem Nuclear Generating Station, 70 PUR 4th 568, 599 (1985).

The Nuclear Regulatory Commission (NRC) inquiry into the breaker incident found that:

> Based on [review of the record of the Salem breaker incident and preceding history], the root causes of the maintenance problems were failure in the following features necessary to assure adequate plant reliability:
>
> (1) a strong, clear management policy mandating effective programs for preventive maintenance;
>
> (2) components designed for maintainability and maintenance systems designed for effective accomplishment of maintenance;
>
> (3) detailed understandable procedures to facilitate timely, effective performance of maintenance activities;
>
> (4) adequate numbers of trained qualified personnel to perform the maintenance activities, to plan, schedule, and manage those activities, and to assure their effective performance, considering the estimated 30-50 maintenance work requests per day at the Salem station;
>
> (5) effective management controls to assure timely, proper, and complete performance of maintenance activities.

OCA and Trial Staff have proposed adjustments to the Company's operation and maintenance expense claim related to this program. (TS Brief, pp. 77-85; OCA Brief, pp. VIII - 9 to 13). OCA proposes a $3,642,000 downward adjustment; Trial Staff recommends an adjustment of at least $3,484,000.

While it may be true, as contended by the Company, that the audit was a prudent and reasonable program, it was made necessary by the imprudent and unreasonable operation at the plant. Any benefits from the audit that may have flowed to ratepayers beyond addressing the Salem 1 breaker incident were incidental.

This audit was not part of the Company's normal operating procedures which ratepayers ordinarily support. It was undertaken under the impetus of the Salem 1 breaker incident and the NRC's questioning of PSE&G's management in the wake of that incident.

Moreover, the general rule is clear: A utility is not required to be reimbursed for expenses incurred in the past. The ratemaking process looks at the past in order to project the future; not to conduct retroactive ratemaking. See Pa. P.U.C. v. T. W. Phillips Gas and Oil Co., R-811615 (1984); Pa. P.U.C. v. Duquesne Light Co., 54 Pa. P.U.C. 695 (1981); Pennsylvania Gas & Water Company v. Pa. P.U.C., 79 Pa. Cmwlth Ct. 416, 427, 470, A.2d 1066, 1072 (1984).

In addition, the Commission has frequently held that previously incurred, non-recurring expenses may not generally be recovered from ratepayers. See Pa. P.U.C. v. Duquesne Light Co., supra 54 Pa. P.U.C. 695 (1981).

Because the audit was not a voluntary action on the Company, the costs of the audit are non-recurring, and the action which forced the audit was found by this Commission (at P-830453, et al) to be imprudent, such costs should not be reflected for ratemaking purposes.

We find that PECO's request for a two-year amortization of its share of the costs of the costs of the Salem Management Evaluation Program expenses in the amount of $7,283,000 are not properly ratepayer responsibility. Accordingly we adjust downward PECO's expense claim on this account in this proceeding in the amount of $3,642,000.

5. Sequoyah, Homestake and Lee Mine Uranium Projects

In this proceeding, the Company seeks to amortize over five years its investment in the Sequoyah, Homestake and Lee uranium mine ventures which have been cancelled.

The Sequoyah portion of the Salem nuclear fuel commitments was terminated September 15, 1985, and the Homestake portion was abandoned on December 26, 1985. The Company wrote-off its investment in the Lee Mine Project in November, 1985 pursuant to an agreement with its joint owner.

It is noted that the Company and Commission Staff have reached a settlement with respect to the Commission's investigation relating to such investment at C-850128. Under the terms of the settlement agreement which was approved by ALJ Turner on March 5, 1986, the Company agreed to refund to ratepayers $1,747,000 plus interest, which represents the return on such investments under rate base treatment. The Company also agreed to seek recovery of its investment in those recently cancelled projects without return occasioned by their inclusion in rate base from May 21, 1982 to November 23, 1983. In other words, the Company here seeks a return of and not a return on these investments.

The OCA opposes such amortization claim in their entirety, and proposes a reduction of PECO's expense claim in the amount of $2,445,000, because (1) these mines have never provided service to ratepayers and are not "used and useful", and (2) such investment cannot be recovered from ratepayers under Section 1315 of the Public Utility Code.

We agree with the Company that the "used and useful" standard is applicable only to rate base treatment. Cohen v. Pa. P.U.C., 90 Pa. Cmwlth Ct. 98, 494 A.2d 58 (1985); National Fuel Gas Distribution Corp. v. Pa. P.U.C., 76 Pa. Cmwlth Ct. 102, 464 A.2d 564 (1983).

Moreover, utility rates generally reflect all prudent and reasonable costs. See UGI Corp. v. Pa. P.U.C., 49 Pa. Cmwlth Ct. 69, 410 A.2d 923 (1980). PECO's investments in these uranium mining projects were part of the overall cost of providing utility service to the public and are recoverable. Changed conditions prevented completion of these projects. A utility should be encouraged to abandon or cancel projects no longer necessary for the efficient operation of its system, in the public interest, rather than penalizing it for such prudent and reasonable action.

We find that the amortization of PECO's investment in these projects was proper and reasonable, and the $2,445,000 reduction in PECO's expense claim is rejected.

6. Peach Bottom Unit 1
Decommissioning

The Company has claimed a $691,000 annual expense for contributions to a fund for decommissioning Peach Bottom 1. (PECO Ex. TPH-2A, D-15).

The origins of Peach Bottom 1 was set forth in the testimony of PECO witness Wright:

> Peach Bottom Unit No. 1 was built through the efforts of a consortium including PECO and 52 other companies, collectively called High Temperature Reactor Development Associates (HTRDA). Each member of HTRDA contributed toward the design and construction of Peach Bottom Unit No. 1. The objective of the participating companies was to obtain technical knowledge, information, experience and training in the design, construction, maintenance and operation of a nuclear power plant.
>
> (PECO St. 20A, p. 8).

Peach Bottom 1 was in operation from 1967 to 1974, and was officially retired from service on June 1, 1975. PECO witness Wright stated that "Peach Bottom Unit 1 is currently in a safe storage (SAFSTOR) condition." (PECO St. 20A at p. 7). SAFSTOR is one of the three major classifications of decommissioning alternatives recognized by the Nuclear Regulatory Commission.

PECO claims that Peach Bottom 2 and 3 cannot be decommissioned without removal of the radioactive portions of Peach Bottom 1 that remains in the entombment structure. However, there is no certainty that additional decommissioning of Peach Bottom 1 will be required.

Both Trial Staff and OCA recommend the elimination of this expense from this proceeding.

PECO asserts that prior decommissioning costs were not collected from ratepayers for Peach Bottom 1 because "it was not until 1980 that costs for decommissioning costs" were allowed. It fails to recognize that the Company was not precluded from seeking such costs prior to 1980 or subsequent to 1980. At least for the past six years

PECO has not attempted to collect these costs. For twelve years PECO has allowed these costs to remain uncollected and now seeks to obtain such costs from current ratepayers who never received benefits from Peach Bottom 1.

Nor does PECO show what responsibility or contribution for such Peach Bottom 1 costs was required under PECO's contract with the Atomic Energy Commission.

Furthermore, if additional decommissioning of Peach Bottom 1 should be necessary before Peach Bottom 2 and 3 can be decommissioned, other joint owners of Peach Bottom 2 and 3 should be required to contribute to the decommissioning of Peach Bottom 1.

We find that PECO has not met its burden in claiming this expense. The recommendation of Trial Staff and OCA that the Company's claim be rejected is accepted, and PECO's annual decommissioning costs for Peach Bottom 1 in this proceeding is adjusted downward by $691,000.

7. <u>Decommissioning Expense of Peach Bottom 2 and 3, and Salem 1 and 2</u>

PECO's decommissioning claim anticipate that decommissioning funds for Peach Bottom 2 and 3, and Salem 1 and 2, will be fully paid by the expiration date of the NRC licenses on these plants in 2208.

Trial Staff proposes that the accrual of funds be extended to the service life of the plants instead of the license expiration date. It recommends an adjustment in the amount of $1,037,000 to the Company's decommissioning expense on these plants.

The OCA, on the other hand, states in connection with such decommissioning costs that:

> The Company's presentation of its Peach Bottom 1 claim thus is different from its other decommissioning claims. For its Limerick 1, Salem 1 and 2, and Peach Bottom 2 and 3, the Company presented the detailed results of the study of N. Barrie McLeod, PECO Statement 27 and PECO Ex. NB,-1. See also, PECO St. 20 at 23. The OCA does not oppose these other claims.
>
> (OCA Brief VIII-21).

We find PECO's annual decommissioning claims based on the expiration of the licenses of Salem 1 and 2 and Peach Bottom 2 and 3 to be reasonable. The suggested extension of the useful life to these plants beyond the license period is speculative.

This recommended adjustment by Trial Staff is rejected.

8. Heaton-Byberry Transmission Line

The Company is claiming a five-year amortization of $445,000 in accumulated engineering costs associated with the Heaton-Byberry Transmission Line. (PECO St. 18, p. 26; Ex. TPH-2A, D-12, D-12a). PECO has abandoned its intention to construct this line.

PECO witness Hill testified that this project was initially suspended in 1976, and that the Company only recently determined that the line would not be built. It requests that the costs be recovered and charged to abandoned engineering. This is the first proceeding since the write-off in which the Company has had an opportunity to claim amortization of this unrecovered cost. (PECO St. 18C, pp. 30-31).

The OCA proposes a disallowance of the Company's claimed amortization of such costs in this proceeding since the line was never placed in service. (OCA St. 4, pp. 36-37). It also objects to the fact that this project was suspended in 1976 and that "ratepayers should not be required to reach back ten years in recognition of expenditures." (OCA St. 4, p. 37).

The write-off was included in the adjusting entries offered by the Bureau of Audits in its recently completed property records audit.

This line was proposed and designed for providing service to PECO's ratepayers. It would be reasonably expected that the Company would continue to assess, from time to time the continued need of such projects, as ratepayer requirements are changed by subsequent events or conditions. The Company should not be penalized for adjusting its operations to meet efficient operation, even to the cancellation of unneeded designed line projects. In fact, the Company should be encouraged to do so. It is noted that the Company is requesting its out-of-pocket expenditures with no return on the same.

We find this claim of PECO to be reasonable and allow the same. Accordingly, we reject OCA's recommended $89,000 downward adjustment to expenses in this proceeding on such account.

9. Limerick Unit 2
Investigation Costs

The Company seeks a five-year amortization of $5.5 million it expended for the Limerick 2 Show Cause Investigation. This results in an annual rate adjustment of $1,100,000. (PECO Ex. TPH-2A, D-12).

OCA proposes that the Company should capitalize these costs over the life of Limerick 2, and that the Company's amortization in this proceeding should be disallowed.

Company witness Hill claimed that:

> [OCA witness] M. Bleiweis's proposal to capitalize the expenses associated with the Limerick Unit No. 2 investigation would be completely inequitable since the Commission's Order in the Limerick No. 2 investigation has allowed the Company to proceed with the construction under a strict containment program whereby the cost of Limerick No. 2 is capped at a specific cost of $3.197 million.

(PECO St. 18C at 29).

The applicability or non-applicability of the cost cap of Limerick 2 is not an issue here. What is at issue is when the cost of the Limerick 2 investigation should be recovered from ratepayers. It would be inequitable to ask current ratepayers to subsidize costs of a plant now but which may only serve future ratepayers several years later. If, indeed, there is any inequity as to the effect of capitalizing such costs on the Limerick 2 cap, that matter should be addressed to the Commission in another proceeding.

The Company's comparison to the Commission's allowance of recovery of the Company's expenses at R-842590 of the recent Energy Cost Rate Investigation is in opposite. The services at issue in that case had already been received by the time the base rate case was decided.

We find that OCA's recommended disallowance of amortization of such expenses of $5.5 million costs associated with the Limerick 2 investigation, resulting in a downward expense adjustment of $1,100,000 in this proceeding is reasonable and proper and should be accepted. Accordingly, PECO's expense on this account in this proceeding is reduced by $1,100,000, and the amortization is rejected.

10. EEI Membership Dues

The Edison Electric Institute (EEI) is a voluntary trade association of investor-owned electric utilities to which PECO belongs. Member utilities pay annual dues. In the case of PECO, the Company has budgeted a total of $348,000 for EEI membership dues.

Trial Staff recommends that PECO's claim should be reduced by $87,000, or 25%. Staff's proposal is based upon a subcommittee preliminary report of the National Association of Regulatory Commission of October 12, 1983 which suggests a disallowance of 25% to 33% of the dues for ratemaking purposes, representing the portion of the dues used for lobbying purposes.

PECO contends that the information it received from EEI is that only an estimated 2.68% for 1985 and 2.7% for 1986 of dues were or will be used for lobbying purposes. Trial Staff contends that the information supplied to PECO by EEI represents a narrow definition of the lobbying activities and does not include costs associated with legislative advocacy.

This proceeding is not the first case in which the issue of EEI Membership Dues and the NARUC report was addressed by the Commission. In Pa. P.U.C. v. Duquesne Light Co., R-842583 (January 24, 1985) the OCA proposed a similar adjustment. Such adjustment was accepted by the Commission in disallowing 25% of the membership dues. The issue was addressed subsequently in Pa. P.U.C. v. Metropolitan Edison Co., R-842770 (October 24, 1985) and in Pa. P.U.C. v. Pennsylvania Electric Co., R-842771 (October 24, 1985). In both cases the Commission adopted Staff's proposed reduction to EEI Membership Dues. However, 25% of the Company's EEI dues of $627,000, as updated, would be $157,000.

We agree that the EEI dues of $627,000 should be reduced by $157,000. Consequently, we have allowed the remaining $470,000 in our adjustment of the future test year disallowance of $2,644,672 under Keystone Alliance item to $2,174,672,. No further adjustment is necessary.

11. EEI Media Advertising

For the future test year, PECO has budgeted $272,000 for EEI media advertising program.

Trial Staff recommends complete disallowance of this claim on the ground that these costs do not directly benefit PECO's customers. Additionally, the NARUC Subcommittee preliminary report has recommended a disallowance of all of EEI media communication costs.

The Commission had disallowed such costs in PECO's most recent rate proceeding at R-842590. Since then, similar disallowance was approved by the Commission in Pa. P.U.C. v. Duquesne Light Company, R-842583 (1985), Pa. P.U.C. v. Metropolitan Edison Co., R-842770 (1985) and Pa. P.U.C. v. Pennsylvania Electric Co., R-842771 (1985).

PECO has presented no reason to the Commission which warrants a deviation from past Commission practices.

Since PECO has already withdrawn this claim in PECO Ex. TPH-2A, D-28, no adjustment is necessary and Trial Staff recommended $272,000 deduction from expenses is rejected.

12. Keystone Alliance

In its final accounting exhibit, PECO Ex. TPH-2A, the Company has made no adjustment to comply with the Commission's decision in the case of Keystone Alliance v. Philadelphia Electric Co., C-78080459, which mandated the disallowance of specified lobbying and promotional expenses. The Commission indicated, in a Tentative Amended Order entered on February 18, 1986, that it intends to require refunds to ratepayers of payment made for those expenses under rates set in the last two PECO rate cases. Those disallowances are refunds to be implemented in this case.

Trial Staff recommends an adjustment downward by $5,931,000. OCA recommends a reduction in expenses by $4,117,000.

For such expenses on the future test year in this proceeding, we find the Company's claim to be $2,644,672. By our "EEI Membership Dues" adjustment, we have disallowed $157,000 of the EEI dues and have allowed $470,000 for such dues, leaving $2,174,672 to be disallowed.

We further find that the amount to be refunded at R-842590 is $2,320,412, and for R-822291 the amount is $2,095,490, or a total of $4,415,902.

The Company has agreed to an amortization of the refunds over two years, or $2,207,951 on an annual basis in this proceeding. (See OCA Ex. 4A, Sch. 13; PECO Ex. 18A; PECO Ex. 181, Sch. 2 and 4).

Accordingly, further reduction in this proceeding of $2,174,672 for the future test year claim in this proceeding plus the annual amortized refund of $2,207,951, for a total of further reduction in expenses by $4,382,623.

13. Rate Case Expenses

In PECO's claim for rate case expenses are included $800,000 for legal fees and $3,099,000 for consultants.

Nowhere in the record has Staff challenged the Company's claim as unreasonable. On the contrary, Staff's own witness admitted that Staff was making no such challenge. (Tr. 2384).

In its Main Brief, however, Trial Staff characterizes the Company's rate case expense as "per se unreasonable," "out control," and "overkill of the greatest magnitude." (T.S. Brief, p. 91). Based upon such allegations, Trial Staff recommends a special audit of PECO rate case expense or that special attention be given to this area in PECO's next management audit. (T.S. Brief p. 92).

Trial Staff's presentation of this issue for the first time in its Brief is inappropriate and denies PECO a fair opportunity to address the issue on the record and present evidence. The Commission has expressed its disfavor with the raising of issues for the first time in brief. Pa. P.U.C. v. Pennsylvania Power & Light Co., R-822169 (1983); Pa. P.U.C. v. Philadelphia Electric Co., R-811626 (1982). We agree with the position of PECO.

In addition, it must be noted that this rate proceeding is one of the most complex and heavily contested rate cases in Pennsylvania history. As PECO states in its Reply Brief:

> While PECO's rate case expense may seem excessive from the perspective of one party to this case, e.g., Staff, the Company has had to respond to 17 parties who propounded approximately 1400 interrogatories and data requests, presented 41 witnesses, and submitted 76 written statements and exhibits. In addition, Public Law No. 123, which required the Company to identify and explain the reasons of the cost growth of Limerick 1 from PECO's initial capital authorization, accounts for a large portion of the costs for expert consultants. The Company was also required to respond in this case to Commission directives related to its ECR 8 and Keystone Alliance Orders and to answer two major motions to strike filed by Staff.

With respect to outside consultants, Trial Staff Proposed that the Company should be required to amortize such costs over 5 years. PECO has agreed to such amortization.

We consider the Company's claim to be reasonable under the circumstances. Therefore, we do not intend to encroach upon Company management in its reasonable judgment to present its evidence to reach a completely informed decision on the Company's rate request. Issues of great magnitude are involved in this proceeding.

The recommendation of Trial Staff for a special audit of PECO's rate case expense in this proceeding, or for a requirement for special attention thereof in PECO's next management audit is, rejected.

14. <u>Customer Account Expense</u>

Trial Staff recommends that PECO's customer accounts expense be reduced by $17,633,000.

This recommendation is made on the basis of an analysis by Staff witness Laudenslager. He examined aggregate levels of customer accounting expense on a per customer basis for the 12 month period ending December 31, 1984 for five utilities in Chicago, Baltimore, Detroit, Boston and New York City as reported in FERC Form 1. Mr. Laudenslager first proposed a $21,596,000 reduction in PECO's customer accounts based on a GNP Implicit Price Deflator of 3.8%. Later based on a 9.6% increase as reflected with the comparison utilities, he lowered the reduction to $17,633,000.

In our opinion, such a procedure as to this item of expense is a simplistic, unreliable and unreasonable mathematical computation. Ratemaking could be made much simplier were such a method be adopted -- but totally unreliable.

PECO properly asserts that Staff's study failed to take into account significant differences between the comparison utilities and PECO which affect customer accounts expense. While Staff refers to such differences as "minor," "insignificant," and "minimal," we find otherwise. Such differences related to:

- Differences in credit and collection policies.
- Differences in meter reading and billing practices, especially as to monthly vs. bi-monthly meter reading and/or billing.
- Difference in accounting practice in the including differences in the accounting of labor costs, computer leasing costs, etc.

There is no conceptual basis for the belief that a higher level of customer accounts expense is unreasonable or inappropriate.

The nature of the customer contact and efficient utility-customer relationship may not be reflected in the cost.

Moreover, Laudenslager' sample shows a $34.71 average cost as opposed to PECO's $38.53 cost. However, PECO's cost is significantly below the customer cost levels of Consolidated Edison ($51.71), and Boston Edison ($44.40), and only slightly higher than Detroit Edison $30.57 and Baltimore Gas & Electric ($30.39). (PECO St. 18G, Sch. 3).

The recommendation of Trial Staff to reduce PECO's customer account expense by $17,633,000 is rejected.

15. Outage Expense

Trial Staff has proposed an a reduction in PECO's power plant outage expense claim, purporting to place the outage expenses on a normalized basis.

The Company's claim as stated is for normalized outage expenses and is designed to recover a level of expenses necessary to perform the major inspections, preventive maintenance, and refueling expenses at the various nuclear and fossil generating stations.

The Company's claim in this proceeding is identical to its claim approved by the Commission in the Company's last rate case proceeding at R-842590, adjusted only for intervening inflation.

The Company further states that it verified the reasonableness of its claim by a detailed and independent projection of outage expenses, which projected an outage expense 25% higher than the value claimed by the Company, demonstrating the reasonableness of PECO's claim. (PECO St. 22, p. 19; St. 22B, p. 17).

With respect to the Salem and Peach Bottom plants, Staff's witness Hosler's proposed allowance is based upon a three-year historic period and a three and one-half years' of budgeted future outage expense at these units. However, the historic three-year period utilized by witness Hosler was an abnormal and unusual period at Salem and Peach Bottom, as he admitted: "the period from July 1982 through June 1985 was not a normal period at either Peach Bottom or Salem nuclear stations." (TS St. DPH-1 p. 3). We agree with PECO that to employ admittedly abnormal data in developing a normalized expense level is obviously inappropriate.

Further, PECO witness Carroll explained that the data employed by witness Hosler reflects less than the four and one-half outages which should be considered for each Peach Bottom and Salem unit, resulting in an understatement of the normalized level of outage expense.

PECO asserts that with respect of Limerick 1, because of the lack of Company experience, the Company's claim for Limerick operating and maintenance expenses, including normalized outage expense, was based on actual experience at Peach Bottom, an operating sister of Limerick 1, adjusted to reflect different conditions at these plants. We agree with Mr. Carroll that this is an appropriate method of determining operating and maintenance expenses at Limerick 1. Such method has not been challenged by any other party.

In addition, PECO faults witness Hosler's proposed adjustment based on selective averaging of historical data for the past five years. It states that the use of a five-year historical average fails to fully reflect the costs associated with new programs added by PECO and approved by the Commission.

This recommendation of Trial Staff is rejected as based of questionable foundation. On the other hand, we find the Company's claim on this account to be within reasonable projection.

16. Damaged Nuclear Fuel Assemblies

The Company is claiming a three-year amortization of expenses related to damaged nuclear fuel assemblies at Salem 1. The Bureau of Audits' report on the Company's Energy Cost Rate for the year ended December 31, 1982 stated that these costs, although not appropriate for recovery through the Company's fuel adjustment cause, were a legitimate business cost recoverable in a base rate proceeding. The total claimed for adjustment is $939,000, which includes $617,495 for the assemblies and $311,500 for an annual amortization expense of $310,000.

Trial Staff has proposed a $104,000 reduction in the annual amortization expense in PECO's future test year expense in this proceeding, to reduce this claim to $206,000. The Company has no objection to such adjustment.

Accordingly, PECO's future test year expense in this proceeding is adjusted downward by $104,000 to $206,000.

17. <u>PECO's Reserve Decommission Deficiency</u>

PECO has included in its decommissioning expense claim, the collection of a reserve deficiency over a five year period. The basis for the five year amortization was set forth by PECO witness, Richard Wright:

> The development of the Company's first site specific decommissioning cost study has indicated that decommissioning costs are substantially higher than we estimated through the comparative analysis techniques utilized as the basis for previous claims. As a result, the magnitude of the prior accrual correction in this proceeding is unusually large.
>
> (PECO St. 20A, p. 3).

Trial Staff witness Mayer has proposed that the reserve deficiency be amortized over the life of the plant in order to avoid burdening only current ratepayers with this expense:

> My method is fair to all ratepayers, both current and future. The Reserve Deficiency has developed as the result of a re-evaluation of decommissioning fund needs, as well as inadequate earnings of

> the fund historically to keep pace with the cost increases determined by that re-evaluation, and as such, is not the liability of any particular group of ratepayers. To charge only current ratepayers for this expense is simply unfair.
>
> (TS St. MJM-1, p. 5).

Trial Staff submits that the amortization of the reserve deficiency over the life of the units does not adversely affect PECO. The funds are escrowed for future use in decommissioning the Company's nuclear units and are not intended to cover PECO's day to day operating expenses.

With respect to the collection of these funds from current versus future ratepayers, Staff notes that PECO has not demonstrated that current ratepayers are responsible for the deficiency. It further asserts that the only thing that PECO has established is that the current ratepayers are closer in time to the discovery of the deficiency, and that this does not provide an adequate basis for assigning these costs strictly to current ratepayers.

We agree with Staff's adjustment as balancing the interests of current and future ratepayers and should be adopted.

Accordingly, we adjust downward PECO's claim an expenses on this account by $1,896,000.

18. Refund at C-850128

At C-850128 the parties have proposed an agreement relating to the return on PECO's investment in Salem nuclear fuel commitment and also in the Lee Mine Project during the period of November 23, 1983 to

January 25, 1985. The proposed settlement has been approved by the ALJ in that proceeding, and was approved by the Commission on April 17, 1986.

The adjustment under the settlement agreement includes the amount of $1,747,000 to be refunded, plus interest of $319,000, for a total of $2,066,000. (PECO St. 16C, Sch. 9).

The Company recommends a 2 year amortization of this fund in this proceeding. We accept in this proceeding the proposed refund of $2,066,000, to be amortized over 2 years. Accordingly, we decrease PECO's expense claim in this proceeding by $1,033,000 representing the one year amortization of the proposed refund.

19. Proposed R-822291 Refund

On May 2, 1986, we received "Comments" of the OCA concerning Tentative Order of April 2, 1986 at R-822291.

In its comments, OCA requests the Commission to adopt its Tentative Order as a final order relating to its finding that the evidence does not support a finding that the transmission plant at issue qualified as safety-related construction work in progress.

OCA suggests that it would be administratively and economically most practical to incorporate its proposed refund in the new tariffs which would become effective on or about June 26, 1986, at the conclusion of the Company's base rate proceeding at R-850152. OCA asserts that in this way, the Company, the Commission and PECO's ratepayers will be saved the inconvenience and expense of having multiple tariff changes within a matter of a few weeks.

OCA computes the proposed refund, including interest to be $5,493,807.

We agree that if the Commission intends to order such refund prior to its final order herein, it would be advantageous to include such refund by reducing PECO's expense claim in this proceeding. Assuming that OCA's computation of $5,493,807 is correct as to the amount to be refunded, we conditionally reduced PECO's rate claim by $2,747,000 as an expense under a two year amortization.

C. Taxes

1. Salem 2 Tax Benefits

In the last PECO base rate case, R-842590 (1985), the Commission directed PECO to amortize to ratepayers a $6.9 million payment it received from the Hercules Corporation as part of the sale of tax benefits from Salem Unit 2. The return to ratepayers mandated by the Commission was to be made over the course of 29 years. (Pa. P.U.C. v. Philadelphia Electric Co., 57 Pa. P.U.C. 743, at 809-811). In addition the unamortized balance was to be removed from rate base because it does not represent investor- supplied funds.

In this proceedings, the Company has failed to reflect this Commission-ordered amortization of $6.9 million payment to ratepayers and the corresponding rate base adjustment.

The OCA recommends that the Commission's decision in the last rate case be continued. Its adjustment results in an annual expense reduction of $228,000 and a rate base reduction of $6,098,000, the remaining unamortized balance.

We hereby adjust PECO's tax expense by the annual $228,000 amortization, and a rate base reduction of $6,098,000 on account of the Salem 2 Tax Benefits.

2. Actual Taxes Paid Doctrine

The "Actual Taxes Paid" Doctrine requires three adjustments to the Company's Tax Claims.

a. Deferred Taxes Relating to Capitalized Pensions, Taxes and Benefits

The Company has submitted a claim for $9,578,000 for deferred taxes relating to capitalized pensions, taxes and benefits.

Trial Staff and OCA recommend that this claim be denied in its entirety, and that the Company's accumulated balance for deferred taxes for these capitalized items should be refunded to ratepayers over a five year period.

The normalization of these tax expenses is not required by the Internal Revenue Code. Furthermore, these deferred taxes are not actual tax expense. They should not be reflected in rates under the Barasch v. Pa. P.U.C., 507 Pa. 496, 492 A.2d 94 (1985).

The applicable rule on this issue was clearly stated by the Commission in Pa. P.U.C. v. Metropolitan Edison Co., R-842770 (October 25, 1985), as follows:

> Since the advent of Barasch, flow through of state income tax benefits to ratepayers is now mandated by the Supreme Court.

> Consequently, we agree with OCA's conclusion that "the allowance of normalization of capitalized overheads violates the actual taxes paid doctrine". . . and that the issue of the tax benefits for capitalized overheads falls squarely within the ambit of the Supreme Court's analysis concerning the normalization of state income tax benefits.

PECO asserts that the tax benefits on these capitalized overheads are associated with plant not in service (CWIP); that current ratepayers do not pay a return on investment or depreciation expenses on property not in service; and that they should not be entitled to the tax benefits arising from these expenses. It further contends that when the property associated with these capitalized overheads goes into service, future ratepayers will pay depreciation expense, but will not receive the tax benefits associated with this depreciation. (PECO St. 23A, pp. 2-3).

We accept the recommendation of Trial Staff and OCA and deny such claim of PECO.

Accordingly, our denial of the claim results in an expense deduction of $9,578,000. Return of the net accumulated balance of these taxes ($33,148,000) by amortization over five years in the annual amount of $6,630,000 will further reduce expenses by $6,630,000. The total downward adjustment in expenses is $16,208,000, resulting in a total income adjustment by $8,141,000. A corresponding rate base increase of $16,208,000 is required. (OCA St. 4A, Sch. 15; TS St. JMH-1 Sch. 2).

b. Accumulated Deferred State Income Taxes

In the Company's last base rate case, the Commission ordered that the Company flow through all the benefits of tax timing difference for State income taxes. Pa. P.U.C. v. Philadelphia Electric Co., 58 Pa. P.U.C. 743, 811-812 (1985). While PECO is no longer collecting additional state income tax deferrals, the Company continues to maintain a balance of previously collected accumulated normalization of such tax benefits in certain prior cases. Trial Staff and OCA submit that there is no further need for this balance, and recommend that the remaining balance be refunded to ratepayers over a period of five years. The Commission recently ordered a similar adjustment in Pa. P.U.C. v. Bell of Pennsylvania, R-842779 (1985).

Trial Staff (TS Ex. JMH, Sch. 5) shows the annual amortization at \$7,832,000; OCA shows the annual amortization at \$5,658,000. (OCA Ex. 4, Sch. 5).

Based on such recommendations which we accept, we adopt the computation of the OCA and reduce PECO's expense by \$5,658,000. In addition, to complete this adjustment, PECO's rate base must be increased by \$7,167,000 (which is included in the \$23,375,000 liberalized depreciation adjustment at OCA St. 7A, Sch. TEK-2).

c. Consolidated Tax Benefit

Tax savings resulting from a consolidated return must be reflected in PECO's rates.

In Barasch v. Pa. P.U.C., 507 Pa. at 568, 493 A.2d at 653, the Pennsylvania Supreme Court said:

> Our Courts have consistently held it to be proper to include, for ratemaking purposes, tax expenses which, because of the filing of a consolidated return are not actually payable. All tax savings arising out of participation in a consolidated return must be recognized in ratemaking, otherwise we would be condoning the fictitious expenses in the rates charged to ratepayers.

While Company witness Sileo states that such adjustment lacks merit because: "It is inappropriate for PECO ratepayers to receive the benefits of tax losses which were generated by expenses which ratepayers did not incur or support," such argument was rejected by the Pennsylvania Supreme Court in Barasch. (PECO St. 23A, p. 6).

OCA witness Bleiweis computed an annual amortization over a five year period of $342,000.

We adopt the recommendation of the OCA in this respect, and reduce PECO's expense claim in this proceeding by $342,000.

XI. RATE STRUCTURE

Public utility rates must enable the utility to recover its cost of service, including allowed return, and to spread such cost among its customers in a just, reasonable and nondiscriminatory manner. The Public Utility Code, 66 Pa. C.S. §1301 provides, in part:

> Every rate made, demanded or received by any public utility, or by two or more public utilities jointly, shall be just and reasonable, and in conformity with regulations or orders of the commission.
> . .

And in Section 1304, it further, in part, states:

> No public utility shall, as to rates, make or grant any unreasonable preference or advantage to any person, corporation, or municipal corporation, or subject any person, corporation, or municipal corporation to any unreasonable prejudice or disadvantage. No public utility shall establish or maintain any unreasonable difference as to rates, either as between localities or as between classes of service
> . . . .

Generally, there are two basic determinations to be made in a rate proceeding: (1) how much of an increase (or decrease) (revenue requirement), and (2) how should the increase (or decease) be spread among the different classes (rate structure). Rate structure can be further divided into two sub-issues; (1) the appropriate distribution of the increase (or decrease) among the various customer classes, and (2) the appropriate rate design within each class to provide the previously mentioned revenue requirement.

Professor James C. Bonbright, in his text, <u>Principles of Public Utility Rates</u> (Columbia Univ. Press 1961) states (at page 294) as follows:

> Without doubt the most widely accepted measure of reasonable public utility rates and rate relationship is cost of service. In the literature, this measure is generally given a dominant position even by writers who insist upon, or reluctantly concede, the necessity for deviations from cost in the direction of value-of-service principles or of various "social objectives of rate-making."

<u>Garfield and Lovejoy</u> suggest the following as appropriate objective of rate structure:

> (1) produce revenues equivalent to the approved cost of service determined by the commission; (2) maximize utilization of fixed plant; (3) assure maximum stability of revenues; (4) distribute the total cost of service reasonably among the different classes of customers; and (5) promote and retain the maximum economic development of its market.
>
> [Garfield, Paul J. and Lovejoy, Wallace F., <u>Public Utility Economics</u> (Prentice-Hall, Inc., 1964 at page 137]

While the Commission recognizes that cost of service is always an important and normally the primary basis of pricing, it is not the only consideration. In the first place, even though the cost of service studies may be done in a craftsman-like manner, this does not mean that they can be relied upon exclusively. Judgment and some assumptions must be made in the cost of service studies; cost of service studies are not perfect or precise. In addition, cost-based principles of ratemaking must be modified to the extent necessary by social considerations and the necessity to avoid abrupt changes in existing rate patterns.

Non-cost factors such as the ability of various classes to pay, ability to pass on the utility costs, values of service and ability to write off electric costs, must be taken into consideration.

In Philadelphia Suburban Transportation Co. v. Pa. P.U.C., 3 Pa. Cmwlth Ct. 184, 196, 281 A.2d 179, 186 (1971) the Court said:

> There is no requirement that rates for different classes of service must be either uniform or that they must be equally profitable. Differences in rates between classes of customers based on such criteria as the quantity of electricity used, the nature of the use, the time of the use, the pattern of the use, or based on differences of conditions of service, or cost of service are not only permissible but often are desirable and even necessary to achieve reasonable efficiency and economy of operation. Rate structure, which is an essential, integral component of ratemaking, is not merely a mathematical exercise applying theoretical principles. Rate structure must be based on hard economic facts of life and a complete and thorough knowledge and understanding of all the facts and circumstances which affect rates and service; and the rates must be designed to furnish the most efficient and satisfactory service at the lowest reasonable price for the greatest number of customers, i.e., the public generally.

PECO states that the rate design proposed in Supplement 15 was developed to (1) reflect the findings of PECO's cost of service study for the year ending June 30, 1986, (2) to reflect the size of the increase requested by allocating it as equally as possible to all rate classifications, (3) be consistent to the maximum degree possible with prior PECO rate orders, and (4) reflect various additional rate design principles.

A. Cost of Service

The Company conducts a cost of service study to allocate plant and expenses to its various customer classes in a manner which reflects the contribution of each class to the incurrence of these costs (PECO Ex. WFS-1). A cost of service study consists of three basic parts: functionalization, classification, and allocation. Costs are first functionalized based upon the function for which they are incurred, e.g., production, transmission or distribution of electricity. Each function is then classified as customer-related, demand-related, energy-related or some combination of the three. Customer-related costs are those which vary by number of customers; demand-related costs vary with the level of kw demand; and energy-related costs vary with the level of kwh usage. Once costs are so classified, they are allocated to the various customer classes based upon the number of customers, demand or energy usage of the particular class.

In PECO's cost of service study, production and transmission plant and their related expenses are classified as demand related and are allocated on the basis of class contribution to PECO's summer coincident system peak. The system peak employed by the Company is the average of the monthly peaks for the four summer months of June, July, August and September. Distribution plant and related expenses are directly assigned to the responsible rate class where possible. Remaining distribution costs are assigned as either customer-related or demand-related costs. Fuel expense is allocated on the basis of class energy usage. Allocation of expenses other than production, transmission, distribution and fuel is based upon the allocation factors used for other similar expenses or composite allocation factors. This allocation methodology is identical to that approved by the Commission in the Company's last seven rate proceedings: Docket Nos. R-842590, R-833291, R-811626, R-80061225, R-79060865, R.I.D. 438 and R.I.D. 295.

Several parties have raised objections to several aspects of the Company's cost of service study, as hereinafter set forth.

1. Production and Transmission Plant

The Company's cost of service study allocates production and transmission costs based upon class contribution to the four summer coincident peaks. Use of this methodology reflects the fact that the Company is a strong summer peaking company and that its summer peak is significantly higher than its winter system peak. It also reflects the fact that production and transmission costs are fixed which do not vary with the level of class energy usage. The 4CP method also sends appropriate and necessary price signals to customers classes encouraging them to reduce their summer demands. (PECO Brief, pp. 7-146 to 7-150).

Of the ten parties taking a position on this issue, six support the Company's 4CP method. (City Brief, pp. 42-44; PFMA Brief, pp. 3-4; SEPTA/Amtrak Brief, pp. 19-22; PAIEUG Brief, p. 50; Trial Staff Brief, p. 260). Four parties proposed that a substantial portion of production and transmission costs be allocated on an energy basis. (OCA Brief, pp. IX-2 to IX-17; UUC/UP Brief, pp. 42-52; PBUUG Brief, pp. 12-17; U.S. Steel Brief, pp. 9-11).

Those parties opposing the 4CP method argue that it reflects only one aspect of base load plant, i.e., meeting system peak, and ignores the fact that base load plant is built in part to produce energy cost savings.

PECO contends that such argument does not take into account the fact that 4CP method is only one part of the Company's cost of service study. It asserts that PECO's cost of service study accounts for base load plants in two ways. First, that fixed production and transmission costs which do not vary with energy usage are allocated on a demand basis; and second, that energy savings produced by base load plant, which do vary with energy usage, are allocated on an energy basis. (PECO Brief, pp. 7-152 to 7-153). The Company claims that thus its cost of service study, as a whole, fully reflects both the peaking and energy savings aspects of base load plant.

The opposing parties propose that a substantial portion of production costs be allocated on an energy basis to reflect the asserted fact that the Company adds new capacity both to meet system peak capacity requirements and to reduce energy costs.

The Company states that the major impact of the methodology of the opposing parties would be to allocate a substantial portion of production costs to customers with off-peak usage. However, PECO stresses, as a result of their off-peak usage, these customers also use more base load energy and, therefore, should receive a proportionately greater share of the cost savings produced by base load plant.

The Company states that the energy allocations proposed by opposing parties would be significant. For example, under the OCA's cost of service study, the class return for Rate OP (Residential Off-peak Service) at proposed rates declines from 30.98% to 5.68%. This would result in a revenue increase to Rate OP customers of $7.4 million (at an increase of 28.5%), as opposed to the zero net increase proposed by the Company, thus reducing the attractiveness of Rate OP and inhibiting the Company's conservation efforts. Even more importantly, PECO asserts, the OCA's proposal would have a significant impact on the design of Rates HT and PD. Company witness Sundermeir developed the following comparison of Rate HT under the PECO and various opposing party cost of service studies. (PECO St. 24A, p. 4):

Rate HT	UUC/UP	OCA	PBUUG	PECO
Customer Charge	$264.15	$264.15	$230.20	$264.15
Demand Charge	$5.77/kw	$6.35/kw	$6.18/kw	$9.44/kw
First 150 Hours Use	9.40¢/kwh	9.30¢/kwh	9.28¢/kwh	9.64¢/kwh
Next 150 Hours Use	7.64¢/kwh	7.51¢/kwh	7.33¢/kwh	6.68¢/kwh
Additional	5.91¢/kwh	5.75¢/kwh	5.41¢/kwh	3.75¢/kwh

PECO argues that this would produce a significant decline in Rate HT demand charge and would produce significant increases in the second and third energy blocks. The net effect of these charges would be to remove a great deal of existing incentive for large commercial and industrial customers to reduce demand. As Mr. Sundermeir explained (PECO St. 24A, p. 6):

> Under the Company's allocation method a Rate HT customer would save $22.67 for each kilowatt of demand reduction. Under the UP/UUC [sic], OCA and PBUUG proposals, this incentive would be reduced to $13.60/kw, $14.32/kw and $14.87/kw, respectively.

This Commission has repeatedly approved PECO's 4CP method for allocation of production and transmission plant expenses. Opposing parties, however, argue that the addition of Limerick 1 creates a change in circumstance which justifies rejection of the Company's method.

Opposing parties point to the higher cost of Limerick 1 as compared to prior Company nuclear units.

OCA and UUC/UP each cite several cases from this and other jurisdictions where regulatory commissions have adopted energy allocation methods. PECO argues that these cases do not support rejection of the Company's methodology because:

(a) In every case cited by opposing parties, the commission approved the methodology recommended by the utility. On such basis, the Commission here should continue to approve PECO's 4CP method as it has in the past.

(b) In every instance, the specific methodology adopted by the commission was different, indicating that allocation of production and transmission cost depends heavily on the load characteristics of a particular utility.

(c) Opposing parties fail to cite may instances where commissions have upheld coincident peak allocation methodology for production and transmission costs.

The four parties opposing the Company's 4CP methodology, in turn, suggest various methodologies for allocation KW-related costs differently than that of PECO:

(a) Dr. Robert Wirtshafter, on behalf of UUC/UP, although stopping short of advocating the "average and excess" method, does recommend that demand (kw) related production and transmission costs be allocated on energy (kwh) usage.

(b) Mr. Sterzinger, on behalf of CEPA, goes one step further than Dr. Wirtshafter by actually advocating the "average and excess" method to allocate kw-related costs on an energy (kwh) basis.

(c) In contrast, Mr. Figley, on behalf of PBUG appears to accept PECO's 4CP allocation of kw-related costs except as to Limerick 1. He urges that a portion of PECO's plant costs (89% of Limerick 1 capital costs) be allocated among customer classes on an energy basis.

(d) OCA witness Oliver follows a different track since, unlike Figley he does not single out a particular plant and, unlike Dr. Wirtshafter and Mr. Sterzinger, he rejects the use of the "average and excess" method. This rejection is based on the fact that the average and excess rests on the use of non-coincident rather than coincident demand. He recommends the "peak and average demand" method to allocate PECO's capacity-related costs.

In examining the positions of the four witnesses above, we conclude that:

- They ignore the way utility systems are actually planned and operated.
- They ignore the manner in which utility costs are actually occurred.
- They ignore the distinction between on-peak and off-peak energy costs.
- They arbitrarily reassign costs from demand (kw) to the energy (kwh) related categories.

2. <u>Classification of Distribution Costs</u>

PECO allocates a portion of distribution costs on a customer basis and a portion on a demand basis. In developing the apportionment, the Company performs a study to determine the minimum size methodology for the allocation of distribution plants. It characterizes its method as reflecting the real world conditions. It further asserts that its method complies with the methodology in the Utility Cost Allocation Manual published by the National Association of Regulatory Commissioners (NARUC Manual), and that, in addition, such methodology is widely accepted and employed by many utilities.

OCA witness Oliver and City witness Ileo argue that the predominant minimum size study employed by the Company to classify distribution costs classifies too great a portion of the distribution costs as customer-related costs. Each witness proposed alternative methodologies which would increase the demand classification of distribution costs.

Dr. Ileo proposes that the labor portion of distribution costs be allocated on a customer basis and that the materials portion be allocated on a demand basis. PECO argues that even a theoretical minimum size distribution size system cannot produce service solely with labor.

OCA witness Oliver states that the Company's allocation for the demand-related portions of the distribution system costs make no allowance for customer demands that are fully satisfied by the minimum size facilities. The OCA contends that PECO's method for classification of distribution system costs is outdated and should be replaced. It would eliminate an alleged double counting by removing from the Company's demand allocators for secondary lines, transformers, and services in amounts of demand equal to the maximum requirements for the smallest residential customers. Secondly, Mr. Oliver recalculated the customer component of the primary distribution system based upon the cost of the smaller secondary system.

For the longer haul, OCA recommends that the Commission order PECO to undertake a study similar to the one which was required of Pennsylvania Power & Light Company at R-822169.

The methodology presented by the City is similar to that presented by it in PECO's last rate proceeding and rejected by the Commission at that time. A somewhat variation of OCA's distribution cost methodology was likewise submitted in PECO's last rate proceeding and likewise rejected.

3. PAIEUG Weather Adjustment

PAIEUG witness Bloom asserts that the Company erred in not weather adjusting the 1984 peak load data used in developing its 1986 cost of service study. (PAIEUG St. 2). The PAIEUG adjustment is based upon a misconception of the Company's methodology, is incomplete, and is inconsistent with prior Commission precedent and cost of service presentations by PAIEUG witnesses in prior rate proceedings.

The purpose of any cost of service study is to distribute costs which are incurred on behalf of the entire system equitably between the different classes of customers. Historically, this Commission has utilized cost of service studies only as guides to test the reasonableness of proposed revenue allocations. On the other hand, the methodologies advanced by those opposing PECO's cost of service are motivated by a desire to shift costs to off-peak customers who impose the least cost on PECO, and who create the greatest benefit for other customers.

As the Commission has done on many other occasions, we approve the cost of service proposed by PECO, and find the same is reasonable.

B. Class Revenue Allocations

1. Company Proposal

The Company and all parties to this proceeding, except one, have proposed that the rate increase be allocated to customer classes on an equal percentage basis including fuel costs. PAIEUG proposes to allocate the increase across the board excluding fuel costs. The Company urges rejection of such allocation suggested by PAIEUG because it states it would have disparate impact on rate classes.

PECO witness Williams testified that the Supplement No. 15 class revenue allocations were developed: (1) to narrow the gap between class rates of return in the system average rate of return; (2) to avoid any disruptive changes in the pattern of rates which would unduly affect any one customer class; (3) to recognize the significant size of the rate increase requested in this proceeding; and (4) to be consistent to the maximum degree possible with the general approach approved by the Commission in prior rate proceedings.

In the Company's view, the class allocation as described above properly reflects cost of service principles by moving all major rate classes toward the system average rate of return or maintaining their present position, and the principle of gradualism which is applied to avoid disparate rate increases to the maximum extent possible, particularly in the context of this proceeding which seeks a substantial rate increase.

Because of the size of this requested increase, PECO was concerned that it should be spread as equally as possible to all rate classifications. It was also concerned that the return to the average system rate of return should not be increased.

For those classes whose index of return to system average before the rate increase was above 140%, the net increase was limited to zero, that is, the increase was exactly equal to the fuel saving allocated to that class. The remaining base rate increase was then spread to all other classes to produce equal net percentage increases to each class. This application of the rate increase resulted in most classes moving toward the average rate of return with the exception of the RH class. The increase to the RH class was therefore limited to a value which would maintain the 116% index of relative return to the class average.

A summary of the ratio of the rates of return for the various classes is shown below:

Percent of System Average of Return

Rate	Before Increase	After Increase
R	96%	96%
RH	116%	116%
OP	343%	244%
GS	126%	116%
PD	97%	98%
HT	84%	96%
SLP	174%	97%
SLS	206%	108%

a. Rate SLP

As is seen, PECO has proposed no rate increase to Philadelphia Street Lighting (SLP). (PECO St. 17, p. 9).

City witness Ileo stated that although a recommendation for decreased rates would have been appropriate in this case, he testified that the City's recommendation of 0% increase is more than reasonable.

b. Rate OP

Since Rate OP shows a return to system average before the rate increase above 140%, PECO has also proposed no increase to this rate.

2. Opposing Party Proposals

With one exception all of the parties who presented class revenue allocation alternatives agree with the Company that the increase should be allocated on an equal percentage basis to major customer classes including fuel costs. The major differences proposed in their allocations relate to the 140 percent cap and the amount of increase to bring SEPTA and Amtrak to a system average. In addition, their proposed energy allocation of a large portion of production and transmission expense would significantly decrease the class rate returns of these off-peak classes and thereby impose substantial increases on these classes.

The OCA recommends five modifications to PECO's revenue allocation proposal. Each of these proposals stem from the results of OCA's cost of service study:

- Greater increases should be applied to SEPTA, AMTRAK, and the Street Lighting classes to raise their respective rates of return to the system average level. It should be noted that each of these classes still receive a less than system average net percentage increase;

- The net percentage increase to Rate OP customers should be raised to equal the system average increase as partial compensation for that class' very low relative rate of return under the OCA cost allocation results;

- The additional revenues derived from SEPTA, AMTRAK and the Street Lighting classes should be used to reduce the revenue increase for Rate GS customers.

- The remaining discrepancy between the rates of return for Rate R and Rate RH should be addressed within the framework of residential rate design considerations since these charges applied for those two classes have been closely linked in recent years.

(OCA St. 8, pp. 31-32).

Since we have rejected such proposals from the OCA's cost of service study, so too must we reject such OCA modifications to PECO's allocation proposal.

As indicated, PAIEUG proposes that the increase be allocated across the board with an equal percentage to all classes, excluding fuel costs.

While the Company proposed an across the board increase excluding fuel costs in its last two rate cases, this approach was carefully considered and rejected by PECO in this case because of the large increase, i.e., 35 percent versus 28 percent, that would be imposed on the residential class.

Since the Company's methodology is fully consistent with its cost of service study, the desire to promote conservation and off-peak usage, and with prior Commission rate orders, the Company's class revenue proposed allocations are approved, as modified to reflect the reduced revenue requirement in this Recommended Decision.

C. Proposed Tariff Revisions

1. PECO Proposed Tariff Revisions

PECO has proposed five adjustments to its tariff schedules: (1) an increase in the Rate R and Rate RH customer charges; (2) various changes to the design of Rate GS; (3) adjustments to the pricing of Rate SLS; (4) revisions to the rate structure to establish rate classifications for SEPTA and Amtrak; and (5) a revision to Rate OP to reflect more clearly the two types of service offered under that rate.

a. Residential Customer Charge

The Company proposes to increase the residential customer charge from $4.50 to $4.75. This increase is less than the average increase proposed for these rate classifications and is cost justified based on the same approach approved in the Company's last two rate cases. The proposed $4.75 customer charge is about 25% of the fully allocated cost of $18.50 as developed in the Company's cost of allocation. (PECO St. 17, p. 12).

CEPA witness Sterzinger proposed to reduce the residential customer charge to $4.00. (CEPA St. 2, p. 4). His proposal is based solely on his proposed adjustments to the Company's classification of distribution plant.

The Company's residential customer charge of $4.75 is reasonable and is approved.

b. Rate GS

The Company has proposed several changes to the design of Rate GS. First, the Company has proposed to increase the differential in the customer charge for single-phase and three-phase GS customers to reflect more accurately the actual cost of providing each type of service. Three-phase service requires additional costs for metering, transformer installations, and services. The Company proposes to increase the Rate GS customer charge for three-phase customer charge is only about 55 percent of the fully cost-justified customer charge of $37.05. This proposal was uncontested.

The Company also proposed several changes to the Rate GS demand and energy charges. Rate GS presently consists of two parts, a rate for those customers without demand measurement and a rate for those with demand measurement. The rate for customers without demand measurement is constructed so that the customer's bill is the same as it would be if the customer had 220 hours use of registered demand.

However, recent studies by the Company have shown that the hours use of demand for this group of non-demand measured GS customers is about 125 hours per month rather than 220 hours per month. To resolve this difference, the Company proposes to revise the hours use of demand to compute bills for non-demand measured customers on a basis of 175 hours per month, which represents a move of about 50 percent of the distance from the present hours use which is too high, toward the more appropriate 175 hours use level. (PECO St. 17, pp. 13-14).

In addition, in order to simplify the rate, the Company has proposed to eliminate the without demand measurement portion of the rate and simply retain one rate for GS customer with demand measurement. For those customers without demand measurement, the monthly kilowatt hours would be divided by 175 to crease a demand for billing purposes which could be used to calculate the customer's bill. (PECO St. 17, p. 14).

Finally, the Company has proposed that the increase allocated to Rate GS be assigned to the first block of the rate in order that the end block of the rate does not receive any increase and is in fact decreased as a result of the roll-out of fuel costs from base rates. This treatment, the Company states, is consistent with the relationship of revenue to cost within the rate and allows the Company to establish a more cost-based rate in this proceeding. In addition, to further improve this cost/revenue relationship, the first block of the rate is revised from 65 to 80 hours use of billing demand. Again, such proposal has not been challenged in this proceeding. (PECO St. 17, p. 14).

PFMA witness Larson proposes for two further changes to the design of Rate GS:

- A lowering of the end block energy charges under each of Rate Schedules GS and PD to reflect the lower off-peak production costs; and

- The extension of a time-of-use adjustment now found only in the HT rate schedule to customers served under the GS or PD rates.

Such additional adjustments to Rate GS and PD are rejected.

Accordingly, PECO's adjustments to the residential customer charge and to its changes to its GS rate are approved.

c. Rate SLS

Within Rate SLS certain sizes and types of lamps are currently priced below cost of service while other lights are priced at above cost of service. In order to reduce this disparity, the rate increase to this class has been assigned to those lamps that are below cost of service while the fuel savings are allocated to each lamp based upon the kwh usage of that lamp. The effect of this treatment is to continue the closure between revenue and cost to serve for each of the lamp sizes within the Rate SLS classification.

This proposal has not been challenged in this proceeding (PECO St. 17, pp. 14-15), and is approved.

d. SEPTA/Amtrak

In accordance with the Commission's order in the Company's last electric rate proceeding, the Company performed separate cost of service studies for SEPTA and Amtrak. (PECO St. 17, pp. 15-16). The result of these studies indicated that these customers were paying somewhat above cost of service. The Company has proposed in this proceeding to establish separate rate classifications for SEPTA and Amtrak and to charge rates to those customers designed to yield the cost of providing service to these customers. For SEPTA, this produces an approximate increase of 14.9 percent and 12.7 percent for Amtrak. (PECO Ex. TPH-2A, p. A-5).

No party has challenged the establishment of separate rates for these customers, but several parties have proposed larger rate increases to these customers based upon alternative cost of service methodologies.

SEPTA and Amtrak have accepted the Company's proposal with two exceptions. First, SEPTA and Amtrak propose that one rate be established for both SEPTA and Amtrak. (SEPTA/Amtrak St. 1, p. 9). The Company believes that its proposal to establish two separate rates will more precisely track the cost of service to these two customers and reflect differences in their load characteristics.

Secondly, Amtrak contends that at the time of the system peak it receives a certain portion of its power from outside the Company's system and that this power should be deducted from Amtrak's load in determining its contribution to the Company's four coincident peaks. (SPETA/Amtrak St. 1, p. 24).

The Company urges that this proposal should be rejected for several reasons. First, the Company, at any point in time, including the time of its system peak, buys and sells power in and out of its system based upon its participation in the PJM interconnection. PECO states that on the average over the last several years, the Company has purchased approximately 40% of its total energy supply requirements, so that Amtrak is not unique in receiving a portion of its supply from outside the Company's system.

While Amtrak asserts that it is unique because of certain attributes of the Perrysville and Thorndale interconnection points when it takes service, PECO must stand ready to provide service to Amtrak at <u>all</u> times at the Perrysville and Thorndale points. PECO argues that Amtrak should pay PECO's cost of this service regardless of whether electricity is being imported or exported from the PECO system at Perrysville and Thorndale or any other PJM interconnection point at any particular point in time.

We approve PECO's two separate rates for SEPTA and Amtrak rather than one rate; and we agree with PECO in regard to the Perrysville and Thorndale attributes. We reject the proposal of SEPTA and Amtrak for one rate, and we reject Amtrak's proposal for adjustment at Perrysville and Thorndale.

e. Rate OP

The Company has proposed minor revisions to Rate OP to more clearly set forth the two types of service offered under that rate. The service that is interrupted on a daily basis has now been designated Rate OP-1, and the service that is interrupted on Saturdays, Sundays or holidays has been designed Rate OP-2. This proposal has not been contested in this proceeding (PECO St. 17, p. 16) and is approved.

2. Opposing Party Proposed Tariff Revision

a. Rate HT and Rate PD Rate Design

Several opposing parties proposed revisions to the relative levels of the HT and PD demand and energy charges. Each of these proposals is inconsistent with prior Commission decisions and PECO's redesigned HT and PD rate blocks to track cost of service more closely, which has been litigated before and approved by the Commission and the Commonwealth Court.

UUC/UP witnesses Wirtshafter and Feldman argue that the Company's HT and PD rate design discriminates against non-manufacturing customers and that PECO's HT and PD rate designs result in much higher rates to low load factor commercial customers than other comparable utilities based upon a bill comparison analysis.

Upon review of this proposal, we reject such proposed adjustments to PECO's Rates HT and PD.

PAIEUG witness Pollock proposed a reduction to the HT tail block energy charge and increases to HT demand charge. (PAIEUG St. 3, p. 12). However, Mr. Pollock's analysis was based upon a calculation error, as admitted by him. Our review of the matter shows no viable basis for the proposal of PAIEUG and the same is rejected.

b. Demand Ratchet

UUC/UP and PBUUG each propose that the Company's HT and PD demand ratchet be eliminated. The Company states that the demand ratchet has been a part of PECO's tariff since 1969 and has been litigated and approved in virtually every subsequent PECO rate proceeding and has been upheld on appeal.

The ratchet ensures that the Company will at least recover a portion of the costs it incurs when customers add a kw of demand during the summer.

We reject the proposals to eliminate the Company's HT and PD demand ratchet.

c. Residential Rate Design

OCA and CEPA propose a major redesign of residential rates to establish "essential use" blocks. (OCA St. 8, pp. 35-45; CEPA St. 1). Specifically, they propose that the first 350 kwh use for regular residential customers, the first 750 kwh for water heating customers, and first 1500 kwh winter use for heating customers receive a significantly lesser increase than higher use residential customers.

The essential use proposal is premised upon the assumption that there is a correlation between income level and electric usage. Specifically, it is assumed that low-income customers use less electricity than high-income customers, and that by establishing a reduced charge for initial block use in the residential rate, low-income residential ratepayers will be benefitted.

This Commission in the PP&L rate structure investigation at R-830374 considered an identical proposal and rejected it, finding that such proposal:

> ...would, in some cases, hurt those low-income customers who need help and would benefit some affluent customers who have absolutely no need for the benefit.

We are not convinced otherwise by the testimony submitted by CEPA in this proceeding.

Accordingly, such proposal is rejected, since such proposal is not the best way to help low-income customers.

XII. PHASE-IN

As we indicated in "Introduction" herein, in order to ameliorate the impact of the proposed 28.2% rate increase and to prevent "rate shock", the Company has voluntarily proposed to phase-in the total requested rate increase over three years.

The Company's phase-in proposal provides for a three step phase-in of the rate increase. Each step would increase rates by approximately 9.4% or $223.6 million, so that the total increase of 28.2% or $607.7 million will be billed by the third year after the rate increase is granted. The amount of revenue not billed during the first two years of the phase-in would be collected over a three-year "phase-out" period beginning in the fourth year and continuing through the fifth and sixth years. The Company does not seek recovery of any return from the deferral of revenue collection over the life of the plan. (PECO St. pp. 5-6).

Under traditional ratemaking, when a plant is placed in rate base, the Company would be allowed to charge rates that would provide a return on its plant investment, plus recover depreciation and all other expenses associated with the operation of the plant. The revenue requirement under a traditional approach for a new plant like Limerick 1 is generally the highest in the first full year of operation. This is primarily due to the return which apply to the full undepreciated plant in the first year. The revenue requirement in subsequent years would, in general, decline because the return required would be lower due to the recovery of the investment in the plant over time through depreciation.

A. FASB 71

In 1982 the Financial Accounting Standards Board (FASB) adopted Statement 71 (FASB 71), "Accounting for the Effects of Certain Types of Regulation" which prescribes how the effects of rate regulation are to be recorded and reported in financial statements by regulated enterprises. FASB 71 provides that a regulated company can capitalize all or part of an incurred cost only if it is probable that future revenues will include recovery of the capitalized cost in allowable costs for ratemaking purposes. In addition, the regulators' intent to permit recovery of the previously incurred costs must be clearly stated. Thus, under present FASB 71, if a rate moderation program such as that proposed by the Company is adopted, the Commission's related order must clearly define the program and describe the nature and amounts for which recovery is being deferred, the length of the deferral period and the length of the recovery period.

However, in December 1985, FASB issued an Exposure Draft, of a proposed amendment to FASB 71. The amendment is expected to be adopted in 1986. The proposed amendment would change FASB 71 in three major respects: first, it establishes criteria for phase-in plans in order for costs deferred under those plans to also be deferred for financial reporting purposes. Second, it requires disallowances of plant costs to be reported as losses. And third, it requires the effect of disallowances of costs or return on investment in abandoned plants to be reported as losses.

With respect to phase-in plans, the proposed amendment prescribes that costs related to a new plant which are deferred for recovery in future years instead of being recovered normally through current rates shall be capitalized provided that (1) the costs are deferred pursuant to a formal plan that has been agreed to by the regulator, (2) the plan specifies the timing of recovery of costs deferred under the plan, and (3) all deferred amounts are scheduled for recovery within 10 years of the date deferrals begin. If any of those criteria is not met, the proposed amendment prohibits capitalization of any deferred amounts.

It is, of course true, as contended by City of Philadelphia witness Palast, that this Commission is not bound in a legal sense to act in accordance with FASB approved accounting principles, but its failure to do so could have severe consequences upon PECO and its ratepayers.

Specifically, if a phase-in plan does not comply with FASB 71, no unrecovered revenue could be recognized in the Company's reported earnings and financial indicators. Moreover, a phase-in plan which violates the 10 year limit of FASB 71 would create an unacceptable degree of uncertainty in the minds of the investment community whether PECO would ever recover the deferred revenues. This would increase PECO's investment risk and increase its cost of capital to the detriment of ratepayers. While the exposure draft has not been formally adopted, we believe that the Commission should act conservatively and assume its adoption, since it is proposed to be retroactive in effect. In this connection, we agree with the Illinois Commerce Commission which recently addressed this issue with respect to the rate increase granted to Commonwealth Edison in the Byron 1 proceeding, <u>Re Commonwealth Edison Co.</u>, 71 PUR 4th 81, 103 (1985), stating:

> The commission has often declared its determination not to be driven by the rules of the accounting profession or the desires of the investment community, but

> that does not mean that those can be ignored. They both describe and affect the decisions of those individuals and institutions which can invest in Edison's stocks and bonds, or can otherwise provide short-term or long-term capital to it. Since they have other options, they will weigh the value of Edison's equity and debt against those other options, and the commission must ensure that investments in Edison do not become so unfavorable that new or replacement capital either cannot be obtained, or can be obtained only at excessive cost. The commission also has an obligation to treat fairly those current investors whose capital has made possible Edison's current provision of electric services to its customers.

B. Company's Phase-in Plan

The Company states that its plan would meet the standards of FASB 71 and the Exposure Draft of FASB 71. It asserts that the time period for the phase-in, being less than 10 years, is short enough so that it avoids damage to PECO's ability to attract capital and provides sufficient certainty that the deferred revenues will be recovered, and is long enough to mitigate the impact of the requested rate increase on the Company's customers. Furthermore, it states that the Company's plan does not impose undue administrative burden on the Commission, since the plan does not require annual general filings to implement the phase-in rates, and the mechanics of its implementation will be performed by the Company for Commission review. Finally, PECO states that it is willing to forgo any carrying charges on deferrals which accrues to the benefit of its ratepayers.

C. City of Philadelphia Phase-in Plan

City of Philadelphia witness Gregory A. Palast has proposed two alternative plans. His first proposal is a 17 year plan that would phase-in the allowed rate increase over 7 years and allow a recovery of the deferred revenue over a subsequent 10 year period with no provision for recovery of carrying charges on the deferred amounts. (City St. 2, pp. 7-8).

Witness Palast asserts that his 17 year phase-in plan would have a negligible impact on the future financial position. (City St. 2, p. 47). But he provides no analysis to support this assertion beyond 1986.

The City's first proposal must be rejected because it would destroy the Company's financial integrity under both the existing and proposed financial reporting requirements of FASB 71. Furthermore, the City assumes that the full amount of the rate increase will be granted by the Commission. We believe that the impact on the ratepayers under our recommendation be substantially less than that assumed by the City. If the FASB 71 amendment is adopted and the City's plan were accepted, there would be no current recognition of the deferred revenue in the Company's financial statements. This could result in the downgrading of PECO's securities, which would significantly impair the Company's ability to attract capital and would be detrimental to the Company's ratepayers as well as its investors.

Witness Palast presented an alternative proposal of a five year phase-in and five-year recovery period without recovery of the carrying charges and a prohibition on any rate increases for the ten-year period.

D. GEC Plans

In his phase-in testimony (GEC St. 1-B), Dr. Wilson, GEC's witness, discusses several alternative phase-in approaches, including two deferral approaches, a sinking fund depreciation approach, a trended rate base approach, and a phase-in and deferral with a sinking fund. The latter alternative is the one which he believes has the most merit. Such plan allows for recovery of carrying charges on the revenue unbilled over the life of the plan.

We believe that since such plan would not be in compliance with FASB 71, would seriously affect the Company's cash flow, and would require larger rate increases to future ratepayers. In addition, the use of the sinking fund depreciation approach would impose financial risks.

Further, the suggested plans of GEC are premised on the Company's receiving it full requested rate increase. We see no merit in Mr. Wilson's sinking fund depreciation method, which is unprecedented for investor-owned electric utilities, creates a substantial risk of non-recovery of investment, increases the revenue requirement associated with Limerick by over $6 billion over its life, and is not in accordance with generally accepted accounting principles.

It is noted that GEC has not endorsed any of Mr. Wilson's proposals, as such, but urges the Commission to adopt a phase-in plan to avoid economic harm to PECO's service territory. We believe our recommendations herein both as to an adjustment to the amount of the rate increase request and the 5 year phase-in plan meets such objective.

E. PAIEUG Phase-in Plan

PAIEUG's phase-in plan consists of a six-year phase-in plan and sinking fund depreciation. PAIEUG's witness Falkenberg proposes to establish rates in this proceeding based on the average Limerick revenue requirement for the next six years with the use of sinking fund depreciation of Limerick.

We agree with the Company that the use of a six-year Limerick average revenue requirement should be rejected because it is fundamentally inconsistent with established ratemaking principles. As PECO's witness Hill explained (PECO St. 18D, p. 2-3):

> Mr. Falkenberg's proposal is completely inconsistent with the methodology employed by the Company and this Commission to establish rates. The rates proposed by the Company in this proceeding are based upon a future test year ending June 30, 1986, adjusted to reflect pro forma conditions for revenue, expense, rate base and return in accordance with ratemaking principles and regulations specified by the Commission in its rate orders and filing regulations. . . Under no circumstances has the Company reached beyond the end of the future test year to incorporate future sales, expenses or rate base conditions, and certainly has not sought to establish rates based upon six-year projections.

The PAIEUG phase-in plan is also rejected for the further reasons stated as to the GEC plans. Furthermore, its alternative to recommend the implementation of "the PP&L style sinking fund depreciation" is without merit. The particular situation as to the "used and useful" nature of the new plant in PP&L's case is not present here.

F. UUC/UP Phase-in Plan

UUC/UP witness Chernick recommends a "value-based pricing plan" which would include the cost of Limerick in rates only up to the level of annual Limerick 1 energy savings. Such proposal would result in a net rate decrease in this proceeding and could have disastrous financial results. Furthermore, the plan would be administratively impractical.

G. PUUB Phase-in Plan

Witness King for PUUB proposed three phase-in methods: (1) value-based pricing proposal similar to that presented by Mr. Chernick; (2) a trended rate base proposal; and (3) a levelized payment method. We find none of these plans acceptable for the same reasons as some of the other phase-in plans suggested by complainants, and specifically because they could have grave financial results.

H. ALJ's Phase-in Plan

As we discussed above, we believe that the most acceptable plan for phase-in of the rate increase adopted in this proceeding is that providing for a three-year phase-in plan with a three-year recovery period, without recovery of carrying charges by the Company on the deferred amounts, as proposed by the Company.

If we had recommended a rate increase substantially in the amount requested by PECO, we would have recommended a five-year phase-in and a five-year phase-out provision in order to soften the burden upon the Company's customers and upon the economic welfare of PECO's service area.

However, since we have recommended a substantial adjustment to the Company's rate increase request, we believe that the Company's three-year phase-in of the increase in rates in approximately equal amounts, with recovery of the balance in the fourth, fifth and sixth year, with no carrying charges or return to the Company on the deferred amounts, is reasonable and the best phase-in plan proposed.

We disagree, however, with the following argument of PECO (Main Brief pp. 2-30, 2-31):

> . . . the Company is voluntarily deferring the billing and collection of revenue which it is otherwise lawfully entitled to recover. Under the Public Utility Code and the U.S. and Pennsylvania Constitutions, the Commission must establish just and reasonable rates which provide the utility with a fair opportunity to earn a fair return on the fair value of its property devoted to public service. Once the Commission has made a determination of the just and reasonable rates to which the Company is entitled to in this proceeding, the Commission cannot deny immediate recovery of these rates by the imposition of a phase- in plan which is unacceptable to the Company.

In <u>Illinois Commerce Commission v. Commonwealth Edison Co.</u>, 71 PUR 4th 81 (1985), the Commission said:

> Full capitalization should be allowed on deferred revenues -- <u>that is any deferred revenues should themselves earn a return including both the equity and debt components of that return; this is clearly not an absolute -- this commission and others have often deferred the recovery of various expenses and assets by regulated utilities without allowing a full return on the deferred portions</u> -- but the commission is of the opinion that the scale of the deferrals that are involved in any significant phase-in is such that failure to

> capitalize them is likely to lead to a write-down in their value and a resulting substantial increase in Edison's cost of capital.
>
> (at PUR 4th, page 104; Emphasis supplied).

The phase-in and partial denial of a return may, in themselves, be included in the "just and reasonable rates." Likewise, this Commission in numerous cases has refused a return on the utility's recognized assets or expenses. (See CAPCO Investigation, I-79070315 and I-79070317).

XIII. GUARANTEE OF FUEL COST SAVINGS OF LIMERICK 1

Several parties have proposed that the Company be required to guarantee the $207 million energy savings projected for Limerick 1 at a 65% capacity factor.

The energy savings guarantee proposals are inconsistent with fundamental ratemaking principles. Just and reasonable rates do not provide the utility or ratepayers with a guarantee of any particular results. See Pennsylvania Electric Co. v. Pa. P.U.C., ____ Pa. ____, 502 A.2d 130 (1985); Federal Power Commission v. Hope Natural Gas Co., 320 U.S. 391 (1944).

Rates are established based upon projected costs and conditions, and rate regulation provides a utility with only an opportunity to earn a fair rate of return on its investment.

This Commission had rejected an identical proposal to require Pennsylvania Power & Light Company to guarantee energy savings from its Susquehanna Units 1 and 2. Pa. P.U.C. v. Pennsylvania Power Light Co., 57 Pa. P.U.C. 559 (1983); Pa. P.U.C. v. Pennsylvania Power & Light Co., R-842651 (April 26, 1985). As the Commission stated in its Susquehanna 1 decision:

> The energy cost rate is a medium which allows PP&L and all other major Pennsylvania electric utilities to recover energy cost increases from ratepayers and flow-through energy cost decreases to ratepayers. The ECR is reviewed by the Commission. The fuel cost of operating Susquehanna and the energy savings produced by Susquehanna from direct fuel savings and increased Interconnection sales are costs and benefits that qualify for recovery through ECR. If we require PP&L to guarantee its projection of Susquehanna energy savings, we would not only

> be abrogating the ECR mechanism for PP&L, but would also create the potential of an economic incentive for the continued operation of what might be an unsafe nuclear plant by the PP&L.
>
> The entire concept of a utility "guaranteeing" fuel savings is inconsistent with fundamental ratemaking principles. . .
>
> The proposal of Trial Staff and the OCA is inconsistent with established ECR procedure and is therefore rejected.
>
> (57 Pa. P.U.C. at 617-18; Emphasis supplied)

Moreover, if any performance standard for Limerick 1 were to be applied, it should relate solely to the operation of the plant and not to a dollar level of energy savings. Energy costs are dependent on a wide variety of factors unrelated to the operation of Limerick 1, which would be beyond the Company's control, e.g., purchased power costs, absolute changes in fuel prices, sales levels, etc.

We disagree, however, with the Company's contention that such guarantee should be rejected on the ground that a public utility must be entitled to recover all of the prudently-incurred expenses. As our Commonwealth Court held in Duquesne Light Co. v. Pa. P.U.C., ____ Pa. Cmwlth Court -- (No. 69 C.D. 1985 - Decided on April 16, 1986):

> . . . Recovery of costs which are found to be the result of managerial imprudence may properly be denied. See UGI Corp. v. Pennsylvania Public Utility Commission, 49 Pa. Commonwealth Court 69, 410 A.2d 923 (1980). However, it does not necessarily follow that recovery of costs prudently incurred will always be allowed. See Philadelphia Electric Company v. Pennsylvania Public Utility Commission, 61 Pa. Commonwealth Ct. 325, 433 A.2d 620 (1981). The Commission on many occasions has disallowed recovery of costs even though there was no finding that the

> utility in question had imprudently incurred the costs. Bell Telephone Company of Pennsylvania v. Pennsylvania Public Utility Commission, 83 Pa. Commonwealth Ct. 331, 478 A.2d 921 (1984). . .
>
> * * *
>
> Prudence on the part of a utility in incurring certain expense is no guarantee that it will recover those expenses dollar for dollar from its customers. Utility rates must be just and reasonable when charged, a standard temporally and therefore actually quite removed from the prudence of the original arrangement for the products needed to supply the services for which the rates are later charged.
>
> (Mimeo, pp. 6, 7).

If, however, Limerick 1 does not operate to produce energy cost savings as projected, the Commission at that time can inquire into the reasons therefor, and determine whether any adjustments or penalties should be applied.

The recommended proposals for the imposition of a guarantee upon the Company to produce the projected $207 million energy savings are rejected.

XIV. ECONOMIC IMPACT

We agree with the Company that the rate increases proposed by Trial Staff and OCA are not only substantially below the rate increase warranted by the evidence of record, but also that the level of the increases recommended by Trial Staff and OCA would pose severe financial problems upon PECO. Such financial effect would result in higher cost of money to PECO, which would, in turn, be reflected in higher rates to customers of the Company.

On the other hand, we agree with these and other complainants, so holding, that the amount of the rate increase requested by PECO is not justified on the evidence of record, is unreasonable, and would impose an unwarranted burden upon the Company's ratepayers.

Our adjustments herein have centered mainly on (1) rejecting the inclusion of 100% of Limerick common plant in rates <u>at this time</u>, and in including only 50% of common plant presently in rates; (2) rejecting PECO's intent to saddle its ratepayers with substantial increase in the construction of Limerick 1 and 50% of common plant arising out of PECO's <u>deliberate</u> and <u>preventable</u> delays in such construction; and (3) disallowance of the unwarranted level of rate of return requested by the Company at 15.9% or 15.75% on common equity.

Moreover, it must be emphasized that our substantial reduction in PECO's rate request is not such an adverse impact upon the Company as may appear on the surface.

First, it must be noted that we are not totally disallowing 50% of Limerick common plant. We are only disallowing 50% of common plant in our recommended level of rates in this proceeding. According to Commission practice, the Company will continue to receive AFUDC on the remaining 50% of common plant. While, admittedly, such AFUDC will not improve PECO's cash flow, since it is a non-cash item, its existence must be considered by the financial community in analyzing PECO's securities.

Secondly, with recent substantial falling interest rates, the Company will not be expected to pay the higher cost of capital contemplated when the Company prepared its data for this proceeding, or when the proceeding was instituted in September 1985. We have no doubt that had PECO's filing been prepared at the present date, its rate request would have included a substantially lower rate of return.

And thirdly, with Limerick 2 completion having been allowed, and with Limerick 1 and 50% of common plant included in rate base, the financial community must recognize that a substantial risk in PECO's securities has been reduced.

The rate increase recommended in this proceeding will result in an annual increase to ratepayers at about a normal inflation rate, thus not unduly burdening ratepayers. Furthermore, even City of Philadelphia has agreed that while a rate increase of 28.2%, phase-in at 9.4% could have a severe impact upon the economy of the Philadelphia area, a rate increase of 14.3% phase-in at an annual rate increase of 4.8%, commensurate with the inflation rate, would not adversely affect the economy of the area.

XV. ENERGY COST RATE

On October 30, 1985, this Commission issued an Opinion and Order in the case of Re Salem Nuclear Generating Station, 70 PUR 4th 568 (1985) (ECR 8). In that Order, the Commission required PECO to file a revised energy cost rate mechanism in the current rate case in which 20% of the energy costs would not be subject to reconciliation under Section 1307 of the Public Utility Code. The Commission also ordered PECO to file certain information in support of its new energy cost rate.

On December 30, 1985, PECO filed supplemental Direct Testimony presenting its case related to the revisions in the energy cost rate. (PECO Sts. 18B, 22A, 28A and 30, and JFB-2 and JCC-1). Included as part of the Company's testimony was a proposal to place a $35 million cap on the total level of energy costs which would not be subject to reconciliation. (PECO St. 18B, 28A). The revised ECR filed is for the twelve month period beginning June 27, 1986 until June 10, 1987. After the first year, subsequent ECRF filing will be effective for a 12-month period beginning July 1. The revised ECRF is to reflect the new 80/20 ECR.

On January 23, 1986, the Commission Trial Staff filed a Motion to Strike certain portions of the Company's testimony on the ground that it constituted an improper collateral attack on a Commission Order, and that it was not in compliance with the ECR 8 Order. In particular, Trial Staff asserted that PECO's testimony requesting a "cap" went beyond the scope of the Commission's ECR 8 order and was an attempt to modify that order.

On March 10, 1986, we issued a ruling on Staff's Motion to Strike, stating, in part:

> As we view it, the Commission directed us to ensure that the correct "ingredients" were included in PECO's ECR, for without proper ingredients the Commission's 80%/20% provision could be meaningless, could be manipulated, and would fail to establish the effect intended.
>
> However, nowhere in such assignment, do we read a mandate to review, modify, "second guess" or overrule the Commission's 80%/20% provision. Any attempt on our part to modify the Commission's ECR 8 Order, would be presumptuous and contrary to the Commission's assignment.
>
> (Mimeo at page 9).

We sustained Staff's motion to strike the $35 million cap testimony, but denied the motion in regard to testimony concerning non-inclusion of the 20% non-reconcilable energy costs in base rates.

Trial Staff has argued that the 20% of non-reconcilable energy costs should be established and recovered in base rates. Specifically, Trial Staff asserts that base rate recovery (1) is required as a matter of law; (2) is required by the Commission's ECR 8 Order; (3) will provide the Commission with a better opportunity to evaluate the reasonableness of PECO's energy costs; and (4) will provide greater stability.

Under the Staff's proposal, the 20% energy cost component would be established in base rates based on projected data normalized over a three year period. The remaining 80% of energy costs would be separately established and recovered in the ECR.

Under the Staff's proposal, the 20% energy cost component would be established in base rates which means that it can be changed only when the Company files a base rate case and only after nine months of investigation. This lag in reflecting changes in energy costs is intolerable from both the Company and ratepayer point of view. If adopted, it would expose both the Company and ratepayers to serious risks of very substantial over or under collections.

GEC witness proposes a nuclear performance standard for PECO's nuclear plants, whereby replacement power costs attributable to aggregate nuclear plant performance below a 60% capacity factor would not be recovered from customers, and one-half of the energy cost savings achieved by performance in excess of 70% would be retained by the Company (GEC St. 1A, pp. 38-43). Because this proposal seeks to modify the Commission's ECR 8 order, and is seriously flawed in other respects, we reject the GEC proposal.

In all other respects, we accept the Company's ECRF revised ECR filing.

XVI. COMMENT

We should not close our Recommended Decision without a word of comment.

First, during the course of hearings in this matter, we had to rule upon important procedural issues in order to chart the course of this proceeding within our perceived proper boundaries.

Second, the sheer magnitude of the record and issues in this proceeding; the number of witnesses who testified on direct examination, cross-examination rebuttal, surrebuttal, and sur-surrebuttal; the varied positions taken by the numerous parties to this proceeding; and the severe time constraints place upon us -- have precluded the usual more detailed form of rate case recommended decision.

In order to keep our already lengthy recommended decision within reasonable limits, in many instances we have had to highlight our resolutions with broad, sweeping strokes, leaving enlightenment for details, where required, by reference to the record. Our intention has been principally to define the issues and to recommend a sense of direction in the resolution of those issues in a fair and equitable manner.

CONCLUSION

In accordance with our resolution of the issues in this proceeding, we conclude that PECO is entitled to an opportunity to earn income available for return of $695,663,000, applicable to its electric operations. PECO is authorized to establish rates designed to produce $2,859,968,000 in annual electric operating revenues. The increase over pro forma present rates in annual operating revenue herein authorized is $357,975,000 to be phased-in over a three-year period, approximately one-third thereof in each of the three years, with the deferred amounts to be recovered in the fourth, fifth and sixth years.

This increase amounts to 14.3% over present rates. The increase would be phased-in at approximately 4.8% in each of the three years.

THEREFORE IT IS RECOMMENDED:

1. That the several complaints consolidated with R-850152 be granted or denied to the extent consistent with the Recommended Decision.

2. That Philadelphia Electric Company shall file effective for service rendered on or after the date of entry of the Commission's Order, or within thirty (30) days thereafter, as it may elect, a tariff or tariff supplements prepared in accordance with the Recommended Decision, containing rates and rate structure designed in accordance with the recommendations herein to provide annual electric operating revenues of $2,859,968,000, exclusive of state tax adjustment surcharge revenues and net energy clause revenues.

3. That the tax surcharge shall be computed in accordance with the State Tax Adjustment Surcharge Order of March 10, 1970, as revised.

4. That the rate increase recommended herein be phased-in over a period of three years in approximately equal amounts with recovery of the deferred amounts over the fourth, fifth and sixth year in approximately equal amounts, with no return on the deferred amounts as herein set forth.

5. That Philadelphia Electric Company shall file detailed calculations with the tariff filing which shall demonstrate to the Commission's satisfaction that the filed rates comply with this Order.

6. That upon the filing of tariff revisions acceptable to the Commission as being in compliance with this Commission's Order and upon Commission approval of the tariff revisions, the inquiry and investigation at R-850152, et al., shall be terminated and the record marked closed.

Recommended to the Pennsylvania
Public Utility Commission

Joseph P. Matuschak
Joseph P. Matuschak
Administrative Law Judge

Date: May 13, 1986

TABLE I

Philadelphia Electric Company
Income Summary
(000)

	Company Proforma Proposed Rates $	ALJ Adj. $	Proforma Proposed Rates Per ALJ $	Revenue Reduction $	ALJ Recommendation $
Operating Revenue	3,183,753		3,183,753	(323,785)	2,859,968
Operating Expenses					
O&M Expense	1,439,692	(37,690)	1,402,002		1,402,002
Depreciation	261,163	(32,488)	228,675		228,675
Taxes					
Other	100,899		100,899	(6,476)	94,423
Income Taxes	495,076	102,045	597,121	(157,916)	439,205
Total Expenses	2,296,830	31,867	2,328,697	(164,392)	2,164,305
Income Available for Return	886,923	(31,867)	855,056	(159,393)	695,633
ALJ Rate Base					5,797,190
ALJ Rate of Return					12.0%

TABLE II

Philadelphia Electric Company - Electric
Summary of Adjustments
(000)

ecommended Adjustments	Rate Base $	Revenues $	Expenses $	Depreciation $	Taxes-Other $	State Income Tax $	Federal Income Tax $
lem Unit No. 1	(4,380)						
mmon Plant-Limerick No. 1	(639,512)						
mmon Plant-Depreciation Reserve	12,105						
mmon Plant-Excess Tax Depreciation	49,669						
mmon Plant-Land Held For Future Use	(1,258)						
al Inventory-Keystone	(300)						
l Investory-Keystone	(1,784)						
merick Construction Errors (Bechtel)	(13,278)						
R Audit Adjustment No. 9	(15,334)						
merick No. 1-1976 and 1978 Delay Costs	(554,900)						
lem Unit No. 2	(6,098)						
ferred Taxes Relative to Capitalized Pensions, Taxes and Benefits	16,208						
cumulated Deferred State Taxes	7,167						
sh Working Capital	4,997						
mon Plant-Annual Depreciation				(32,488)			
mon Plant-Tax Depreciation							
mon Plant-Excess Tax Depreciation						9,675	59,338
mon Plant-Allocation of Investment Tax Credit							49,669
agement Audit-Salem Unit No. 1							1,563
ommissioning-Peach Bottom Unit No. 1			(3,642)			254	1,558
erick Unit No. 2-Show Cause Investigation			(691)			48	296
rtization of Damaged Nuclear Fuel Assemblies			(1,100)			77	471
ommissioning Expense-Reserve Deficiency			(104)			7	45
und at C-850128 (½ of $2,066,000)			(1,896)			132	811
stone Alliance			(1,033)			72	442
em Unit No. 2 Benefits			(4,383)			306	1,875
ual Taxes Paid Doctrine (Capitalized ensions, etc.)			(228)			16	98
umulated Deferred State Taxes			(16,208)			1,131	6,935
solidated Tax Return Savings			(5,658)			395	2,421
posed Refund - R-822291							(342)
erest			(2,747)			192	1,175
						8,793	53,930
als	(1,146,698)		(37,690)	(32,488)		21,098	80,947

terest Expense

J Rate Base	$5,797,190
ighted Debt Cost	x 5.41%
J Interest	$ 213,628
mpany Claim	- 187,595
x Expense	$ 126,033
ate Income Tax Rate	x .0697674%
ate Income Tax	$ 8,793
ss: State Income Tax	$ 117,240
deral Income Tax Rate	x .46%
deral Income Tax	$ 53,930