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April 7, 1986

Secretary Jerry Rich
Pennsylvania Public Utility Commission
North Office Building
New Filing Section, Room B-16
Harrisburg, PA 17120

Re: Pennsylvania Public Utility Commission,
v. Philadelphia Electric Company,
PUC Docket R-850152

Dear Secretary Rich:

Enclosed for filing with the Commission is the original and nine copies of the Main Brief of the Governor's Energy Council in the above-captioned proceeding.

I hereby certify that we are today serving copies of this document on all Active Parties.

Sincerely,

Roger E. Clark
Chief Counsel

Enclosures

cc: The Honorable Joseph P. Matuschak
All Active Parties

BEFORE THE

PENNSYLVANIA PUBLIC UTILITY COMMISSION

| | | |
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| Pennsylvania Public Utility Commission | ) | |
| v. | ) | R - 850152 |
| Philadelphia Electric Company | ) | |



# MAIN BRIEF OF THE GOVERNOR'S ENERGY COUNCIL



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April 7, 1986

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# I. INTRODUCTION

On September 27, 1985, the Philadelphia Electric Company filed with the Pennsylvania Public Utility Commission the largest rate increase in Pennsylvania history. The central issue in the subsequent investigation, both in terms of the magnitude of the potential financial impacts on the ratepayers and the bulk of the evidence, has been the inclusion of Limerick Unit 1 in the determination of the Company's revenue requirement. The Company is seeking a base rate increase of $893 million less $211 million in estimated fuel and purchased power savings, for a net revenue increase of $681.8 million.

Employment and other economic impacts of the increase in rates due to Limerick were recognized by all involved. Several parties proposed plans to reduce the economic shock of the increase by phasing-in the increase over a period of time. Various parties challenged many of the Unit 1 costs, including the claim for 100% of the common facility, costs from the unreasonable delays in the construction of the unit and the Mark II containment expenditures. Other parties questioned the size of the energy savings which the Company claims will be produced by Limerick and proposed performance standards to ensure the ratepayers are not penalized by poor plant performance. The investigation also included evidence and discussion about the Energy Cost Rate and the appropriate figures for the energy cost level for the twelve month period beginning July 1, 1986.

## II. STATEMENT OF POSITION

The Governor's Energy Council (GEC) was created by Executive Order No. 1979-7 (dated July 19, 1979) in order to ensure that energy security for the Commonwealth is achieved through planning, development and conservation. The GEC is charged with the duty of developing a Pennsylvania state energy policy and is directed to "assist the Governor, other state agencies and the private sector in the study and review of energy programs and to aid in the evaluation of needs, assessment of existing resources and development and implementation of new policies and programs." Consistent with this mandate, the GEC's role in this investigation was to present information about several issues which relate to the Pennsylvania Energy Policy and the 1983 report of the Pennsylvania Electric Utility Efficiency Task Force.

There were three issues addressed by the GEC through witness testimony and which will be a major focus of this brief. The first involves the concept of performance-based regulation, where a utility's return is based on how well it is serving the needs of its customers through efficient utilization of its assets, not simply the size of its capital investment. The important concept is that there should be a sharing of the economic risk of these investments between the ratepayers and the shareholders. The first important step in this direction is to provide utilities with financial incentives for performance. The GEC witness presented for Commission review a performance

standard for the Company's five nuclear units.

The second issue addressed by the GEC involved the link between energy and economic development. The availability of reasonably priced energy is critical to the economic vitality of Southeastern Pennsylvania. The GEC was concerned about the economic impacts of rate increases of the magnitude proposed by the Company and presented an alternative to the Company's proposal to phase-in whatever rate increase was ultimately approved by the Commission. The principle behind this phase-in proposal is to provide a rate increase schedule which did not cause great economic injury to the residential and business customers of the Company (and thus to the Philadelphia metropolitan area) and also to provide the Company with the means to remain financially viable.

The third area discussed by the GEC's witness in this case was the Energy Cost Rate. The position of the GEC is that the 80/20 Energy Cost Rate formula ordered by the Commission for use by the Company is a step in the right direction of protecting the ratepayers and providing the Company with an incentive to improve operations. Several suggestions were made regarding the implementation of the new Energy Cost Rate order.

The GEC was also interested in the Company's treatment of cogenerators and small power producers, but the issues involving the Auxiliary Service Rider were made part of a separate investigation (Docket No. R-850290) by a Commission order entered February 21, 1986.

It should be noted that the GEC did not sponsor testimony specifically addressing the reasonableness of the Company's rate increase. That is not to be interpreted to mean that the GEC believes that the Company's rate request is reasonable. The GEC recognizes that the question of cost disallowances and capacity adjustments are central issues in this case and much of the disallowance and adjustment evidence presented by the Commission Staff, the Office of Consumer Advocate and others was very persuasive. The GEC will be discussing these issues in this brief.

## III. SUMMARY OF ARGUMENT

The first major issue addressed in this brief (Part IV, below) is the GEC's analysis of the Company's revenue request. The GEC believes the Company has proven that only approximately $205.0 million in new revenues is just and reasonable. The GEC discusses which cost disallowances presented by the OCA, the Trial Staff, and others are appropriate. The GEC also presents its assessment of the excess capacity argument made by the OCA. The GEC's recommended adjustments to the Company's claimed revenue requirements are summarized in Appendix 1 of this brief.

Part V of this brief addresses the need for a performance standard for the Company's five nuclear units (including Limerick Unit 1) to ensure that its ratepayers are not forced to bear unreasonable and excessive costs due to the possible poor

performance of these baseload plants. As a performance standard, the GEC proposes setting a 65% capacity factor for the average of these units, with a band of five percentage points on either side of the standard. The capacity factors of all of the Company's nuclear units are averaged and if actual performance falls within this band, the Company receives neither positive nor negative incentives. If the total nuclear capacity average factor is less than 60%, the Company would be required to bear all of the costs for this poor performance. If the units had an average capacity factor of more than 70%, then the Company would be allowed to keep half of the cost savings due to this superior performance.

The third issue addressed in this brief (Part VI) is the phase-in of the rate increase. Depending on the size of any cost disallowances and excess capacity adjustments, a phase-in of the rate increase will probably be necessary and desirable. The phase-in proposal of the Company will be analyzed and the GEC alternative proposal involving revenue deferrals and sinking fund depreciation will be presented.

The fourth and final issue presented in this brief (Part VII) involves the Energy Cost Rate. The GEC believes that the Company presented unreasonable estimates of its future fuel costs (especially for oil) and inflation/interest rates. These faulty assumptions greatly inflate the fuel and energy projections which should be utilized for the ECR 8 period.

## IV. SIGNIFICANT ADJUSTMENTS ARE NEEDED TO THE COMPANY'S RATE REQUEST

### A. INTRODUCTION

The GEC is most concerned with those proposed adjustments which have the greatest impact on ratepayers and involve important regulatory policies. The proposed disallowances for 50% of the common plant cost, for the costs of the 1976 and 1978 delays, and for the Mark II containment costs will be addressed, as well as the excess capacity adjustment recommended by the Office of Consumer Advocate. While the additional adjustments proposed by the parties are not discussed, this should not be understood to mean that the GEC believes those additional adjustments are without merit.

### B. THE DISALLOWANCE FOR 50% OF COMMON PLANT

The Company has requested that $1.3 billion for 100% of the costs of the common facilities for Limerick be included in the Company's measure of value. Both the Commission Staff and the Office of Consumer Advocate propose a disallowance of 50% of this amount, or $639.5 million. The basis for this proposal is that the Commission has a well established and consistent policy that only one-half of the costs of the common facilities of a two-unit plant is included in rates with the first unit. See the Commission orders involving the first unit of twin plants at Beaver

Valley (R.I.D. 373, September 28, 1978), Salem (R.I.D. 438, December 28, 1978), and Susquehanna (R-822169, August 19, 1983).

The GEC supports this proposed disallowance because it is consistent with the Commission's reasonable and sound policy of splitting the cost of common facilities. As witness Thomas E. Knudsen pointed out, the "ratemaking treatment applied to second units has often been different from the treatment of the first units for the same plant" (Direct Testimony of Thomas E. Knudsen, OCA Statement No. 7, pages 22-23). As examples of this different treatment, he noted the sale of Salem 2 for several years, the different excess capacity adjustments for Susquehanna 1 and 2, the events at TMI 2, and the delays in the completion of Beaver Valley 2. Other policy reasons for the practice were noted in a letter written by the Company in 1977 to the Federal Power Commission, in which the Company asked the FPC to allow the Company to accrue AFUDC on 50% of the common plant associated with the Salem plant (see OCA Exhibit 70 and Tr. pages 1518-1520). The letter noted the Company's belief that including only 50% of common was:

> ...proper for 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.

The GEC agrees with this augument and supports the proposed disallowance for 50% of the cost of the common facility at Limerick, thus disallowing $639.5 million of the Company's claimed rate base. Company witness Thomas P. Hill, Jr. asserts

that the Company had revised its common plant measure of claim to exclude the Bradshaw reservoir (PECO Statement No. 18-K, pages 5-6). If this is so, the $639.5 figure should be revised accordingly.

## C. THE DISALLOWANCE FOR THE COSTS OF THE 1976 AND 1978 DELAYS

### 1. Introduction.

Witness Thomas E. Knudsen properly articulates one of the major tasks of the Commission in this case when he notes:

> [i]n considering the recognition of a major generating station in base rates, the Commission must address issues of the prudence of the construction effort and whether all or a part of the plant costs were not reasonably incurred.

(Direct Testimony of Thomas E. Knudsen, OCA Statement No. 7, page 14.) In most cases, the consideration of a utility's prudence with a particular new unit occurs in one proceeding, but Limerick is unusual in that the issue of the prudence of the Company's construction effort was the subject of earlier Commission rulings.

The Commission ruled in the first Limerick investigation that the Company's decision to order delays in the construction of Limerick in 1976 and again in 1978 was unreasonable (I-8100341, 56 Pa. P.U.C. 47 (August 27, 1982), aff'd 501 Pa. 153, 460 A.2d 734 (1983)). This previous finding of the Commission was ruled to be binding on the parties in this case (see ruling of the ALJ on Trial Staff's Motion in Limine on December 20, 1985, Tr. pages 1370-1375, confirmed by the Commission, Opinion

and Order entered January 21, 1986), thus establishing that the Company's construction schedule for Limerick was not prudent.

One of the major tasks of this proceeding was to quantify the costs of the 1976 and 1978 delays. The Commission Staff and the Office of Consumer Advocate both presented evidence on this issue. Their methodology was similar, in that the first step was to establish when Limerick Unit 1 should have been completed but for the unreasonable delays, and the second step was to compare the difference between what the costs would have been for a construction schedule based on the earlier completion date and the Company's actual construction costs. The process is simple to state, but these two issues were the most litigated issues in the proceeding.

**2. The completion date for Limerick Unit 1.**

The Company's position is that the 1976 and 1978 delay decisions contributed little to the actual completion date of Limerick Unit 1. The Company's witnesses presented testimony that other aspects of the project, such as the Mark II problem (discussed in the following section of this brief), the Nuclear Regulatory Commission licensing process, and workforce density limitations, all would have prevented completion of the unit before mid or late 1984 (see Rebuttal Testimony of Roger J. Mattson, PECO Statement No. 9-A, Rebuttal Testimony of James R. Coughlin, PECO Statement No. 33, and Rebuttal Testimony of James O. Love, PECO Statement No. 8-A).

The Trial Staff suggests that April, 1981 be used as the completion date of Limerick Unit 1, because that was the completion date noted in the Commission's order in the first Limerick decision (Direct Testimony of Dennis P. Dougherty, Trial Staff Statement DPD-1, page 2). The Office of Consumer Advocate, noting several issues which made the April, 1981 forecasted date unreasonable, offered July, 1982 as the proper completion date for Limerick Unit 1 (Direct Testimony of Thomas E. Knudsen, OCA Statement 7, page 16).

**3. The cost of the delay for Limerick Unit 1.**

The Company asserts in the testimony of Thomas P. Hill that the construction delays for Limerick Unit 1 did not substantially increase the cost of the unit to the ratepayers (Additional Rebuttal Testimony of Thomas P. Hill Jr., PECO Statement No. 18-D). The GEC finds that the Company's analysis is not convincing. Trial Staff witness Robert Rosenthal criticized the Company's claim because two-thirds of the benefits will appear in the 2022 to 2024, a time so remote that the methodology's assumptions at that point are reduced to sheer speculation (Trial Staff Exhibit RAR-2, page 5). A critical component in the Company's analysis is the highly unlikely assumption that the Commission would have approved 100% of the Limerick rate request if the plant had been completed at the earlier date (see OCA Statement 7-A, page 18).

The Office of Consumer Advocate asserts that the total cost of the delay (including direct and indirect costs to the Company and to Bechtel) for Limerick 1 and 50% of common is $610.4 million (summarized in OCA Statement 7-A, Schedule TEK-4).

The Trial Staff recommended disallowance is computed for Limerick 1 and all of common (summarized in Trail Staff Statement RAR-1-A, Schedule 1). Adjusting the disallowance figure to reflect the total cost of delay for Limerick 1 and 50% of common, the Trial Staff's recommended disallowance is $938.6 million (Limerick 1 delay cost of $757.4 million + 50% of common plant delay costs of $362.3 million (or $181.2 million). The Trial Staff's delay disallowance is larger primarily because it is based on an earlier completion date for the plant.

**4. The GEC's view of the delay disallowance.**

The GEC agrees that the delay disallowance question in this proceeding is the quantification of the costs associated with the 1976 and 1978 delay decisions of the Company. The Company's effort to question the final order and findings in the first Limerick proceeding, such as the alleged financial constraints, is improper, as noted in the written ruling issued on March 10, 1986 by the Administrative Law Judge on the Trial Staff's motion. The GEC suggests that the delay disallowance is the vehicle by which the Commission can reaffirm its policy and mandate that utilities cannot claim reimbursement from their

ratepayers for costs which were imprudently incurred. A utility should not be allowed to avoid the issue of excess capacity or other concerns about regulatory treatment simply by delaying the unit and thus increasing its costs at the ratepayers' expense.

As to the issue of the proper completion date for Limerick 1, the GEC believes that the evidence introduced by the Office of Consumer Advocate is the most convincing. The Company's claim that the unit would not have come on line much earlier even if there had not been the 1976 and 1978 delay orders is not credible. The Company's arguments about the Mark II delay, workforce densities, and Nuclear Regulatory Commission treatment are all undermined by the evidence and arguments offered by the other witnesses in the case. The evidence in the record indicates that the Company's decisions in 1976 and 1978 added significantly to the construction period for Unit 1. In the opinion of the GEC, the date of July, 1982 offered by the witnesses for the Office of Consumer Advocate is the reasonable date for the completion of construction but for the Company's delay decisions.

Accepting the July, 1982 completion date, the final issue in the delay disallowance is to compute the cost differential between the unit being completed in July, 1982 and the actual completion date of October, 1984. The GEC believes that the evidence offered by the Office of Consumer Advocate about these costs is the most reasonable. The figures in Revised Schedule TEK-4 (Surrebuttal Testimony of Thomas E. Knudsen, OCA Statement No. 7A) summarize the direct and indirect disallowances for

Limerick Unit 1 and 50% of Common amounts to $610.4 million. The GEC accepts this amount as a reasonable approximation of the delay costs.

## D. THE DISALLOWANCE FOR THE COSTS OF THE MARK II CONTAINMENT REDESIGN.

The pressure suppression containment system originally built in Limerick Unit 1 was the General Electric Mark II design. The containment system consists of a cylindrical tank called the suppression pool which is underneath the reactor. The supression pool performs a vital function of condensing and cooling (called "quenching") the steam and hot water which comes from the reactor's safety release valves when the primary cooling system pressure reaches unacceptably high levels. The supression pool is also used to quench steam and hot water which escapes in the event of a break in the primary cooling system. By converting the steam to water, the system allows the facility to reduce high pressure levels without venting radioactive steam into the atmosphere. The entire pressure suppression containment system is a critical component in the safety systems of the unit.

Evidence about the destructive power of pressure pulses caused by the quenching process were first hinted at in General Electric tests in the early 1960's and later demonstrated at the Wuergassen plant in West Germany, the 1973 tests at Browns Ferry and General Electric's own tests for the Mark III design (Testimony of Stephen H. Hanauer, OCA Statement No. 2, pages 9-14). The conclusion drawn from these experiences was that the General

Electric containment design was deficient and significant rebuilding and strengthening was necessary. The Company has included the costs of this redesign and rebuilding work in its current revenue request.

The basis of the Mark II disallowance proposed by the Office of Consumer Advocate is that the ratepayers should not be required to pay the extra costs which the Company incurred to correct the Mark II design problem. There are two issues involved in this proposed disallowance. The first is who should be liable for the extra costs, and the second is what is the amount of the extra costs which were incurred because of the problem.

Witnesses for the Office of Consumer Advocate assert that General Electric was negligent in that it "did not adequately measure, predict, or specify the loads and forces which this type of containment would develop in the quenching process" (Id., page 15). Citing language in the contract between the Company and General Electric which holds General Electric liable for the costs of correcting substantial errors or omissions (Id., pages 15-17), the Office of Consumer Advocate asserts that the Company should have sought to recover the additional costs from General Electric (Id., page 20). In support of this argument, they cite the litigation by Cincinatti Gas & Electric, Dayton Power & Light, and Columbus and Southern Ohio Electric to hold General Electric liable for the costs of the inadequate design in the Zimmer nuclear plant (Surrebuttal Testimony of Stephen H. Han-

auer, OCA Statement 2A, page 30 and Exhibit SHH-9). The GEC believes that it is improper for the Company to seek recovery of the Mark II costs from the ratepayers without first seeking recovery from General Electric.

The second issue of this proposed disallowance is the quantification of the costs to correct the Mark II problem. James J. O'Brien, a witness for the Office of Consumer Advocate, uses figures from PECO Exhibit 2 to show direct costs of $136.1 million and AFUDC of $58.0 million, for a total proposed rate base adjustment of $194.1 million (Supplemental Direct Testimony of James J. O'Brien, OCA Statement No. 1A, page 5 and Schedule JJO'B-23). H. William Volmer, a witness for the Company, challenges the direct cost figure of $136.1 million and asserts that the true incremental cost for the Mark II problem was $24.8 million (Rebuttal Testimony of H. William Volmer, PECO Statement No. 31A, pages 5-6). The GEC agrees with the arguments raised by witness O'Brien showing that witness Volmer's testimony cannot support the $24.8 million figure (see Surrebuttal Testimony of James J. O'Brien, OCA Statement 1B, pages 31-33). The GEC believes that the evidence in the record supports the Mark II disallowance in the amount of $194.1 million, as proposed by the Office of Consumer Advocate.

**E. THE ADJUSTMENT FOR EXCESS CAPACITY**

Office of Consumer Advocate witnesses Thomas E. Knudsen (OCA Statement No. 7), Peter J. Lanzalotta (OCA Statement No. 5), and

Charles Komanoff (OCA Statement No. 6) presented evidence to support a recommendation that the Company be denied any equity return on 450 megawatts of Limerick Unit 1 capacity. The denial of a common equity return on the 450 megawatts considered by the witnesses to be excess is the method the Commission used in making an excess capacity adjustment in the proceeding involving Pennsylvania Power & Light Company's Susquehanna Unit 2 (R-842651). This methodology produces an adjustment to revenues of $110.4 million (figure computed in OCA Statement 7-A, Revised Schedules TEK-8 and TEK-1).

In support of the 450 megawatt figure, witness Lanzalotta states that all of Limerick 1 is excess to the Company's needs (including its PJM reserve requirement) at the present time, and that at least 450 megawatts is excess through 1990 (OCA Statement No. 5, page 4). Additional evidence supporting the concept of excess capacity is the Company's efforts to retire generating units, both in the recent past (the 166 megawatt oil-fired Richmond 9 unit and the 338 megawatt oil-fired Southwark 1 and 2 units), and the near future (the 458 megawatts of combustion turbines at the Richmond and Plymouth Meeting stations)(see cross examination of Company witness Cary H. Rush, Tr. pages 790-797). Lanzalotta used the Company's economic assumptions to show that the cost of retaining the 458 megawatts of combustion turbines through the 1996 expiration date of the leases would save the ratepayers over $1.5 billion in nominal dollars compared to adding the same amount of capacity of Limerick Unit 1 (OCA

Statement No. 5, pages 22-23).

Witness Komanoff also presented the results of his net present value study showing that the lifetime costs of Limerick 1 and 50% of common were likely to exceed the lifetime benefits and savings from the unit by at least $2 billion (OCA Statement No. 6, pages 6-7). Even the Company's life cycle analysis does not show a positive cumulative present value until 2008 (Id., page 8).

The GEC's view of these excess capacity arguments are that utilities should be required to provide service through the least cost mix of supply options. This least cost mix should include company owned generating stations, conservation and load management programs, and customer-owned generation. The massive retirements of less-expensive generating plant by the Company both in the recent past and in the near future appear to the GEC to be contrary to this principle of least-cost supply.

The GEC also notes that if the Commission sanctions the uneconomic retirement of units by not making the warranted adjustments for excess capacity in this case, the implications could be far reaching. Such action could be interpreted to suggest that a utility should not maintain their economical units, but could retire them before new large units enter service and thus avoid a penalty for excess capacity.

For these reasons, the GEC supports the excess capacity adjustment advanced by the Office of Consumer Advocate in this case. As will be discussed in more detail in the next section,

the GEC is not taking a position on the rate of return issue, so for purposes of quantifying the adjustments to income and to revenues, the GEC has used the Company's weighted cost of common equity of 6.11% (Updated and Rebuttal Testimony of Joseph F. Brennan, PECO Statement 28-B, Exhibit JFB-3, Updated Schedule 1). Using the Company's figure for the weighted cost of common equity, the excess capacity would produce an adjustment to income of $61.7 million (see Appendix 1) and an adjustment to revenues of $125.4 million.

Finally, it should be noted that there appears to be an emerging view that capacity over the reserve requirements of PJM or other power pools is automatically considered excess capacity. That is clearly not the entire justification used in this case by the witnesses for the Office of Consumer Advocate. However, efforts are needed by all parties to refine the concept of excess capacity so that it is not simply a rigid engineering test, but also includes an economic component as well. The GEC also notes that capacity which was once judged excess could, at some point in the future, be ruled used and useful and revenue requirements could be adjusted to reflect this.

## F. CONCLUSIONS ABOUT DISALLOWANCES AND ADJUSTMENTS

The evidence in the record does not support significant portions of the Company's revenue request. The request to include 100% of the common facility with Limerick Unit 1 is

contrary to well-established Commission precedent, and no compelling reason was made by the Company to depart from that precedent. The Commission's prior order in the first Limerick proceeding ruled that the Company's construction delays in 1976 and 1978 were imprudent, and disallowance of the costs of those delays are necessary to clearly establish the regulatory policy that efficiency is required in utility construction programs. The recovery of Mark II related costs should also be pared from the rate request because of the policy that a utility should act vigorously to protect the interests of their ratepayers, and not view them as an easy source of financial assistance when other more appropriate sources exist. Excess capacity adjustments have been made in recent years by this Commission, among others, and a decision not to make such an adjustment in this case could be interpreted as sanctioning the practice of premature retirement of economic generating units and provide conflicting signals for the timely and economic completion of new power plants.

In summary, the GEC recommends a $476.8 million reduction in the Company's requested Net Revenue Requirement (NRR). The resulting NRR recommended by the GEC is $205.0 million, or 30% of the Company's request. The numbers supported by the GEC for these various adjustments are contained in Appendix 1 to this brief. It should be noted that in developing the NRR figures, the GEC used the Company's estimates for the cost of capital and the weighted cost of common equity. The GEC is aware that other parties challenged these Company estimates, and the use of the

Company's figures is not an endorsement of those figures. Further, in the appendices to this brief, the GEC assumed additional OCA positive net adjustments to measures of value of $78.8 million.

## V. NUCLEAR UNIT PERFORMANCE STANDARDS ARE NEEDED TO ASSURE A FAIR SHARING OF THE RISKS

### A. INTRODUCTION

#### 1. The need for performance standards.

An important theme underlying the GEC's participation in this case is the need for nuclear unit performance standards to assure that the ratepayers are not the only party at risk for possible poor performance of the Company's nuclear baseload units. One of the key factors which will determine the true financial impact of any rate increase approved in this case is the performance of the Company's units, especially the large baseload units. The Company's original filing projected annual fuel savings from Limerick Unit 1 of $207 million (Direct Testimony of Thomas P. Hill, Jr., PECO Statement No. 18, page 6). How much those projected savings will be eroded in the future depends in large part on the performance of the Company's units and the operating costs (including fuel) of the units that are being displaced.

**2. The 80/20 ECR mechanism.**

As a threshold matter, it must be noted that the Commission's October 30, 1985 order in the Energy Cost Rate 8 proceeding (Docket No. M-840375, referred to as the ECR 8 order) does not prohibit a further investigation into the issue of plant performance. The impact of the ECR 8 order on this proceeding was explored in the Trial Staff's Motion to Strike certain Company testimony regarding modifications to the 80/20 ECR mechanism of the ECR 8 order. In that order, the Commission found that the Company was unable to administer the ECR mechanism in its current form (ECR 8 order, page 159). To correct this situation, the Commission ordered an 80/20 ECR, whereby only 80% of the Company's fuel and energy costs could be reconciled through the ECR mechanism. The Company would be at risk for 20% of the amount that actual fuel and energy costs exceeded the Company's projections.

The 80/20 mechanism was seen as the remedy to the problem of the Company's poor use of the ECR mechanism, and the goal of the order was to give the Company an incentive to better forecast their fuel and energy costs. The 80/20 ECR is <u>not</u> specifically an incentive program to improve the operating performance of the Company's generating units. The Company could project low capacity factors for their units in developing their ECR projections and receive no penalty under the 80/20 ECR, provided that the actual performance was not worse than the projected perfor-

mance.

The 80/20 ECR was not intended by the Commission to be the exclusive regulatory incentive for good plant performance. This is apparent from the fact that the same Commission which ordered the 80/20 ECR for this utility also established a separate performance standard for Limerick Unit 2 (I-840381, Opinion and Order entered December 5, 1985, pages 87-89).

While there was no motion to strike the testimony of GEC witness Dr. John W. Wilson about performance, the GEC recognizes that the Administrative Law Judge's ruling on the Staff's Motion to Strike applies to the portions of Dr. Wilson's testimony about using the ECR as the method to implement a performance standard. It does not appear, however, that the ruling applies to the general issue about the need for and the desirability of a plant performance standard. As Dr. Wilson stated on the stand, his suggestions for a performance standard are not inextricably linked to the ECR mechanism, but can be implemented in other ways (Tr. pages 3961-3963). His performance proposal is not an attempt to modify the 80/20 ECR, but rather a proposal to add an additional and separate performance standard for the operation of the Company's nuclear units, just as the Commission did in the case of Limerick Unit 2.

**3. The philosophy of performance standards.**

The theory behind performance based regulation is neither new nor foreign to public utility regulation. As GEC witness

Wilson noted,

> ...one of the fundamental principles of utility regulation is to approximate the cost discipline of competitive markets.
>
> One way to accomplish this objective is through the establishment of operating performance standards. By targeting a cost category that comprises a significant portion of the utility revenue requirement, regulators may be able to more effectively monitor utility performance and encourage the establishment of more effective management practices without assuming control of the day-to-day operation of the utility.

(GEC Statement 1-A, pages 8-9). Establishing cost discipline through incentives is one major component of performance regulation.

Another key concept of performance regulation is a sharing of the risks between the utility and its ratepayers. The utility should not be absolved of all responsibility for poor performance or bad decisions, and performance standards operate to prohibit all of the costs of poor performance being passed through to the ratepayers. The GEC agrees with Company witness William H. Hieronymus that a fair sharing of the risks also includes a sharing of the benefits, both positive as well as negative incentives (Tr., pages 771-772), and the GEC's performance standard proposal provides for both the Company and the ratepayers to receive the financial benefits of good performance.

**4. Performance standards in Pennsylvania and other states.**

The Commission has looked at the power plant performance of the Company on several occasions. As Dr. Wilson noted in his

testimony (GEC Statement 1-A, pages 16-20), the Commission was concerned about poor plant performance and the appropriate regulatory response in the Salem 1 outage investigation (P-830453), the ECR 8 investigation (M-840375), the fuel-savings guarantee in placing Salem 2 in rate base (R-842590), and the performance standard adopted in the Limerick Unit 2 order (I-840381). In addition, the proposed regulations issued by the Commission in the generic Energy Cost Rate investigation (Docket No. M-820324) address the issue of plant performance. It is clear from this review of prior Commission action that this Commission is concerned with and understands the importance of plant performance.

Pennsylvania is not alone in implementing performance-based regulation. The performance standards implemented by the public service commissions in Arizona, Arkansas, California, Connecticut, Florida, and New Hampshire are discussed by Dr. Wilson in his testimony (GEC Statement 1-A, pages 30-36).

## B. THE PERFORMANCE STANDARD PROPOSAL OF THE GEC

GEC witness Wilson presented a comprehensive performance plan for the Commission to consider in this proceeding. This performance plan has three components, all of which are important if the interests of the Company's ratepayers are to be protected.

The first component of the proposed plan involves a nuclear unit operating standard for all of the Company's nuclear units,

including Limerick Unit 1. Dr. Wilson suggested an average capacity factor of 65% as a performance standard for all of the units. There would be a "dead-band" of five percentage points on either side of this 65% standard. Within this ten percentage point range, the fuel and energy costs incurred by the Company would receive the standard cost recovery treatment (ie. the 80/20 methodology). All replacement power costs attributable to performance below the 60% average capacity factor would not be recovered from the ratepayers, but would be borne by the Company. On the other end of the range, half of the fuel and energy cost savings achieved by the Company for total nuclear unit performance in excess of a 70% average capacity factor would be kept by the Company. This component of the plan would protect the ratepayers from the cost of unreasonably poor performance and would give the Company a positive incentive for higher performance. Performance within the ten point band would produce neither penalties nor rewards.

The second component of Dr. Wilson's proposed performance plan recognizes the importance of controlling non-fuel operation and maintenance expenses of the Company's nuclear units. As Company witness John J. Carroll noted on the stand, O&M expenses at the Peach Bottom and Salem nuclear units have been rising on average at a annual rate of more than 3% above the inflation rate (Tr., page 351). Dr. Wilson noted that the Commission staff is under instructions from the Commission to develop a program for analyzing and controlling operation and maintenance costs as

part of the Limerick Unit 2 performance plan. In the final order of the Limerick Unit 2 case, the Commission envisioned a plan which would:

> identify expenditures that are out of line with results shown by regression equations and other statistical analyses, and take appropriate regulatory action.

(I-840381, December 5, 1985, page 69). According to the Commission order, this O&M program is due by June 30, 1986, and Dr. Wilson suggests the Commission consider applying this program to all of the Company's nuclear units.

The third and final component of the plan suggested by Dr. Wilson addresses the subject of post-commercial capital additions. Company witness Alfred Wroblewski spoke about the scope of capital additions in testifying that the capital additions at the Peach Bottom and Salem plants have exceeded depreciation and retirements at those facilities, so that the Company's net depreciated share of those facilities is now larger than the Company's original investment (Tr., pages 133-135. See also OCA Exhibit 4). Dr. Wilson suggests that the Company be required to supply the Commission with information about such expenditures whenever the annual aggregate capital additions for the nuclear units is in excess of $100 million. With this information, the Commission would be in a position to review the prudency of the capital addition expenditures prior to the filing of a claim for reimbursement in the next rate case.

## C. THE COMPANY'S POSITION ON PERFORMANCE PLANS

The Company was critical of the performance incentive plan presented by Dr. Wilson. Company witnesses Hill, Carroll, and Hieronymus presented several arguments against the proposal, and these are discussed in the following section. These same witnesses also presented a counter proposal, if the Commission felt that a nuclear performance standard should be established. This counter proposal differed from Dr. Wilson's plan in three ways.

Instead of a performance range of 60% to 70%, the Company suggests a range of 55% to 70% (see testimony of John J. Carroll, PECo Statement No 22-C, page 3, and of Thomas P. Hill, Jr., PECO Statement No. 18-D, page 18).

The second difference in the Company's counter proposal is that the Company proposes that the Company be liable for only 50% of the additional costs of poor performance, rather than all of the costs (see Carroll, PECO Statement 22-C, page 8 and Hill, PECO Statement 18-D, page 18).

The final change suggested by the Company's witnesses is that a cap be put on the total amount of the positive and negative incentives, so as to reduce the Company's financial liability (see Carroll, PECO Statement 22-C, page 2, and Hill, PECO Statement 18-D, page 18). This cap would be $35 million, the same cap as proposed by Company witness Joseph F. Brennan for the Energy Cost Rate (Direct Testimony of Joseph F. Brennan, PECO

Statement No. 28, pages 21-22).

It should be noted that no Company witness addressed the provisions of Dr. Wilson's performance plan for controlling operation and maintenance and capital addition costs.

**D. THE COMPANY'S ARGUMENTS AGAINST GEC WITNESS WILSON'S PROPOSED PERFORMANCE STANDARD ARE WITHOUT MERIT.**

**1. The proposed 65% performance standard and the 60% to 70% performance range is not unreasonable.**

Company witness John J. Carroll asserts that the performance standard figures proposed by Dr. Wilson fail "to properly reflect all of the available historic and projected data regarding the operation of the nuclear units" (Carroll, PECO Statement No. 22-C, page 2). Carroll states that the Company "fully expects its units to achieve a 65% capacity factor over the long term" (id., page 5), but that the Company's current projections for nuclear capacity factors for the next three years is less than 65% (id., page 2-3).

There are several responses to these arguments. With respect to the issue of historical data, Dr. Wilson acknowledged that the national average in recent years has been slightly below the 65% level, but this historical experience includes many major post-TMI outages which were unique and not expected to continue. These particular performance problems are certainly not expected to apply to new units such as Limerick which are coming on-line after the TMI related changes have been incorporated in plant design. Dr. Wilson noted that Company witness Hieronymus

presented testimony which showed that except for the Tennessee Valley Authority nuclear units (which were all taken off line in 1985 due to management and not technical reasons), the 1985 average capacity factor for all U.S. nuclear units was 65% (Direct Testimony of William Hieronymus, PECO Statement No. 15-A, page 55). This fact demonstrates that the poor performance of nuclear units in the early 1980's is not necessarily indicative of future performance levels and the use of the Company's past capacity factors to predict future performance is inappropriate.

In criticizing the 65% standard, the Company is challenging a performance level which they have used in many other portions of their case. Company witness William H. Hieronymus used 65% as the capacity factor for all nuclear units in his life-cycle analysis (TR., page 715). Company witness John J. Carroll testified that 65% is the nuclear capacity factor used to compute the spent fuel allowance (Tr. page 330). According to Company witness Thomas P. Hill, Jr., the Company's estimate of Limerick fuel savings is based on a 65% capacity factor, and both he and John J. Carroll are confident that the unit can operate at this level for the next two years (Tr. page 554).

Additionally, with respect to the Company's projections of nuclear unit capacity factors for the next three years, this data as well should not be determinative of the performance standard. As Dr. Wilson points out, the basic purpose of the standard is to provide the Company with an incentive to improve its plant performance, not to lock in previous performance

levels. The 65% standard is a fair standard which allows the Company significant outages without penalty. Dr. Wilson made the point that a nuclear unit experiencing only scheduled outages for refueling and maintenance would achieve a capacity factor of 80 or 90 percent. The 65% standard therefore allows the Company some 25 percentage points (or 13 weeks per year) for unscheduled outages. In computing the 65% capacity factor for Limerick Unit 1, the Company imputed a forced outage rate of only 16% (TR., page 1038). The 65% standard is therefore a reasonable standard.

**2. There is no reason that the incentives in the performance plan should be symmetric.**

Several Company witnesses oppose the nuclear performance plan proposed by Dr. Wilson because the incentives are not symmetric. Carroll states that the plan is "inequitable on its face because it places the Company at risk for 100% of the potential losses but allows it to keep only 50% of the potential gains" (Carroll, PECO Statement 22-C, page 6). Carroll went on to note that the asymmetry of the proposed plan is accentuated by the fact that the incremental costs are non-linear, so that "the potential loss in dollars to the Company for operating at 55% greatly exceeds the potential benefits for performance at 75%." (id., page 7). Because the potential gains were not equal to the potential losses, both Carroll and Hill (PECO Statement 18-D, page 17) felt that the operating standard component of the proposed performance plan should be rejected because it was "inequitable."

Dr. Wilson found no reasonable basis to support the Company's claim that the performance penalties and rewards should be symmetrical, ie., of equal size and probability of occurrence. He noted that under traditional ratemaking, a utility is not entitled to recover costs that are deemed excessive. Likewise, under the same traditional principle, a utility is not entitled to keep any savings which occur because of superior performance. Because the proposed plan allows the Company to keep half of the energy savings caused by nuclear plant performance over 70%, the plan provides rewards to the Company that would be unavailable under traditional ratemaking.

As for the non-linear aspect of generating plant operating costs, this fact is true whether there is a performance plan or not. The issue is really who will bear the costs of poor performance - the ratepayers or the shareholders. By assigning the extra costs of poor performance to the Company, the proposed plan places the risk on those who have the most responsibility for and control over the cause of the loss.

**3. The proposed performance plan does not expose the Company to unreasonable financial risk.**

Company witness Carroll presents a scenario which he asserts would expose the Company to a $240 million loss if the proposed performance plan were in effect (Carroll, PECO Statement 22-C, pages 7-8). Based on this risk exposure, he asserts the need for a cap on the size of the penalty.

As was noted in the previous section, poor performance will result in financial losses. The basic issue is not whether these additional costs exist, but rather who will bear those costs. Should the ratepayers be held liable, or the shareholders, or both in some combination? If the performance plan is to create a true incentive for improved performance, the Company must be the one to bear the costs of poor performance. Putting a cap on the size of the penalty only dilutes the effectiveness of the performance program.

Dr. Wilson analyzed the financial impacts of his performance proposal and found them reasonable. It should be noted that because the performance standard is based on the average of the performance of all of the nuclear units, the swings in the capacity factors (and thus the likelihood and magnitude of a performance penalty) is greatly moderated. Dr. Wilson calculated that the performance penalty for a 55% overall capacity factor would range from $37.1 to $51.4 million (Exhibit J.W.-6 Revised, GEC Statement 1-A). These figures are not so insignificant as to be meaningless, but they hardly constitute a serious threat to the Company's financial health.

Dr. Wilson believed that Carroll's financial disaster scenario was highly unlikely, but assuming for the sake of argument that such performance levels occurred, Dr. Wilson noted that the Company could approach the Commission for a waiver from the performance standard.

**4. The performance standard is needed despite the existence of the 80/20 Energy Cost Rate.**

Company witness Hill asserts that the performance plan proposed by Dr. Wilson is unnecessary because it is duplicative of the 80/20 ECR mechanism and of the Commissions proposed generic performance standards (Docket No. M-820324) for all electric utilities (Hill, PECO Statement No. 18-D, page 16). To assert that a nuclear performance standard and the 80/20 ECR should not exist at the same time is to contradict the rulings of the Commission, which has ordered both for the Company.

Mr. Hill also claims that the nuclear performance standard is unnecessary because of the proposed generic performance rules. He noted in his testimony (Id., page 16) that the proposed rules were expected to be published for comment in the Pennsylvania Bulletin for comment during the month of February, 1986, but the fact is that the proposed rules have yet to be published. It would be inappropriate to postpone action in this case because a decision is anticipated to be made at some time in the future.

Moreover, the presence of the generic performance investigation did not prevent the Commission from establishing the 80/20 ECR, and it should not be used to prevent the Commission from adopting a nuclear performance plan in this case.

**E. CONCLUSIONS ABOUT PERFORMANCE STANDARDS**

Good performance is critical, not simply at Limerick Unit 1

but at all of the Company's nuclear stations, if the Company is to achieve the $211 average of fuel and energy savings which it projects for the next two years. A nuclear performance standard should be adopted in this proceeding to prevent the ratepayers from bearing all of the risks of poor performance. Dr. Wilson proposed a reasonable plan of performance standard, operation and maintenance cost controls, and capital addition controls. The performance standard is reasonable, and will produce a fair sharing of risk. The standard will also provide the Company with a clear and effective financial incentive to increase the efficiency of their generating units and thus reduce the costs of energy. By holding electricity prices below what they might otherwise be, the economic vitality of the region is strengthened as jobs and businesses are preserved and allowed to grow.

## VI. THE COMPANY'S PHASE-IN PROPOSAL IS INADEQUATE AND AN ALTERNATIVE PHASE-IN PLAN IS NECESSARY

### A. INTRODUCTION

One of the key concepts behind the statutory phrase "just and reasonable" rates (66 P.C.S. Section 1301) is the balancing of interests of the various effected parties, ie. the customers of the utility and the investors in the utility. As the relationship between energy and economic development becomes increasingly apparent, there is a new realization about the lower and upper bounds of rates. The lower limit of rates is that amount necessary to attract capital at a reasonable cost for the

utility to provide adequate, safe and reliable service to its present and future customers. The upper limit on rates is that level which causes unreasonable economic stress on the region served by the utility. High energy prices reduce a region's ability to compete with other areas, thus impairing its ability to attract and retain industry and jobs. This sort of situation is in no one's best interest.

This link between energy prices and economic vitality suggests that an important aspect of utility rate cases should be an examination of the regional economic impacts of rate increases. If these impacts are unreasonably negative, then an alternative form of rate increases should be designed. Phase-in plans are such an alternative, and several parties have proposed plans to soften and stretch-out the rate increases. The Company stated that it was proposing a phase-in for the rates to "minimize the financial impact on our customers and the economy of our service territory" (Direct Testimony of Joseph F. Paquette Jr., PECO Statement No. 3, page 5). This section of the brief will discuss the various proposals offered by the parties and make recommendations about the optimal plan.

Before beginning the review of the various phase-in plans, one important point must be made. As Dr. Wilson noted on the stand (Tr., pages 3263-3264), phase-in proposals are not a substitute for a thorough review of the reasonableness of the revenue request. The first step is to make any disallowances and adjustments to the rate request so that the approved revenues and

rates are just and reasonable. Once these adjustments are made, the task then is to determine the need for and the optimal design of a phase-in plan. Under no circumstances should phase-in plans in general, or the GEC's testimony about phase-in in particular, be seen as lessening the need to examine the justness and reasonableness of the rate request.

## B. THE COMPANY'S PHASE-IN PROPOSAL

### 1. The details of the Company's proposal.

The Company proposes that one-third of the $681.8 million rate increase ($227.3 million) be effective in the first year. This would result in a rate increase in excess of 9%. At the beginning of the second year of the Company's phase-in plan, two-thirds of the increase would go into effect, increasing rates by an additional $227.3 million. At the start of year three, the full amount of the rate increase would be in place. In years four, five, and six of the Company' plan, the rates would be increased by the amount of revenues deferred in years one and two. If the Company does not receive the entire rate increase it has requested, the Company proposes that the revenue reductions be taken out of the rate increase for the third year and, if necessary, the second year so that the first year increase remains over 9% (see cross-examination of Joseph F. Paquette, Tr. page 1452). The Company would not recover interest on the revenues deferred in the early years of the plan.

**2. The Company's plan over-collects because it fails to recognize the falling revenue requirements of Limerick Unit 1.**

The Company states that under its phase-in plan, it will forego interest in the amount of approximately $250 million on the deferred revenues (cross examination of Joseph F. Paquette, Tr. page 1567). While this may be true, the plan nonetheless produces excess recovery because it fails to recognize the substantial annual reductions in revenue requirements for Limerick Unit 1 and the common plant. Using straight-line depreciation, the revenue requirement for the unit and common plant is as follows:

| | |
|---|---|
| Year 1 | $842.3 million |
| Year 2 | $803.3 million |
| Year 3 | $768.6 million |
| Year 4 | $732.5 million |
| Year 5 | $696.4 million |
| Year 6 | $663.1 million |
| Year 7 | $629.1 million |

As demonstrated by Dr. Wilson in Exhibit J.W. 11 of GEC Statement No. 1-B, this failure of the Company's plan to recognize the significant decline in the revenue requirements of Unit 1 means that the Company's recovery of the deferred revenues begins in year three, not year four as stated by the Company, and the plan produces an excess recovery of $275.1 million.

Randall J. Falkenberg, a witness for the Philadelphia Area Industrial Energy Users Group, presented similar testimony regarding the over-collection of revenues because of the failure of the phase-in plan to recognize the declining ratebase due to

depreciation and increases in deferred taxes (Direct Testimony of Randall J. Falkenberg, PAIEUG Statement, pages 6-7). It should be noted that none of the Company's witnesses challenged this point in the phase-in testimony of these witnesses.

### 3. The Company's phase-in proposal produces unacceptable economic results.

Despite earlier Company experience in analyzing the economic impacts of rate and regulatory actions (see UUC/UP Exhibits 1 and 2), Company witnesses testified that no studies of the regional economic impact of the Company's phase-in plans were performed (see cross examination of Joseph F. Paquette, Tr. page 1549, and of Raymond C. Williams, Tr. page 648). Moreover, the Company's accounting consultant did not review the impacts of the plan on the ratepayers (cross examination of David J. Farling, Tr. page 583). Not charging ratepayers interest on the deferred revenues was seen as an important factor in the design of the phase-plan, and the Company's analysis of the plan's optimum length was primarily based on the period of deferral which could be sustained without charging interest (cross examination of Raymond C. Williams, Tr. page 632).

The economic impacts of the Company's phase-in plan was the subject of City witnesses Dr. Arie Schinnar (City Statement 1) and Gregory Palast (City Statement 2). Mr. Palast noted that under the Company's proposal, commercial and industrial customers will be paying over 14 cents per kilowatt hour in 1989, assuming no other rate or ECR increases. Electricity prices for these

customer classes in 1989 will exceed the national average by an estimated one-third (Direct Testimony of Gregory A. Palast, City Statement No 2, page 23). Residential customers who use a modest 500 kwh per month will be facing a 1989 annual electric bill of just under $1,000 (Id., page 24). These increased rates will be especially harsh for the 25% of Philadelphia's citizens living at or below the poverty line (Id.).

The economic impacts of a rate increase of this magnitude were studied by Dr. Arie Schinnar, using an econometric model (Direct Testimony of Dr. Arie Schinnar, City Statement No. 1). His modeling work demonstrated that the Company's proposed rates would cause a significant loss of the region's ability to retain and attract jobs and businesses. The GEC believes that the criticisms raised by the Company about the model, even if partially valid, do not undermine Dr. Schinnar's basic conclusion that the Company's proposed rates will cause serious economic damage to the Philadelphia area economy. The Company's phase-in plan is too short to adequately soften the economic impact of the rate increases. As Dr. Schinnar stated on the stand, real rate increases of more that 1 or 2 percent will have serious negative consequences (Tr. pages 3416-3419).

**4. The Company's phase-in plan improperly converts the deferred revenues into "consumer debts."**

Under its phase-in plan, the Company proposes a unique and improper treatment of the revenues deferred in the first two years of the plan. The deferred revenues would be calculated by

customer class and would be recovered by customer class. Unlike other debts or property which is amortized with the opportunity but not the guarantee of total recovery, the deferred revenues become what City witness Gregory A. Palast described as "customer class debts." Because the Company is guaranteed recovery of the deferred amounts and the amount of revenues accrued and deferred depends on the level of sales, the phase-in period may extend beyond the expected six years (cross examination of Raymond C. Williams, Tr. 624-625). Each class would be liable for its class debt, regardless of any actions it might take to reduce its consumption. Indeed, a customer class which strives to reduce its energy use during the early years of the Company's phase-in plan would find itself strapped with the highest levels of deferred recovery surcharges during the latter years of the plan (Direct Testimony of Gregory A. Palast, City Statement No. 2, pages 66-70).

## C. THE PHASE-IN PROPOSALS OF GEC WITNESS DR. WILSON

In his phase-in testimony (GEC Statement 1-B), Dr. Wilson 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 alternative which he believes has the most merit (Id, pages 51-53).

The combination phase-in and deferral with a sinking fund proposal of Dr. Wilson would be a ten year plan with revenue

increases in the first four years. Under the sinking fund method of depreciation, the depreciation expense is reduced below the straight line level in the early years of the plant's life, but escalates annually, so that the total cost of the plant is recovered over its useful life. This method results in total annual capital costs (depreciation plus return on net investment) being equalized over the life of the plant (Id., page 38). Dr. Wilson's phase-in proposal modifies the sinking fund method by combining it with a phase-in and deferral of the revenue increases, so that the early year levels are further reduced from what they would be under the sinking fund and under the Company's proposal.

Dr. Wilson states that this combination is beneficial to ratepayers because it eliminates some of the extreme front loading of Limerick 1 costs and reduces the initial rate shock attributable to Limerick 1. Even assuming that the Company receives its entire revenue request, the combination phase-in and deferral with sinking fund would increase rates by $160 million in the first year, compared to a first year increase in the Company's plan of $227.3 million. Both of these figures would be reduced if there are reductions made to the Company's revenue request.

As part of his phase-in testimony, Dr. Wilson evaluated the financial impact of his recommended plan, and found that it provides adequate protection to investors (see Exhibit J.W.-19 in GEC Statement No. 1B).

## D. THE PHASE-IN TESTIMONY OF THE OTHER PARTIES

### 1. PAIEUG witness Randall Falkenberg

The Philadelphia Area Industrial Energy Users Group witness Randall Falkenberg presented an alternative phase-in proposal which was very similar to that offered by Dr. Wilson (Direct Testimony of Randall J. Falkenberg, PAIEUG Statement, pages 5-20). Mr. Falkenberg first corrects the Limerick Unit 1 revenue requirements by recognizing depreciation. He suggests that the declining revenue requirements over the six year period of the phase-in plan be averaged as the Company did for the nuclear fuel assemblies (Id., page 11), and that the claim for common plant be reduced by 50% (Id., pages 15-16). He also proposed sinking fund depreciation, at a rate of 6%, be used for the unit, similar to the modified sinking fund technique approved by the Commission for use by Pennsylvania Power and Light in Docket Nos. R-822169 and R-842651 (Id., pages 16-18). Falkenberg agreed with the Company that no interest should be earned on the deferred revenues and that any reduction to the Company's revenue request be subtracted proportionately from each year's phase-in revenue requirement (Id., page 33). These phase-in changes would produce a revenue requirement of $135 million in year one, $269 million in year two, $404 million in year three, and $539 million in years four, five and six (Id., page 20 and Exhibit 3).

### 2. City witness Gregory Palast

Gregory A. Palast presented phase-in testimony on behalf of the City of Philadelphia (Direct Testimony of Gregory A. Palast, City Statement No. 2). His phase-in recommendations are that the rate increase be phased-in over no less than seven years, and that the Company amortize the deferred revenues over a ten year period. He also rejects the Company's proposed creation of class surcharges to recover deferred revenues. And finally, Palast states that no interest should be collected on the deferred revenues, even if the phase-in period is lengthened as he suggests.

### 3. UUC/UP witness Paul Chernick

The phase-in witness for the Utility Users Committee/ University of Pennsylvania was Paul Chernick (Direct Testimony of Paul Chernick, UUC/UP Statement No. 1, pages 82-90). Rather than propose a specific phase-in plan, Chernick suggests several principles for designing a phase-in plan. The key element in his testimony is that "costs should be recovered in a time pattern which reflects the time pattern of benefits from the plant" (Id., page 82).

## E. THE COMPANY'S CRITICISMS OF THE ALTERNATIVE PHASE-IN PLANS ARE WITHOUT MERIT

### 1. The Company incorrectly asserts that Dr. Wilson's sinking fund phase-in proposal increases ratepayer costs.

Company witnesses Joseph F. Paquette Jr.(PECO Statement 3-A, page 9) and Alfred Wroblewski (PECO Statement 21-A, page 6) both assert that the phase-in proposal suggested by Dr. Wilson will significantly increase the costs of Unit 1 to the ratepayers. The argument of the Company's witnesses is misplaced because they address the nominal dollars, not the present value of the revenue collections. Any plan which defers collections will raise the nominal amount of those collections. Had the witnesses considered the time value of money in their comments, they would not have criticized the proposal on this basis.

### 2. The sinking fund phase-in does not seriously impair the Company's cash flow.

Company witnesses Joseph F Paquette Jr. (PECO Statement 3-A, pages 8-9), Alfred Wroblewski (PECO Statement 21-A, page 6), and Franklin D. Sanders (PECO Statement 35, page 10) all criticize the effect of the sinking fund phase-in proposal on the Company's cash flow in the short-term future. The GEC suggests that the issue is not whether short-term cash flow is reduced, but whether that reduction of short-term cash flow is reasonable and proper. One of the key features of this alternative is to defer recovery until a later date to better match the timing of cost recovery

for the plant with the benefits produced by the plant. Several witnesses, including Dr. Wilson, addressed the desirability of timing the cost recovery to match the benefits of the plant. Paul Chernick, a witness for the Utility Users Group/University of Pennsylvania testified that Limerick Unit 1 does not have positive present value benefits for the ratepayers until well into the next century (Direct Testimony of Paul Chernick, UUC/UP Statement No. 1, page 32). Quick recovery of the costs of the plant, when its benefits will not be realized until long in the future, is inconsistent with the principle of matching annual costs with benefits.

The claim that the alternative phase-in proposals impair the Company's cash flow is not a meaningful complaint. The issue is whether the alternative proposals so reduce the Company's cash flow as to impair the Company's ability and cost of obtaining capital by adversely affecting its financial indicators and thus damaging its ratings in the financial markets. While it is true that short-term cash flow is reduced under the sinking fund proposal, City witness Gregory Palast noted the Company's cash flow and entire economic situation will be greatly improved upon the inclusion of Limerick Unit 1 into rate base (Direct Testimony of Gregory A. Palast, City Statement No. 2, page 11). Dr. Wilson showed that he was successful in designing his proposal to keep the various financial indicators at levels which do not erode the Company's ratings (GEC Statement 1-B, Ex. J.W.-19).

### 3. The Company's claim that the alternative phase-in proposals violate accounting rules and practices is without merit.

Company witnesses David J. Farling (PECO Statement No. 16-A, page 6), Joseph F. Paquette Jr. (PECO Statement No. 3-A, page 9), Franklin D. Sanders (PECO Statement No. 35, page 10), and Alfred Wroblewski (PECO Statement No. 21-A, pages 4-5) all assert that the alternative phase-in approach suggested by Dr. Wilson should not be adopted because it does not comply with the Exposure Draft of the Financial Accounting Standards Board (FASB) Statement 71 and with generally accepted accounting principles.

The public release of the Exposure Draft of FASB Statement 71 during the course of this proceeding demonstrated the changes occurring in the regulatory system and thus the accounting profession. As Company witness William H. Hieronymus noted during cross examination:

> ... one of the things which has developed has been that as the capital cost of plant has gotten to be so high [that] the regulatory system is struggling with how to deal with the rate impacts under conventional regulatory precedence, and the ways that those are being dealt with are changing. Tr., page 737.

As the regulatory system develops new methods of dealing with very expensive plants, the accounting profession will likewise undergo certain changes in its rules and principles, as the Exposure Draft of FASB 71 indicates. This state of change should be kept in mind during the discussion about generally accepted accounting principles.

Company witness Alfred Wroblewski's criticism that the use of the sinking fund method of depreciation is not generally recognized as appropriate for investor-owned utilities is a good example of this issue (PECO Statement No. 21A, page 4). When the regulatory system is making major changes in the way it is rate-basing new plants, it should not be a convincing argument to simply reject a concept because it is not the way depreciation has been treated in the past. His discussion about Federal Energy Regulatory Commission acceptance of the straight-line depreciation method (Id., pages 4-5) employs the same logic. Wroblewski is not saying that FERC only accepts straight-line depreciation, only that, according to a 1968 report, 92% of the "major privately-owned utilities" reporting to FERC used this method (Id., page 5). The GEC suggests that there is little probative value in knowing what depreciation methodology utilities used in reporting to FERC almost twenty years ago, before the dramatic increase in capital costs of central station generating units and before the regulatory response to those cost increases.

The Company's contention that generally accepted accounting principles are violated by the sinking fund proposals is also without merit. The generally accepted accounting practices have been and will continue to change to recognize the changing regulatory treatment of new large and expensive generating units.

## F. CONCLUSIONS ABOUT PHASE-IN

The rate increase requested by the Company in this case would have a substantial negative impact on the economic vitality of the Philadelphia region. Depending on the size of any disallowances and adjustments, it is possible that the rate increase ultimately approved by the Commission in this case would have a major impact as well. One way of softening the impact of such a rate increase is to employ a phase-in plan to spread the increase over a number of years. The proposal of the Company is inadequate and in fact produces excess recovery because of the failure to recognize the declining revenue requirements of Limerick Unit 1 over time. The alternative phase-in proposals of Dr. Wilson and the other interveners in this case should be carefully considered by the Commission.

# VII. ENERGY COST RATE

## A. INTRODUCTION

On October 30, 1985, the Commission at Docket No. M-840375 (the ECR 8 order) ordered the Company to submit certain information regarding the Company's historical and projected levels of generating unit performance, energy demand and energy costs as part of this investigation. As the Administrative Law Judge noted in his March 10, 1986 ruling on the Staff's Motion to Strike certain Company testimony regarding the Energy Cost Rate, the charge of the ECR 8 order was to ensure that the Company used

"the correct ingredients" to compute the ECR level. The March 10 ruling noted (pages 7-8) that by using unreasonable assumptions and projections, the Company could manipulate and render meaningless the positive impact of the 80/20 ECR. By overestimating the fuel and energy costs, the Company could shelter itself against the unreconcilable 20% share of any costs above the projected level. The GEC agrees that this concern is a valid one, and will discuss below several unreasonable assumptions used in the Company's ECR projections.

A second issue of the ECR portion of this case involves the implementation of the new 80/20 ECR. The March 10 ruling rejected any suggestions or attempts to modify the 80/20 ECR, but certain specifics regarding the implementation of the new ECR must still be resolved. There was conflicting testimony offered by the parties about several of these issues, and the GEC offers its view of these matters below.

**B. THE COMPANY'S ENERGY COST PROJECTIONS ARE INFLATED BY UNREALISTIC ASSUMPTIONS AND PROJECTIONS.**

The Company originally used an unreasonably high forecast of oil prices in the production cost run to compute the fuel and energy costs for the ECR 8 period. Until pressed by the parties to perform a revised production cost run, the Company was using a projected oil price of $27.108 per barrel of No. 6 (0.5% sulphur) oil(see OCA Exhibit 88, at Tr. pages 4511-4512). This was the figure being used, despite the fact that the Company had been purchasing oil for as low as $17.00 a barrel (cross examination

of Ronald English, Tr. page 4357). The process of establishing a revised oil price forecast consisted of John J. Carroll asking Paul X. English whether he (English) could support a $24.00 a barrel figure (Tr., page 4533-4534). There was no other evidence offered by the Company to support this revised forecast, and no opportunity for the other parties to respond to this revised forecast. As an indication of the significance of this issue, the reduction in approximately $3 in the oil price used in PECO Exhibit JJC-2 (the production cost run for the ECR fuel levels) and PECO Exhibit JJC-3 produced a $9.6 million reduction in the projected fuel costs.

Another example of the unreasonableness of the Company's fuel cost projection involves interest rates. Despite the statement by the Company's financial vice president that interest rates had fallen dramatically in the last three or four months (see cross examination of Joseph F. Paquette, Jr, Tr. page 4854), the Company made no change in the interest rate assumptions for the production cost run.

## C. IMPLEMENTING THE 80/20 ECR

### 1. The Staff's methodology for implementing the ECR.

Witnesses Robert A. Rosenthal and Dennis P. Hosler presented the Staff's view that the Commission's intent in the ECR 8 order was that the 20% portion of projected energy costs not subject to reconciliation no longer be included in the energy adjustment clause. Instead, this 20% would become a normalized expense

allowance component of base rates. The 80% portion would be projected on a annual basis and would continue to be subject to the energy adjustment clause, but the 20% in base rates would change only through a subsequent general rate proceeding (Staff Statement ECR-1, pages 2-3).

**2. The Company's methodology for implementing the ECR.**

The Company disagrees with the 80/20 implementation procedures proposed by the Staff. Company witness Thomas P. Hill, Jr. proposes that both the 80% and the 20% portions of the energy adjustment clause be implemented through the ECR mechanism. The Company proposes that the nonrecovery of the 20% portion can be accomplished by changing the definition of the "E" factor in the Company's ECR formula. The "E" factor is the experienced net over or under collection of the cost of energy and is used to reconcile past over or under collections, and the Company proposes to change the definition of the "E" factor to base it on reconciliation of 80%, not 100%, of the net over or under collections (Further Supplemental Direct Testimony of Thomas P. Hill, Jr., PECO Statement 18-B, page 20 and Schedule 2).

**3. The GEC's recommendations for the ECR methodology.**

The GEC believes that the ECR mechanism proposed by the Company makes the most sense. The use of general rate proceedings to set the 20% portion of the energy cost forecast could mean that the Company would be required to choose between

accepting an out-of-date energy cost forecast for the 20% portion or filing a general rate request to modify the 20% portion. The current volatility in fuel prices is a reminder that the process must be flexible.

The GEC suggests that the Commission consider a process whereby the utility and the other parties in the ECR investigation submit the vital assumptions in a uniform format for review, much as parties now do in the tables and schedules of adjustments, tax and jurisdictional factors, etc. This would enable the Administrative Law Judge to determine the most reasonable and appropriate set of variables for the Company to use in the production cost runs. This methodology would allow a reasonable procedure to determine the key variables in a timely and efficient manner.

**D. CONCLUSIONS ABOUT THE ENERGY COST RATE**

The Commission's ECR 8 order found the Company unable to administer its energy adjustment clause and established an alternative energy cost rate which allows the Company to recover only 80% of the amount that the actual fuel and energy costs exceed the estimate of those costs used to set the energy cost rate level. This 80/20 ECR provides incentive for the Company to more accurately forecast its fuel and energy costs. Several of the inputs used by the Company for projecting fuel and energy costs for the ECR 8 period are unreasonably high. A procedure is needed to determine the reasonable assumptions to be used to

project fuel and energy costs.

## VIII. PROPOSED FINDINGS OF FACT

Based on the evidence in the record and the arguments set forth in this brief, the GEC submits the following findings of fact:

1. The Company's effort to include 100% of the common plant costs is inappropriate and contrary to Commission precedent.

2. Removal of half of the costs of common plant reduces the Company's measure of value claim by $639.5 million.

3. If the Company had not delayed construction of the Limerick plant in 1976 and 1978, construction of Limerick Unit 1 could have been completed in July, 1982.

4. Based on the differences in the completion dates, the costs to complete Limerick Unit 1 and 50% of the common plant increased by $610.4 million. The Company's measure of value claim should be reduced by this amount.

5. The Company's request to recover the Mark II redesign and rebuilding costs from the ratepayers is unreasonable.

6. The Mark II redesign and rebuilding effort added $ 194.1 million to the cost of Limerick Unit 1. The Company's measure of value claim should be reduced by this amount.

7. Based on the Company's generating plant and the energy demand for the test year, 450 megawatts of Limerick Unit 1 are not used and useful.

8. The adjustment for excess capacity should occur by

denying the Company a common equity return for 450 megawatts of Limerick Unit 1. This adjustment reduces Company income by $61.7 million and revenue requirements by $125.4 million.

9. Performance standards are necessary for the Company's nuclear units to provide incentives to the Company for good performance and to share the risks of poor performance.

10. The performance standard of a 65% average capacity factor for the Company's nuclear units, with a 60% to 70% neutral band is a reasonable standard. An equal sharing of savings for performance exceeding an average of 70% and nonrecovery of the additional costs of performance under 60% produces a reasonable performance incentive and sharing of the risks.

11. The performance incentive plan should include a component to control operation and maintenance costs for the Company's nuclear units.

12. The performance incentive plan should include a component to control capital addition costs for the Company's nuclear units.

13. The Company's proposed rate increase, even with the Company's phase-in proposal, would produce unacceptable economic hardship to the economy of Southeastern Pennsylvania.

14. Because the Company's phase-in plan does not adjust for the declining revenue requirement due to depreciation of Limerick Unit 1, the Company's phase-in proposal would cause a substantial overcollection of revenues.

15. The Company's phase-in proposal includes an unreason-

able and inappropriate mechanism of recovering revenues deferred in the first two years.

16. A ten year phase-in and deferral plan, combined with a sinking fund method of depreciation, would be a reasonable alternative to the Company's phase-in plan, balancing the interests of the Company and the ratepayers.

17. The Company's assumptions for the cost of oil and the cost of money during the test year are unreasonably high.

18. The Company's proposed methodology for implementing the 80/20 ECR is reasonable.

## IX. PROPOSED CONCLUSIONS OF LAW

The GEC submits the following conclusions of law are appropriate in this proceeding:

1. The Commission has the general authority to supervise and regulate the activities of the Company. 66 Pa.C.S. 501(a) and (b).

2. The Commission has jurisdiction over the rates and services of the Company. 66 Pa.C.S. 1301 and 1501.

3. The Company has the burden of proof in establishing that its rate request is just and reasonable. 66 Pa.C.S. 315 (a) and (c).

4. Commission precedent dictates that when the first unit of a two unit facility enters rate base, only 50% of the cost of the common facility for the units is permitted in rate base at

that time.

5. The Commission's order in I-8100341 (56 Pa. P.U.C. 47) establishing that the Company's orders to delay construction of Limerick in 1976 and 1978 were unreasonable and imprudent is binding on this proceeding.

6. The Commission's order in M-840375 establishing the 80/20 Energy Cost Rate for the Company prohibits this proceeding from altering the 80/20 ECR mechanism but not from adopting performance standards for the Company's nuclear units.

## X. CONCLUSION

The size of the Company's rate request in this proceeding should in no way effect the Commission's responsibility to ensure that the approved rates are just and reasonable. The GEC believes that significant disallowances are proper in order to better match costs with benefits, to shield ratepayers from unreasonable and imprudent construction practices and to prohibit utilities from ignoring other alternatives for cost recovery in favor of the ratepayers' wallets. The GEC also believes that the evidence in this case indicates that a major excess capacity adjustment is appropriate in order to make it clear that utilities cannot escape their responsibility to implement an economic generation system through the premature retirement of existing economic units.

The GEC also believes that continued regulatory change is

necessary to share the risks of poor performance and the benefits of superior performance between utilities and their ratepayers. Incentives for good performance and cost containment will encourage utilities to operate efficiently and thus reduce costs for everyone. The GEC suggested a performance standard for the Company's nuclear units which it believes is the next step in this effort towards performance based regulation.

The GEC is concerned about the disruptive economic effects to the Philadelphia area of the Company's proposed rate increase and therefore presented evidence about alternative phase-in proposals to soften the impact of the rate increase by spreading it over a longer period of time and by using an alternative depreciation schedule.

Also, the GEC presented evidence challenging the Company's fuel and interest assumptions used in the projections for the Energy Cost Rate and suggested a procedure for the Commission to consider to improve the reasonableness of the data being used by utilities in such proceedings.

Based on these conclusions, the GEC urges the Commission to make the appropriate adjustments to the Company's measure of value and income claims, thus reducing the Company's annual revenue requirement by approximately $476.8 million, or 70% of the Company's Net Revenue Requirement request.

In addition, the GEC suggests that the Commission adopt an operating performance plan for the Company's nuclear units that shares the risk and protects the ratepayers from poor performance

of these units.

Finally, the GEC believes that the Commission should adopt a phase-in plan that reduces the economic impact of whatever revenue requirement is ultimately approved. The GEC remains concerned over the economic dislocations and financial burdens that will occur if ratepayers are required to absorb large increases at a time when they can least afford them. The Commission's response to these issues will have serious and far reaching consequences.

Respectfully Submitted,

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April 7, 1986

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April 7, 1986

GEC ADJUSTMENTS TO PHILADELPHIA ELECTRIC COMPANY'S
CLAIMED REVENUE REQUIREMENTS
($000)

| | REVISED COMPANY | GEC ADJ | REVISED GEC | SCHEDULE |
|---|---|---|---|---|
| MEASURE OF VALUE | 6,943,888 | (1,365,149) | 5,578,739 | OCA ST-7A TEK-2 |
| COST OF CAPITAL | 12.77% | - | 12.77% | PECO EX. TPH-2A, A-1 |
| P.F. OPERATING INCOME PROPOSED RATES | 886,923 | (174,518) | 712,405 | |
| P.F. OPERATING INCOME PRESENT RATES | 447,335 | 60,191 | 507,526 | APP.1-C GEC BRIEF |
| INCOME DEFICIENCY | 439,588 | (234,709) | 204,879 | |
| CONVERSION FACTOR | | | 2.031388 | OCA ST-7A TEK-2 |
| REVENUE REQUIREMENT | 892,974 | (476,785) | 416,189 | |
| FUEL ROLL OUT | 211,214 | 0 | 211,214 | OCA ST-7A TEK-2 |
| NET REVENUE REQUIREMENT | $681,760 | $(476,785) | $204,975 | |

# GEC ADJUSTMENTS TO PHILADELPHIA ELECTRIC COMPANY'S CLAIMED MEASURES OF VALUE 6/30/86 ($000)

| UTILITY PLANT IN SERVICE | BALANCE | SOURCE |
|---|---|---|
| LIMERICK UNIT 1 | $2,532,627 | |
| LIMERICK 100% | | |
| COMMON FACILITIES | | |
| NON-DEPRECIABLE | 7,349 | |
| DEPRECIABLE | 1,271,675 | |
| LIMERICK TRANSMISSION | 8,349 | |
| LIMERICK UNIT 1 & 100% COMMON | 3,820,000 | OCA ST-7A TPH-2,C-2 |
| GEC ADJUSTMENTS | | |
| MARK II | (194,000) | |
| DELAY-DIRECT(LIM#1 & 50% COMMON) | (386,800) | |
| DELAY-INDIRECT-PECO(LIM#1&50% COMMON) | (83,000) | |
| DELAY-INDIRECT-BECHT.(LIM#1&50%COMMON) | (140,600) | |
| 50% COMMON FACILITIES | (639,512) | |
| TOTAL GEC ADJUSTMENTS | (1,443,912) | OCA ST-7A TEK-3 |
| LIMERICK UNIT 1 AND 50% COMMON | $2,376,088 | |
| ADDITIONAL ADJUSTMENTS TO MEASURES OF VALUE | | |
| TOTAL MEASURE OF VALUE CLAIMED BY PECO | $6,943,888 | OCA ST-7A TEK-2 |
| ADDITIONAL OCA NET ADJUSTMENTS | 78,763 | OCA ST-7A TEK-2 |
| GEC ADJUSTMENTS | (1,443,912) | SEE ABOVE |
| TOTAL ADJUSTMENTS TO MEASURE OF VALUE | (1,365,149) | |
| GEC ADJUSTED MEASURE OF VALUE | $5,578,739 | |

GEC APPENDIX 1-C

GEC ADJUSTMENTS TO PHILADELPHIA ELECTRIC COMPANY'S
CLAIMED INCOME TEST YEAR ENDING 6/30/86
($000)

| | | |
|---|---|---|
| P.F. OPERATING INCOME - PECO | $447,335 | OCA ST-7A<br>TEK-3 |
| TOTAL OCA ADJUSTMENTS TO INCOME (EXCLUDING EXCESS CAPACITY ADJ.) | (1,516) | OCA ST-7A<br>TEK-3 |
| P.F. OPERATING INCOME - OCA (EXCLUDING EXCESS CAPACITY ADJ.) | 445,819 | |
| GEC PROPOSED EXCESS CAPACITY ADJUSTMENT | 61,707 | APP.1-D<br>GEC<br>BRIEF |
| GEC ADJUSTED P.F. OPERATINGINCOME PRESENT RATES | $507,526 | |

GEC ADJUSTMENTS TO PHILADELPHIA ELECTRIC COMPANY'S
LIMERICK UNIT 1 FOR EXCESS CAPACITY
($000)

| | | | |
|---|---|---|---|
| 1. | LIMERICK UNIT 1 AND 50% OF COMMON | $2,376,088 | OCA ST-7A TEK-4 |
| 2. | LESS: LIMERICK TRANSMISSION | (8,349) | PECO EX. TPH-2, C-2 |
| 3. | LIMERICK NET OF TRANSMISSION | $2,367,739 | |
| 4. | EXCESS CAPACITY | 450 MW | |
| 5. | LIMERICK UNIT 1 CAPACITY | 1055 MW | |
| 6. | WEIGHTED COST OF COMMON EQUITY | 6.11% | PECO EX JFB-3 |
| 7. | ADJUSTMENT TO INCOME (LINE 3 X (LINE 4/LINE 5) X LINE 6) | $61,707 | |

# Schedule Of GEC Testimony And Exhibits

## GEC Testimony

| | | |
|---|---|---|
| 1. GEC Statement 1-A | Direct Testimony and Exhibits of Dr. John Wilson (Performance) | 2/13/86 |
| 2. GEC Statement 1-B | Direct Testimony and Exhibits of Dr. John W. Wilson (Phase-In) | 2/26/86 |
| 3. GEC Statement 1-C | Direct Testimony and Exhibits of Dr. John W. Wilson (ECR) | 2/26/86 |
| 4. GEC Statement 1-D | Surrebuttal Testimony of Dr. John W. Wilson (Performance and Phase-In) | 3/12/86 |
| 5. GEC Statement 1-E | Surrebuttal Testimony of Dr. John W. Wilson (ECR) | 3/12/86 |

## GEC Exhibits

| | | |
|---|---|---|
| 1. GEC Exhibit 1 | IR-GEC-2-2 | 12/12/85 |
| 2. GEC Exhibit 2 | PECo Electric Statement of Operations | 12/13/85 |
| 3. GEC Exhibit 3 | IR-OCA-2-25 (Excerpts) | 12/16/85 |
| 4. GEC Exhibit 4 | DR-TPH-1-GEC | 12/20/85 |
| 5. GEC Exhibit 5 | DR-Staff-REO-1 | 1/28/86 |
| 6. GEC Exhibit 6 | IR-GEC-4-1 | 1/28/86 |

BEFORE THE

PENNSYLVANIA PUBLIC UTILITY COMMISSION



| | | |
|---|---|---|
| Pennsylvania Public Utility Commission | ) | |
| | ) | |
| v. | ) | R - 850152 |
| | ) | |
| Philadelphia Electric Company | ) | |

# MAIN BRIEF OF THE GOVERNOR'S ENERGY COUNCIL



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April 7, 1986

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# I. INTRODUCTION

On September 27, 1985, the Philadelphia Electric Company filed with the Pennsylvania Public Utility Commission the largest rate increase in Pennsylvania history. The central issue in the subsequent investigation, both in terms of the magnitude of the potential financial impacts on the ratepayers and the bulk of the evidence, has been the inclusion of Limerick Unit 1 in the determination of the Company's revenue requirement. The Company is seeking a base rate increase of $893 million less $211 million in estimated fuel and purchased power savings, for a net revenue increase of $681.8 million.

Employment and other economic impacts of the increase in rates due to Limerick were recognized by all involved. Several parties proposed plans to reduce the economic shock of the increase by phasing-in the increase over a period of time. Various parties challenged many of the Unit 1 costs, including the claim for 100% of the common facility, costs from the unreasonable delays in the construction of the unit and the Mark II containment expenditures. Other parties questioned the size of the energy savings which the Company claims will be produced by Limerick and proposed performance standards to ensure the ratepayers are not penalized by poor plant performance. The investigation also included evidence and discussion about the Energy Cost Rate and the appropriate figures for the energy cost level for the twelve month period beginning July 1, 1986.

## II. STATEMENT OF POSITION

The Governor's Energy Council (GEC) was created by Executive Order No. 1979-7 (dated July 19, 1979) in order to ensure that energy security for the Commonwealth is achieved through planning, development and conservation. The GEC is charged with the duty of developing a Pennsylvania state energy policy and is directed to "assist the Governor, other state agencies and the private sector in the study and review of energy programs and to aid in the evaluation of needs, assessment of existing resources and development and implementation of new policies and programs." Consistent with this mandate, the GEC's role in this investigation was to present information about several issues which relate to the Pennsylvania Energy Policy and the 1983 report of the Pennsylvania Electric Utility Efficiency Task Force.

There were three issues addressed by the GEC through witness testimony and which will be a major focus of this brief. The first involves the concept of performance-based regulation, where a utility's return is based on how well it is serving the needs of its customers through efficient utilization of its assets, not simply the size of its capital investment. The important concept is that there should be a sharing of the economic risk of these investments between the ratepayers and the shareholders. The first important step in this direction is to provide utilities with financial incentives for performance. The GEC witness presented for Commission review a performance

standard for the Company's five nuclear units.

The second issue addressed by the GEC involved the link between energy and economic development. The availability of reasonably priced energy is critical to the economic vitality of Southeastern Pennsylvania. The GEC was concerned about the economic impacts of rate increases of the magnitude proposed by the Company and presented an alternative to the Company's proposal to phase-in whatever rate increase was ultimately approved by the Commission. The principle behind this phase-in proposal is to provide a rate increase schedule which did not cause great economic injury to the residential and business customers of the Company (and thus to the Philadelphia metropolitan area) and also to provide the Company with the means to remain financially viable.

The third area discussed by the GEC's witness in this case was the Energy Cost Rate. The position of the GEC is that the 80/20 Energy Cost Rate formula ordered by the Commission for use by the Company is a step in the right direction of protecting the ratepayers and providing the Company with an incentive to improve operations. Several suggestions were made regarding the implementation of the new Energy Cost Rate order.

The GEC was also interested in the Company's treatment of cogenerators and small power producers, but the issues involving the Auxiliary Service Rider were made part of a separate investigation (Docket No. R-850290) by a Commission order entered February 21, 1986.

It should be noted that the GEC did not sponsor testimony specifically addressing the reasonableness of the Company's rate increase. That is not to be interpreted to mean that the GEC believes that the Company's rate request is reasonable. The GEC recognizes that the question of cost disallowances and capacity adjustments are central issues in this case and much of the disallowance and adjustment evidence presented by the Commission Staff, the Office of Consumer Advocate and others was very persuasive. The GEC will be discussing these issues in this brief.

## III. SUMMARY OF ARGUMENT

The first major issue addressed in this brief (Part IV, below) is the GEC's analysis of the Company's revenue request. The GEC believes the Company has proven that only approximately $205.0 million in new revenues is just and reasonable. The GEC discusses which cost disallowances presented by the OCA, the Trial Staff, and others are appropriate. The GEC also presents its assessment of the excess capacity argument made by the OCA. The GEC's recommended adjustments to the Company's claimed revenue requirements are summarized in Appendix 1 of this brief.

Part V of this brief addresses the need for a performance standard for the Company's five nuclear units (including Limerick Unit 1) to ensure that its ratepayers are not forced to bear unreasonable and excessive costs due to the possible poor

performance of these baseload plants. As a performance standard, the GEC proposes setting a 65% capacity factor for the average of these units, with a band of five percentage points on either side of the standard. The capacity factors of all of the Company's nuclear units are averaged and if actual performance falls within this band, the Company receives neither positive nor negative incentives. If the total nuclear capacity average factor is less than 60%, the Company would be required to bear all of the costs for this poor performance. If the units had an average capacity factor of more than 70%, then the Company would be allowed to keep half of the cost savings due to this superior performance.

The third issue addressed in this brief (Part VI) is the phase-in of the rate increase. Depending on the size of any cost disallowances and excess capacity adjustments, a phase-in of the rate increase will probably be necessary and desirable. The phase-in proposal of the Company will be analyzed and the GEC alternative proposal involving revenue deferrals and sinking fund depreciation will be presented.

The fourth and final issue presented in this brief (Part VII) involves the Energy Cost Rate. The GEC believes that the Company presented unreasonable estimates of its future fuel costs (especially for oil) and inflation/interest rates. These faulty assumptions greatly inflate the fuel and energy projections which should be utilized for the ECR 8 period.

## IV. SIGNIFICANT ADJUSTMENTS ARE NEEDED TO THE COMPANY'S RATE REQUEST

### A. INTRODUCTION

The GEC is most concerned with those proposed adjustments which have the greatest impact on ratepayers and involve important regulatory policies. The proposed disallowances for 50% of the common plant cost, for the costs of the 1976 and 1978 delays, and for the Mark II containment costs will be addressed, as well as the excess capacity adjustment recommended by the Office of Consumer Advocate. While the additional adjustments proposed by the parties are not discussed, this should not be understood to mean that the GEC believes those additional adjustments are without merit.

### B. THE DISALLOWANCE FOR 50% OF COMMON PLANT

The Company has requested that $1.3 billion for 100% of the costs of the common facilities for Limerick be included in the Company's measure of value. Both the Commission Staff and the Office of Consumer Advocate propose a disallowance of 50% of this amount, or $639.5 million. The basis for this proposal is that the Commission has a well established and consistent policy that only one-half of the costs of the common facilities of a two-unit plant is included in rates with the first unit. See the Commission orders involving the first unit of twin plants at Beaver

Valley (R.I.D. 373, September 28, 1978), Salem (R.I.D. 438, December 28, 1978), and Susquehanna (R-822169, August 19, 1983).

The GEC supports this proposed disallowance because it is consistent with the Commission's reasonable and sound policy of splitting the cost of common facilities. As witness Thomas E. Knudsen pointed out, the "ratemaking treatment applied to second units has often been different from the treatment of the first units for the same plant" (Direct Testimony of Thomas E. Knudsen, OCA Statement No. 7, pages 22-23). As examples of this different treatment, he noted the sale of Salem 2 for several years, the different excess capacity adjustments for Susquehanna 1 and 2, the events at TMI 2, and the delays in the completion of Beaver Valley 2. Other policy reasons for the practice were noted in a letter written by the Company in 1977 to the Federal Power Commission, in which the Company asked the FPC to allow the Company to accrue AFUDC on 50% of the common plant associated with the Salem plant (see OCA Exhibit 70 and Tr. pages 1518-1520). The letter noted the Company's belief that including only 50% of common was:

> ...proper for 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.

The GEC agrees with this augument and supports the proposed disallowance for 50% of the cost of the common facility at Limerick, thus disallowing $639.5 million of the Company's claimed rate base. Company witness Thomas P. Hill, Jr. asserts

that the Company had revised its common plant measure of claim to exclude the Bradshaw reservoir (PECO Statement No. 18-K, pages 5-6). If this is so, the $639.5 figure should be revised accordingly.

## C. THE DISALLOWANCE FOR THE COSTS OF THE 1976 AND 1978 DELAYS

### 1. Introduction.

Witness Thomas E. Knudsen properly articulates one of the major tasks of the Commission in this case when he notes:

> [i]n considering the recognition of a major generating station in base rates, the Commission must address issues of the prudence of the construction effort and whether all or a part of the plant costs were not reasonably incurred.

(Direct Testimony of Thomas E. Knudsen, OCA Statement No. 7, page 14.) In most cases, the consideration of a utility's prudence with a particular new unit occurs in one proceeding, but Limerick is unusual in that the issue of the prudence of the Company's construction effort was the subject of earlier Commission rulings.

The Commission ruled in the first Limerick investigation that the Company's decision to order delays in the construction of Limerick in 1976 and again in 1978 was unreasonable (I-8100341, 56 Pa. P.U.C. 47 (August 27, 1982), aff'd 501 Pa. 153, 460 A.2d 734 (1983)). This previous finding of the Commission was ruled to be binding on the parties in this case (see ruling of the ALJ on Trial Staff's Motion in Limine on December 20, 1985, Tr. pages 1370-1375, confirmed by the Commission, Opinion

and Order entered January 21, 1986), thus establishing that the Company's construction schedule for Limerick was not prudent.

One of the major tasks of this proceeding was to quantify the costs of the 1976 and 1978 delays. The Commission Staff and the Office of Consumer Advocate both presented evidence on this issue. Their methodology was similar, in that the first step was to establish when Limerick Unit 1 should have been completed but for the unreasonable delays, and the second step was to compare the difference between what the costs would have been for a construction schedule based on the earlier completion date and the Company's actual construction costs. The process is simple to state, but these two issues were the most litigated issues in the proceeding.

**2. The completion date for Limerick Unit 1.**

The Company's position is that the 1976 and 1978 delay decisions contributed little to the actual completion date of Limerick Unit 1. The Company's witnesses presented testimony that other aspects of the project, such as the Mark II problem (discussed in the following section of this brief), the Nuclear Regulatory Commission licensing process, and workforce density limitations, all would have prevented completion of the unit before mid or late 1984 (see Rebuttal Testimony of Roger J. Mattson, PECO Statement No. 9-A, Rebuttal Testimony of James R. Coughlin, PECO Statement No. 33, and Rebuttal Testimony of James O. Love, PECO Statement No. 8-A).

The Trial Staff suggests that April, 1981 be used as the completion date of Limerick Unit 1, because that was the completion date noted in the Commission's order in the first Limerick decision (Direct Testimony of Dennis P. Dougherty, Trial Staff Statement DPD-1, page 2). The Office of Consumer Advocate, noting several issues which made the April, 1981 forecasted date unreasonable, offered July, 1982 as the proper completion date for Limerick Unit 1 (Direct Testimony of Thomas E. Knudsen, OCA Statement 7, page 16).

**3. The cost of the delay for Limerick Unit 1.**

The Company asserts in the testimony of Thomas P. Hill that the construction delays for Limerick Unit 1 did not substantially increase the cost of the unit to the ratepayers (Additional Rebuttal Testimony of Thomas P. Hill Jr., PECO Statement No. 18-D). The GEC finds that the Company's analysis is not convincing. Trial Staff witness Robert Rosenthal criticized the Company's claim because two-thirds of the benefits will appear in the 2022 to 2024, a time so remote that the methodology's assumptions at that point are reduced to sheer speculation (Trial Staff Exhibit RAR-2, page 5). A critical component in the Company's analysis is the highly unlikely assumption that the Commission would have approved 100% of the Limerick rate request if the plant had been completed at the earlier date (see OCA Statement 7-A, page 18).

The Office of Consumer Advocate asserts that the total cost of the delay (including direct and indirect costs to the Company and to Bechtel) for Limerick 1 and 50% of common is $610.4 million (summarized in OCA Statement 7-A, Schedule TEK-4).

The Trial Staff recommended disallowance is computed for Limerick 1 and all of common (summarized in Trail Staff Statement RAR-1-A, Schedule 1). Adjusting the disallowance figure to reflect the total cost of delay for Limerick 1 and 50% of common, the Trial Staff's recommended disallowance is $938.6 million (Limerick 1 delay cost of $757.4 million + 50% of common plant delay costs of $362.3 million (or $181.2 million). The Trial Staff's delay disallowance is larger primarily because it is based on an earlier completion date for the plant.

**4. The GEC's view of the delay disallowance.**

The GEC agrees that the delay disallowance question in this proceeding is the quantification of the costs associated with the 1976 and 1978 delay decisions of the Company. The Company's effort to question the final order and findings in the first Limerick proceeding, such as the alleged financial constraints, is improper, as noted in the written ruling issued on March 10, 1986 by the Administrative Law Judge on the Trial Staff's motion. The GEC suggests that the delay disallowance is the vehicle by which the Commission can reaffirm its policy and mandate that utilities cannot claim reimbursement from their

ratepayers for costs which were imprudently incurred. A utility should not be allowed to avoid the issue of excess capacity or other concerns about regulatory treatment simply by delaying the unit and thus increasing its costs at the ratepayers' expense.

As to the issue of the proper completion date for Limerick 1, the GEC believes that the evidence introduced by the Office of Consumer Advocate is the most convincing. The Company's claim that the unit would not have come on line much earlier even if there had not been the 1976 and 1978 delay orders is not credible. The Company's arguments about the Mark II delay, workforce densities, and Nuclear Regulatory Commission treatment are all undermined by the evidence and arguments offered by the other witnesses in the case. The evidence in the record indicates that the Company's decisions in 1976 and 1978 added significantly to the construction period for Unit 1. In the opinion of the GEC, the date of July, 1982 offered by the witnesses for the Office of Consumer Advocate is the reasonable date for the completion of construction but for the Company's delay decisions.

Accepting the July, 1982 completion date, the final issue in the delay disallowance is to compute the cost differential between the unit being completed in July, 1982 and the actual completion date of October, 1984. The GEC believes that the evidence offered by the Office of Consumer Advocate about these costs is the most reasonable. The figures in Revised Schedule TEK-4 (Surrebuttal Testimony of Thomas E. Knudsen, OCA Statement No. 7A) summarize the direct and indirect disallowances for

Limerick Unit 1 and 50% of Common amounts to $610.4 million. The GEC accepts this amount as a reasonable approximation of the delay costs.

## D. THE DISALLOWANCE FOR THE COSTS OF THE MARK II CONTAINMENT REDESIGN.

The pressure suppression containment system originally built in Limerick Unit 1 was the General Electric Mark II design. The containment system consists of a cylindrical tank called the suppression pool which is underneath the reactor. The supression pool performs a vital function of condensing and cooling (called "quenching") the steam and hot water which comes from the reactor's safety release valves when the primary cooling system pressure reaches unacceptably high levels. The supression pool is also used to quench steam and hot water which escapes in the event of a break in the primary cooling system. By converting the steam to water, the system allows the facility to reduce high pressure levels without venting radioactive steam into the atmosphere. The entire pressure suppression containment system is a critical component in the safety systems of the unit.

Evidence about the destructive power of pressure pulses caused by the quenching process were first hinted at in General Electric tests in the early 1960's and later demonstrated at the Wuergassen plant in West Germany, the 1973 tests at Browns Ferry and General Electric's own tests for the Mark III design (Testimony of Stephen H. Hanauer, OCA Statement No. 2, pages 9-14). The conclusion drawn from these experiences was that the General

Electric containment design was deficient and significant rebuilding and strengthening was necessary. The Company has included the costs of this redesign and rebuilding work in its current revenue request.

The basis of the Mark II disallowance proposed by the Office of Consumer Advocate is that the ratepayers should not be required to pay the extra costs which the Company incurred to correct the Mark II design problem. There are two issues involved in this proposed disallowance. The first is who should be liable for the extra costs, and the second is what is the amount of the extra costs which were incurred because of the problem.

Witnesses for the Office of Consumer Advocate assert that General Electric was negligent in that it "did not adequately measure, predict, or specify the loads and forces which this type of containment would develop in the quenching process" (Id., page 15). Citing language in the contract between the Company and General Electric which holds General Electric liable for the costs of correcting substantial errors or omissions (Id., pages 15-17), the Office of Consumer Advocate asserts that the Company should have sought to recover the additional costs from General Electric (Id., page 20). In support of this argument, they cite the litigation by Cincinatti Gas & Electric, Dayton Power & Light, and Columbus and Southern Ohio Electric to hold General Electric liable for the costs of the inadequate design in the Zimmer nuclear plant (Surrebuttal Testimony of Stephen H. Han-

auer, OCA Statement 2A, page 30 and Exhibit SHH-9). The GEC believes that it is improper for the Company to seek recovery of the Mark II costs from the ratepayers without first seeking recovery from General Electric.

The second issue of this proposed disallowance is the quantification of the costs to correct the Mark II problem. James J. O'Brien, a witness for the Office of Consumer Advocate, uses figures from PECO Exhibit 2 to show direct costs of $136.1 million and AFUDC of $58.0 million, for a total proposed rate base adjustment of $194.1 million (Supplemental Direct Testimony of James J. O'Brien, OCA Statement No. 1A, page 5 and Schedule JJO'B-23). H. William Volmer, a witness for the Company, challenges the direct cost figure of $136.1 million and asserts that the true incremental cost for the Mark II problem was $24.8 million (Rebuttal Testimony of H. William Volmer, PECO Statement No. 31A, pages 5-6). The GEC agrees with the arguments raised by witness O'Brien showing that witness Volmer's testimony cannot support the $24.8 million figure (see Surrebuttal Testimony of James J. O'Brien, OCA Statement 1B, pages 31-33). The GEC believes that the evidence in the record supports the Mark II disallowance in the amount of $194.1 million, as proposed by the Office of Consumer Advocate.

**E. THE ADJUSTMENT FOR EXCESS CAPACITY**

Office of Consumer Advocate witnesses Thomas E. Knudsen (OCA Statement No. 7), Peter J. Lanzalotta (OCA Statement No. 5), and

Charles Komanoff (OCA Statement No. 6) presented evidence to support a recommendation that the Company be denied any equity return on 450 megawatts of Limerick Unit 1 capacity. The denial of a common equity return on the 450 megawatts considered by the witnesses to be excess is the method the Commission used in making an excess capacity adjustment in the proceeding involving Pennsylvania Power & Light Company's Susquehanna Unit 2 (R-842651). This methodology produces an adjustment to revenues of $110.4 million (figure computed in OCA Statement 7-A, Revised Schedules TEK-8 and TEK-1).

In support of the 450 megawatt figure, witness Lanzalotta states that all of Limerick 1 is excess to the Company's needs (including its PJM reserve requirement) at the present time, and that at least 450 megawatts is excess through 1990 (OCA Statement No. 5, page 4). Additional evidence supporting the concept of excess capacity is the Company's efforts to retire generating units, both in the recent past (the 166 megawatt oil-fired Richmond 9 unit and the 338 megawatt oil-fired Southwark 1 and 2 units), and the near future (the 458 megawatts of combustion turbines at the Richmond and Plymouth Meeting stations)(see cross examination of Company witness Cary H. Rush, Tr. pages 790-797). Lanzalotta used the Company's economic assumptions to show that the cost of retaining the 458 megawatts of combustion turbines through the 1996 expiration date of the leases would save the ratepayers over $1.5 billion in nominal dollars compared to adding the same amount of capacity of Limerick Unit 1 (OCA

Statement No. 5, pages 22-23).

Witness Komanoff also presented the results of his net present value study showing that the lifetime costs of Limerick 1 and 50% of common were likely to exceed the lifetime benefits and savings from the unit by at least $2 billion (OCA Statement No. 6, pages 6-7). Even the Company's life cycle analysis does not show a positive cumulative present value until 2008 (Id., page 8).

The GEC's view of these excess capacity arguments are that utilities should be required to provide service through the least cost mix of supply options. This least cost mix should include company owned generating stations, conservation and load management programs, and customer-owned generation. The massive retirements of less-expensive generating plant by the Company both in the recent past and in the near future appear to the GEC to be contrary to this principle of least-cost supply.

The GEC also notes that if the Commission sanctions the uneconomic retirement of units by not making the warranted adjustments for excess capacity in this case, the implications could be far reaching. Such action could be interpreted to suggest that a utility should not maintain their economical units, but could retire them before new large units enter service and thus avoid a penalty for excess capacity.

For these reasons, the GEC supports the excess capacity adjustment advanced by the Office of Consumer Advocate in this case. As will be discussed in more detail in the next section,

the GEC is not taking a position on the rate of return issue, so for purposes of quantifying the adjustments to income and to revenues, the GEC has used the Company's weighted cost of common equity of 6.11% (Updated and Rebuttal Testimony of Joseph F. Brennan, PECO Statement 28-B, Exhibit JFB-3, Updated Schedule 1). Using the Company's figure for the weighted cost of common equity, the excess capacity would produce an adjustment to income of $61.7 million (see Appendix 1) and an adjustment to revenues of $125.4 million.

Finally, it should be noted that there appears to be an emerging view that capacity over the reserve requirements of PJM or other power pools is automatically considered excess capacity. That is clearly not the entire justification used in this case by the witnesses for the Office of Consumer Advocate. However, efforts are needed by all parties to refine the concept of excess capacity so that it is not simply a rigid engineering test, but also includes an economic component as well. The GEC also notes that capacity which was once judged excess could, at some point in the future, be ruled used and useful and revenue requirements could be adjusted to reflect this.

## F. CONCLUSIONS ABOUT DISALLOWANCES AND ADJUSTMENTS

The evidence in the record does not support significant portions of the Company's revenue request. The request to include 100% of the common facility with Limerick Unit 1 is

contrary to well-established Commission precedent, and no compelling reason was made by the Company to depart from that precedent. The Commission's prior order in the first Limerick proceeding ruled that the Company's construction delays in 1976 and 1978 were imprudent, and disallowance of the costs of those delays are necessary to clearly establish the regulatory policy that efficiency is required in utility construction programs. The recovery of Mark II related costs should also be pared from the rate request because of the policy that a utility should act vigorously to protect the interests of their ratepayers, and not view them as an easy source of financial assistance when other more appropriate sources exist. Excess capacity adjustments have been made in recent years by this Commission, among others, and a decision not to make such an adjustment in this case could be interpreted as sanctioning the practice of premature retirement of economic generating units and provide conflicting signals for the timely and economic completion of new power plants.

In summary, the GEC recommends a $476.8 million reduction in the Company's requested Net Revenue Requirement (NRR). The resulting NRR recommended by the GEC is $205.0 million, or 30% of the Company's request. The numbers supported by the GEC for these various adjustments are contained in Appendix 1 to this brief. It should be noted that in developing the NRR figures, the GEC used the Company's estimates for the cost of capital and the weighted cost of common equity. The GEC is aware that other parties challenged these Company estimates, and the use of the

Company's figures is not an endorsement of those figures. Further, in the appendices to this brief, the GEC assumed additional OCA positive net adjustments to measures of value of $78.8 million.

## V. NUCLEAR UNIT PERFORMANCE STANDARDS ARE NEEDED TO ASSURE A FAIR SHARING OF THE RISKS

### A. INTRODUCTION

#### 1. The need for performance standards.

An important theme underlying the GEC's participation in this case is the need for nuclear unit performance standards to assure that the ratepayers are not the only party at risk for possible poor performance of the Company's nuclear baseload units. One of the key factors which will determine the true financial impact of any rate increase approved in this case is the performance of the Company's units, especially the large baseload units. The Company's original filing projected annual fuel savings from Limerick Unit 1 of $207 million (Direct Testimony of Thomas P. Hill, Jr., PECO Statement No. 18, page 6). How much those projected savings will be eroded in the future depends in large part on the performance of the Company's units and the operating costs (including fuel) of the units that are being displaced.

**2. The 80/20 ECR mechanism.**

As a threshold matter, it must be noted that the Commission's October 30, 1985 order in the Energy Cost Rate 8 proceeding (Docket No. M-840375, referred to as the ECR 8 order) does not prohibit a further investigation into the issue of plant performance. The impact of the ECR 8 order on this proceeding was explored in the Trial Staff's Motion to Strike certain Company testimony regarding modifications to the 80/20 ECR mechanism of the ECR 8 order. In that order, the Commission found that the Company was unable to administer the ECR mechanism in its current form (ECR 8 order, page 159). To correct this situation, the Commission ordered an 80/20 ECR, whereby only 80% of the Company's fuel and energy costs could be reconciled through the ECR mechanism. The Company would be at risk for 20% of the amount that actual fuel and energy costs exceeded the Company's projections.

The 80/20 mechanism was seen as the remedy to the problem of the Company's poor use of the ECR mechanism, and the goal of the order was to give the Company an incentive to better forecast their fuel and energy costs. The 80/20 ECR is <u>not</u> specifically an incentive program to improve the operating performance of the Company's generating units. The Company could project low capacity factors for their units in developing their ECR projections and receive no penalty under the 80/20 ECR, provided that the actual performance was not worse than the projected perfor-

mance.

The 80/20 ECR was not intended by the Commission to be the exclusive regulatory incentive for good plant performance. This is apparent from the fact that the same Commission which ordered the 80/20 ECR for this utility also established a separate performance standard for Limerick Unit 2 (I-840381, Opinion and Order entered December 5, 1985, pages 87-89).

While there was no motion to strike the testimony of GEC witness Dr. John W. Wilson about performance, the GEC recognizes that the Administrative Law Judge's ruling on the Staff's Motion to Strike applies to the portions of Dr. Wilson's testimony about using the ECR as the method to implement a performance standard. It does not appear, however, that the ruling applies to the general issue about the need for and the desirability of a plant performance standard. As Dr. Wilson stated on the stand, his suggestions for a performance standard are not inextricably linked to the ECR mechanism, but can be implemented in other ways (Tr. pages 3961-3963). His performance proposal is not an attempt to modify the 80/20 ECR, but rather a proposal to add an additional and separate performance standard for the operation of the Company's nuclear units, just as the Commission did in the case of Limerick Unit 2.

**3. The philosophy of performance standards.**

The theory behind performance based regulation is neither new nor foreign to public utility regulation. As GEC witness

Wilson noted,

> ...one of the fundamental principles of utility regulation is to approximate the cost discipline of competitive markets.
>
> One way to accomplish this objective is through the establishment of operating performance standards. By targeting a cost category that comprises a significant portion of the utility revenue requirement, regulators may be able to more effectively monitor utility performance and encourage the establishment of more effective management practices without assuming control of the day-to-day operation of the utility.

(GEC Statement 1-A, pages 8-9). Establishing cost discipline through incentives is one major component of performance regulation.

Another key concept of performance regulation is a sharing of the risks between the utility and its ratepayers. The utility should not be absolved of all responsibility for poor performance or bad decisions, and performance standards operate to prohibit all of the costs of poor performance being passed through to the ratepayers. The GEC agrees with Company witness William H. Hieronymus that a fair sharing of the risks also includes a sharing of the benefits, both positive as well as negative incentives (Tr., pages 771-772), and the GEC's performance standard proposal provides for both the Company and the ratepayers to receive the financial benefits of good performance.

**4. Performance standards in Pennsylvania and other states.**

The Commission has looked at the power plant performance of the Company on several occasions. As Dr. Wilson noted in his

testimony (GEC Statement 1-A, pages 16-20), the Commission was concerned about poor plant performance and the appropriate regulatory response in the Salem 1 outage investigation (P-830453), the ECR 8 investigation (M-840375), the fuel-savings guarantee in placing Salem 2 in rate base (R-842590), and the performance standard adopted in the Limerick Unit 2 order (I-840381). In addition, the proposed regulations issued by the Commission in the generic Energy Cost Rate investigation (Docket No. M-820324) address the issue of plant performance. It is clear from this review of prior Commission action that this Commission is concerned with and understands the importance of plant performance.

Pennsylvania is not alone in implementing performance-based regulation. The performance standards implemented by the public service commissions in Arizona, Arkansas, California, Connecticut, Florida, and New Hampshire are discussed by Dr. Wilson in his testimony (GEC Statement 1-A, pages 30-36).

## B. THE PERFORMANCE STANDARD PROPOSAL OF THE GEC

GEC witness Wilson presented a comprehensive performance plan for the Commission to consider in this proceeding. This performance plan has three components, all of which are important if the interests of the Company's ratepayers are to be protected.

The first component of the proposed plan involves a nuclear unit operating standard for all of the Company's nuclear units,

including Limerick Unit 1. Dr. Wilson suggested an average capacity factor of 65% as a performance standard for all of the units. There would be a "dead-band" of five percentage points on either side of this 65% standard. Within this ten percentage point range, the fuel and energy costs incurred by the Company would receive the standard cost recovery treatment (ie. the 80/20 methodology). All replacement power costs attributable to performance below the 60% average capacity factor would not be recovered from the ratepayers, but would be borne by the Company. On the other end of the range, half of the fuel and energy cost savings achieved by the Company for total nuclear unit performance in excess of a 70% average capacity factor would be kept by the Company. This component of the plan would protect the ratepayers from the cost of unreasonably poor performance and would give the Company a positive incentive for higher performance. Performance within the ten point band would produce neither penalties nor rewards.

The second component of Dr. Wilson's proposed performance plan recognizes the importance of controlling non-fuel operation and maintenance expenses of the Company's nuclear units. As Company witness John J. Carroll noted on the stand, O&M expenses at the Peach Bottom and Salem nuclear units have been rising on average at a annual rate of more than 3% above the inflation rate (Tr., page 351). Dr. Wilson noted that the Commission staff is under instructions from the Commission to develop a program for analyzing and controlling operation and maintenance costs as

part of the Limerick Unit 2 performance plan. In the final order of the Limerick Unit 2 case, the Commission envisioned a plan which would:

> identify expenditures that are out of line with results shown by regression equations and other statistical analyses, and take appropriate regulatory action.

(I-840381, December 5, 1985, page 69). According to the Commission order, this O&M program is due by June 30, 1986, and Dr. Wilson suggests the Commission consider applying this program to all of the Company's nuclear units.

The third and final component of the plan suggested by Dr. Wilson addresses the subject of post-commercial capital additions. Company witness Alfred Wroblewski spoke about the scope of capital additions in testifying that the capital additions at the Peach Bottom and Salem plants have exceeded depreciation and retirements at those facilities, so that the Company's net depreciated share of those facilities is now larger than the Company's original investment (Tr., pages 133-135. See also OCA Exhibit 4). Dr. Wilson suggests that the Company be required to supply the Commission with information about such expenditures whenever the annual aggregate capital additions for the nuclear units is in excess of $100 million. With this information, the Commission would be in a position to review the prudency of the capital addition expenditures prior to the filing of a claim for reimbursement in the next rate case.

## C. THE COMPANY'S POSITION ON PERFORMANCE PLANS

The Company was critical of the performance incentive plan presented by Dr. Wilson. Company witnesses Hill, Carroll, and Hieronymus presented several arguments against the proposal, and these are discussed in the following section. These same witnesses also presented a counter proposal, if the Commission felt that a nuclear performance standard should be established. This counter proposal differed from Dr. Wilson's plan in three ways.

Instead of a performance range of 60% to 70%, the Company suggests a range of 55% to 70% (see testimony of John J. Carroll, PECo Statement No 22-C, page 3, and of Thomas P. Hill, Jr., PECO Statement No. 18-D, page 18).

The second difference in the Company's counter proposal is that the Company proposes that the Company be liable for only 50% of the additional costs of poor performance, rather than all of the costs (see Carroll, PECO Statement 22-C, page 8 and Hill, PECO Statement 18-D, page 18).

The final change suggested by the Company's witnesses is that a cap be put on the total amount of the positive and negative incentives, so as to reduce the Company's financial liability (see Carroll, PECO Statement 22-C, page 2, and Hill, PECO Statement 18-D, page 18). This cap would be $35 million, the same cap as proposed by Company witness Joseph F. Brennan for the Energy Cost Rate (Direct Testimony of Joseph F. Brennan, PECO

Statement No. 28, pages 21-22).

It should be noted that no Company witness addressed the provisions of Dr. Wilson's performance plan for controlling operation and maintenance and capital addition costs.

**D. THE COMPANY'S ARGUMENTS AGAINST GEC WITNESS WILSON'S PROPOSED PERFORMANCE STANDARD ARE WITHOUT MERIT.**

**1. The proposed 65% performance standard and the 60% to 70% performance range is not unreasonable.**

Company witness John J. Carroll asserts that the performance standard figures proposed by Dr. Wilson fail "to properly reflect all of the available historic and projected data regarding the operation of the nuclear units" (Carroll, PECO Statement No. 22-C, page 2). Carroll states that the Company "fully expects its units to achieve a 65% capacity factor over the long term" (id., page 5), but that the Company's current projections for nuclear capacity factors for the next three years is less than 65% (id., page 2-3).

There are several responses to these arguments. With respect to the issue of historical data, Dr. Wilson acknowledged that the national average in recent years has been slightly below the 65% level, but this historical experience includes many major post-TMI outages which were unique and not expected to continue. These particular performance problems are certainly not expected to apply to new units such as Limerick which are coming on-line after the TMI related changes have been incorporated in plant design. Dr. Wilson noted that Company witness Hieronymus

presented testimony which showed that except for the Tennessee Valley Authority nuclear units (which were all taken off line in 1985 due to management and not technical reasons), the 1985 average capacity factor for all U.S. nuclear units was 65% (Direct Testimony of William Hieronymus, PECO Statement No. 15-A, page 55). This fact demonstrates that the poor performance of nuclear units in the early 1980's is not necessarily indicative of future performance levels and the use of the Company's past capacity factors to predict future performance is inappropriate.

In criticizing the 65% standard, the Company is challenging a performance level which they have used in many other portions of their case. Company witness William H. Hieronymus used 65% as the capacity factor for all nuclear units in his life-cycle analysis (TR., page 715). Company witness John J. Carroll testified that 65% is the nuclear capacity factor used to compute the spent fuel allowance (Tr. page 330). According to Company witness Thomas P. Hill, Jr., the Company's estimate of Limerick fuel savings is based on a 65% capacity factor, and both he and John J. Carroll are confident that the unit can operate at this level for the next two years (Tr. page 554).

Additionally, with respect to the Company's projections of nuclear unit capacity factors for the next three years, this data as well should not be determinative of the performance standard. As Dr. Wilson points out, the basic purpose of the standard is to provide the Company with an incentive to improve its plant performance, not to lock in previous performance

levels. The 65% standard is a fair standard which allows the Company significant outages without penalty. Dr. Wilson made the point that a nuclear unit experiencing only scheduled outages for refueling and maintenance would achieve a capacity factor of 80 or 90 percent. The 65% standard therefore allows the Company some 25 percentage points (or 13 weeks per year) for unscheduled outages. In computing the 65% capacity factor for Limerick Unit 1, the Company imputed a forced outage rate of only 16% (TR., page 1038). The 65% standard is therefore a reasonable standard.

**2. There is no reason that the incentives in the performance plan should be symmetric.**

Several Company witnesses oppose the nuclear performance plan proposed by Dr. Wilson because the incentives are not symmetric. Carroll states that the plan is "inequitable on its face because it places the Company at risk for 100% of the potential losses but allows it to keep only 50% of the potential gains" (Carroll, PECO Statement 22-C, page 6). Carroll went on to note that the asymmetry of the proposed plan is accentuated by the fact that the incremental costs are non-linear, so that "the potential loss in dollars to the Company for operating at 55% greatly exceeds the potential benefits for performance at 75%." (id., page 7). Because the potential gains were not equal to the potential losses, both Carroll and Hill (PECO Statement 18-D, page 17) felt that the operating standard component of the proposed performance plan should be rejected because it was "inequitable."

Dr. Wilson found no reasonable basis to support the Company's claim that the performance penalties and rewards should be symmetrical, ie., of equal size and probability of occurrence. He noted that under traditional ratemaking, a utility is not entitled to recover costs that are deemed excessive. Likewise, under the same traditional principle, a utility is not entitled to keep any savings which occur because of superior performance. Because the proposed plan allows the Company to keep half of the energy savings caused by nuclear plant performance over 70%, the plan provides rewards to the Company that would be unavailable under traditional ratemaking.

As for the non-linear aspect of generating plant operating costs, this fact is true whether there is a performance plan or not. The issue is really who will bear the costs of poor performance - the ratepayers or the shareholders. By assigning the extra costs of poor performance to the Company, the proposed plan places the risk on those who have the most responsibility for and control over the cause of the loss.

**3. The proposed performance plan does not expose the Company to unreasonable financial risk.**

Company witness Carroll presents a scenario which he asserts would expose the Company to a $240 million loss if the proposed performance plan were in effect (Carroll, PECO Statement 22-C, pages 7-8). Based on this risk exposure, he asserts the need for a cap on the size of the penalty.

As was noted in the previous section, poor performance will result in financial losses. The basic issue is not whether these additional costs exist, but rather who will bear those costs. Should the ratepayers be held liable, or the shareholders, or both in some combination? If the performance plan is to create a true incentive for improved performance, the Company must be the one to bear the costs of poor performance. Putting a cap on the size of the penalty only dilutes the effectiveness of the performance program.

Dr. Wilson analyzed the financial impacts of his performance proposal and found them reasonable. It should be noted that because the performance standard is based on the average of the performance of all of the nuclear units, the swings in the capacity factors (and thus the likelihood and magnitude of a performance penalty) is greatly moderated. Dr. Wilson calculated that the performance penalty for a 55% overall capacity factor would range from $37.1 to $51.4 million (Exhibit J.W.-6 Revised, GEC Statement 1-A). These figures are not so insignificant as to be meaningless, but they hardly constitute a serious threat to the Company's financial health.

Dr. Wilson believed that Carroll's financial disaster scenario was highly unlikely, but assuming for the sake of argument that such performance levels occurred, Dr. Wilson noted that the Company could approach the Commission for a waiver from the performance standard.

**4. The performance standard is needed despite the existence of the 80/20 Energy Cost Rate.**

Company witness Hill asserts that the performance plan proposed by Dr. Wilson is unnecessary because it is duplicative of the 80/20 ECR mechanism and of the Commissions proposed generic performance standards (Docket No. M-820324) for all electric utilities (Hill, PECO Statement No. 18-D, page 16). To assert that a nuclear performance standard and the 80/20 ECR should not exist at the same time is to contradict the rulings of the Commission, which has ordered both for the Company.

Mr. Hill also claims that the nuclear performance standard is unnecessary because of the proposed generic performance rules. He noted in his testimony (Id., page 16) that the proposed rules were expected to be published for comment in the Pennsylvania Bulletin for comment during the month of February, 1986, but the fact is that the proposed rules have yet to be published. It would be inappropriate to postpone action in this case because a decision is anticipated to be made at some time in the future.

Moreover, the presence of the generic performance investigation did not prevent the Commission from establishing the 80/20 ECR, and it should not be used to prevent the Commission from adopting a nuclear performance plan in this case.

**E. CONCLUSIONS ABOUT PERFORMANCE STANDARDS**

Good performance is critical, not simply at Limerick Unit 1

but at all of the Company's nuclear stations, if the Company is to achieve the $211 average of fuel and energy savings which it projects for the next two years. A nuclear performance standard should be adopted in this proceeding to prevent the ratepayers from bearing all of the risks of poor performance. Dr. Wilson proposed a reasonable plan of performance standard, operation and maintenance cost controls, and capital addition controls. The performance standard is reasonable, and will produce a fair sharing of risk. The standard will also provide the Company with a clear and effective financial incentive to increase the efficiency of their generating units and thus reduce the costs of energy. By holding electricity prices below what they might otherwise be, the economic vitality of the region is strengthened as jobs and businesses are preserved and allowed to grow.

## VI. THE COMPANY'S PHASE-IN PROPOSAL IS INADEQUATE AND AN ALTERNATIVE PHASE-IN PLAN IS NECESSARY

### A. INTRODUCTION

One of the key concepts behind the statutory phrase "just and reasonable" rates (66 P.C.S. Section 1301) is the balancing of interests of the various effected parties, ie. the customers of the utility and the investors in the utility. As the relationship between energy and economic development becomes increasingly apparent, there is a new realization about the lower and upper bounds of rates. The lower limit of rates is that amount necessary to attract capital at a reasonable cost for the

utility to provide adequate, safe and reliable service to its present and future customers. The upper limit on rates is that level which causes unreasonable economic stress on the region served by the utility. High energy prices reduce a region's ability to compete with other areas, thus impairing its ability to attract and retain industry and jobs. This sort of situation is in no one's best interest.

This link between energy prices and economic vitality suggests that an important aspect of utility rate cases should be an examination of the regional economic impacts of rate increases. If these impacts are unreasonably negative, then an alternative form of rate increases should be designed. Phase-in plans are such an alternative, and several parties have proposed plans to soften and stretch-out the rate increases. The Company stated that it was proposing a phase-in for the rates to "minimize the financial impact on our customers and the economy of our service territory" (Direct Testimony of Joseph F. Paquette Jr., PECO Statement No. 3, page 5). This section of the brief will discuss the various proposals offered by the parties and make recommendations about the optimal plan.

Before beginning the review of the various phase-in plans, one important point must be made. As Dr. Wilson noted on the stand (Tr., pages 3263-3264), phase-in proposals are not a substitute for a thorough review of the reasonableness of the revenue request. The first step is to make any disallowances and adjustments to the rate request so that the approved revenues and

rates are just and reasonable. Once these adjustments are made, the task then is to determine the need for and the optimal design of a phase-in plan. Under no circumstances should phase-in plans in general, or the GEC's testimony about phase-in in particular, be seen as lessening the need to examine the justness and reasonableness of the rate request.

## B. THE COMPANY'S PHASE-IN PROPOSAL

### 1. The details of the Company's proposal.

The Company proposes that one-third of the $681.8 million rate increase ($227.3 million) be effective in the first year. This would result in a rate increase in excess of 9%. At the beginning of the second year of the Company's phase-in plan, two-thirds of the increase would go into effect, increasing rates by an additional $227.3 million. At the start of year three, the full amount of the rate increase would be in place. In years four, five, and six of the Company' plan, the rates would be increased by the amount of revenues deferred in years one and two. If the Company does not receive the entire rate increase it has requested, the Company proposes that the revenue reductions be taken out of the rate increase for the third year and, if necessary, the second year so that the first year increase remains over 9% (see cross-examination of Joseph F. Paquette, Tr. page 1452). The Company would not recover interest on the revenues deferred in the early years of the plan.

**2. The Company's plan over-collects because it fails to recognize the falling revenue requirements of Limerick Unit 1.**

The Company states that under its phase-in plan, it will forego interest in the amount of approximately $250 million on the deferred revenues (cross examination of Joseph F. Paquette, Tr. page 1567). While this may be true, the plan nonetheless produces excess recovery because it fails to recognize the substantial annual reductions in revenue requirements for Limerick Unit 1 and the common plant. Using straight-line depreciation, the revenue requirement for the unit and common plant is as follows:

| | |
|---|---|
| Year 1 | $842.3 million |
| Year 2 | $803.3 million |
| Year 3 | $768.6 million |
| Year 4 | $732.5 million |
| Year 5 | $696.4 million |
| Year 6 | $663.1 million |
| Year 7 | $629.1 million |

As demonstrated by Dr. Wilson in Exhibit J.W. 11 of GEC Statement No. 1-B, this failure of the Company's plan to recognize the significant decline in the revenue requirements of Unit 1 means that the Company's recovery of the deferred revenues begins in year three, not year four as stated by the Company, and the plan produces an excess recovery of $275.1 million.

Randall J. Falkenberg, a witness for the Philadelphia Area Industrial Energy Users Group, presented similar testimony regarding the over-collection of revenues because of the failure of the phase-in plan to recognize the declining ratebase due to

depreciation and increases in deferred taxes (Direct Testimony of Randall J. Falkenberg, PAIEUG Statement, pages 6-7). It should be noted that none of the Company's witnesses challenged this point in the phase-in testimony of these witnesses.

### 3. The Company's phase-in proposal produces unacceptable economic results.

Despite earlier Company experience in analyzing the economic impacts of rate and regulatory actions (see UUC/UP Exhibits 1 and 2), Company witnesses testified that no studies of the regional economic impact of the Company's phase-in plans were performed (see cross examination of Joseph F. Paquette, Tr. page 1549, and of Raymond C. Williams, Tr. page 648). Moreover, the Company's accounting consultant did not review the impacts of the plan on the ratepayers (cross examination of David J. Farling, Tr. page 583). Not charging ratepayers interest on the deferred revenues was seen as an important factor in the design of the phase-plan, and the Company's analysis of the plan's optimum length was primarily based on the period of deferral which could be sustained without charging interest (cross examination of Raymond C. Williams, Tr. page 632).

The economic impacts of the Company's phase-in plan was the subject of City witnesses Dr. Arie Schinnar (City Statement 1) and Gregory Palast (City Statement 2). Mr. Palast noted that under the Company's proposal, commercial and industrial customers will be paying over 14 cents per kilowatt hour in 1989, assuming no other rate or ECR increases. Electricity prices for these

customer classes in 1989 will exceed the national average by an estimated one-third (Direct Testimony of Gregory A. Palast, City Statement No 2, page 23). Residential customers who use a modest 500 kwh per month will be facing a 1989 annual electric bill of just under $1,000 (Id., page 24). These increased rates will be especially harsh for the 25% of Philadelphia's citizens living at or below the poverty line (Id.).

The economic impacts of a rate increase of this magnitude were studied by Dr. Arie Schinnar, using an econometric model (Direct Testimony of Dr. Arie Schinnar, City Statement No. 1). His modeling work demonstrated that the Company's proposed rates would cause a significant loss of the region's ability to retain and attract jobs and businesses. The GEC believes that the criticisms raised by the Company about the model, even if partially valid, do not undermine Dr. Schinnar's basic conclusion that the Company's proposed rates will cause serious economic damage to the Philadelphia area economy. The Company's phase-in plan is too short to adequately soften the economic impact of the rate increases. As Dr. Schinnar stated on the stand, real rate increases of more that 1 or 2 percent will have serious negative consequences (Tr. pages 3416-3419).

**4. The Company's phase-in plan improperly converts the deferred revenues into "consumer debts."**

Under its phase-in plan, the Company proposes a unique and improper treatment of the revenues deferred in the first two years of the plan. The deferred revenues would be calculated by

customer class and would be recovered by customer class. Unlike other debts or property which is amortized with the opportunity but not the guarantee of total recovery, the deferred revenues become what City witness Gregory A. Palast described as "customer class debts." Because the Company is guaranteed recovery of the deferred amounts and the amount of revenues accrued and deferred depends on the level of sales, the phase-in period may extend beyond the expected six years (cross examination of Raymond C. Williams, Tr. 624-625). Each class would be liable for its class debt, regardless of any actions it might take to reduce its consumption. Indeed, a customer class which strives to reduce its energy use during the early years of the Company's phase-in plan would find itself strapped with the highest levels of deferred recovery surcharges during the latter years of the plan (Direct Testimony of Gregory A. Palast, City Statement No. 2, pages 66-70).

**C. THE PHASE-IN PROPOSALS OF GEC WITNESS DR. WILSON**

In his phase-in testimony (GEC Statement 1-B), Dr. Wilson 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 alternative which he believes has the most merit (Id, pages 51-53).

The combination phase-in and deferral with a sinking fund proposal of Dr. Wilson would be a ten year plan with revenue

increases in the first four years. Under the sinking fund method of depreciation, the depreciation expense is reduced below the straight line level in the early years of the plant's life, but escalates annually, so that the total cost of the plant is recovered over its useful life. This method results in total annual capital costs (depreciation plus return on net investment) being equalized over the life of the plant (Id., page 38). Dr. Wilson's phase-in proposal modifies the sinking fund method by combining it with a phase-in and deferral of the revenue increases, so that the early year levels are further reduced from what they would be under the sinking fund and under the Company's proposal.

Dr. Wilson states that this combination is beneficial to ratepayers because it eliminates some of the extreme front loading of Limerick 1 costs and reduces the initial rate shock attributable to Limerick 1. Even assuming that the Company receives its entire revenue request, the combination phase-in and deferral with sinking fund would increase rates by $160 million in the first year, compared to a first year increase in the Company's plan of $227.3 million. Both of these figures would be reduced if there are reductions made to the Company's revenue request.

As part of his phase-in testimony, Dr. Wilson evaluated the financial impact of his recommended plan, and found that it provides adequate protection to investors (see Exhibit J.W.-19 in GEC Statement No. 1B).

## D. THE PHASE-IN TESTIMONY OF THE OTHER PARTIES

### 1. PAIEUG witness Randall Falkenberg

The Philadelphia Area Industrial Energy Users Group witness Randall Falkenberg presented an alternative phase-in proposal which was very similar to that offered by Dr. Wilson (Direct Testimony of Randall J. Falkenberg, PAIEUG Statement, pages 5-20). Mr. Falkenberg first corrects the Limerick Unit 1 revenue requirements by recognizing depreciation. He suggests that the declining revenue requirements over the six year period of the phase-in plan be averaged as the Company did for the nuclear fuel assemblies (Id., page 11), and that the claim for common plant be reduced by 50% (Id., pages 15-16). He also proposed sinking fund depreciation, at a rate of 6%, be used for the unit, similar to the modified sinking fund technique approved by the Commission for use by Pennsylvania Power and Light in Docket Nos. R-822169 and R-842651 (Id., pages 16-18). Falkenberg agreed with the Company that no interest should be earned on the deferred revenues and that any reduction to the Company's revenue request be subtracted proportionately from each year's phase-in revenue requirement (Id., page 33). These phase-in changes would produce a revenue requirement of $135 million in year one, $269 million in year two, $404 million in year three, and $539 million in years four, five and six (Id., page 20 and Exhibit 3).

### 2. City witness Gregory Palast

Gregory A. Palast presented phase-in testimony on behalf of the City of Philadelphia (Direct Testimony of Gregory A. Palast, City Statement No. 2). His phase-in recommendations are that the rate increase be phased-in over no less than seven years, and that the Company amortize the deferred revenues over a ten year period. He also rejects the Company's proposed creation of class surcharges to recover deferred revenues. And finally, Palast states that no interest should be collected on the deferred revenues, even if the phase-in period is lengthened as he suggests.

### 3. UUC/UP witness Paul Chernick

The phase-in witness for the Utility Users Committee/ University of Pennsylvania was Paul Chernick (Direct Testimony of Paul Chernick, UUC/UP Statement No. 1, pages 82-90). Rather than propose a specific phase-in plan, Chernick suggests several principles for designing a phase-in plan. The key element in his testimony is that "costs should be recovered in a time pattern which reflects the time pattern of benefits from the plant" (Id., page 82).

## E. THE COMPANY'S CRITICISMS OF THE ALTERNATIVE PHASE-IN PLANS ARE WITHOUT MERIT

### 1. The Company incorrectly asserts that Dr. Wilson's sinking fund phase-in proposal increases ratepayer costs.

Company witnesses Joseph F. Paquette Jr.(PECO Statement 3-A, page 9) and Alfred Wroblewski (PECO Statement 21-A, page 6) both assert that the phase-in proposal suggested by Dr. Wilson will significantly increase the costs of Unit 1 to the ratepayers. The argument of the Company's witnesses is misplaced because they address the nominal dollars, not the present value of the revenue collections. Any plan which defers collections will raise the nominal amount of those collections. Had the witnesses considered the time value of money in their comments, they would not have criticized the proposal on this basis.

### 2. The sinking fund phase-in does not seriously impair the Company's cash flow.

Company witnesses Joseph F Paquette Jr. (PECO Statement 3-A, pages 8-9), Alfred Wroblewski (PECO Statement 21-A, page 6), and Franklin D. Sanders (PECO Statement 35, page 10) all criticize the effect of the sinking fund phase-in proposal on the Company's cash flow in the short-term future. The GEC suggests that the issue is not whether short-term cash flow is reduced, but whether that reduction of short-term cash flow is reasonable and proper. One of the key features of this alternative is to defer recovery until a later date to better match the timing of cost recovery

for the plant with the benefits produced by the plant. Several witnesses, including Dr. Wilson, addressed the desirability of timing the cost recovery to match the benefits of the plant. Paul Chernick, a witness for the Utility Users Group/University of Pennsylvania testified that Limerick Unit 1 does not have positive present value benefits for the ratepayers until well into the next century (Direct Testimony of Paul Chernick, UUC/UP Statement No. 1, page 32). Quick recovery of the costs of the plant, when its benefits will not be realized until long in the future, is inconsistent with the principle of matching annual costs with benefits.

The claim that the alternative phase-in proposals impair the Company's cash flow is not a meaningful complaint. The issue is whether the alternative proposals so reduce the Company's cash flow as to impair the Company's ability and cost of obtaining capital by adversely affecting its financial indicators and thus damaging its ratings in the financial markets. While it is true that short-term cash flow is reduced under the sinking fund proposal, City witness Gregory Palast noted the Company's cash flow and entire economic situation will be greatly improved upon the inclusion of Limerick Unit 1 into rate base (Direct Testimony of Gregory A. Palast, City Statement No. 2, page 11). Dr. Wilson showed that he was successful in designing his proposal to keep the various financial indicators at levels which do not erode the Company's ratings (GEC Statement 1-B, Ex. J.W.-19).

### 3. The Company's claim that the alternative phase-in proposals violate accounting rules and practices is without merit.

Company witnesses David J. Farling (PECO Statement No. 16-A, page 6), Joseph F. Paquette Jr. (PECO Statement No. 3-A, page 9), Franklin D. Sanders (PECO Statement No. 35, page 10), and Alfred Wroblewski (PECO Statement No. 21-A, pages 4-5) all assert that the alternative phase-in approach suggested by Dr. Wilson should not be adopted because it does not comply with the Exposure Draft of the Financial Accounting Standards Board (FASB) Statement 71 and with generally accepted accounting principles.

The public release of the Exposure Draft of FASB Statement 71 during the course of this proceeding demonstrated the changes occurring in the regulatory system and thus the accounting profession. As Company witness William H. Hieronymus noted during cross examination:

> ... one of the things which has developed has been that as the capital cost of plant has gotten to be so high [that] the regulatory system is struggling with how to deal with the rate impacts under conventional regulatory precedence, and the ways that those are being dealt with are changing. Tr., page 737.

As the regulatory system develops new methods of dealing with very expensive plants, the accounting profession will likewise undergo certain changes in its rules and principles, as the Exposure Draft of FASB 71 indicates. This state of change should be kept in mind during the discussion about generally accepted accounting principles.

Company witness Alfred Wroblewski's criticism that the use of the sinking fund method of depreciation is not generally recognized as appropriate for investor-owned utilities is a good example of this issue (PECO Statement No. 21A, page 4). When the regulatory system is making major changes in the way it is rate-basing new plants, it should not be a convincing argument to simply reject a concept because it is not the way depreciation has been treated in the past. His discussion about Federal Energy Regulatory Commission acceptance of the straight-line depreciation method (Id., pages 4-5) employs the same logic. Wroblewski is not saying that FERC only accepts straight-line depreciation, only that, according to a 1968 report, 92% of the "major privately-owned utilities" reporting to FERC used this method (Id., page 5). The GEC suggests that there is little probative value in knowing what depreciation methodology utilities used in reporting to FERC almost twenty years ago, before the dramatic increase in capital costs of central station generating units and before the regulatory response to those cost increases.

The Company's contention that generally accepted accounting principles are violated by the sinking fund proposals is also without merit. The generally accepted accounting practices have been and will continue to change to recognize the changing regulatory treatment of new large and expensive generating units.

## F. CONCLUSIONS ABOUT PHASE-IN

The rate increase requested by the Company in this case would have a substantial negative impact on the economic vitality of the Philadelphia region. Depending on the size of any disallowances and adjustments, it is possible that the rate increase ultimately approved by the Commission in this case would have a major impact as well. One way of softening the impact of such a rate increase is to employ a phase-in plan to spread the increase over a number of years. The proposal of the Company is inadequate and in fact produces excess recovery because of the failure to recognize the declining revenue requirements of Limerick Unit 1 over time. The alternative phase-in proposals of Dr. Wilson and the other interveners in this case should be carefully considered by the Commission.

# VII. ENERGY COST RATE

## A. INTRODUCTION

On October 30, 1985, the Commission at Docket No. M-840375 (the ECR 8 order) ordered the Company to submit certain information regarding the Company's historical and projected levels of generating unit performance, energy demand and energy costs as part of this investigation. As the Administrative Law Judge noted in his March 10, 1986 ruling on the Staff's Motion to Strike certain Company testimony regarding the Energy Cost Rate, the charge of the ECR 8 order was to ensure that the Company used

"the correct ingredients" to compute the ECR level. The March 10 ruling noted (pages 7-8) that by using unreasonable assumptions and projections, the Company could manipulate and render meaningless the positive impact of the 80/20 ECR. By overestimating the fuel and energy costs, the Company could shelter itself against the unreconcilable 20% share of any costs above the projected level. The GEC agrees that this concern is a valid one, and will discuss below several unreasonable assumptions used in the Company's ECR projections.

A second issue of the ECR portion of this case involves the implementation of the new 80/20 ECR. The March 10 ruling rejected any suggestions or attempts to modify the 80/20 ECR, but certain specifics regarding the implementation of the new ECR must still be resolved. There was conflicting testimony offered by the parties about several of these issues, and the GEC offers its view of these matters below.

**B. THE COMPANY'S ENERGY COST PROJECTIONS ARE INFLATED BY UNREALISTIC ASSUMPTIONS AND PROJECTIONS.**

The Company originally used an unreasonably high forecast of oil prices in the production cost run to compute the fuel and energy costs for the ECR 8 period. Until pressed by the parties to perform a revised production cost run, the Company was using a projected oil price of $27.108 per barrel of No. 6 (0.5% sulphur) oil(see OCA Exhibit 88, at Tr. pages 4511-4512). This was the figure being used, despite the fact that the Company had been purchasing oil for as low as $17.00 a barrel (cross examination

of Ronald English, Tr. page 4357). The process of establishing a revised oil price forecast consisted of John J. Carroll asking Paul X. English whether he (English) could support a $24.00 a barrel figure (Tr., page 4533-4534). There was no other evidence offered by the Company to support this revised forecast, and no opportunity for the other parties to respond to this revised forecast. As an indication of the significance of this issue, the reduction in approximately $3 in the oil price used in PECO Exhibit JJC-2 (the production cost run for the ECR fuel levels) and PECO Exhibit JJC-3 produced a $9.6 million reduction in the projected fuel costs.

Another example of the unreasonableness of the Company's fuel cost projection involves interest rates. Despite the statement by the Company's financial vice president that interest rates had fallen dramatically in the last three or four months (see cross examination of Joseph F. Paquette, Jr, Tr. page 4854), the Company made no change in the interest rate assumptions for the production cost run.

**C. IMPLEMENTING THE 80/20 ECR**

**1. The Staff's methodology for implementing the ECR.**

Witnesses Robert A. Rosenthal and Dennis P. Hosler presented the Staff's view that the Commission's intent in the ECR 8 order was that the 20% portion of projected energy costs not subject to reconciliation no longer be included in the energy adjustment clause. Instead, this 20% would become a normalized expense

allowance component of base rates. The 80% portion would be projected on a annual basis and would continue to be subject to the energy adjustment clause, but the 20% in base rates would change only through a subsequent general rate proceeding (Staff Statement ECR-1, pages 2-3).

**2. The Company's methodology for implementing the ECR.**

The Company disagrees with the 80/20 implementation procedures proposed by the Staff. Company witness Thomas P. Hill, Jr. proposes that both the 80% and the 20% portions of the energy adjustment clause be implemented through the ECR mechanism. The Company proposes that the nonrecovery of the 20% portion can be accomplished by changing the definition of the "E" factor in the Company's ECR formula. The "E" factor is the experienced net over or under collection of the cost of energy and is used to reconcile past over or under collections, and the Company proposes to change the definition of the "E" factor to base it on reconciliation of 80%, not 100%, of the net over or under collections (Further Supplemental Direct Testimony of Thomas P. Hill, Jr., PECO Statement 18-B, page 20 and Schedule 2).

**3. The GEC's recommendations for the ECR methodology.**

The GEC believes that the ECR mechanism proposed by the Company makes the most sense. The use of general rate proceedings to set the 20% portion of the energy cost forecast could mean that the Company would be required to choose between

accepting an out-of-date energy cost forecast for the 20% portion or filing a general rate request to modify the 20% portion. The current volatility in fuel prices is a reminder that the process must be flexible.

The GEC suggests that the Commission consider a process whereby the utility and the other parties in the ECR investigation submit the vital assumptions in a uniform format for review, much as parties now do in the tables and schedules of adjustments, tax and jurisdictional factors, etc. This would enable the Administrative Law Judge to determine the most reasonable and appropriate set of variables for the Company to use in the production cost runs. This methodology would allow a reasonable procedure to determine the key variables in a timely and efficient manner.

**D. CONCLUSIONS ABOUT THE ENERGY COST RATE**

The Commission's ECR 8 order found the Company unable to administer its energy adjustment clause and established an alternative energy cost rate which allows the Company to recover only 80% of the amount that the actual fuel and energy costs exceed the estimate of those costs used to set the energy cost rate level. This 80/20 ECR provides incentive for the Company to more accurately forecast its fuel and energy costs. Several of the inputs used by the Company for projecting fuel and energy costs for the ECR 8 period are unreasonably high. A procedure is needed to determine the reasonable assumptions to be used to

project fuel and energy costs.

## VIII. PROPOSED FINDINGS OF FACT

Based on the evidence in the record and the arguments set forth in this brief, the GEC submits the following findings of fact:

1. The Company's effort to include 100% of the common plant costs is inappropriate and contrary to Commission precedent.

2. Removal of half of the costs of common plant reduces the Company's measure of value claim by $639.5 million.

3. If the Company had not delayed construction of the Limerick plant in 1976 and 1978, construction of Limerick Unit 1 could have been completed in July, 1982.

4. Based on the differences in the completion dates, the costs to complete Limerick Unit 1 and 50% of the common plant increased by $610.4 million. The Company's measure of value claim should be reduced by this amount.

5. The Company's request to recover the Mark II redesign and rebuilding costs from the ratepayers is unreasonable.

6. The Mark II redesign and rebuilding effort added $ 194.1 million to the cost of Limerick Unit 1. The Company's measure of value claim should be reduced by this amount.

7. Based on the Company's generating plant and the energy demand for the test year, 450 megawatts of Limerick Unit 1 are not used and useful.

8. The adjustment for excess capacity should occur by

denying the Company a common equity return for 450 megawatts of Limerick Unit 1. This adjustment reduces Company income by $61.7 million and revenue requirements by $125.4 million.

9. Performance standards are necessary for the Company's nuclear units to provide incentives to the Company for good performance and to share the risks of poor performance.

10. The performance standard of a 65% average capacity factor for the Company's nuclear units, with a 60% to 70% neutral band is a reasonable standard. An equal sharing of savings for performance exceeding an average of 70% and nonrecovery of the additional costs of performance under 60% produces a reasonable performance incentive and sharing of the risks.

11. The performance incentive plan should include a component to control operation and maintenance costs for the Company's nuclear units.

12. The performance incentive plan should include a component to control capital addition costs for the Company's nuclear units.

13. The Company's proposed rate increase, even with the Company's phase-in proposal, would produce unacceptable economic hardship to the economy of Southeastern Pennsylvania.

14. Because the Company's phase-in plan does not adjust for the declining revenue requirement due to depreciation of Limerick Unit 1, the Company's phase-in proposal would cause a substantial overcollection of revenues.

15. The Company's phase-in proposal includes an unreason-

able and inappropriate mechanism of recovering revenues deferred in the first two years.

16. A ten year phase-in and deferral plan, combined with a sinking fund method of depreciation, would be a reasonable alternative to the Company's phase-in plan, balancing the interests of the Company and the ratepayers.

17. The Company's assumptions for the cost of oil and the cost of money during the test year are unreasonably high.

18. The Company's proposed methodology for implementing the 80/20 ECR is reasonable.

## IX. PROPOSED CONCLUSIONS OF LAW

The GEC submits the following conclusions of law are appropriate in this proceeding:

1. The Commission has the general authority to supervise and regulate the activities of the Company. 66 Pa.C.S. 501(a) and (b).

2. The Commission has jurisdiction over the rates and services of the Company. 66 Pa.C.S. 1301 and 1501.

3. The Company has the burden of proof in establishing that its rate request is just and reasonable. 66 Pa.C.S. 315 (a) and (c).

4. Commission precedent dictates that when the first unit of a two unit facility enters rate base, only 50% of the cost of the common facility for the units is permitted in rate base at

that time.

5. The Commission's order in I-8100341 (56 Pa. P.U.C. 47) establishing that the Company's orders to delay construction of Limerick in 1976 and 1978 were unreasonable and imprudent is binding on this proceeding.

6. The Commission's order in M-840375 establishing the 80/20 Energy Cost Rate for the Company prohibits this proceeding from altering the 80/20 ECR mechanism but not from adopting performance standards for the Company's nuclear units.

## X. CONCLUSION

The size of the Company's rate request in this proceeding should in no way effect the Commission's responsibility to ensure that the approved rates are just and reasonable. The GEC believes that significant disallowances are proper in order to better match costs with benefits, to shield ratepayers from unreasonable and imprudent construction practices and to prohibit utilities from ignoring other alternatives for cost recovery in favor of the ratepayers' wallets. The GEC also believes that the evidence in this case indicates that a major excess capacity adjustment is appropriate in order to make it clear that utilities cannot escape their responsibility to implement an economic generation system through the premature retirement of existing economic units.

The GEC also believes that continued regulatory change is

necessary to share the risks of poor performance and the benefits of superior performance between utilities and their ratepayers. Incentives for good performance and cost containment will encourage utilities to operate efficiently and thus reduce costs for everyone. The GEC suggested a performance standard for the Company's nuclear units which it believes is the next step in this effort towards performance based regulation.

The GEC is concerned about the disruptive economic effects to the Philadelphia area of the Company's proposed rate increase and therefore presented evidence about alternative phase-in proposals to soften the impact of the rate increase by spreading it over a longer period of time and by using an alternative depreciation schedule.

Also, the GEC presented evidence challenging the Company's fuel and interest assumptions used in the projections for the Energy Cost Rate and suggested a procedure for the Commission to consider to improve the reasonableness of the data being used by utilities in such proceedings.

Based on these conclusions, the GEC urges the Commission to make the appropriate adjustments to the Company's measure of value and income claims, thus reducing the Company's annual revenue requirement by approximately $476.8 million, or 70% of the Company's Net Revenue Requirement request.

In addition, the GEC suggests that the Commission adopt an operating performance plan for the Company's nuclear units that shares the risk and protects the ratepayers from poor performance

of these units.

Finally, the GEC believes that the Commission should adopt a phase-in plan that reduces the economic impact of whatever revenue requirement is ultimately approved. The GEC remains concerned over the economic dislocations and financial burdens that will occur if ratepayers are required to absorb large increases at a time when they can least afford them. The Commission's response to these issues will have serious and far reaching consequences.

GEC ADJUSTMENTS TO PHILADELPHIA ELECTRIC COMPANY'S
CLAIMED REVENUE REQUIREMENTS
($000)

| | REVISED COMPANY | GEC ADJ | REVISED GEC | SCHEDULE |
|---|---|---|---|---|
| MEASURE OF VALUE | 6,943,888 | (1,365,149) | 5,578,739 | OCA ST-7A TEK-2 |
| COSTOFCAPITAL | 12.77% | - | 12.77% | PECO EX. TPH-2A, A-1 |
| P.F. OPERATING INCOME PROPOSED RATES | 886,923 | (174,518) | 712,405 | |
| P.F. OPERATING INCOME PRESENT RATES | 447,335 | 60,191 | 507,526 | APP.1-C GEC BRIEF |
| INCOME DEFICIENCY | 439,588 | (234,709) | 204,879 | |
| CONVERSION FACTOR | | | 2.031388 | OCA ST-7A TEK-2 |
| REVENUE REQUIREMENT | 892,974 | (476,785) | 416,189 | |
| FUEL ROLL OUT | 211,214 | 0 | 211,214 | OCA ST-7A TEK-2 |
| NET REVENUE REQUIREMENT | $681,760 | $(476,785) | $204,975 | |

GEC ADJUSTMENTS TO PHILADELPHIA ELECTRIC COMPANY'S
CLAIMED MEASURES OF VALUE 6/30/86
($000)

| UTILITY PLANT IN SERVICE | BALANCE | SOURCE |
|---|---|---|
| LIMERICK UNIT 1 | $2,532,627 | |
| LIMERICK 100% | | |
| COMMON FACILITIES | | |
| NON-DEPRECIABLE | 7,349 | |
| DEPRECIABLE | 1,271,675 | |
| LIMERICK TRANSMISSION | 8,349 | |
| LIMERICK UNIT 1 & 100% COMMON | 3,820,000 | OCA ST-7A TPH-2,C-2 |
| GEC ADJUSTMENTS | | |
| MARK II | (194,000) | |
| DELAY-DIRECT(LIM#1 & 50% COMMON) | (386,800) | |
| DELAY-INDIRECT-PECO(LIM#1&50% COMMON) | (83,000) | |
| DELAY-INDIRECT-BECHT.(LIM#1&50%COMMON) | (140,600) | |
| 50% COMMON FACILITIES | (639,512) | |
| TOTAL GEC ADJUSTMENTS | (1,443,912) | OCA ST-7A TEK-3 |
| LIMERICK UNIT 1 AND 50% COMMON | $2,376,088 | |
| ADDITIONAL ADJUSTMENTS TO MEASURES OF VALUE | | |
| TOTAL MEASURE OF VALUE CLAIMED BY PECO | $6,943,888 | OCA ST-7A TEK-2 |
| ADDITIONAL OCA NET ADJUSTMENTS | 78,763 | OCA ST-7A TEK-2 |
| GEC ADJUSTMENTS | (1,443,912) | SEE ABOVE |
| TOTAL ADJUSTMENTS TO MEASURE OF VALUE | (1,365,149) | |
| GEC ADJUSTED MEASURE OF VALUE | $5,578,739 | |

GEC ADJUSTMENTS TO PHILADELPHIA ELECTRIC COMPANY'S
CLAIMED INCOME TEST YEAR ENDING 6/30/86
($000)

| | | |
|---|---|---|
| P.F. OPERATING INCOME - PECO | $447,335 | OCA ST-7A<br>TEK-3 |
| TOTAL OCA ADJUSTMENTS TO INCOME (EXCLUDING EXCESS CAPACITY ADJ.) | (1,516) | OCA ST-7A<br>TEK-3 |
| P.F. OPERATING INCOME - OCA (EXCLUDING EXCESS CAPACITY ADJ.) | 445,819 | |
| GEC PROPOSED EXCESS CAPACITY ADJUSTMENT | 61,707 | APP.1-D<br>GEC<br>BRIEF |
| GEC ADJUSTED P.F. OPERATINGINCOME PRESENT RATES | $507,526 | |

GEC ADJUSTMENTS TO PHILADELPHIA ELECTRIC COMPANY'S
LIMERICK UNIT 1 FOR EXCESS CAPACITY
($000)

| | | | |
|---|---|---|---|
| 1. | LIMERICK UNIT 1 AND 50% OF COMMON | $2,376,088 | OCA ST-7A TEK-4 |
| 2. | LESS: LIMERICK TRANSMISSION | (8,349) | PECO EX. TPH-2, C-2 |
| 3. | LIMERICK NET OF TRANSMISSION | $2,367,739 | |
| 4. | EXCESS CAPACITY | 450 MW | |
| 5. | LIMERICK UNIT 1 CAPACITY | 1055 MW | |
| 6. | WEIGHTED COST OF COMMON EQUITY | 6.11% | PECO EX JFB-3 |
| 7. | ADJUSTMENT TO INCOME (LINE 3 X (LINE 4/LINE 5) X LINE 6) | $61,707 | |

# Schedule Of GEC Testimony And Exhibits

## GEC Testimony

| | | |
|---|---|---|
| 1. GEC Statement 1-A | Direct Testimony and Exhibits of Dr. John Wilson (Performance) | 2/13/86 |
| 2. GEC Statement 1-B | Direct Testimony and Exhibits of Dr. John W. Wilson (Phase-In) | 2/26/86 |
| 3. GEC Statement 1-C | Direct Testimony and Exhibits of Dr. John W. Wilson (ECR) | 2/26/86 |
| 4. GEC Statement 1-D | Surrebuttal Testimony of Dr. John W. Wilson (Performance and Phase-In) | 3/12/86 |
| 5. GEC Statement 1-E | Surrebuttal Testimony of Dr. John W. Wilson (ECR) | 3/12/86 |

## GEC Exhibits

| | | |
|---|---|---|
| 1. GEC Exhibit 1 | IR-GEC-2-2 | 12/12/85 |
| 2. GEC Exhibit 2 | PECo Electric Statement of Operations | 12/13/85 |
| 3. GEC Exhibit 3 | IR-OCA-2-25 (Excerpts) | 12/16/85 |
| 4. GEC Exhibit 4 | DR-TPH-1-GEC | 12/20/85 |
| 5. GEC Exhibit 5 | DR-Staff-REO-1 | 1/28/86 |
| 6. GEC Exhibit 6 | IR-GEC-4-1 | 1/28/86 |

BEFORE THE

PENNSYLVANIA PUBLIC UTILITY COMMISSION

| | | |
|---|---|---|
| PENNSYLVANIA PUBLIC UTILITY COMMISSION, et al. | : | |
| v. | : | Docket No. R-850152 |
| PHILADELPHIA ELECTRIC COMPANY | : | |

# MAIN BRIEF OF
# PENNSYLVANIA FOOD MERCHANTS ASSOCIATION



Bernard A. Ryan, Jr.
Dechert Price & Rhoads
800 North Third Street
Harrisburg, PA 17102

## STATEMENT OF CASE

This is a proceeding involving a general rate increase request filed by Philadelphia Electric Company ("PECO"), the utility providing electric service in portions of eastern Pennsylvania. The Pennsylvania Food Merchants Association ("PFMA") is a trade association whose members own and operate retail supermarkets and convenience food markets throughout Pennsylvania, including the PECO territory. Service to those stores is generally provided under PECO's rate schedules GS or PD.

The proposed new tariff supplement, Supplement No. 15 to Tariff Electric - Pa. P.U.C. No. 36, was filed on September 27, 1985, to become effective November 27, 1985. The principal reason for this filing was to have PECO's investment in its Limerick Unit One nuclear generating station added to its rate base. Supplement 15 proposed increases in rates designed to produce additional net revenues of approximately $670.7 million for PECO after an offset for the estimated average annual energy cost savings from the operations of the new Limerick unit. The effective date of the proposed rates was suspended by operation of law and the Pennsylvania Public Utility Commission initiated an investigation into the lawfulness of those rates.

On December 11, 1985, PFMA filed a complaint against the Supplement 15 rates on the grounds that the new proposed rates were unreasonable, discriminatory and unlawful. PFMA's Complaint was consolidated with the Commission's investigation

for hearing. PFMA limited its participation in the hearings to matters relating to cost of service, revenue allocation and the design of rates GS and PD, and this brief will address only those issues.

During the course of the hearings a number of the parties presented witnesses to testify on the rate structure issues in the proceeding. The principal witnesses were Raymond C. Williams and William F. Sundermeir for PECO (PECO Statements 17, 17A, 24 and 24A), Bruce R. Oliver for the Office of Consumer Advocate ("OCA" Statements 8, 8A and 8B), Charles A. Larson for PFMA (PFMA Statement 1), Dr. Melvin P. Bloom and Jeffrey Pollock for the Philadelphia Area Industrial Energy User Group ("PAIEUG" Statements 2, 3 and 3A), Richard J. Rudden and Dr. Vukan R. Vuchic for SEPTA and Amtrak (SEPTA/Amtrak Statements 1, 1A, 1B and 2), George Grier and George J. Sterzinger for the Consumers Education and Protective Association et al ("CEPA" Statements 1, 1A and 2), Charles W. King and Robert L. Figley for the Pennsylvania Business Utility Users Group ("PBUUG" Statements 1, 2 and 3), Drs. Feldman and Wirtshafter for the University of Pennsylvania/Utility Users Committee ("UP/UUC" Statements 2, 2A, 3, 3A and 3B) and Dr. Michael J. Ileo for the City of Philadelphia ("City" Statement 3).[1] In addition to the prepared direct testimony and the oral testimony offered by these

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1. The Commission Trial Staff elected not to offer any testimony on the rate structure aspects of this rate filing.

witnesses at the hearing, there was extensive discovery by the parties on these issues.

The final hearing in the proceeding was held on March 17, 1986. The presiding officer established a schedule calling for initial briefs to be filed and served by April 7, 1986, with reply briefs due by April 14, 1986.

## Questions Presented

1. Are the proposed revenue allocations among the customer classes fair and reasonable and based on a cost of service study that follows generally accepted cost allocation procedures that have been applied in a consistent manner for many years with the approval of this Commission?

2. Should the design of rates GS and PD be modified to reduce the end block energy charges to reflect more accurately PECO's off-peak production costs and to extend to those rates the time-of-use adjustment that is presently available only to Rate HT customers?

## Summary of Argument

The PECO proposals for the allocation among its several customer classes of its requested revenue increase are based on the results of its 4 coincident peak ("4CP") cost allocation study for the twelve months ended June 30, 1986 that was submitted into evidence as Exhibit WFS-1. That cost of service study was properly prepared using a methodology that has been consistently applied by PECO with Commission approval in all of its base rate cases during the last decade. While it may be possible to fine tune the cost of service study to eliminate any

abnormal factors (such as unusual weather conditions in the test year) that might produce distortions in the results, PFMA accepts the PECO cost of service study as an appropriate basis for the revenue allocation proposals submitted by the Company in this filing.

The end (or tail block) energy charges proposed for rates GS and PD apply only to off-peak energy usage by customers served on those rate schedules. PECO's fixed costs should be recovered through the demand charge and the on-peak energy charges only. The tail block energy charges should, therefore, be set at levels that reflect only PECO's lower off-peak fuel costs, plus an incentive margin to PECO of more than 1 cent per KWH.

Under PECO's current tariff, a time-of-use adjustment is provided to customers served under the utility's large industrial rate schedule, Rate HT. PFMA endorses the concept of such a time-of-use adjustment in order to encourage customers to minimize energy consumption during the utility's peak demand periods. The rationale for providing such an adjustment in the HT rate schedule is equally applicable to the GS and PD rate schedules, and a comparable adjustment should now be included in the GS and PD rate schedules.

The proposals by several parties for revisions to the cost-of-service study to allocate the investment in Limerick Unit One primarily on an energy basis and to make large increases in the tail block energy charges for the two general service rates and the high tension rates should be rejected by the Commission.

Those proposals ignore the cost causation factors that compel the demand based allocation of production plant and would favor inefficient, low load factor operation by PECO's commercial and industrial customers. A base rate proceeding that involves a requested rate increase far exceeding any prior request by any Pennsylvania utility should not be compounded in its impact on the utility's customers by radical changes in the company's rate structure, particularly to adopt alternative proposals that have been repeatedly submitted in prior rate cases and in each case rejected by this Commission.

## ARGUMENT

### I. New Rates Based On The PECO Cost Allocation Methodology That Has Been Consistently Applied With Commission Approval In Prior Cases Will Be Just, Reasonable And Non-Discriminatory.

Section 1304 of the Public Utility Code[2] prohibits a utility from (1) granting an unreasonable preference or advantage

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2. Section 1304 of the Public Utility Code provides in pertinent part:

> 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...This section does not prohibit the establishment of reasonable zone or group systems, or classifications of rates..." 66 Pa. C. S. §1304.

in rates to any person, (2) subjecting any person to any unreasonable prejudice or disadvantage or (3) establishing an unreasonable difference in rates between classes of service. The rate structure incorporated in PECO's Supplement 15 continues the effort to eliminate the violations of those statutory proscriptions that existed under the PECO tariffs in force during the last decade or more. That historic discrimination against the GS and PD class customers will be significantly reduced, and the interclass subsidies paid for so many years by the GS and PD customers will be substantially cut, under PECO's recommendations for the allocation of its requested rate increase in this proceeding.

A. The Cost of Service Standard

The most widely acknowledged standard by which the reasonableness of a utility's rates is measured is the cost of serving the various customer classes. Bonbright, Principles of Public Utility Rates, 67 (Columbia University Press, 1961). A utility's rates are generally considered to be fair and reasonable to its various customer classes when each class is charged on the basis of the costs incurred in serving that class, including a fair rate of return which is approximately equal for all classes.

Cost-of-service based rates also promote revenue stability, conservation and engineering efficiency (cost-minimization). When the rates are cost-based and particular customers or classes of customers decrease their usage, the resulting impact on a utility's revenues is minimized

since the resulting changes in revenues mirror the changes in the levels of the utility's costs. Conversely, if rates are not cost-based, a decrease in usage by customers who are paying rates in excess of what it costs the utility to serve them will have a deleterious impact on the stability of the utility's revenues as its revenues decline faster than its costs. Similarly, an increase in usage by those customers who are paying below cost-of-service rates will adversely affect a utility's revenues since it will not recover its full costs of providing that additional service to the subsidized class.

Cost-of-service based rates also encourage conservation (i.e., the avoidance of wasteful or inefficient use) by sending customers accurate price signals, thus enabling them to make intelligent decisions about energy consumption.

Finally, cost-based rates which properly reflect demand and energy costs give utilities an incentive to construct the most economical mix of plants and encourage customers to minimize costs.

B. The PECO Cost Study.

The cost-of-service study submitted by PECO in support of its proposed revenue allocations in this case was prepared using the 4 Coincident Peak methodology where the contributions of each class to the PECO system peaks in the four summer months are the principal allocators for investment (and related expenses) in the production and transmission plant. (Exh. WFS-1, pp. 1-5; PECO Stmt. 24, p. 6). Other costs were allocated on appropriate bases to reflect the varying cost responsibilities of

the customer classes for the other categories of costs. This cost allocation methodology is precisely the same as that used by PECO in its last six or seven base rate cases, and it has been accepted by the Commission for this purpose in each of those earlier proceedings. (PECO Stmt. 24, p. 7; Tr. 1782).

For almost thirty years PECO has been considered a summer peaking company since its winter system peak is significantly lower than the summer peak. (Tr. 1790). The summer peak has occurred in each of the four summer months (June through September) and is affected by a variety of factors, such as the occurrence of hot spells and industrial and school vacation schedules; for that reason PECO chose to average the four monthly summer peaks in its cost study. (PECO Stmt. 24, p. 8). Since the utility's production plant and transmission system have to be designed to meet the maximum demands that are imposed on the system by the utility's customers, the relative contributions of the various customer classes to the system peak demand is the most reasonable and appropriate basis for allocating responsibility for those major components of the utility's rate base and related expenses among the customer classes. (Tr. 1592-93; 1782-84).

The 4CP method of cost allocation has been used consistently by PECO in its rate filings for many years. It is a widely accepted cost allocation methodology among utility regulators. NARUC Electric Utility Code Allocation Manual, 1973, pp. 31-47. And this Commission has approved its use for allocating the PECO production and transmission plants in each of

the company's recent rate cases, including those in which other PECO nuclear generating stations were being added to the company's rate base. There is no reason to deviate now from this long standing practice in favor of alternative cost allocation methodologies that were advanced and rejected in those earlier rate cases. As the PFMA expert witness, Charles A. Larson, succinctly observed in noting his acceptance of the PECO study:

> "PECO's cost allocation study by class of service that has been submitted in this case follows generally accepted cost allocation procedures, employs reliable and extensive load research data and has been prepared in a consistent manner for many years." (PFMA Stmt. 1, p. 9)

C. The Revenue Allocation Proposals and the PECO Cost Study.

The PECO proposal for the distribution of its requested rate increase among the various customer classes reflects cost-of-service considerations as well as other concerns. The objective was to spread this very large increase as equally as possible to all rate classifications while not allowing the difference between any class rate of return and the system average rate of return to increase. (PECO Stmt. 17, p. 8). The two classes whose indexed rate of return at present rates exceeded 140% of system average received no net increase (after fuel savings are taken into account), with the balance of the proposed increase then being spread among the other classes on an equal basis. The indexed return for Rate RH was held at the existing 116% of system average level when it became clear that the general approach would have driven that class farther away

from the system average rate of return. (PECO Stmt. 17, pp. 8-9).[3]

PECO's cost studies from earlier rate cases show a clear pattern of discrimination against the general service primary and secondary classes for at least the last 12 years. In the seven immediately preceding PECO base rate cases (from RID 295 to C-84259) covering test years ending in 1974 through 1984, the unitized (or indexed) rates of return on service to the primary (PD) general service class ranged from a low of 118.8% to a high of 140.3% of the system average. The unitized return for the secondary (GS) general service class during the same period was even more out of line, varying from 136.5% to 150.5% of the

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3. PECO made its allocation proposals in this case on the basis of total revenues, including fuel revenues, contrary to the zero fuel allocations that it recommended and the Commission approved in prior rate cases. As the Commission noted in its last PECO rate order:

> "Increased fuel costs are recovered in the ECR, and are not part of the base rate increase at issue in this proceeding. Fuel revenue therefore should not be considered in allocating a rate increase related solely to non-fuel costs."
> Opinion and Order, R-842590, at p. 138

Fuel cost increases were in no way responsible for the rate increase requested here. (Tr. 1894). This departure from PECO's long standing and well founded precedent was justified for this case on the grounds of avoiding widely divergent percentage increases to the customer classes. (Tr. 1904). The zero fuel approach is, as the Commission noted, the proper one in a rate case such as this, and any departure from that approach here should be strictly limited to this proceeding.

return from PECO's system as a whole. (PFMA Stmt. 1, Exh. CL-1, p. 1 of 3).

Recognizing these disparities in the relative rates of return, PECO, with the concurrence of the Commission, has attempted in its last several rate cases to move all of its rate schedules towards the system average rate of return, but with that movement tempered by concerns over the impact on the below average rate classes if the changes would be too abrupt. (Tr. 1958-59). The company's desire to moderate the movement towards truly cost based rates for reasons of gradualism produced a recommended cap on the highest allowable class rate of return of 140% in the 1984 base rate case, much to the distress of the customers (including PFMA) who have been subsidizing the other customer classes for so many years. The Commission approved the PECO proposals, rejecting the arguments of those desiring faster movement towards equal class rates of return as well as the arguments of those seeking to protect the subsidized classes by delaying even longer their movement up towards the system average rate of return. Pa. PUC et al v. Philadelphia Electric Company, R-842590, Opinion and Order entered January 15, 1985, at pp. 137-139.

The PECO study in this case shows that the goal of gradually moving all of the rate schedules closer to the system average rate of return is now being achieved. Eliminating Rate OP (which accounts for only 1% of PECO's total operating revenues), the relative rates of returns at the PECO proposed rates only vary from 96% (Rate R) to 116% (Rates RH and GS), a

significant improvement since the 1984 rate case. The PECO proposals for the allocation of this requested rate increase are thus shown to be both reasonable and responsible, and entirely consistent with the rate structure objectives that the utility and the Commission have sought in the last several PECO rate cases.

II. The Two PFMA Rate Design Proposals Are Cost Based and Will Enhance Energy Conservation In the General Service Rate Classes.

Charles A. Larson, a utility rate consultant with more than 35 years experience as an advisor on rate structure and rate design who has testified on those subjects before numerous federal, state and Canadian utility regulatory agencies, testified as an expert witness on behalf of PFMA in this proceeding. (PFMA Stmt. 1, pp. 1-5). After stating his acceptance of the cost allocation study (Exh. WFS-1) that was submitted by PECO in this case, Mr. Larson recommended the following rate design changes involving only the GS and PD rate classes:

A. A lowering of the end block energy charges under each of those rate schedules to reflect the lower off-peak production costs; and

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

A. The GS and PD Tail Block Energy Charges.

The present and the proposed PECO tariffs incorporate a declining block structure with reduced unit energy charges as a customer's hours' use of demand increases.[4] The end block rates come into effect only when the customer's usage is beyond 400 hours use of demand for Rate GS and 300 hours use of demand for Rate PD, which means load factors in excess of 55% and 41% for those two classes. Under PECO's tariffs, on-peak usage ends at the 31% load factor level, so a customer's usage that qualifies for the tail block energy charge under Rates GS or PD is necessarily off-peak energy use. (PFMA Stmt. 1, pp. 9-10).

The same factors that favor cost-of-service as the principal criterion in measuring the reasonableness of a utility's overall rates and the allocation of a proposed rate increase among its customer classes (see Sections IA supra) apply with equal force in evaluating the reasonableness of the design of the rates for a particular customer class. In a nutshell, a proper rate design should facilitate the collection of revenues from those customers in proportion to the incurrence of costs by the utility in providing their service. And a utility's fixed (or demand related) costs should be recovered through the explicit demand charge and the on-peak energy charges only. If the off-peak energy charges also recover part of the utility's

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4. The blocking of the energy charges would be changed slightly for rate GS under the proposed Supplement 15 rates, but those changes are not at issue here.

fixed costs, the low load factor customers who use little or no off-peak energy are insulated from bearing their proper share of those fixed costs. (Tr. 3529-30).

To accomplish a cost based rate design here, Mr. Larson has recommended a conservative reduction in the level of the tail block energy charges for GS and PD customers from 5.14 cents per KWH and 3.38 cents per KWH (as proposed by PECO) to no more than 3.3 cents per KWH and 3 cents per KWH respectively. (PFMA Stmt. 1, pp. 10-11); Tr. 3526). Mr. Larson noted that the present 1.91 cents per KWH differential between the tail block energy charges in the two rate schedules would be compressed to 1.31 cents per KWH in the new PECO proposed rate design, but even that lower figure cannot be cost justified. The cost differential between serving primary and secondary customers is only 3 mills, so his proposal would set the GS tail block energy charge 3 mills higher than the PD tail block energy charge. With the marginal cost of operating the new Limerick Unit at approximately one cent per KWH and PECO's overall off-peak fuel costs at about 1.8 cents per KWH, Mr. Larson's proposals for a 3 cents per KWH tail block energy charge for PD customers and 3.3 cents per KWH for GS customers for their off-peak usage of energy reflect the utility's lower off-peak generation costs, recognize the principle of gradualism in changing rate designs and allow an incentive margin of 1.2 cents per KWH to PECO. (PFMA Stmt. 1, pp. 10-11).

B. A Time-Of-Use Adjustment For Rates GS and PD.

Rate HT in the PECO tariffs includes a time-of-use adjustment designed to encourage customers to adjust their energy usage to favor off-peak consumption. Mr. Larson proposed that such a time-of-use adjustment be extended to the two general services rate schedules as well, modified to require a minimum demand level of 150 KW in light of the lower level of demand in the GS and PD rate classes. (PFMA Stmt. 1, pp. 7, 12-13; Tr. 3536). Off-peak energy usage improves the efficiency with which the entire PECO system is utilized and should be encouraged by proper rate design for all of PECO's large volume consumers, not just those served under its high-tension power rate schedule.

Mr. Larson noted that his recommendation for this time-of-use adjustment for GS and PD customers is linked to his recommendation for more cost-reflective, lower tail block energy charges for those customers. As the tail block energy charges approach the actual off-peak production costs, there is a diminishing need for a time-of-use adjustment since the rate itself will serve as the incentive to change energy use patterns to favor off-peak consumption. But until such time as PECO's tail block energy charges for GS and PD truly reflect its lower costs of providing service in those usage ranges, the time-of-use provisions now found only in the HT rate, modified as recommended by Mr. Larson, should be extended to the two general service rates as well.

## III. The Other Rate Structure Proposals.

Witnesses for a number of the other parties in this proceeding have advanced alternative proposals concerning the rate structure and rate design aspects of the PECO rate increase request. Most, if not all, of these other proposals have been advanced in prior PECO cases by these same intervenors or others, and were properly rejected by the Commission in those earlier cases. As these alternative rate structure proposals are more fully articulated in the main briefs filed by their proponents, PFMA may be constrained to respond to the particulars of the various recommendations in a reply brief, but a few comments now on the two major alternative contentions may be in order here.

### A. An Energy Based Allocation of PECO's Investment In Limerick Unit 1.

The allocation of the investment in the new nuclear generating station, Limerick Unit One, on a demand basis in PECO's cost-of-service study was attacked by several witnesses in this proceeding. Messrs. Oliver, Sterzinger, King, Figley, and Wirtshafter each contended that the allocation of that plant should have been made either entirely or primarily on an energy basis. Oddly, their proposals were restricted to Limerick Unit One only; no change was suggested for the allocation of the investment in any of PECO's other nuclear or conventional generating facilities, even though no reasonable explanation was ever advanced as to why that particular plant should be treated differently than the company's other generating stations.

Energy based allocation proposals have been made in several of PECO's recent rate cases, and they have been rejected in each of them, most recently in the Opinion and Order entered January 25, 1985 at Docket R-842590. Production plant is added by a utility to satisfy the peak demands imposed by the customers on its system, and these fixed capacity costs simply do not vary with the energy consumption of the customers. (PECO Stmt. 24A, p.1). The PECO demand allocation approach for all of its production plant investment is more reflective of cost causation than any of the various energy based allocations that have been advanced by other witnesses in this case. Moreover, demand based allocation of production facilities is generally recognized as the most appropriate methodology throughout the industry. See, for example, NARUC Electricity Cost Allocation Manual, 1973, at p. 36; PAIEUG Stmt. 3A, pp. 2-3.

PECO, with the approval of this Commission, has consistently applied the demand-based allocation methodology to all of its production plant investment in the cost of service studies used in its rate cases. No good reason has been advanced to discard that practice here. The magnitude of this requested rate increase seems to be the only "explanation" that any of the energy allocation advocates can offer when asked just how this proceeding differs from the prior cases where the same proposals were refused by the Commission. But that rationale more logically supports the continuation, not the abandonment, of PECO's long standing cost allocation methodology. A rate case of historic proportions such as this is certainly not the time to

introduce new rate structure concepts since the result of doing so would inevitably be the exaggeration of the impact of the already massive rate changes on certain customers or customer classes. PECO's goal of spreading the increase evenly among its customers would be frustrated when some of those customers are first hit by the large increase they would expect to receive under the traditional approach and then are broadsided by drastic changes in the rules used to distribute those huge increases among the several classes of customers. These energy allocation proposals should once again be rejected and the traditional PECO approach reaffirmed in this case.

B. Benefitting Low Load Factor Operation by Distorted Rate Design

Dr. Wirtshafter for the University of Pennsylvania/Utility Users Group and Mr. Figley for the Pennsylvania Business Utility Users Group each recommended higher tail block energy charges for PECO's general service and high tension power customers. Apparently these strange recommendations from witnesses for large consumers are a consequence of their advocacy of energy based allocations for the Limerick nuclear generating station. Like those allocation proposals, these higher tail block energy charge recommendations would be a departure from cost based rates. (PAIEUG Stmt. 3A, p. 24). These proposals would thus be another "double whammy" for the high load factor customers whose operations make most efficient use of the PECO facilities to the benefit of all of the utility's customers. See PAIEUG Stmt. 3A, pp. 24-26.

Proposals of this type which would reward inefficient, low load factor operation fly in the face of sound utility rate making practices, and should be summarily rejected by the Commission here.

## CONCLUSION

For the reasons set forth in this brief, the PECO cost-of-service study should be accepted as the proper guide for evaluating the reasonableness of the utility's rate structure recommendations in this case. That study confirms the propriety of the PECO proposals that would continue the movement initiated several rate cases earlier to bring all of PECO's rate schedules more in line with its costs to serve the various customer classes, further reducing the discrimination against the customers served on the general service primary and secondary rate schedules and the high tension power rate schedule. The tail block energy charges in the GS and PD rate schedules should be reduced to bring them more in line with the utility's off-peak generation costs. Finally, the time-of-use adjustment now incorporated only in the HT rate schedule should be extended to the GS and PD rate schedules until such time as the tail block energy charges in those rates are set at PECO's cost of off-peak generation.

Respectfully submitted,

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BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

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| PENNSYLVANIA PUBLIC UTILITY COMMISSION, et al. | : | |
| v. | : | Docket No. R-850152 |
| PHILADELPHIA ELECTRIC COMPANY | : | |

CERTIFICATE OF SERVICE

I certify that, as noted below, I have today served copies of the Main Brief of Pennsylvania Food Merchants Association by Federal Express on certain parties of record and will serve other copies by Hand Delivery on Monday, April 7, 1986 on the other parties of record:

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April 4, 1986

Re: Pennsylvania Public Utility Commission, et at.,
v. Philadelphia Electric Company
Docket No. R-850152



Jerry Rich, Secretary
Pennsylvania Public Utility Commission
New Filing Section
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Dear Secretary Rich:

Enclosed for filing with the Commission please find the original and nine (9) copies of the Main Brief on behalf of the Philadelphia Area Industrial Energy Users Group (PAIEUG) in the above-captioned proceeding.

As evidenced by the attached Certificate of Service, all parties of record to this proceeding have been provided with copies in the manner indicated.

Respectfully submitted,

McNEES, WALLACE & NURICK

By David M. Kleppinger
David M. Kleppinger

DMK/jf
Enclosures
HAND DELIVERED
cc: All Parties of Record (w/encl.)

## CERTIFICATE OF SERVICE

Pennsylvania Public Utility Commission, et. al., :
v. :
Philadelphia Electric Company : Docket No. R-850152
:

I hereby certify that I have served a copy of the foregoing document on all known parties of record to this proceeding, all by first class mail (unless otherwise indicated) properly addressed as follows:

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David M. Kleppinger

Dated this 4th day of APRIL, 1986, at Harrisburg, PA

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

| | | |
|---|---|---|
| PENNSYLVANIA PUBLIC UTILITY COMMISSION, et al., | : | |
| v. | : | Docket No. R-850152 |
| PHILADELPHIA ELECTRIC COMPANY | : | |

# MAIN BRIEF
# ON BEHALF OF
# PHILADELPHIA AREA INDUSTRIAL ENERGY USERS GROUP*

* ALLIED FIBERS & PLASTICS
BOEING-VERTOL COMPANY
BP OIL, INC.
BUDD COMPANY - THE HUNTING PARK PLANT
LIQUID AIR CORPORATION
LUKENS STEEL COMPANY
NABISCO, INC.
SDC/A BURROUGHS COMPANY
SMITH KLINE BECKMAN CORPORATION
SUN REFINING AND MARKETING COMPANY
3M COMPANY
WYETH LABORATORIES





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Dated: April 4, 1986

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| PHILADELPHIA ELECTRIC COMPANY | : | |

MAIN BRIEF
ON BEHALF OF
PHILADELPHIA AREA INDUSTRIAL ENERGY USERS GROUP*

## I. INTRODUCTION

On September 27, 1985 the Philadelphia Electric Company (PECo) filed Supplement No. 15 to Tariff Electric - Pa. PUC No. 26. The proposed effective date of November 27, 1985 was suspended by operation of law until June 27, 1986 pursuant to a Commission Order entered November 1, 1985.

Supplement No. 15 represents the single largest request for base rate relief by a Pennsylvania jurisdictional utility in the history of this Commonwealth. The primary reason behind PECo's need for base rate relief at this time is the increased capital and operating costs associated with the Limerick Unit No. 1 nuclear generating station and 100% of its common plant. The introduction by PECo of the Limerick 1 station and 100% of its common plant into rate base causes an increase of $949.5 million in revenue requirement in order to accommodate the operating and maintenance expenses and carrying charges. In addition to this $949.5 million, PECo is

requesting an increase of $9.5 million for wages and benefits, $64.1 million for non-Limerick rate base plant additions, turbine lease cancellations, and cash working capital. Finally, an additional $6.8 million is requested by PECo for capitalization purposes. Therefore, the total base rate increase sought by PECo on a gross basis is $1,029.9 million -- over $1 billion! PECo Exh. No. 3, Appendix A. This represents a 43% increase to PECo's future test year base revenues of $2,379.9 million. PECo Exh. TPH-2, p. A-5, col. 6.

These figures contrast to the $670.7 million net base rate increase presented by PECo, which represents a 28.2% increase to PECo's future test year revenue levels. In order to arrive at this net increase figure, PECo made the following adjustments:

(a) $31.7 million revenue requirement reduction associated with reduced claims for return on common equity, debt, and preferred stock;

(b) $33.6 million reduced revenue requirements for non-Limerick adjustments to rate base for reserve and accumulated and deferred taxes;

(c) $75.3 million revenue requirement reduction in operating and maintenance expenses associated with the life extensions at Eddystone and Cromby and increased sales net of increased operating and maintenance expenses;

(d) $11.1 million revenue requirement reduction due to sales growth;

(e) $207.5 million fuel savings associated with the Limerick Unit 1.

PECo Exh. 3, Appendix A.

These projected fuel savings are represented by a reduction in the fuel cost component of base rates in the amount of 7.505 mills/kwh.

In an attempt to ease the burden on ratepayers of a 43% gross increase and a 28.2% net increase, PECo is proposing to "phase-in" the increase over a three year period in equal steps of 9.4%, or approximately $224 million/year. Unrecovered revenues during the first two years of the phase-in would be collected over a three year period beginning with the fourth year after the increase is granted (June, 1989). PECo Exh. 3, p. 3. The desirability of some form of phase-in is underscored by the fact that the $3.82 billion original cost estimate for Limerick 1 and 100% of common represents an increase in PECo's rate base of approximately 122% in order to reach the Company's total rate base claim of $6.96 billion in this proceeding. Id. pp. 6, 10.

PECo proposes to distribute the requested revenue increase uniformly among customer classes based upon each class's revenue contributions including fuel revenues. Adjustments to this general theory have been made for those classes with rates-of-return above 140% of the system average return at present rates, the residential heating class, and the newly created SEPTA/AMTRAK rate schedules. This proposed distribution of the increase results in 29.6% increases to Rates R, GS, PD and HT compared to 12.7% and 14.9% increases to AMTRAK/SEPTA respectively. In addition, no

increase has been applied to Rate Schedules SLP and SLS representing the street lighting rate schedules for the City of Philadelphia and the suburban communities. PECo Exh. 3, p. 18; PECo Exh. TPH-2, p. A-5.

On October 1, 1985, the Philadelphia Area Industrial Energy Users Group (PAIEUG) filed a formal Complaint against Supplement No. 15. PAIEUG, composed of twelve major industrial consumers of electricity pursuant to the rates, terms and conditions of Rate HT, participated actively throughout the hearing process and presented the testimony and exhibits of three witness: Randall J. Falkenberg of Kennedy and Associates concerning revenue requirements and phase-in methodology; Jeffry Pollock of Drazen-Brubaker & Associates, Inc. concerning distribution of the proposed increase among customer classes and the internal rate design of Rate HT; and Dr. Melvin P. Bloom, Ph.D of Drazen-Brubaker & Associates, Inc., regarding cost-of-service study methodologies. The positions taken by these witnesses on behalf of PAIEUG will be more fully explained in the argument section of this brief.

In addition to the proposals as set forth by PECo and all other parties in this proceeding, the outcome of the Commission's decision has been impacted by two previous Commission Orders. First, in Re: Limerick Nuclear Generating Station, Docket No. I-80100341, 48 PUR 4th 190 (1982), the Commission investigated the need for continued construction of the Limerick Nuclear Generating Station. The Commission concluded "that PECo management did not exercise judgment sufficient to meet our reasonable man standard in delaying construction at Limerick in 1976 and 1978. Having so found, we are requested by Staff and the OCA to quantify the cost of the

delay to ratepayers. We are of the opinion that to do so at this time is inappropriate." Id. at 202-203. In a Memorandum Opinion dated January 17, 1986, at Docket No. R-850152, Administrative Law Judge Joseph P. Matuschak granted a Trial Staff Motion in Limine which found that the Commission's prior findings at Docket No. I-80100341 regarding PECo's 1976 and 1978 construction delays were conclusive upon the parties in this proceeding. By Order entered January 21, 1986, the Commission affirmed the ruling of Administrative Law Judge Matuschak on the Motion in Limine. Therefore, in addition to the PECo proposals in this proceeding, the Commission must quantify the cost impact of the 1976 and 1978 construction delays on PECo's ratepayers and make an appropriate adjustment arising from the imprudence finding at Docket No. I-80100341.

A second additional issue injected by the Commission into this base rate proceeding concerns PECo's Energy Cost Rate (ECR) which arose as a result of the Commission's Order at Docket No. M-840375 regarding the investigation of PECo's ECR No. 8. The Commission's October 30, 1985 Order in this matter required the Company to file a modified Energy Cost Rate in which 80% of the total energy costs are subject to after-the-fact reconciliation, while 20% of the total energy costs are not subject to reconciliation. The Commission ordered the ALJ to give consideration to at least the following issues or criteria:

(1) historical performance of PECo's generating units;

(2) historical performance of comparable generating units operated by other utilities;

(3) projected performance of PECo's generating units;

(4) prudent and practical generating unit performance improvement planned or anticipated by PECo;

(5) projected energy/demand requirements of PECo and the PJM interconnection.

Docket No. M-840375, Opinion and Order, p. 163.

PECo filed supplemental direct testimony addressing the ECR issues on December 29, 1985 by witnesses Thomas P. Hill, Joseph F. Brennan, Joseph W. Gallagher and Jack J. Carroll. Portions of this testimony suggested a modification to the Commission's ECR No. 8 Order by recommending the adoption of a $35 million cap on the portion of energy costs not subject to reconciliation. In a ruling on a Commission Trial Staff Motion to Strike these portions of the testimony, ALJ Matuschak stated,

> the evidence presented by Messrs. Hill and Brennan, addressing the present and future financial condition of the Company and the impact of the proposed ECR modification on the Company's financial situation, in support of a modification of ECR No. 8 by adopting a $35 million cap on any disallowance of energy costs is not relevant in this proceeding.

Ruling on Motion filed on January 23, 1986 by Commission Trial Staff to Strike Testimony of Philadelphia Electric Company, March 10, 1986.

While this ruling removed a portion of the controversy surrounding the imposition of the ECR No. 8 Order on this proceeding, the remaining issues outlined above remain an extremely important component of the future Energy Cost Rate for PECo.

No party to this proceeding can deny the magnitude and complexity of the issues involved nor the impact of the proposed base rate increase on all of PECo's ratepayers. Given this backdrop, PAIEUG has made revenue requirement and rate structure/rate design proposals which would ease the burden of this substantial base rate increase on each of PECo's customer classes. PAIEUG does not believe the Commission can proceed with a "business as usual" approach to PECo's base rate request and must closely examine alternative base rate treatment of the Limerick Unit 1 facility as proposed by PAIEUG. These positions are fully set forth in the argument section of this brief.

## II. SUMMARY OF ARGUMENT

PAIEUG has approached this proceeding with the view of easing the burden placed on PECo ratepayers by a $3.8 billion addition to PECo's rate base and a proposed net base rate increase of $671 million. At the same time, PAIEUG recognizes the need for PECo to receive some base rate relief in this proceeding. Therefore, the PAIEUG proposals regarding revenue requirements and rate structure/rate design are fully consistent with Commission precedent and represent a rationale and reasonable approach to mitigating the adverse effect of any increase to PECo's base rates -- let alone an increase approaching 30%. PAIEUG is recommending a $404 million increase to PECo's base rates compared to PECo's request for $671 million. This increase may be further 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. The $404 million recommended increase will be phased in over three years of equal $135 million/year installments. The unrecovered revenues experienced in the first two years of the three year phase-in would be collected in years four through six for a total phase-in period of six years.

PAIEUG arrived at the $404 million base rate increase recommendation by making three simple adjustments previously held by this Commission to represent reasonable and rationale ratemaking principles. First, PAIEUG recommends the exclusion of 50% of the common plant associated with the Limerick Nuclear Generating Station from PECO's rate base. Second, PAIEUG

recommends the elimination of a built-in attrition adjustment into PECo's proposed phase-in by establishing a total six year average revenue requirement for the six year period of the proposed phase-in. Finally, PAIEUG recommends the use of a sinking fund depreciation methodology for Limerick Unit 1 similar to that approved by this Commission for Pennsylvania Power & Light Company's Susquehanna Nuclear Generating Station. Should the Commission decide to make any further revenue requirement adjustments, PAIEUG recommends that such reductions be removed proportionately in each of the years of the phase-in as opposed to PECo's suggestion that such adjustments be taken from the last two years of the phase-in.

Regarding the proposed distribution of any base rate increase among customer classes, PAIEUG recommends that the Commission maintain the position it has upheld in the previous three base rate cases for Philadelphia Electric Company by allocating the increase on an equal percentage basis to all customer classes excluding fuel revenues. Such distribution not only complies with precedent but is consistent with the principle of applying the base rate increases to the factors which gave rise to PECo's need for base rate relief at this time -- the addition of a $3.8 billion generating station. Furthermore, the PAIEUG distribution of the proposed increase will eliminate any complications resulting from the application of an 80%/20% ECR or the stated level of fuel costs included in base rates.

PAIEUG is also recommending the retention of a 4CP cost-of-service study allocation methodology consistent with Commission approvals of PECo's methodology for at least the last ten years. Due to the abnormal nature of

the weather during the historic test year, PAIEUG has recommended further modifications to the 4CP cost study in an attempt to make that cost study more representative of more normal weather conditions. The results of the PAIEUG modified and corrected cost-of-service study support the proposed distribution of the increase as recommended by PAIEUG above.

The PAIEUG recommended Rate HT rate design is also consistent with the results of the cost-of-service study and is designed to enhance the revenue stability of PECo. This revenue stability is enhanced by the collection of fixed demand-related costs in the demand charge component and the early energy blocks of the HT rate design. The PECo proposal for the HT rate design is inconsistent with its own cost-of-service study methodology and, if adopted by the Commission, would necessitate the adoption of a non-coincident peak cost-of-service study methodology at least for the rate schedules designed by PECo through the use of a Bary curve analysis.

Additional Rate HT modifications are necessary to the high voltage discount and the HT curtailment rider. In order to better reflect the cost differential for providing service at higher delivery voltages, PAIEUG recommends a credit of 1% of the base capacity and energy charges in addition to the existing high voltage discount which only recognizes PECo's avoided transformation costs. PECo has not proposed increases to the HT curtailment rider credit for several years, and PAIEUG recommends an increase in that credit to at least $3.40/KW in order to retain the existing rate differential between firm and curtailable service. Without these modifications to the high voltage discount and the HT curtailment rider, the

incentives available to PECo's large industrial customers to take service at high voltage levels and to make load available for curtailment will be significantly lessened in contravention to the trends among neighboring electric utilities.

The full justification for each of these recommendations is discussed below. Each recommendation is made with the intent of suggesting a fair and rational approach to an extremely complex problem and yet, each recommendation is fully supportable by sound ratemaking principles established by this Commission in numerous prior proceedings.

## III. REVENUE REQUIREMENT/PHASE-IN ARGUMENT

### A. THE COMMISSION MUST PERMIT ONLY 50% OF LIMERICK UNIT 1 COMMON PLANT INTO RATE BASE AT THE TIME LIMERICK UNIT 1 ITSELF IS ENTERED INTO THE RATE BASE.

PECo is requesting a $3.8 billion addition to its rate base composed of Limerick Unit 1 and 100% of common plant. PECo's current non-Limerick rate base represents an investment of approximately $3.3 billion. Therefore, in this one base rate proceeding, PECo is more than doubling its rate base investment. Sound regulatory ratemaking principles must be utilized by this Commission in an attempt to ease the burden placed on PECo's ratepayers by this substantial plant addition. One such sound ratemaking principle is the PAIEUG recommendation that the Commission allow only 50% of Limerick common plant into rate base at this time. PAIEUG Stmt. No. 1, p. 13.

#### 1. The Commission Has Consistently Included Only 50% Of Common Plant In Rate Base When The First Unit Of A Twin Unit Generating Station Is Added To The Utility's Rate Base.

Substantial precedent exists in this jurisdiction for the inclusion of only 50% of common plant in a utility's rate base when that utility is adding the first of a twin unit generating station to its rate base. The Commission has adopted this policy when the capital costs of the first unit plus common costs were substantially lower than the $3.8 billion being requested by PECo in this proceeding. Therefore, given the magnitude of the rate base claim in this case, the Commission has even more justification for the inclusion of only 50% of common plant than in its precedents.

Disallowing 50% of Limerick's common plant would be completely consistent with the treatment provided by the Commission for the common plant at PECo's Peach Bottom Nuclear Generating Station. At RID 129, the Commission specifically disallowed one-half of the approximately $100 million of original costs common plant for Peach Bottom Units No. 2 and 3. Pennsylvania Public Utility Commission et al. v. Philadelphia Electric Company, Order entered March 25, 1975, RID 129, pp. 21-23. After the Commission firmly established its policy in the Peach Bottom Unit 2 proceeding of including only 50% of a twin unit's common plant in rate base when the first generating unit became operational, PECo itself proposed to include only 50% of the Salem Nuclear Generating Station common plant when Salem Unit No. 1 was added to PECo's rate base. Pennsylvania Public Utility Commission et al. v. Philadelphia Electric Company, 52 Pa. PUC 772, 782 (1978). The Commission ultimately approved PECo's claim for 50% of the Salem Nuclear Generating Station common plant. Unfortunately for PECo ratepayers, the Company has now changed its philosophy of requesting rate base treatment for only 50% of common plan at a time when the Company is also seeking the largest base rate increase request in Commission history.

The Commission should recognize that PECo has not been singled out as the only electric utility in the Commonwealth for which 50% of common plant is included in rate base. The Commission has consistently applied this principle to all other electric utilities adding substantial twin unit generating stations. When Metropolitan Edison Company added Three Mile Island Unit I to its rate base, the Commission followed the precedent set for

Philadelphia Electric Company at RID 129 and excluded for ratemaking purposes one-half of the total cost of common facilities associated with the TMI-I generating station. Pennsylvania Public Utility Commission, et al. v. Metropolitan Edison Company, 50 Pa. PUC 82, 100 (1976).

The PECo precedent established at RID 129 was again quoted by the Commission when Duquesne Light Company added the first of the Beaver Valley Nuclear Generating Stations to its rate base. Once again, the Commission disallowed one-half of the common facilities associated with the ownership share for Beaver Valley Unit 1 by Duquesne Light Company. Pennsylvania Public Utility Commission, et al. v. Duquesne Light Company, Ordered entered February 5, 1979 Docket No. RID 373, p. 8. The Commission upheld this Decision in a subsequent Duquesne Light Company base rate case at Docket No. R-80011069 when the Commission stated:

> The Commission policy, expressed in many prior cases, as well as in the Commission Order in the prior Duquesne proceeding at RID 373, is to spread these costs proportionally among generations of ratepayers. This policy indicates in this proceeding that one-half of the Beaver Valley common facilities ... would be permitted in rate base.

Pennsylvania Public Utility Commission, et al. v. Duquesne Light Company, 43 PUR 4th 27, 47 (1981).

The Commission should recognize that in each of the above cited cases wherein 50% of the common plant associated with a twin unit generating station was disallowed, the initial capital costs for those facilities was substantially less than the $3.8 billion cost of Limerick Unit 1. Sound regulatory ratemaking policy dictates the application of these substantial

precedents to PECo in that Limerick Unit 1 represents the most costly generating station ever constructed in the Commonwealth of Pennsylvania. Any divergence from Commission precedent on this common plant issue would serve a gross injustice on PECo ratepayers at a time when the Commission must utilize all avenues available to minimize the impact of a proposed 28.2% net base rate increase.

2. PECo Itself Has Implied That It Would Only Include 50% Of Common Plant When Limerick Unit 1 Was Added To Rate Base.

In the Commission's recently concluded investigation of Limerick Unit II at Docket No. I-840381, PECo presented numerous economic studies which assumed that 100% of the common plant at the nuclear generating station would be included with Limerick Unit 1 only if Limerick Unit II were cancelled. In the economic studies which assumed the completion of Limerick Unit II, the PECo analysts assumed that common plant would be split equally between the two units. PAIEUG Stmt. No. 1, p. 14. Since PECo filed this base rate request on September 27, 1985, the Commission has issued a final Decision at Docket No. I-840381 which provided PECo with the opportunity to complete Limerick Unit II if it accepted Commission-imposed terms and conditions for that completion. PECo has specifically responded to the Commission's Order by indicating that it will abide by the Commission's terms and conditions and proceed with the completion of Limerick Unit II.

These circumstances require the Commission to exclude 50% of the common plant claim by PECo in this proceeding. Despite the fact that the

PAIEUG position in the Limerick Unit II Investigation was that the completion of Unit II was not the most economical supply alternative available to PECo, PAIEUG now recognizes that both the Commission and PECo wish to proceed with the construction of Unit II. Under the assumption that Unit II will eventually be completed, there remains no justification for the inclusion of 100% of the common plant with the Unit 1 rate base addition. Permitting PECo to include 100% of common plant in Limerick Unit 1 rate base would provide PECo with an unnecessary financial reward at current ratepayers' expense in order to pursue a course of action regarding the completion of Limerick II which PAIEUG and the Administrative Law Judge at Docket No. I-840381 found to be an uneconomical supply alternative. Rather than provide PECo with additional encouragement to complete Unit II, a denial of one-half of the Limerick common plant from rate base at this time should provide some encouragement to PECo to pursue a prudent and economically sensible capacity planning strategy.

3. Exclusion Of 50% Of The Common Plant Associated With Limerick Unit 1 Is Consistent With The Commission's Established Goal Of Spreading Costs Proportionately Among Generations Of Ratepayers.

In Pennsylvania Public Utility Commission v. Duquesne Light Company, the Commission specifically stated as a policy goal its desire to spread common plant costs proportionately among generations of ratepayers. 43 PUR 4th at 47. Unless 50% of common plant costs are excluded from rate base in this proceeding, current ratepayers are forced to essentially invest in the 50% of common plant which should be applied to Limerick Unit II. PAIEUG

witness Randall J. Falkenberg testified that when the allowance for funds used during construction (AFUDC Rate) equals the discount rate, the present value of revenue requirements to consumers is equal in the situation where 100% of common plant is included in rate base versus a situation where AFUDC continues to accumulate on the remaining half of Limerick common plant.

However, PECo ratepayers, and particularly PAIEUG members, experience discount rates substantially in excess of PECo's AFUDC rate and discount rate of 9.7%. Therefore, when provided with an investment decision, PAIEUG members would not rationally accept the opportunity to invest in 50% of common plant at an AFUDC rate of 9.7%. PAIEUG Stmt. No. 1, pp. 13-14. Given the fact that the investment in Limerick common plant does not represent an attractive investment for PECo's ratepayers, the Commission should not force this investment upon the unwilling ratepayers who can earn a better return by engaging in several other investment opportunities.

B. THE COMMISSION MUST CORRECT THE FUNDAMENTAL DEFECT TO THE PECo PHASE-IN PROPOSAL WHICH INCLUDES A BUILT IN ATTRITION ADJUSTMENT.

Pursuant to the proposed provisions of the PECo phase-in plan, PECo is establishing a revenue requirement for the future test year but is proposing to collect those revenue requirements over a six-year period. The collection of these future test year revenue requirements over the next six years ignores the fact that certain known and measurable changes will occur in PECo's cost-of-service during this time period. The driving force behind these known and measurable changes will be the reduction in PECo's rate base

attributable to depreciation and deferred income taxes related to Limerick Unit 1. PAIEUG Stmt. No. 1, p. 7. By failing to account for this decline in rate base, the PECo phase-in plan will overcollect revenue requirements related to Limerick Unit 1. Id. Given this potential, the PECo phase-in proposal effectively operates as a hedge against inflation.

The PAIEUG correction to the PECo phase-in plan will prevent PECo from including this indirect attrition allowance as well as assure PECo's ratepayers that the revenue stream associated with the Limerick Unit 1 station will more closely track the costs being experienced by PECo during the six years of the phase-in plan. Support for the PAIEUG correction to the PECo phase-in is set forth below.

1. The Commission Has Consistently Rejected Attempts By Utilities To Include Attrition Adjustments In Their Revenue Requirement Calculations.

In Pennsylvania Public Utility Commission v. Philadelphia Electric Company, 56 PUR 4th 637 (1983), PECo proposed a specific attrition adjustment in the amount of $19.1 million to reflect rate base, revenue, expense and return conditions during the first full year the proposed rates would have been in effect. The Commission flatly rejected this proposed attrition adjustment and adopted the rationale and recommended disposition of the issue as set forth in then Administrative Law Judge William R. Shane's Recommended Decision. Id. at 642. ALJ Shane rejected the Company's "omnibus" attrition adjustment "because it is neither known or definite nor

reasonably ascertainable and thus has not been provided as a prerequisite to just and reasonable rates." Id.

PAIEUG agrees with ALJ Shane's reasoning in that future changes in such costs as operating and maintenance expenses, interest rates, and PECo's cost of money are not known and measurable at this time and should not be included in a utility's revenue requirement. However, PECo's proposed phase-in plan creates the potential for an overcollection of Limerick revenue requirements given the known fact that the carrying costs associated with Limerick 1 related to depreciation and deferred income taxes will definitely be declining during the six year period of the phase-in and can be mechanically computed. Therefore, because Limerick Unit 1 represents such a dramatic increase in PECo's rate base and has such a dramatic impact upon all PECo ratepayers, PAIEUG believes that a specific adjustment must be made to the PECo phase-in plan to accommodate known and measurable changes which will occur concerning the carrying costs of Limerick Unit 1.

2. PAIEUG Estimates That The Company Phase-in Proposal Could Overcollect $400 Million Over The Six-Year Plan.

PAIEUG Statement No. 1, Falkenberg Exh. 1(a) provides a concise analysis of the effect of the PECo phase-in plan for the years 1986-1991. During this period, PECo would collect $4.025 billion in revenues while the total revenue requirement related to Limerick 1 during this time period is only $3.6 billion. The $400 million differential is attributable to the fact that the fixed charges associated with Limerick Unit 1 declined from

$950 million in 1986 to only $807 million in 1991. The PAIEUG proposal would correct this potential overcollection.

### 3. The Commission Should Adopt The PAIEUG Phase-in Plan Which Uses An Average Of Limerick Unit 1 Revenue Requirements Over The Six-Year Phase-in Period.

In order to eliminate the potential for overcollection, PAIEUG proposes a simple method of totalling the Limerick revenue requirement for the six-year period of 1986 through 1991. PAIEUG Stmt. No. 1, Falkenberg Exh. 2 shows that the total revenue requirement related to Limerick Unit 1 for the years 1986-1991 are $2.79 billion after 50% of common plant is eliminated. The six-year average revenue requirement of $466 million would be phased in in equal increases for the first three years of the phase-in plan and would produce a first-year increase of $155 million compared to PECo's proposal of $224 million.

The PAIEUG adjustment provides PECo with the opportunity to collect all of Limerick 1 revenue requirements over the phase-in period but eliminates the possibility of any overcollection potential as a disguised attrition allowance. PAIEUG Stmt. No. 1, p. 12. The PAIEUG plan will also provide PECo management with proper incentives to control expenses and will not provide it with an unjustified reward for building the Limerick Station. Whenever PECo fears that an insufficient return will be obtained under the PAIEUG phase-in plan, it certainly has the opportunity to request base rate relief from the Commission. Id. The PAIEUG proposal clearly represents a responsible plan for PECo to recover appropriate revenue requirement levels

and represents sound regulatory ratemaking principles in an effort to ease the extreme burden being placed on PECo's ratepayers of a $3.8 billion addition to rate base and the gross increase in excess of $1 billion. Furthermore, as stated by PAIEUG witness Falkenberg, "There is nothing inherent in my proposal which would prevent the Company from earning all the revenues it is entitled over the next six years." Tr. 3488.

C. THE COMMISSION SHOULD ADOPT THE PAIEUG PROPOSAL TO UTILIZE SINKING FUND DEPRECIATION FOR LIMERICK UNIT 1.

PECo has taken a "business as usual" attitude concerning the entry of Limerick Unit 1 into its rate base by utilizing traditional straightline depreciation techniques. PAIEUG does not believe that a "business as usual" approach can be utilized in this proceeding and encourages the Commission to pursue advanced techniques for easing the burden on PECo ratepayers in this proceeding. The traditional use of a straightline depreciation will make the carrying costs of Limerick Unit 1 highest during its early years of operation when capital costs grossly outweigh any potential benefit of forecasted fuel savings. PAIEUG Stmt. 1, p. 17. This fact is obvious in that the gross base rate revenue requirement for Limerick 1 is approximately $950 million, while PECo's forecast of fuel savings in the first year is only $207 million. (A forecast which PECo has now acknowledged as unachievable).

The sinking fund depreciation technique provides the Commission with a generally accepted accounting technique for easing the burden placed on current PECo ratepayers. Similar to the PAIEUG proposal to phase in the base rate increase based on average revenue requirements over the six-year

phase-in period, the sinking fund depreciation technique will more closely match current revenue requirements with the rate levels imposed upon PECo's ratepayers. PAIEUG witness Falkenberg provided a brief explanation of sinking fund depreciation which increases the annual depreciation on an asset by a constant percentage during each year of the asset's life. The first-year depreciation expense is computed so that the asset is fully depreciated by the time the asset leaves utility service. The annual rate of increase in the depreciation expense is referred to as the sinking fund rate and represents the rate of interest which might be earned on a depreciation reserve if that reserve were invested to provide for the ultimate replacement of the asset. PAIEUG Stmt. No. 1, p. 16.

The effect of the sinking fund depreciation technique is to defer depreciation expense into the later years of an asset's life when additional cash generation will be required to begin the replacement process for the asset. Id., p. 17.

1. Sinking Fund Depreciation Has Distinct Advantages Over Straightline Depreciation.

As noted by PAIEUG witness Falkenberg, traditional straightline depreciation is essentially a sinking fund technique utilizing a zero percent sinking fund rate. In this proceeding, PAIEUG proposes to use a 6% sinking fund rate which approximates PECo's own projections of long-term rates of inflation. With the sinking fund rate matching the projected long-term rate of inflation, customers pay the same amount of depreciation expense each year in real dollars. This levelization of depreciation

expense also levelizes the carrying costs of Limerick 1 over the phase-in period and would reduce the potential for PECo overcollecting Limerick 1 requirements under its phase-in proposal.

Furthermore, the Commission's adoption of a sinking fund depreciation technique in this proceeding does not prevent it from modifying the sinking fund and converting it to straightline depreciation in later years in the event that PECo's financial requirements necessitate such a switch. Finally, sinking fund depreciation does not impact PECo's earnings and will actually increase the amount of deferred taxes from the difference between liberalized tax and book depreciation. Id., pp. 18-19.

2. The Commission Has Approved Sinking Fund Depreciation Techniques Proposed By The Pennsylvania Power & Light Company.

The concept of sinking fund depreciation is not foreign to this Commission. In the last two Pennsylvania Power & Light Company base rate proceedings which addressed the addition to rate base of Susquehanna Unit Nos. 1 and 2, the Commission approved modified sinking fund depreciation techniques as proposed by PP&L. Under the PP&L proposal, depreciation expense for Susquehanna Unit 1 was reduced from $42.6 million to $14.8 million in the future test year as a result of utilizing sinking fund depreciation for ten years and then converting to straightline depreciation for the remainder of the Susquehanna Unit No. 1 life-cycle. The Commission approved a Trial Staff modification to the PP&L proposal which resulted in even lower capital costs to PP&L ratepayers in the future test year.

Pennsylvania Public Utility Commission v. Pennsylvania Power & Light Company, 55 PUR 4th 185, 229-230 (1983).

The Commission reiterated its approval of the PP&L modified sinking fund methodology in the Susquehanna Unit 2 proceeding at Pennsylvania Public Utility Commission v. Pennsylvania Power & Light Company, 67 PUR 4th 30, 48 (1985). Therein the Commission noted that use of a sinking fund methodology for seventeen years and subsequent conversion to straightline depreciation for the remaining life of the Susquehanna station better matched the trend in net economic benefits over the plant's life cycle compared to a traditional straightline depreciation for the entire life of the plant.

The Commission's concerns regarding the matching of net economic benefits for the Susquehanna Stations should also apply to the life-cycle net economic benefit analysis performed on Limerick Unit 1. The PAIEUG life-cycle analysis which is discussed more fully below clearly justifies a depreciation technique which will not unduly burden current ratepayers. Consistency requires the Commission to adopt the PAIEUG depreciation proposal which is consistent with the theory and justification utilized by the Commission in approving the modified sinking fund depreciation technique in the above-captioned PP&L base rate proceedings. The adoption of a sinking fund technique for Limerick 1 represents another rationale regulatory ratemaking principle which can ease the burden on current PECo ratepayers while assuring PECo of sufficient revenue streams.

D. THE COMMISSION SHOULD REQUIRE PECo TO GUARANTEE EITHER THE 65% PROJECTED CAPACITY FACTOR FOR LIMERICK UNIT 1 OR THE $207 MILLION FUEL SAVINGS PROJECTION FOR LIMERICK UNIT 1 IN THE TEST YEAR.

At Docket No. R-842590, the Commission required PECo to guarantee the projected fuel savings in the future test year for Salem Unit II which was being added to PECo's rate base for the first time. Pennsylvania Public Utility Commission, et al. v. Philadelphia Electric Company, 58 Pa.PUC 743, 778 (1985). In this proceeding, PECo has presented to the public a base rate increase request of $671 million which is net of $207 million in projected fuel savings. Unless these $207 million of projected fuel savings are actually achieved or guaranteed by PECo, PECo ratepayers will ultimately experience a rate increase in excess of $671 million. While the additional increase above $671 million will not occur until a subsequent Energy Cost Rate filing due to the fact that PECo has adjusted the fuel component of base rates to accommodate the $207 million fuel savings, PECo's ratepayers will ultimately pay the freight on any portion of the $207 million fuel savings which does not materialize.

A critical assumption to the projected fuel savings is the 65% capacity factor projected for the first year of Limerick 1's operations. Regardless of fossil fuel prices, PECo should be committed by the Commission to guarantee the 65% capacity factor level for Limerick 1. PAIEUG recognizes that PECo cannot control the rapid decline in world oil prices, but PECo can exert considerable managerial and operational control over the Limerick Station's generation in order to achieve a 65% capacity factor.

Recognizing the fact that even PECo has conceded that the $207 million projected fuel savings are pure fiction in light of the recent precipitous decline in residual fuel oil prices, PAIEUG believes that the better approach for the Commission in this proceeding is to require a 65% capacity factor guarantee for Limerick Unit 1. As an alternative, the Commission could require a guarantee of the $207 million fuel savings, but given the fact that this projection is now totally unrealistic, the concern raised by PAIEUG witness Falkenberg regarding the possibility of a rapid increase in oil prices enabling PECo to achieve $207 million in fuel savings with a capacity factor less than 65% is unlikely to materialize. PAIEUG Stmt. No. 1, p. 21.

Therefore, the more reasonable and rationale regulatory ratemaking principle to apply to Limerick Unit 1 is a requirement that PECo live up to its 65% capacity factor projection. The Commission should recognize, however, that PECo ratepayers still believe a $671 million base rate increase will result from this proceeding. Unfortunately, few of these ratepayers will realize that when the $207 million fuel savings are not achieved, PECo will be forced to request a substantial increase in its Energy Cost Rate in early 1987. This Energy Cost Rate increase will be necessitated even if Limerick achieves its 65% capacity factor projection because even that capacity factor level will not produce the $207 million projected fuel savings. Some ratepayer protection is required, and PAIEUG believes that a guarantee of the 65% capacity factor is the most reasonable approach at this point in time given the recent developments in the world oil price markets.

E. PECo RATEPAYERS SHOULD NOT BE HELD RESPONSIBLE FOR THE ADDITIONAL COSTS INCURRED BY PECo AS A RESULT OF THE 1976 AND 1978 CONSTRUCTION DELAYS AT LIMERICK UNIT 1.

As noted in the introduction to this Brief, the Commission's conclusions that the 1976 and 1978 construction delays ordered by PECo at Limerick Unit 1 did not exhibit an exercise of judgment sufficient to meet the Commission's reasonable man standard have complicated the issues in this proceeding. While PAIEUG did not attempt to quantify the cost impact of these delays, PAIEUG firmly believes that any positive cost resulting from these delays should not be borne by PECo ratepayers in light of the Commission's previous finding of imprudence. Re: Limerick Nuclear Generating Station, 48 PUR 4th 190, 202-203 (1982).

Commission Trial Staff and the Office of Consumer Advocate embarked on the difficult task of quantifying the costs of the 1976 and 1978 construction delays. PECo has attempted to rebut these quantifications with counter-calculations producing net benefits to PECo ratepayers as a result of the construction delays.

Given the $3.8 billion final cost of Limerick Unit 1, PAIEUG, as an interested observer of these construction delay cost quantifications, cannot be convinced that PECo ratepayers suffered absolutely no additional cost as a result of the construction delays. Furthermore, as a participant in the Limerick 1 Investigation at Docket No. 80100341, and recognizing the expansive scope of the Commission's investigation at that Docket, PAIEUG does not believe that the Commission intended that its finding of imprudence would result in no financial penalty to PECo and that PECo ratepayers would bear

the responsibility of any costs resulting from those imprudent delays. Recognizing that Trial Staff and the OCA will argue extensively concerning their quantifications of the construction cost delays, PAIEUG will not summarize or argue their testimony herein. However, PAIEUG urges the Commission to apply rational regulatory ratemaking principles which would lead to the conclusion that its previous finding of imprudence requires a revenue requirement adjustment at this time in order to protect PECo ratepayers from the costs of those delays.

F. COMMISSION ADOPTION OF THE PAIEUG ADJUSTMENTS OUTLINED ABOVE IS FULLY SUPPORTED BY THE FACTUAL CIRCUMSTANCES SURROUNDING PECo'S DECISION TO BUILD LIMERICK I AND PENNSYLVANIA LAW REGARDING PRUDENT INVESTMENTS AND USED AND USEFUL UTILITY PROPERTY.

With the revenue requirement adjustments outlined in Section III of this Brief, PAIEUG has the underlying purpose of reducing the burden placed upon PECo's ratepayers due to the addition of Limerick Unit 1 to PECo's rate base while maintaining the financial viability of PECo itself. Based upon PAIEUG's interpretation of the prudent/used-and-useful standard and on PAIEUG's analysis concerning the reliability and economic benefits realistically achievable by Limerick 1, PAIEUG believes that a substantial reduction in the $671 million base rate increase by PECo is warranted. While PAIEUG is mindful of maintaining the financial viability of PECo, it is also acutely aware of the treatment given by this Commission to Pennsylvania Power & Light Company in both the Susquehanna Units 1 and 2 base rate cases. PAIEUG witness Falkenberg imposed the identical ratemaking

principles on PECo which the Commission applied to PP&L in the Susquehanna Unit 2 proceeding. Such application would result in a $61 million base rate increase to PECo as opposed to its $671 million claim. PAIEUG Stmt. No. 1, pp. 21-23, Falkenberg Exh. No. 4. While PAIEUG witness Falkenberg did not recommend complete adoption of the PP&L precedent in this proceeding, he did state the following:

> there are important economic implications of the PP&L Order, that go beyond regulatory philosophies or precedents. For example, businesses and industries in the PECo service territory may have competitors in PP&L's service area. Considering that PP&L's rates are already lower than PECo's, the drastic increase in PECo's rates as a result of Limerick could have substantial impact on the competitiveness of industry in the area.

Id. at 23.

PAIEUG reminds the Commission to remain cognizant of its treatment of PP&L when considering PECo's request for a base rate increase over two times the $330 million increase sought by PP&L for Susquehanna Unit 2. 67 PUR 4th 30, 33 (1985).

1. The Supreme Court Of Pennsylvania, The Commonwealth Court And The Pennsylvania Public Utility Commission Have All Required That Before A Plant Is Included In Rate Base The Investment Must Be: (1) Prudent When Made And (2) Used And Useful During The Time The Rates Are In Effect.

Several PECo witnesses imply that as long as an investment made by an electric utility in Pennsylvania is prudent when made, such investment should be included in that utility's rate base upon the utility's request. While this concept of public utility ratemaking may be applied by Commissions in other jurisdictions, it is clearly inconsistent with the law as

established in this Commonwealth by the Supreme Court of Pennsylvania, the Commonwealth Court, and this Commission. This Commission cannot permit PECo to meet only the "prudent" portion of a two-part test which also requires that the property invested in will be used and useful during the time the rates will be in effect. Barasch v. Pennsylvania Public Utility Commission, 490 A.2d 806 (1985); Greene v. Pennsylvania Public Utility Commission, 81 Pa. Commw. 55, 473 A.2d 209 (1984); Pennsylvania Public Utility Commission v. Philadelphia Electric Company, R-79060865, 37 PUR 4th 381 (1980); Pennsylvania Public Utility Commission v. Pennsylvania Power Company, R-77110521, 27 PUR 4th 426 (1978). The Commission has already addressed the issue of prudence concerning the 1976 and 1978 construction delays and this proceeding will only quantify the portion of those costs which PECo ratepayers should not be required to bear. However, this proceeding represents the first opportunity for the Commission to address the "used and useful" nature of the Limerick 1 investment.

Before the used-and-useful standard can be met by an investment of the magnitude of Limerick Unit 1, PAIEUG believes that sound ratemaking principles would require that such a substantial investment be proven to be needed for system reliability (i.e., not constitute excess capacity) and provide a net economic benefit to the utility's ratepayers over the life of the plant. Unless an investment meets these two criteria of the used-and-useful standard, ratepayers should not be forced to bear the entire risk of the investment once it begins providing electric service.

PAIEUG's analysis of the capacity available on the PECo system has concluded that PECo does not begin to need the capacity of Limerick Unit 1 until 1989. PAIEUG Stmt. No. 1, p. 25. Therefore, at least between 1986 and 1989, PECo ratepayers should not be forced to bear full responsibility for all costs associated with Limerick Unit 1. The mere fact that PECo is proposing to retire some 1,585 MW of capacity over the next nine years should not justify an argument in 1986 that Limerick Unit 1 currently represents a needed capacity addition to the PECo system. Absent the retirement of some 962 MW of capacity in 1985 and 1986, PECo would possess a reserve capacity of approximately 43%. Id., p. 24; Falkenberg Exh. No. 5. Clearly, Limerick Unit 1 does not meet the first prong of the used-and-useful test which requires that the investment be needed for current capacity and reliability reasons.

The second prong of the used-and-useful test requires that the investment provide net economic benefits to the ratepayers over its service life. PECo witnesses have testified to lifetime net benefits ranging from $2.0 to $2.8 billion for PECo's customers. However, by changing only one variable in the PECo lifecycle cost benefit analysis, PAIEUG has determined that Limerick Unit 1 will produce a penalty of $600 million in the next forty years. PAIEUG Stmt. No. 1, Falkenberg Exh. 8(b). The one assumption changed by PAIEUG at Falkenberg Exh. 8(b) was to increase PECo's use of an after-tax discount rate of 9.7% to a pretax discount rate of 14.3%. PAIEUG believes that this discount rate is much more representative of the discount rates experienced by PECo's ratepayers and also represents the discount rate

used by numerous electric utilities when performing their economic studies. See, PAIEUG Stmt. No. 1, Exh. No. 7 for an EEI Finance Committee Survey. Further, PAIEUG performed its own independent lifecycle cost-benefit analysis employing more realistic assumptions for Limerick 1 operating and maintenance expenses and carrying costs. This study produced a net cost to ratepayers over the life of Limerick 1 at $1.2 billion. PAIEUG Stmt. No. 1, pp. 31-32, Falkenberg Exh. 10.

Based on the results of the PAIEUG cost-benefit analyses, full and immediate rate base treatment for Limerick 1 would not be appropriate at this time. While PAIEUG recognizes that Limerick 1 represents a substantial investment by PECo and is currently available for commercial operation, PAIEUG does not believe that sound regulatory principles would require PECo ratepayers to begin absorbing all costs associated with Limerick 1 when PECo's investment in this plant will fail to provide any net economic benefit to PECo ratepayers over the next forty years. Such approach would completely insulate PECo from any of the risks incurred or the mistakes made during the planning and construction of Limerick Unit 1.

2. PECo Ratepayers Should Not be Forced To Bear 100% Of The Risks And 100% Of The Costs Associated With PECo's Voluntary Entry Into The Limerick Construction Program Based Upon Continually Excessive Load Forecasts And Unduly Optimistic Capital Cost Estimates.

PAIEUG performed an analysis of PECo's load forecasts for 1972 through 1985 as well as an analysis of PECo's early Limerick station cost estimates. While this analysis did not reveal that PECo's forecasts were blatantly

imprudent, it did reveal that other techniques which could have been utilized as a check on the accuracy of PECo's forecasts would have convinced PECo that it was embarking on a risky venture fraught with uncertainty. If a reasonable man using accepted techniques for forecasting electricity loads and capital costs of nuclear generating station investments would have reached conclusions significantly different from those obtained by PECo, PECo should have recognized the potential for inaccuracy in its forecasts and how that inaccuracy may have affected their construction planning process.

The PAIEUG analysis of PECo's load forecasts revealed that from 1972 to 1977 PECo's peak demand forecast significantly exceeded a forecast which would have been produced with a simple linear trend model. PAIEUG Stmt. No. 1, p. 44. This 1972-1977 time-frame was critical during the Limerick decision-making process. Any rational analyst would have questioned results being produced by PECo's forecast which indicated that peak demand would grow by 707 MW in 1973 -- a value 2.7 times greater than the growth actually experienced in the previous ten year period. Id. at 45. Similar relationships existed in the 1974-1975 forecasts despite the fact that in each year the expectation was never realized. Id. PAIEUG recognizes a certain amount of uncertainty in any load forecasting technique. However, PECo's forecasts would have been excessive even without such unforeseeable events as the oil embargoes in the 1970's. The fact that the PECo forecast consistently exceeded previous experience in peak demand growth, should have underscored to PECo management that a substantial downside risk existed regarding the

need for Limerick 1 when it ultimately became available for service. Id. pp. 47-48.

PAIEUG has also analyzed PECo's capital cost estimates for the Limerick plant through 1978. The results of this analysis indicate that PECo could have expected a cost of Limerick at 60% greater than what its own 1978 forecast predicted. Id. p. 49. This PAIEUG analysis simply examined the implications of observed trends in nuclear plant costs through 1978 by identifying and measuring the magnitude of cost increases for nuclear plants which occurred from 1968 through 1978. The PAIEUG model predicted that, based on an analysis which could have been performed in 1978, PECo could have foreseen a final installed cost of $2,454/KW at Limerick Unit 1 compared to its own prediction of $1,508/KW. Id. p. 54. Obviously, several other types of analyses could have been performed, and PAIEUG is not contending that its regression model should have been the sole determinant of PECo's capital cost estimate in 1978. However, this exercise does underscore the fact that PECo's 1978 estimate was extremely optimistic and, based on other available data in 1978, PECo should have recognized that it was embarking on an extremely risky proposition if a critical assumption was that the total completed capital cost of Limerick would only be $1,508/KW.

The purpose of the PAIEUG analyses regarding load forecasts and capital cost estimates is not to demonstrate that PECo's estimates in the 1970's were clearly imprudent. Rather, the PAIEUG analyses demonstrate that reasonable and knowledgeable utility industry management personnel in the mid-1970's would have differed with PECo regarding the accuracy of both

their load forecast and their capital cost estimate for Limerick 1. Given these valid differences in opinion as well as the resulting fact that Limerick 1 now represents a $3.8 billion investment which will never provide a net economic benefit to PECo ratepayers, PAIEUG believes that the Commission must make an adjustment to the revenue requirement claim made by PECo in this proceeding. This revenue requirement adjustment can take many forms, and Section III has discussed the conceptual recommendations of PAIEUG which are being made in order to identify some sharing of the risks involved in constructing Limerick Unit 1. These recommendations are summarized and quantified below.

## G. PAIEUG RECOMMENDS THAT THE COMMISSION ADOPT A SIX-YEAR PHASE-IN PLAN OF A $404 MILLION BASE RATE INCREASE BEGINNING WITH A $135 MILLION INCREASE IN 1986.

PAIEUG Stmt. No. 1, Falkenberg Exh. 3 summarizes the PAIEUG modified and corrected phase-in plan utilizing 50% of common plant and a sinking fund depreciation methodology. After making each of the revenue requirement adjustments outlined above, PAIEUG recommends a total net base rate increase in this proceeding of $404 million. PAIEUG has kept within the confines of PECo's six-year phase-in plan and recommends that the $404 million be phased-in with equal installments over a three-year period and the deferred revenues collected in a subsequent three year period. Any reductions in PECo's rate request below the $404 million recommended by PAIEUG should be removed proportionately from each year of the phase-in plan and not removed from the latter years of the phase-in as proposed by PECo. Id. p. 57.

Furthermore, the Commission should commit PECo to guaranteeing a 65% capacity factor at Limerick Unit 1 in order to assure ratepayers that the $671 million net base rate increase released to the public by PECo can be realistically attained.

## IV. RATE STRUCTURE/RATE DESIGN ARGUMENT

### A. PAIEUG RECOMMENDS THAT THE COMMISSION DISTRIBUTE THE PROPOSED BASE RATE INCREASE AMONG CUSTOMER CLASSES RELATIVE TO THE NON-FUEL REVENUES OF THOSE CLASSES SUCH THAT INTERCLASS REVENUE SUBSIDIES ARE MAINTAINED OR REDUCED AND SUCH THAT NO CLASS WILL HAVE AN INDEXED RATE OF RETURN IN EXCESS OF 140%.

PECo proposed a distribution of this base rate increase which results in a 29.6% increase to the major Rate Schedules -- Rates R, GS, PD and HT. The other Rate Schedules have received lesser increases such as 12.7% for AMTRAK, 14.9% for SEPTA and 0% for the street lighting classes. PECo Exh. TPH-2, p. A-5. These increases resulted because PECo basically applied a distribution methodology which applied equal percentage increases to the major rate classes including all fuel-related revenues.

The proposed distribution of the increase by PECo violates Commission precedent, and PECo's own philosophy of distributing base rate increases over the last five years. PAIEUG opposes PECo's proposed distribution of this increase and does not believe that the Commission should modify precedent in a case as significant as this.

1. PECo Has Proposed And The Commission Has Accepted The Distribution Of Base Rate Increase On An Equal Percentage Basis To All Customer Classes Excluding Fuel-Related Revenues In The Last Three Base Rate Proceedings.

At Docket No. R-842590, PECo witness Raymond C. Williams testified that the Company would follow the distribution of the rate increase as ordered by the Commission in PECo's prior two base rate cases at Docket Nos. R-822291 and R-811626. In each of those cases, the rate increase was distributed to each rate classification in proportion to the revenue from that classification after all fuel revenue was removed. PAIEUG Exh. No. 5, Testimony of Raymond C. Williams at Docket No. R-842590. The Commission ultimately approved the Company's proposed distribution of the increase among customer classes and flatly rejected proposals by other parties which would have distributed the increase among all customer classes including fuel-related revenues. Pennsylvania Public Utility Commission v. Philadelphia Electric Company, 58 Pa.PUC 743, 834-836. In fact, PECo itself opposed the OCA presentation at Docket No. R-842590 wherein the OCA witness proposed an allocation across-the-board including fuel costs. In so doing, Mr. Williams stated,

> "I believe my method of allocating the increase across-the-board without fuel costs more properly reflects the fact that increases in fuel costs have not contributed to the base rate increase requested in this proceeding."
> PAIEUG Exh. No. 6, Rebuttal Testimony of Raymond C. Williams at Docket No. R-842590.

The Commission's adoption of the PECo distribution proposal at R-842590 was consistent with the prior proceeding at R-822291. Once again, in that proceeding, Company witness Williams stated,

> "I believe it is appropriate that the base rate increase should be distributed to each rate classification proportionately to the revenue from that classification excluding all fuel but subject to a limitation which is discussed below."
> PAIEUG Exh. No. 7, Direct Testimony of Raymond C. Williams from Docket No. R-822291.

Similarly, Mr. Williams again opposed an OCA proposal to allocate the increase across-the-board including fuel costs when he stated,

> "The Company recovers fuel cost increases through the Energy Cost Rate; therefore, energy costs cannot contribute to the instant need for additional revenue. For this reason I believe it would be more appropriate to allocate the increase across-the-board excluding fuel costs, as approved by the Commission in the Company's most recent rate proceeding."
> PAIEUG Exh. No. 8, Rebuttal Testimony of Raymond C. Williams from Docket No. R-822291.

In accepting the Company's proposed distribution of the increase at R-822291, the Commission specifically stated:

> "Our desire is to be consistent with the methodology approved by us at R-811626."
> Pennsylvania Public Utility Commission v. Philadelphia Electric Company, 56 PUR 4th 637, 686, (1983).

A review of the Commission's Order at Docket No. R-811626 will reveal that the Company accepted the ALJ's Recommendation to distribute the proposed increase to each class of service proportionate to the revenues received from each class of service excluding all fuel costs. Pennsylvania Public Utility Commission v. Philadelphia Electric Company, 56 Pa.PUC 191 (1982); Order entered May 21, 1982, pp. 56-57.

Given this substantial precedent of three prior consecutive base rate proceedings in which PECo's proposed distributions of the increase among customer classes have been allocated based on class revenues excluding fuel revenues, PAIEUG recommends a continuation of these precedents in this proceeding.

2. PECo's Proposed Distribution Of The Increase Unduly Burdens Rate HT With An Increase Not Related To The Reasons For PECo's Need For Rate Relief.

PECo has conceded throughout this proceeding that the primary force behind its need for rate relief is the inclusion in rate base of Limerick Unit 1. Quite obviously, Limerick Unit 1 is not a fuel expense item which directly affects the fuel component of revenue. Tr. 1894. By applying an increase to the fuel component of base rates, the PECo proposal distorts PECo's claim that each customer class is receiving an equal percentage increase. PAIEUG Stmt. No. 3, Schedule 4, p. 1 demonstrates that Rate HT is receiving an increase to its non-fuel revenues well in excess of the average percentage increase to the other classes. When fuel-related revenues are removed from the calculation, PECo is essentially requesting a 55.4% increase in its non-fuel base rate revenues. However, Rate HT would receive a 70.6% increase under the PECo proposal. PAIEUG Stmt. No. 3, Exh. JP-1, Schedule 4. This increase contrasts with a 48.4% increase to the non-fuel revenues of the residential class.

Due to the disproportionate increase in the non-fuel component of base rate revenues for Rate HT, the PECo proposed distribution of the increase

fails to move each class closer to its appropriate cost basis. For example, the residential class which currently receives a $58 million subsidy from other customer classes at present rate levels would receive a subsidy in excess of $100 million at proposed rate levels under PECo's proposed distribution and the PAIEUG cost-of-service study. Id. at p. 15. Of the $100 million subsidy received by the residential class at proposed rate levels, Rate HT would bear the responsibility of contributing nearly $56 million of that subsidy. Id. The commercial and industrial sector in the greater Philadelphia area simply cannot afford to subsidize the residential class at these exorbitant levels. The PAIEUG proposal eliminates the distortions evident in PECo's inclusion of fuel revenues in applying an equal percentage increase to all customer classes and would also either reduce or maintain the level of interclass subsidies at present rates.

3. The PAIEUG Proposed Distribution Of The Increase Systematically Moves All Customer Classes Closer To Cost And Is More Representative Of The Causes Behind This Base Rate Increase Request By PECo.

The PAIEUG proposal is entirely consistent with Commission precedent and with the Commission's statement that:

> "increased fuel costs are recovered in the ECR and are not part of the base rate increase at issue in this proceeding. Fuel revenue therefore should not be considered in allocating a rate increase related solely to non-fuel costs." (Emphasis added). Pennsylvania Public Utility Commission, et. al. v. Philadelphia Electric Company, 58 Pa. PUC 743, 835 (1985), R-842590.

Specifically, PAIEUG recommends that this non-fuel increase be spread among

each rate schedule relative to the non-fuel revenues, under the conditions that:

(1) the interclass revenue subsidy is either maintained or reduced relative to the subsidy at present rates; and,

(2) the indexed rate-of-return does not exceed 140% of the system average return.

PAIEUG Stmt. No. 3, p. 18. Under the PAIEUG proposal, the residential class would continue to receive a $56 million interclass revenue subsidy at proposed rates and would also receive a percentage increase to its non-fuel revenues less than Rate HT. Id. p. 19. For example, PAIEUG is recommending a 59.6% increase to the Rate HT non-fuel revenue component compared to a 56.1% increase to the residential non-fuel revenue component. Id. at Exh. JP-1, Schedule 5. The Commission should note that these increases assume 100% rate relief for PECo and that the same procedure can be followed if the Commission were to award a smaller increase.

4. PAIEUG Proposed Distribution Of The Increase Excluding Fuel Revenues Simplifies The Treatment Of The Commission's ECR No. 8 Order at Docket No. M-840375.

As referenced in the introduction to this Brief, the Commission has complicated its task in this base rate proceeding by requiring PECo to file an Energy Cost Rate with 80% of fuel costs reconcilable and 20% of fuel costs non-reconcilable. Order entered October 30, 1985, Docket No. M-840375. As a base cost of fuel, PECo is proposing to include 20.823 mills/kwh in its base rates. PECo Stmt. 18b, Schedule 3, Rev. (1/28/86), Sch. E-1, Sheet 1. However, when PECo distributed the proposed base rate

increase on an equal percentage basis to each customer class including fuel revenues, each class's revenues included 28 mills/kwh of fuel revenues. Tr. 1895. As correctly stated by PECo witness Thomas P. Hill, any change in this base cost of fuel component would directly affect the allocation of the proposed revenue increase, the rate design, and the phase-in calculations. PECo Stmt. 18b, pp. 21-22. The simple reason for these complications is the fact that PECo proposed to distribute the increase to the customer classes including fuel revenues. Furthermore, the reduction to the fuel component of base rates from 28 mills/kwh to 20.8 mills combined with PECo's proposed distribution confirms Mr. Hill's statement that the base cost of fuel has changed and does directly affect the allocation.

Under the PAIEUG proposal to distribute the increase on an equal percentage basis to all customer classes excluding fuel costs, the allocation of the proposed revenue increase is independent of the amount of fuel cost collected in base rates. Therefore, any modifications by other parties or the Commission to PECo's proposed 80%/20% ECR procedure would not impact the allocation of the proposed revenue increase as it would under the Company's proposed revenue increase.

Furthermore, PECo's most recent submission concerning projected fuel costs for the period July 1, 1986 through June 30, 1987 indicates that the average cost of fuel per kwh is 15.859 mills. PECo Stmt. 22D, Schedule 3, page 2 of 4 (revised). Thus, PECo's base cost of fuel will be overcollecting its best estimate of fuel costs by 4.964 mills/kwh (20.823 mills/kwh

minus 15.859 mills/kwh). This built-in overcollection has two serious repercussions:

(1) by distributing the proposed base rate increase to customer classes including fuel revenues, PECo is applying a percentage increase to the 4.964 mills/kwh overstatement of fuel costs;

(2) pursuant to the 80%/20% ECR, 20% of the built-in overcollection will inure to the benefit of PECo shareholders because it is nonreconcilable.

These repercussions can be avoided by the Commission if it accepts the PAIEUG proposed distribution of the increase and continues the well-established precedents of the three preceding base rate increases by PECo. Secondly, the Commission can adjust the base cost of fuel in accordance with PECo's most recent projection for fuel costs for the period July 1, 1986 through June 30, 1987. In this fashion, the Commission would comply with its directives outlined in the ECR No. 8 Final Order and would remain consistent with precedents. Should the Commission retain the base cost of fuel as proposed by PECo at 20.823 mills/kwh, it would guarantee an overcollection of fuel costs for PECo and its shareholders and, furthermore, would incorrectly utilize overstated class revenues to which an equal percentage increase would be applied based on PECo's proposed distribution of the increase.

The PAIEUG recommendation on this issue provides a simple solution to a complex problem developed as a result of a conversion to an 80%/20% ECR

and PECo's apparent policy reversal regarding the appropriateness of distributing an increase to each customer class excluding fuel costs. The complexity and confusion is easily resolved by returning the base fuel component to PECo's most accurate current projection and distributing the proposed base rate increase among customer classes excluding fuel revenues.

B. THE INTERNAL RATE DESIGN FOR RATE HT SHOULD BE MODIFIED SO AS TO COLLECT FEWER DEMAND-RELATED COSTS IN THE TAIL BLOCK ENERGY CHARGE, INCREASE THE HIGH VOLTAGE DISCOUNT AND THE HT CURTAILMENT RIDER CREDIT.

PECo has proposed the following Rate HT - High Tension Power rate design:

Commodity Charge: $ 264.16
Capacity Charge : $ 9.44/kw
Energy Charge:
9.64¢/kw - first 150 hours use
6.68¢/kw - next 150 hours use
3.75¢/kw - all additional use

PECo is proposing no changes to the high voltage discounts nor the Rate HT Curtailment Rider credit. These PECo proposals do not conform with sound rate design principles in that the high voltage discounts and HT curtailment credit understate the benefits PECo and its other ratepayers receive from the ability of Rate HT customers to take service at high voltages and make that service available for interruption. Finally, the PECo proposed tail block energy charge for Rate HT at 3.75¢/kwh reflects the collection approximately 1.146¢/kwh in demand costs. PAIEUG disagrees with the concept that 30% of the tail block energy charge should be composed of demand costs.

Such costs are more properly collected in the demand charge of the rate schedule.

1. PAIEUG Proposes A Tail Block Energy Charge Of 3.18¢/kwh Based On PECo's Proposed Rate Spread.

PAIEUG witness Pollock quantified that the demand cost recovery in the HT tail block energy charge is proposed to increase by approximately 60% under the PECo proposal. PAIEUG Stmt. No. 1, Exh. JP-1, Schedule 7; Tr. 3684. The substantial increase in the tail block energy charge is inappropriate in light of the fact that the driving force behind PECo's $671 million base rate increase request is the fixed capital plant addition of Limerick Unit 1. The costs associated with such a substantial base load addition to PECo's system are more appropriately collected in the demand charges and early energy charges of any rate schedule, including Rate HT.

If the Commission is to believe the dire financial circumstances in which PECo perceives itself, then the Commission should not approve a rate design for PECo's commercial and industrial rate schedules which can only exacerbate its revenue and income instability problems. PAIEUG remains concerned with the continued viability of PECo as an electric utility, and the PAIEUG proposal for Rate HT rate design will enhance the revenue and income stability for this utility.

Under PECo's proposal, a decline in kilowatthour sales to Rate HT would reduce PECo's revenues by 3.75¢ for each kwh sale lost. However, even if sales decline, the 1.146¢/kwh demand cost component of the Rate HT tail block will continue to be incurred by PECo. Despite the continued cost

incurrence of this demand-related cost, the fact that this cost is proposed to be collected in the tail block energy charge of Rate HT prevents PECo from collecting those incurred costs. In contrast, the PAIEUG proposed Rate HT tail energy block of 3.18¢/kwh would mean that PECo would only lose 3.18¢ in revenue for each lost kwh sale. However, under the PAIEUG proposal, the demand cost component of the HT tail block would only be .714¢/kwh. Therefore, PECo's revenue stream and income stability will be enhanced by the PAIEUG proposal because the difference between the 1.146¢/kwh demand cost component of the PECo tail block and the .714¢/kwh demand cost component of the PAIEUG tail block would be recovered consistently by PECo in the demand charge of Rate HT regardless of the level of kwh sales experienced.

Under the PAIEUG proposal and assuming the PAIEUG distribution of the increase among customer classes is adopted, the Rate HT rate design will be:

| | | |
|---|---|---|
| Customer Charge: | $ 281.50 | |
| Capacity Charge: | $ 10.19 | |
| Energy Charge: | | |
| 9.44¢/kwh | first 150 hours use | |
| 6.55¢/kwh | next 150 hours use | |
| 3.18¢/kwh | all additional use | |

This proposal recognizes that the $3.8 billion capital addition of Limerick 1 is a fixed cost which the Company will experience regardless of the level of kwh sales achieved. Therefore, the bulk of the costs associated with Limerick Unit 1 are most properly collected in the capacity charge and the early energy charges of the Rate HT rate schedule. Other contrary proposals by the Pennsylvania Business Utility Users Group and the University of Pennsylvania/Utility Users Committee would only exacerbate the

revenue and income instability problem referenced above in our discussion of the PECo proposal. With tail block energy charge proposals of 5.41¢/kwh and 5.91¢/kwh respectively by PBUUG and UP/UUC, PECo would not recover demand costs of 2.81¢ and 3.31¢/kwh respectively for each lost kwh sale. PAIEUG simply does not believe that rational ratemaking policy would expose PECo to this type of revenue instability at a point in time when PECo continually argues its insecure financial position. Therefore, based on cost causative considerations as well as the revenue stability of PECo, PAIEUG strongly recommends that the Commission adopt its rate design proposal for Rate HT as outlined above.

2. The Rate HT High Voltage Discount Should Reflect The Cost Savings Experienced By PECo As A Result Of Lower Demand And Energy Losses As Well As PECo's Avoidance Of Lower-Voltage Facility Costs To Serve High Voltage HT Customers.

PECo has essentially conceded that the present and proposed high voltage discounts for Rate HT only recognize the transformation costs which PECo avoids by providing service at the higher delivery voltages. PAIEUG Stmt. No. 3, p. 25. As a matter of engineering fact, PECo incurs lower demand and energy losses in order to provide service at the higher delivery voltages, namely 66,000 and 133,000 volts. Furthermore, delivery at these higher voltages allows PECo to avoid the additional investment necessary to install lower voltage facilities. Id. pp. 24-25.

In order to reflect these cost differences, PAIEUG proposes that customers taking service at 66,000 volts and higher receive an additional

credit of 1% of the base capacity and energy charges. High voltage discounts comparable to the PAIEUG proposal are already available on the Pennsylvania Power Company and Pennsylvania Power & Light Company systems. As noted by PAIEUG witness Pollock, the discounts on these other utilities exceed the PAIEUG proposal in this proceeding, thus underscoring the conservatism of the PAIEUG approach. Recognizing that other utilities have already proposed higher discounts which the Commission has accepted, PAIEUG also recommends that the Commission require PECo to develop additional cost-of-service and rate design data on the following issues in order that the PECo high voltage discount can compare to the higher discounts already available on these other systems. These data include:

(a) coincident and non-coincident peak demands;

(b) energy sales, billing demand and demand subject to high voltage discount;

(c) the avoided transformation and other distribution costs at the higher delivery voltages; and,

(d) the differences in both demand and energy losses.

Id. p. 26.

3. The HT Curtailment Credit Should Be Increased In Order To Maintain The Relationship Between Firm And Curtailable Service.

PECo has proposed no increase to the $2.00 credit available to Rate HT customers who utilize the Rate HT curtailment rider. PAIEUG quantified the fact that under present rates, a customer utilizing the Rate HT curtailment credit experiences a 15% reduction to his effective Rate HT capacity charge.

This credit is reduced to only 9% at proposed rate levels. PAIEUG Stmt. No. 3, Exh. JP-1, Schedule 9, p. 1. On a total monthly non-fuel power cost basis, this credit is being reduced from 4.6% at present rates to 2.7% at proposed rates. Id. If the Commission seeks to develop load control devices and encourage PECo's customers to add curtailable load for system planning purposes, these credits should not be reduced at this time as proposed by PECo.

In order to retain the 15% credit to the capacity charge for curtailment rider customers, PAIEUG proposes an increase in the $2.00/KW credit to $3.40/KW assuming PECo's distribution of the increase and rate design proposals are adopted. Based on the PAIEUG allocation of the increase and rate design proposals, this credit would be $3.70/KW. The Commission should recognize that the PAIEUG proposal to maintain the level of the curtailment credit at 15% as it relates to the capacity charges of Rate HT will still only result in an overall credit for curtailable service of approximately 4.6% when analyzed on a monthly non-fuel power cost basis. Id. at Schedule 9, p. 1. This 4.6% overall credit is significantly lower than the 7% credit available to customers on the Pennsylvania Power & Light Company system who utilize a comparable interruptible service schedule. Id. at p. 28. Recognizing that PECo's general rate levels are considerably higher than those of Pennsylvania Power & Light Company, these additional curtailable credits for Rate HT customers will place PECo in a better position to compete for additional industrial load.

C. THE COMMISSION SHOULD CORRECT THE COMPANY'S 4CP COST-OF-SERVICE STUDY TO REFLECT THE ABNORMAL WEATHER CONDITIONS OF THE HISTORIC TEST YEAR AND TO PROPERLY REFLECT THE ACTUAL COINCIDENT PEAK DEMAND OF RATE HT.

For over ten years, PECo has utilized a cost-of-service study methodology which allocates production and transmission facilities on the basis of the average of each rate schedule's contribution to the monthly peak demands in the months of June, July, August and September. This method has been referred to consistently throughout this proceeding as the four summer coincident peak demand method, or 4CP. PECo has presented Exhibit WFS-1 as its fully embedded cost-of-service study for the future test year ending June 30, 1986 and has developed each rate schedule's monthly coincident peak demand contribution based upon the 1984 summer monthly peak adjusted by the ratio of 1986 projected sales to 1984 actual sales. Tr. 1610.

PAIEUG has consistently supported the utilization of the 4CP methodology due to the strong summer peaking characteristics of the PECo and the PJM systems as well as the fact that the 4CP method best reflects the fact that the decision to construct additional capacity is driven by the projected growth in peak demand. Appendix B to PAIEUG Stmt. No. 2 includes an extensive analysis of the load and supply characteristics for PECo and the PJM interconnection system. The data presented at Appendix B confirm that PECo's demands are extremely seasonal and that the maximum demands consistently occur during the summer months which is the time period when the annual system peak also occurs. PAIEUG Stmt. No. 2, p. 17. Similar

load patterns are experienced by the PJM interconnection system in that the annual system peak always occurs during the summer months. Id. pp. 17-18. Due to these predominant summer-peaking characteristics of the PECo and PJM systems and the generally higher reserve and capacity reserve margins on the PJM system during the non-summer months, PAIEUG concluded that the allocation of production and transmission demand-related costs relative to the demands of each customer class imposed during the summer peak period constitutes an appropriate cost-of-service study methodology. Id. p. 20; PAIEUG Stmt. No. 3-A, p. 2.

However, any cost-of-service study results must be analyzed for their consistency with prior studies in order to demonstrate whether unreasonable input assumptions have been utilized. PAIEUG's analysis has revealed two serious defects with the Company's 4CP method in this proceeding and recommends that the Commission adjust the Company's 4CP study as outlined below:

1. PECo's Cost-of-Service Study At WFS-1 Grossly Understates The Rate HT Rate-of-Return Due To Its Reliance On Abnormal Weather Conditions For Calculating The Average Of Each Rate Schedule's Contribution To The Four Monthly Peaks.

For ten years, Rate Schedules HT and PD have consistently provided PECo with a rate-of-return in excess of the system average rate-of-return. In contrast, the residential class and the street lighting classes have consistently provided PECo with rates-of-return below the system average rate-of-return. This relative rate-of-return position of the classes has

existed in all eight of the Company's cost-of-service studies presented to this Commission between 1975 and 1984. PAIEUG Stmt. No. 2, Exh. MBP-1. However, PECo Exh. WFS-1 produces the anomalous results of reversing this ten year trend. The HT and PD rates-of-return have dropped below the system average while the residential and street lighting classes have reached or exceeded the system average rate-of-return. Any responsible analyst must critically review the results of such a study which contradict the results experienced over the preceding ten-year period.

The PAIEUG analysis revealed that the abnormally cool weather experienced during the 1984 summer period dramatically affected the loads for the weather sensitive rate schedules -- Rates R, RH, and GS. Tr. 1710, 1712. This abnormally cool weather resulted in understating the loads for these classes and thus unduly inflation the rate-of-return resulting from the cost-of-service study.

When developing class loads for 1984, PECo utilizes the effective degree hour (EDH) for each of the 1984 summer monthly peak days in order to adjust the load research data for Rate Schedules R, RH and GS. These 1984 EDH values for the summer peak days were significantly lower than the EDH values experienced on a historic basis from 1980 to 1983 as well as the EDH values experienced in 1985. PAIEUG Stmt. No. 2, Exh. MBP-2, Sch. 1. The 1984 average EDH level of 133 is approximately 30% lower than the 1980-1983 average of 199 and the 1985 average of 187. Furthermore, PECo has indicated that its normal hot period EDH is 213. Id. p. 6; Tr. 1713. Thus, the abnormally cool weather in 1984 results in an understatement of the loads

experienced for the weather-sensitive classes at the time of the summer coincident peaks. Another effect of the abnormally cool weather in 1984 was to overstate the annual load factors for the weather-sensitive classes. PAIEUG Stmt. No. 2, Exh. MPB-2, Sch. 4 demonstrates that the average annual load factor for Rate R from 1980 to 1982 was approximately 35%, but the load factor implicit in the Company's cost-of-service study leaps to 43.8%.

In order to correct the anomalies presented by the Company's cost-of-service study, PAIEUG performed three alternative cost-of-service studies utilizing EDH values for 1980 through 1983, 1985, and a typical hot period 213 EDH. PAIEUG is making the extremely conservative proposal to utilize the 1985 monthly peak EDH -- the lowest EDH value of the three alternatives considered by PAIEUG. By utilizing the 1985 monthly peak day EDH, the load characteristics of the weather sensitive classes will be properly adjusted to reflect normal weather conditions and eliminate the aberrations evident in the results of PECo's cost-of-service study. PAIEUG Stmt. No. 2, p. 7.

2. PECo Has Overstated Rate HT's Peak Demand By At Least 32,539KW In Its Cost-of-Service Study.

When developing the A-1 demand allocation factor which PECo utilizes for the allocation of production and transmission plant, PECo included the total coincident demand of each Rate HT customer despite the fact that a portion of these demands are attributable to curtailable service rendered pursuant to the terms and conditions of the HT Curtailment Rider or the supplemental energy provision of the Night Service HT Rider. PAIEUG Stmt. No. 3, p. 4; Tr. 1696. However, in recognition of the lower quality of

service received under these curtailable provisions of the HT tariff, the corresponding price is lower than the firm service price. Combining the effect of including the curtailable load demands and the lower prices received for such service, PECo has effectively understated the rate-of-return for the Rate HT class. Id. pp. 4-5.

The best resolution of this problem is to completely remove all high-tension class coincident demands which are related to curtailable or supplemental energy service. The costs that PECo incurs in providing such curtailable service do not contribute to its need for installing peak load capacity. Therefore, these interruptible demand levels are not cost causative of PECo's system peaks. PAIEUG proposes an extremely conservative adjustment to the HT demand allocation factor. The 32,539KW adjustment represents the coincident demand associated with the supplemental energy provision for HT customer No. 3 as well as customer No. 5 which converted to energy service during the historic test year. PAIEUG Stmt. No. 2, p. 9. These adjustments are quite conservative due to the fact that PAIEUG has not removed the coincident peak demands associated with Rate HT curtailment service nor has PAIEUG adjusted the Rate HT customers' actual peak contribution for diversity. Both of these factors would further lower the A-1 allocation factor for Rate HT. Id. p. 10.

3. The PAIEUG Cost-of-Service Study Presented At PAIEUG Stmt. No. 2, Exh. MPB-3, Schedule 2 Utilizing 1985 Peak Day EDH And An Appropriate A-1 Demand Allocation Factor For Rate HT Should Be Adopted By The Commission And Utilized As A Basis For Distributing The Proposed Increase Among Customer Classes.

The results of the PAIEUG cost-of-service study making the weather adjustment for 1985 EDH and the downward adjustment to the Rate HT A-1 demand allocation factor are consistent with the results of PECo's prior cost-of-service studies performed from 1975 through 1984. The results of the PAIEUG study demonstrate that at proposed rate levels, the Rate HT rate-of-return is well in excess of the system average rate-of-return and that the rate-of-return for the residential class continues to lag behind system average. PAIEUG Stmt. No. 2, Exh. MBP-3, Schedule 4. A direct comparison of the PECo cost-of-service study to the PAIEUG recommended cost-of-service study is presented:

| Line | Customer Class | PECo Study Present Rates | PAIEUG Study Present Rates | PECo Study Proposed Rates | PAIEUG Study Proposed Rates |
|---|---|---|---|---|---|
| 1 | High Tension | 5.37% | 6.31% | 12.23% | 13.88% |
| 2 | Primary | 6.21 | 7.44 | 12.40 | 14.38 |
| 3 | Secondary | 8.07 | 8.02 | 14.70 | 14.63 |
| | RESIDENTIAL: | | | | |
| 4 | Heating | 7.39 | 5.94 | 14.69 | 12.25 |
| 5 | Regular | 6.14 | 5.18 | 12.15 | 10.62 |
| 6 | Rate OP | 21.95 | 22.31 | 30.97 | 31.47 |
| 7 | Total Res. | 6.39 | 5.38 | 12.59 | 10.95 |
| | STREET LIGHTING: | | | | |
| 8 | Rate SLP | 11.12 | 11.20 | 12.31 | 12.39 |
| 9 | Rate SLS | 13.15 | 13.18 | 13.70 | 13.74 |
| 10 | All Other | 18.95 | 19.14 | 20.51 | 20.72 |
| 11 | Total Street Ltg. | 12.58 | 12.64 | 13.44 | 13.50 |
| 12 | Other Utilities | 9.55 | 7.31 | 9.55 | 7.31 |
| 13 | Interdepartmental | 11.16 | 12.68 | 11.16 | 12.68 |
| 14 | SEPTA | 7.86 | 7.59 | 12.70 | 12.32 |
| 15 | AMTRAK | 9.23 | 9.17 | 12.70 | 12.61 |
| 16 | TOTAL COMPANY | 6.39% | 6.39% | 12.70% | 12.70% |

The class rate-of-return values presented in the PAIEUG cost-of-service study at both present rates and proposed rates are consistent with the historic rate-of-return relationship demonstrated at PAIEUG Stmt. No. 2, Exh. MPB-1. These relationships dictate that the Company's proposed distribution of this increase will increase the subsidy provided by the high tension class to nearly $56 million at proposed rate levels. PAIEUG Stmt. No. 3, Exh. JP-1, Schedule 1, p. 2. Meanwhile, the residential class will

continue to receive the subsidy which increases from approximately $58 million at present rates to over $100 million at proposed rates. Id. For these reasons, PAIEUG reiterates its recommendation to distribute the proposed rate increase customer classes in proportion to each class's revenues excluding fuel-related revenues. These recommended increases excluding the projected fuel savings, are shown on PAIEUG Stmt. No. 3, Exh. JP-1, Schedule 5. The results of this distribution will essentially maintain the subsidy levels currently received by the residential class and move that particular class's rate-of-return closer to the system average. Furthermore, the subsidy extracted from Rate HT will not be increased to the $56 million level as proposed by PECo and the Rate HT rate-of-return will reach the system average rate-of-return.

4. Unless The Commission Adopts The Rate Design For Rate HT As Proposed By PAIEUG, The 4CP Cost-of-Service Study Methodology Is No Longer Applicable Or Consistent With The Design Of Rate HT.

Based upon the text, "Operational Economics of Electric Utilities" PECo utilizes a Bary curve analysis to develop the demand and energy charges for Rate HT. The Bary curve analysis is a portion of the General Unified Theory set forth by C. W. Bary in his text on the Operational Economics of Electric Utilities. The General Unified Theory develops a consistent approach to cost allocation and rate design for an electric utility. The consistency sought by the General Unified Theory requires that the cost allocation methodology utilized for class cost allocation purposes must be consistent with the costs utilized to develop the Bary curve in the develop-

ment of rate design for commercial and industrial schedules. PAIEUG Stmt. No. 2, p. 12. In order to comply with Mr. Bary's General Unified Theory, PECo must employ a non-coincident peak cost-of-service study if it wishes to continue utilizing the Bary curve analysis for commercial/industrial rate design. Id.

Because PECo has utilized a 4CP method in combination with the Bary curve analysis, meaningless results have been produced as demonstrated by the fact that the cost/revenue curves included in Exhibit WFS-1 for Rate HT show that the revenue curve for Rate HT is always above the cost curve. See, PECo Exh. WFS-1, Section VII, pp. 47-54. These cost revenue curves imply that the HT rate-of-return is above the system average rate-of-return at all hours of use levels; however, PECo's cost-of-service study contradicts these results by showing a rate-of-return for Rate HT below the system average. These contradictory results are entirely attributable to the mismatch of a coincident peak cost-of-service allocation methodology with the Bary curve analysis which is dependent on a non-coincident peak allocation method.

Insofar as PECo's Rate HT rate design proposal is based upon the Bary curve analysis in combination with the 4CP cost-of-service study, it must be rejected. The only Rate HT rate design proposal in this proceeding which attempts to correct the mismatch between a 4CP cost study and the Bary curve is that presented by PAIEUG in Section IV-B of this Brief.

The complications of using a Bary curve analysis with a cost study other than a non-coincident peak cost study have been compounded by other

parties to this proceeding who have proposed energy-based allocations for a portion of production and transmission plant. These parties, in particular the Pennsylvania Business Utility Users Group and the University of Pennsylvania/Utility Users Committee, have both argued that they have simply utilized PECo's Bary curve methodology to produce their Rate HT rate design proposals. These proposals, previously discussed, produce tail block energy charges of 5.41¢/kwh and 5.91¢/kwh respectively. Not even PECo could support the use of a Bary curve analysis which would produce such excessive Rate HT tail block energy charges.

The PBUUG and UP/UUC proposals have the identical defect of PECo's own Rate HT rate design proposal. All three proposals attempt to super-impose a Bary curve analysis for rate design on a cost-of-service study which produces unit costs totally inconsistent with the theory underlying the Bary curve. These parties have simply performed a selective picking and choosing of cost-of-service study allocation methodologies with rate design methodologies in order to achieve a desired result which has no basis in engineering principle. Therefore, PAIEUG strongly recommends a rejection by this Commission of all Rate HT rate design proposals as being inconsistent with the cost-of-service studies utilized by those parties to reach the rate design proposal.

## V. CONCLUSION

Based on the foregoing arguments, PAIEUG makes the following specific recommendations to the Commission:

(1) That PECo receive a net base rate increase of no more $404 million based upon the PAIEUG adjustments for common plant, sinking fund depreciation and the implied attrition adjustment.

(2) That the $404 million maximum base rate increase be phased in over a six-year period comparable to the PECo proposal but in equal installments over the first three years of the plan.

(3) That a 4CP cost-of-service study methodology adjusted for 1985 EDH levels and reduced HT peak demand levels be utilized by the Commission as a basis for distributing the increases among customer classes.

(4) That the proposed base rate increase be distributed among customer classes in proportion to their base rate revenues excluding fuel revenues.

(5) That 3.18¢/kwh represents the maximum feasible Rate HT tail block charge consistent with the PAIEUG rate design proposal.

(6) That the Rate HT - High Voltage discount include an additional 1% credit for base capacity and energy charges.

(7) That the HT curtailment credit be increased to at least $3.70/KW.

(8) That the utilization of a Bary curve analysis for the development of Rate HT rate design necessitates the adoption of a non-coincident peak cost-of-service study methodology for allocation purposes as well as for distribution of the increase among customer classes.

PAIEUG firmly believes that the adoption of these proposals by the Commission will best serve the interests of both PECo and all of its ratepayers by attempting to ease the undue burden placed upon PECo ratepayers by the $3.8 billion capital addition represented by Limerick Unit 1 as well as by moving all customer class rates closer to their appropriate cost bases.

Respectfully submitted,

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Dated: April 4, 1986

# IV. APPENDIX
## A.
## LIST OF PAIEUG STATEMENTS AND EXHIBITS

**PAIEUG STATEMENTS:**

| | | |
|---|---|---|
| No. 1 | Falkenberg Direct Testimony | - February 14, 1986 |
| No. 1A | Falkenberg Surrebuttal Testmiony | - March 14, 1986 |
| No. 2 | Bloom Direct Testmiony | - February 19, 1986 |
| No. 3 | Pollock Direct Testimony | - February 19, 1986 |
| No. 3A | Pollock Rebuttal Testimony | - March 10, 1986 |

**PAIEUG EXHIBITS:**

| | | |
|---|---|---|
| No. 2 | IR-PAIEUG-1-12 | - January 6, 1986 |
| No. 3 | IR-PAIEUG-1-10 | - January 6, 1986 |
| No. 4 | Rebuttal Testimony of Sundermeir | - January 6, 1986 |
| No. 5 | Excerpt from Williams Testimony (April, 1984) | - January 7, 1986 |
| No. 6 | Excerpt from Williams Testimony (September, 1984) | - January 7, 1986 |
| No. 7 | Direct Testimony of Williams (February, 1983) | - January 7, 1986 |
| No. 8 | Rebuttal Testimony of Williams (July, 1983) | - January 7, 1986 |
| No. 9 | (IR-PAIEUG-1-50) | - January 7, 1986 |
| No. 10 | (Hypothetical) | - January 7, 1986 |
| No. 11 | (Interrogatory Response to PECo Set II, No. 14) | - February 14, 1986 |
| No. 12 | (PAIEUG *et al.*, Response to the PBUUG Transcript Request of March 10, 1986) | - March 13, 1986 |
| No. 13 | (TR-DR-PAIEUG-OCA-3/10/86 | - March 14, 1986 |

TABLE I

INCOME SUMMARY
($000)

| | Pro Forma Proposed Rates $ | Recommended Adjustments $ | Adjusted Proposed Rates $ | Revenue Adjustment $ | Total Allowable Revenues $ |
|---|---|---|---|---|---|
| ating Revenues | 2502 | 12* | 2514 | 404** | 2918 |
| ctions: | | | | | |
| l Expenses | 1441 | 0 | 1441 | 0 | 1441 |
| preciation | 265 | | 265 | (74) | 191 |
| xes: | | | | | |
| State | | | | | |
| Federal | | | | | |
| Other | 429 | 6 | 435 | 201 | 636 |
| l Deductions | 2135 | | 2141 | 127 | 2268 |
| Income Available Return | 367 | | 373 | | 650 |
| Base | 3254 | | 3254 | 2761 | 6015 |
| mmended Rate of Return | 11.27% | | 11.46% | | 10.81% |

*12 million growth adjustment

**135 million in year 1, 269 million in year 2, 404 million in year 3 and 539 million in years 4, 5 and 6.

TABLE II
SUMMARY OF ADJUSTMENTS
($000)

| commended justment | Exhibit Reference | Rate Base Effect $ | Revenue Effect $ | Expense Effect $ | Depreciation Effect $ | Effect Upon Taxes-Other $ | State Tax Effect $ | Federal Tax Effect $ |
|---|---|---|---|---|---|---|---|---|
| % mmon Plant. | Falkenberg Exhibit 2 | (622) | (148) | 0 | (17) | 0 | (74) | |
| nking Fund p. | Falkenberg Exhibit 3 | +4 | ( 84) | 0 | (61) | 0 | (42) | |
| ase-In rrection | Falkenberg Exhibit 3 | (331) | ( 35) | 0 | +4 | 0 | (17) | |
| | | (949) | (267) | 0 | (74) | 0 | (133) | |
| tal Adjustments | | | 671 | 1441 | 265 | 0 | 768 | |
| pany Rate Base | | 6964 | | | | | | |
| commended Rate Base | | 6015 | 404 | 1441 | 191 | 0 | 635 | |