R-00973953
R-00973953 C0001-C0007

OTS Statement No. 1
Dated: June 20, 1997

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PENNSYLVANIA PUBLIC UTILITY COMMISSION

v.

PECO ENERGY COMPANY

Docket No. R-973953

Direct Testimony

and

Exhibit

of

Paul J. Metro

Office of Trial Staff

Concerning:

Electric Rate Restructuring

Vol 43

Q. WOULD YOU PLEASE STATE YOUR NAME AND BUSINESS ADDRESS?

A. My name is Paul J. Metro. My business address is P.O. Box 3265, Harrisburg, Pennsylvania, 17105-3265

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am employed by the Pennsylvania Public Utility Commission in the Office of Trial Staff as a Fixed Utility Valuation Engineer.

Q. WHAT IS YOUR EDUCATIONAL AND PROFESSIONAL BACKGROUND?

A. I am a 1982 graduate of The Pennsylvania State University, University Park, Pennsylvania, where I earned a Bachelor of Science Degree in Mineral Economics. Immediately subsequent to graduation, I attended The Pennsylvania State University and met the requirements for a Bachelor of Science Degree in Industrial Engineering. I am also a graduate of The Pennsylvania State University with a Masters of Engineering Degree, majoring in Engineering Science with an emphasis on Industrial Engineering/Operations Research. I have been employed by the Pennsylvania Public Utility Commission since May of 1985. Attached to this testimony as Appendix A is a statement which more fully describes my educational background and employment experience.

Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?

A. The purpose of my testimony is to recommend adjustments to PECO Energy Company's (PECO) Rate Restructuring filing.

Q. MR. METRO, HOW IS YOUR TESTIMONY ORGANIZED?

A. I have organized my testimony into six sections. The first section addresses the OTS position on the use of PECO's market value studies. The second section addresses the OTS adjustment concerning the post-regulation decommissioning. The third section explains the OTS proposal for the sharing of stranded costs and summarizes the OTS stranded cost position. The fourth section explains the OTS position on rate unbundling. The fifth section addresses the OTS position on the recovery of the Universal Service Fund Charge. The sixth section relates the adjustments proposed by OTS witness Mr. Weakley concerning Regulatory Assets with the OTS proposed Stranded Cost calculation. The final adjustment addresses OTS witness Mr. Deardorff's cost of capital adjustment and its effects on the stranded cost calculation.

I. Market Value Studies

Company Position

Q. MR. METRO, WHAT MARKET VALUATION ANALYSIS DID PECO PROPOSE TO BE USED FOR PURPOSES OF DETERMINING ITS STRANDED COSTS?

A. PECO has developed its stranded cost claim in this proceeding on the basis of the results from PECO's witness Dr. Hieronymus' analysis of future market prices. That market value of the Company's generating facilities, as set forth in PECO Exhibit TPH-5, approximates $2.863 billion. (See PECO Statement No. 1, page 14, lines 9-20) When the $2.863 billion is subtracted from PECO's depreciated investment in generation plant of $6.688 billion, the result produces a stranded cost of generation plant of $3.825 billion. (See PECO Statement No. 1, page 15, lines 4-9)

Q. DID PECO PRESENT OTHER MARKET VALUE ANALYSIS STUDIES IN THIS FILING?

A. Yes. PECO has submitted two other market value studies. The first study is PECO Exhibit TPH-3 which was performed by PECO witness Mr. Bustard. The second study was performed by Dr. Venkateshwara and is shown in PECO Exhibit

TPH-4.

Q. WHAT WERE THE RESULTS SHOWN IN PECO EXHIBIT TPH-3, MR. BUSTARD'S STUDY?

A. Mr. Bustard's study shows a market value of generating plant facilities, as set forth in PECO Exhibit TPH-3, approximating $3.650 billion. When the $3.650 billion is subtracted from PECO's depreciated investment in generation plant of $6.688 billion, the result produces a stranded cost of generation plant of $ 3.038 billion.

Q. WHAT WERE THE RESULTS SHOWN IN PECO EXHIBIT TPH-4, DR. VENKATESHWARA'S STUDY?

A. PECO Exhibit TPH-4 shows a market value of generating plant facilities, approximating $3.488 billion. When the $3.488 billion is subtracted from PECO's depreciated investment in generation plant of $6.688 billion, the result produces a stranded cost of generation plant of $3.200 billion.

Q. WHY DID PECO ONLY UTILIZE DR. HIERONYMUS' MARKET RATE STUDY (TPH-5) TO DETERMINE THE LEVEL OF STRANDED COST ASSOCIATED WITH GENERATING PLANT?

A. PECO avers that there are two reasons for basing its stranded cost claim only on

Dr. Hieronymus' market value study. First, PECO claims that Dr. Hieronymus' $0.0346 levelized rate seems more in keeping with many of the market price projections that were presented to the Commission during the restructuring debate that culminated in the passage of the Competition Act. (See PECO Statement No. 1, page 14, lines 11-20) Second, PECO avers that the Competition Act, while striving to equitably balance the interests of customers and shareholders, tips the scales decidedly in favor of the former. PECO believes the Act favors its customers because the uncertainty regarding future market prices works to the benefit of the customers. PECO avers that if market prices turn out to be higher than PECO has estimated, customers can continue to receive service from the Company and their generation rates will be capped at what, in effect, will be below-market levels. In contrast, PECO believes that if market prices turn out to be lower than projected, customers will be free to take advantage of those lower prices, but PECO would be unable to recover the revenues which its market valuation analyses assume will be produced. (Ibid)

OTS Position

Q. MR. METRO, DO YOU AGREE WITH PECO'S PROPOSAL TO CALCULATE ITS STRANDED COST CLAIM BASED ONLY ON DR. HIERONYMUS' MARKET VALUE STUDY?

A. No. As PECO witness Hill stated in Statement No. 1, page 14, line 16, there is uncertainty regarding the future market prices. It is my opinion that this uncertainty can be minimized by including a range of market prices that are included in the three separate market value studies shown in PECO Exhibits TPH3 through TPH5. By averaging the results of the three market value studies, the Commission would be measuring the center of a range of projected market prices.

In addition, as I stated earlier, since no analyst can project the market prices accurately over a thirty year period, I believe that PECO's stranded cost claim is in error. In my opinion, PECO erred in their favor in the calculation of the stranded cost.

Q. WHAT IS YOUR RECOMMENDATION CONCERNING THE MARKET VALUE STUDIES AND THE CALCULATION OF STRANDED COST?

A. I recommend that the Commission utilize the three market value studies shown in PECO Exhibits TPH3 through TPH5 to derive an average market value of generation plants. This average would be subtracted from the net generating plant to derive the associated stranded cost. By averaging the results of the three market value studies, the Commission would identify the center of a range of projected market prices and thus minimize the expected error.

Q. MR. METRO, HOW IS THE STRANDED COST CLAIM ASSOCIATED WITH NET GENERATING PLANT AFFECTED BY AVERAGING THE RESULTS OF PECO EXHIBITS TPH-3 THROUGH TPH-5?

A. The averaging of PECO's Exhibits TPH-3 through TPH-5 reduces PECO's stranded cost claim by approximately $470,748,000. OTS Exhibit No. 1, Schedule 1, shows the calculation of this amount. However, using the OTS discount rate recommended by Mr. Deardorff, in combination with the averaging of the market value studies results in an OTS recommended reduction to PECO's stranded costs of $648,150,000.

II. Decommissioning

Q. MR. METRO, WHAT DOES YOUR TESTIMONY ADDRESS CONCERNING DECOMMISSIONING?

A. My direct testimony addresses the stranded cost effects of OTS witness Mr. Gill's decommissioning testimony. In addition, I address the Company's claim for decommissioning commencing January 1, 1999.

Company Position

Q. WHAT IS THE COMPANY'S POSITION CONCERNING POST-REGULATION DECOMMISSIONING?

A. The Company avers that the Competition Act allows for recovery of projected nuclear decommissioning costs and retirement costs attributable to fossil stations (See OTS Exhibit No. 1, Schedule 2). The Company is claiming decommissioning expense for its nuclear and fossil fuel generating plants from January 1, 1999 through the year 2029. The amount claimed is $909,724,902 (See PECO Exhibit No. ABC Schedules 4 & 5). This amount is comprised of $887,574,902 for nuclear and $22,150,902 for fossil fuel. I note that the post-regulation decommissioning amount shown in the market value studies (PECO Exhibits TPH-3 through TPH-5) are different from the amounts shown in PECO Exhibit No. ABC, Schedules 4 & 5). The difference is caused by the market studies including the proposed life extensions for various fossil plants and PECO Exhibit ABC Schedules 4 & 5 not including life extensions. OTS witness, Mr. Gill will address this problem.

OTS Position

Q. MR. METRO, DO YOU AGREE WITH THE COMPANY'S POSITION CONCERNING POST-REGULATION DECOMMISSIONING?

A. No. The Competition Act requires deregulation to begin January 1, 1999. PECO is requesting to collect from the regulated customers, through stranded cost recovery, decommissioning expenses that will commence January 1, 1999. These

decommissioning expenses are associated with generating plants that will be deregulated starting in the year 1999. The current regulated customers should not have to pay decommissioning expenses, via stranded cost, for generating plants that the customers may or may not be purchasing energy from in the future.

Q. MR. METRO, IS THE OTS POSITION ON POST-REGULATED DECOMMISSIONING EXPENSES CONTRADICTORY TO ITS POSITION CONCERNING THE ALLOWANCE OF DECOMMISSIONING EXPENSE BEFORE DEREGULATION TAKES PLACE?

A. No. It is the OTS position, that the current customers should be responsible for the decommissioning costs that are proposed by PECO for the period prior to January 1, 1999. However, OTS believes that it is unreasonable and inequitable for current ratepayers to pay for decommissioning expenses incurred in a deregulated time period. The decommissioning expenses projected after January 1, 1999 may never be incurred. There are many factors in a deregulated environment that may defer the actual decommissioning of generating plants. For example, the market price of energy may be high enough to allow the Company to repair an aging plant so that it may become economic to operate. System reliability is another example of a factor that may defer decommissioning of a generating plant. In this regard, a plant that is scheduled for decommissioning

may be kept in service and on-line for peaking purposes to maintain system reliability.

In addition, if the Commission were to allow PECO to recover decommissioning expenses after December 31, 1998, PECO would achieve a competitive advantage in the deregulated energy market. PECO will be competing with energy providers who own generating plants that may have a decommissioning liability. If PECO's current customers pay for decommissioning expenses that are incurred commencing January 1, 1999, then PECO's affiliate, which owns the generating units, will have a price advantage in the energy market place.

Q. WHAT IS THE STRANDED COST IMPACT OF REMOVING POST-REGULATED DECOMMISSIONING COSTS FROM PECO'S MARKET VALUE STUDIES?

A. OTS Exhibit No. 1, Schedule 5, shows the impact to PECO's claim stranded costs. Schedule 5, shows that removing the decommissioning expenses incurred from January 1, 1999 through the year 2029, reduces PECO's stranded cost claim by $322,377,333. I would note that this adjustment was based on the averaging of the three market studies.

III. Stranded Costs

Q. MR. METRO, WHAT ARE STRANDED COSTS?

A. On December 3, 1996, Governor Ridge signed into law the Electricity Generation Customer Choice and Competition Act (Act). The Act fundamentally restructured the provision of retail electric service in Pennsylvania by mandating the phase-in of customer choice of generation supplier commencing January 1, 1999. In enacting these changes, the Pennsylvania Legislature recognized that certain generation-related costs would not be recoverable in a competitive generation market. As a result, the Act established standards and created mechanisms providing for the recovery of "transition" and/or "stranded" costs found by the Commission to be just and reasonable. Section 2803 of the Act defines the categories of such costs that are eligible for recovery, while Section 2808(C) sets forth the principles to be followed by the Commission in reviewing stranded cost claims.

Company Position

Q. WHAT LEVEL OF STRANDED COST IS PECO CLAIMING IN THIS PROCEEDING?

A. PECO's total stranded cost claim is $6,805,404,000 as of December 31, 1998. (See

PECO Exhibit TPH-7). The portion of the stranded cost claim associated with net generating plant is $3,825,471,000. This amount was derived by (a) quantifying PECO's net electric generation related costs as estimated at December 31, 1998, and (b) deducting the market value of the Company's investment in electric generating plans and facilities, as expressed in present value terms as of that same date (See PECO Statement No. 1, page 15).

Q. WHAT IS PECO'S PROPOSED RECOVERY MECHANISM FOR COLLECTING STRANDED COST?

A. PECO is proposing a competitive transition charge (CTC)[1] that recovers all the revenue requirement associated with PECO's transition or stranded costs. To develop unit CTC prices for each rate class, PECO employed a levelized annual revenue requirement and allocated this revenue requirement to the rate classes.

[1] The act defines competitive transition charge as "a non-bypassible charge applied to the bill of every customer accessing the transmission or distribution network which (charge) is designed to recover an electric utility's transition or stranded costs as determined by the Commission under sections 2804 (relating to standards) and 2808 (relating to competitive transition charges." 66 Pa. C.S. §2803.

OTS Position

Q. MR. METRO, DO YOU AGREE WITH PECO'S PROPOSED RECOVERY MECHANISM FOR COLLECTING STRANDED COST?

A. No. PECO has proposed to recover 100% of its stranded costs through a CTC per Kwh from each customer. In my opinion, PECO should not be permitted to recover 100% of its stranded costs because PECO's stranded cost claim is not known and measurable and may result in a revenue windfall to PECO's stockholders.

Q. MR. METRO, WHY IS PECO'S STRANDED COST CLAIM NOT KNOWN AND MEASURABLE?

A. PECO's stranded cost claim is not known and measurable because PECO's calculation of the market value of its existing generating assets is based on projections of the market price rate, anticipated generation, and fixed and variable costs (i.e. fuel, O&M, capital).

Q. HOW DID PECO CALCULATE THE MARKET VALUE OF ITS EXISTING GENERATING ASSETS?

A. PECO calculated the net margin that each generating unit could contribute over

its remaining service life to estimate the value of its generation facilities in a competitive generation market commencing in 1999. The analysis started with the market price that PECO's facilities could command in a competitive market. The market price projections for each unit for each hour and each year were derived from the studies discussed by PECO witnesses Mr. Bustard, Dr. Venkateshwara and Dr. Hieronymus. Those values were then multiplied by the anticipated generation produced in each hour by each unit to develop an estimate of projected revenues per unit. The market revenues were then reduced to reflect the costs of producing the power to yield a projected after-tax income stream for each unit for each year over its remaining service life. The individual income streams were restated on a present value basis as of December 31, 1998.

PECO followed this procedure to produce three separate market value projections. However, for various reasons, PECO only selected Dr. Hieronymus' market value study for purposes of calculating its stranded cost claim for generation plant of $3.825 Billion. (See PECO Statement No. 1, page 14, lines 9-20)

Q. WHAT EQUATION RESULTS FROM THE ABOVE DISCUSSION?

A. The following equation was used by PECO to project its stranded cost for generation plant:

[Net Generating Plant & CWIP] - [Market Value of Generating Plants] = Stranded Cost for Generation Plant

where Market Value of Generating Plants =

Net Present Value of:

[Add: Market Value Revenues
Less: Est.Fuel Cost
Less: Est.O&M
Less: Est. Capital
Less: A&G
Less: Taxes
Less: Decommissioning
Less: Required Life Extension Costs]
* (1-Taxes)

Q. WHAT ESTIMATIONS WERE USED BY PECO TO CALCULATE THE MARKET VALUES OF PECO'S GENERATING UNITS?

A. PECO made several estimations to calculate the market values of its generating units. First, PECO estimated the market price that PECO's facilities could command in a competitive market. These market price estimations were projected for each unit for each hour and for each year. Second, PECO estimated the anticipated generation produced in each hour by each unit to develop an estimate of projected revenues per unit. Third, PECO estimated future costs such as fuel, O&M, capital, A&G, decommissioning, and required life extension costs.

Q. WHAT EFFECT DOES THE CALCULATION OF THE GENERATION UNITS' MARKET VALUE HAVE ON PECO'S STRANDED COST CLAIM?

A. The calculation of the generation units' market value is directly related to the stranded cost claim. If the market value model used by PECO under-estimates the market rate, then PECO's stranded costs are increased. If the market value model used by PECO over-estimates the market rate, then PECO's stranded costs are decreased.

Q. MR. METRO, THEORETICALLY, COULD THE STRANDED COSTS ASSOCIATED WITH THE GENERATION UNITS' MARKET VALUE BE ZERO?

A. Yes, theoretically the market rate projections could be high enough to show that the market value of the generation units would equal the claimed amounts of the net generating plant and CWIP so that the result would show no stranded costs.

Q. COULD THE GENERATION UNITS' MARKET VALUE BE ZERO THEREBY INDICATING THAT ALL NET GENERATING PLANT AND CWIP ARE STRANDED?

A. Yes, it is theoretically possible that the estimated market rate could be low enough to show that all net generating plant and CWIP constitute stranded costs.

Q. WHAT IS THE RANGE OF POSSIBLE LEVELS OF STRANDED COST ASSOCIATED WITH THE GENERATION UNITS IN THIS PROCEEDING?

A. Depending on the accuracy of the projected market rate, possible levels of stranded cost, associated with the generation units, could range from $0 to $6,688,384,000 (net generating plant & CWIP).

Q. MR. METRO, AS YOU STATED EARLIER, PECO'S STRANDED COST CLAIM ASSOCIATED WITH NET GENERATING PLANT IS $3,825,471,000. SINCE THAT LEVEL OF STRANDED COST WAS BASED ON PECO'S MARKET VALUE PROJECTION, IN YOUR OPINION, IS THAT NUMBER ACCURATE?

A. No. In my opinion, there is no way to be certain that, PECO's stranded cost claim, associated with net generating plant, is accurate. The claimed level of stranded cost was based on PECO's projection of market value. The market value projection was based on thirty year estimations of: (1) market rate, (2) hourly generation, and (3) fixed and variable costs. Since no analyst can project accurately over a thirty year period, it is highly likely that PECO's stranded cost claim is in error. A precise margin for error is difficult to calculate. However, the ultimate disparity ranges from $0 to $6,688,344,000. In my opinion, it is only logical that PECO would err in its favor in the calculation of the stranded cost. This is highlighted by the fact that PECO performed three separate market value

studies and chose to utilize the market study that presented the best results for the stockholders.

Q. MR. METRO, CAN YOU QUANTIFY THE VALUE OF THE ERRORS IN PECO'S STRANDED COST CLAIM ASSOCIATED WITH NET GENERATION PLANT?

A. No. The market value projection was based on thirty year estimations of: (1) market rate, (2) hourly generation, and (3) fixed and variable costs. These three categories of estimations are not known and measurable over the thirty year time period. It is highly probable that PECO's proposed stranded cost claim associated with net generating plant, exceeds the actual stranded cost claim calculated in thirty years. As I previously stated, it is only logical, that the error is more likely in favor of the Company. Given the Company's management responsibilities are to maximize profits, it is reasonable to assume that the Company would error on the side of caution.

Q. MR. METRO, WHAT ARE SOME OF THE EVENTS THAT COULD CAUSE THE MARKET VALUE PROJECTIONS TO CHANGE?

A. There could be a significantly greater dependency on natural gas which would increase the market price of natural gas. There could be a disruption of foreign

oil supplies which would increase the market price of all organic fuel.

Q. MR. METRO, WHAT IS YOUR PROPOSAL CONCERNING THE RECOVERY OF STRANDED COST?

A. I recommend that the Commission order a sharing of stranded costs. I recommend that the stranded costs associated with net generating plant & CWIP be shared 70 % / 30 % (ratepayer/stockholder).

Q. WHAT IS THE BASIS FOR YOUR STRANDED COST SHARING PROPOSAL?

A. I base my stranded cost sharing proposal on four factors. First, the fact that PECO's stranded cost claim, based on thirty years of projecting the market rate, by estimating hourly generation and estimating fixed and variable costs, are not known and measurable and will prove to be inaccurate. The Act does not guarantee 100% recovery of PECO's claimed stranded cost, but provides for 100% recovery of the Commission approved stranded cost. Consequently, I believe PECO's stockholders should share the risk of establishing a one-time stranded cost claim based upon market valued variables that are not known and measurable.

Second, I believe PECO should share in the recovery of stranded costs based on the fact that the CTC is reconciled every year (See, 66 Pa. C.S.

§2808(f)). This reconciliation guarantees that PECO will recover 100% of its Commission approved stranded cost. If the CTC reconciliation did not exist, PECO would be subject to the vagaries of weather and customer migration and at risk for the complete recovery of their stranded cost. Since the Act does permit CTC reconciliation, PECO is at less risk and subsequently should share this benefit with the ratepayers.

Third, the Commission is granted specific authority under 66 Pa. C.S. §2802 (15) of the Act where it states:

> **"...The Commission is empowered under this Chapter to determine the level of transition or stranded costs for each electric utility and to provide a mechanism, the Competitive Transition Charge, for recovery of an appropriate amount of such costs in accordance with the standards established in Chapter 28."** (emphasis added)

Fourth, any Pennsylvania electric utility that, for whatever reasons, minimized the potential for owning uneconomic generating units, will be penalized by losing the competitive advantage it now enjoys in base rates. In the alternative, an electric utility who incorrectly accessed the advantages of certain types of generating units, and now has non-competitive base rates, will benefit from the ability to recover its non-economic stranded costs through the

CTC. If there is no sharing of stranded costs by the current non-competitive utility, the current competitive utility will be unfairly disadvantaged by creating a so called level playing field.

Q. MR. METRO, HOW MUCH OF PECO'S STRANDED COST ARE YOU RECOMMENDING IT ABSORB?

A. I recommend that PECO's stockholders absorb 30% of the total stranded cost associated with net generating plant and CWIP, which is equal to $856,483,000.

Q. HOW DID YOU DERIVE THE 30% SHARING LEVEL FOR THE STOCKHOLDERS?

A. Deriving sharing percentages is an inexact science. With regard to a specific percentage to be absorbed, it is my opinion that 30% stockholder absorption is reasonable from the review of the facts and circumstances of this case. PECO is a high cost electricity provider and has the highest claimed level of stranded costs. Therefore, it is only logical that PECO's shareholders should absorb some portion of stranded costs.

IV. Rate Unbundling

Q. MR. METRO, WHAT IS RATE UNBUNDLING?

A. Rate unbundling is the stripping of a rate into its cost components. For example, a distribution rate will have cost components comprised of metering, billing, and Demand Side Management, etc.

Q. DOES THE ELECTRIC COMPETITION ACT REQUIRE THE ELECTRIC DISTRIBUTION UTILITIES (EDUs) TO UNBUNDLE THEIR DISTRIBUTION RATE?

A. Yes. The Act requires Pennsylvania EDUs to submit unbundled prices or rates for generation, jurisdictional transmission, distribution and other services. (See The Act, 66 Pa. C.S. §2806 (E))

Company Position

Q. MR. METRO, DID PECO FILE UNBUNDLED DISTRIBUTION RATES FOR ITS FIXED DISTRIBUTION SERVICE CHARGES?

A. No. PECO filed Fixed Distribution Service Charges equal to and based upon the customer charge approved at Docket No. R-891364. These charges are not

unbundled.

Q. WHAT IS PECO'S REASON FOR NOT UNBUNDLING ITS DISTRIBUTION RATES?

A. PECO avers that the Customer Charges in effect on December 31, 1996 were not necessarily based on the cumulative cost of specific services provided to the customer. PECO alleges that the Fixed Distribution Service Charge cannot be shown as unbundled cost components such as DSM, billing, metering, etc. (See OTS Exhibit No. 1, Schedule 5).

OTS Position

Q. MR. METRO, WHAT IS YOUR POSITION CONCERNING THE UNBUNDLING OF PECO'S DISTRIBUTION RATES?

A. I recommend that PECO comply with The Act and submit unbundled distribution rates. PECO should unbundle its distribution charges into each sub-component, i.e. metering, billing, wires, and Universal Service.

Q. WHAT ARE THE REASONS SUPPORTING YOUR UNBUNDLING RECOMMENDATION?

A. In my opinion, PECO's distribution rates should be unbundled for the following

reasons:

1) Billing and Metering are costs to be borne by the ratepayers. The distribution customers should be able to comparison shop for generation suppliers that offer billing and metering services. If the generation supplier can offer billing and metering at a reduced cost in comparison to the LDC, the ratepayer should have the option to choose the cheaper alternative;

2) A bundled distribution charge may confuse the ratepayer whenever a component of the distribution charge increases. Without unbundling, the customer would not know the reason for an increase;

3) Universal Service (or customer assistance) programs should be listed separately on the distribution bill. A separate listing of Universal Service charge will assist in the tracking of its cost and hold the EDU more accountable for the level of costs;

4) DSM and social costs are only tangentially related to distribution service and should be separately stated on the bill.

Q. MR. METRO, CAN PECO IDENTIFY THE CUSTOMER COST COMPONENTS RELATED TO ITS FIXED DISTRIBUTION SERVICE CHARGE?

A. Yes. As I stated above, the Fixed Distribution Service Charge proposed by PECO, was based upon the customer charge approved at Docket No. R-891364.

In that rate case, PECO identified customer costs at levels based upon the cost of providing services, including the services identified in this question, as developed in the cost of service study. The Commission approved customer charges at a different level than the costs identified by PECO. (See OTS Exhibit No. 1, Schedule 4)

Q. CAN THE CUSTOMER COSTS THAT COMPRISE THE CUSTOMER CHARGES APPROVED BY THE COMMISSION BE ESTIMATED?

A. Yes, if it is assumed that for the final Customer Charge approved by the Commission at Docket No. R-891364 (with rate adjustments since that case), each service component of the customer charge identified by PECO was changed by an equal percentage, customer cost estimates could be derived for the four major rate classes. Different assumptions regarding the composition of the Commission approved charges would result in different estimates. (See OTS Exhibit No. 1, Schedule 4)

Q. DID PECO PROVIDE ESTIMATES TO THE OTS FOR SOME UNBUNDLED COMPONENTS OF THE FIXED DISTRIBUTION SERVICE CHARGE?

A. Yes. OTS Exhibit No. 1, Schedule 5, shows PECO's estimates for the unbundled components requested through an OTS interrogatory. The customer costs

estimated on this schedule are metering, billing, service and customer assistance (including DSM). The customer costs were estimated for the rates R, RH,GS, and HT customer classes.

Q. SHOULD PECO UTILIZE THE CUSTOMER COST ESTIMATES ASSOCIATED WITH UNBUNDLING OF THE FIXED DISTRIBUTION SERVICE CHARGE?

A. Yes. In my opinion, PECO should be ordered to unbundle its Fixed Distribution Service Charge by estimating the customer costs as shown in OTS Exhibit No. 1, Schedule 5. In addition, I recommend that the service line and wire customer cost component also be identified in the unbundling of the bill.

Q. MR. METRO, HOW LONG SHOULD THE UNBUNDLED BILL INCLUDE ESTIMATES OF THE CUSTOMER COSTS?

A. The unbundled bill should include estimates up to the time when PECO Distribution Company files a base rate case or alternative ratemaking filing with a fully allocated customer class cost of service study. At that time, PECO can identify the actual levels of the customer costs and propose a new Fixed Distribution Service Charge.

V. Universal Service Fund Charge (USFC)

Q. WHAT IS THE UNIVERSAL SERVICE FUND CHARGE?

A. The USFC is a fee to recover the costs of providing universal service and energy conservation for low-income customers. Chapter 28 defines Universal Service and Energy Conservation as:

> "Policies, protections, and services that help low-income customers to maintain electric service. The term includes customer assistance programs: termination of service protection and policies and services that help low-income customers to reduce or manage energy consumption in a cost-effective manner, such as the low-income usage reduction programs, applications of renewable resources and consumer education."

The Act further states at Section 2804 (8) and (9) that the Commission shall ensure that universal service and energy consumption policies, activities are appropriately funded and available in each electric distribution territory.

Q. HOW WILL THE COST OF UNIVERSAL SERVICE BE RECOVERED BY THE ELECTRIC COMPANIES?

A. The Act states at Section 2804 (8) and (9) that the policies, activities, and services shall be funded in each electric distribution territory by a nonbypassable, competitively neutral cost recovery mechanisms that fully recover the costs of universal service and energy conservation services. The design of an appropriate cost recovery mechanism is left to the Commission.

Company Position

Q. DID THE COMPANY INCLUDE A CLAIM FOR PROGRAMS APPLICABLE TO UNIVERSAL SERVICE?

A. Yes. The Company included approximately $35.7 million for programs relating to Universal Service in this filing. These costs include the uncollectible account expense for customers in the Customer Assistance Program (CAP, including CAP Rate discounts and the cost associated with special payment agreements over 48 months, as well as the costs associated with the Low Income Usage Reduction Program (LIURP) (See PECO Statement No. 14, page 3, lines 18-23).

Q. *HOW DOES THE COMPANY PROPOSE TO APPLY THE USFC?*

A. The Company avers that the USFC costs are all associated with residential customers. The Company proposes that the USFC be recovered through a cents

per kWh charge embedded in the unbundled cents per Kwh distribution rate for rates R (Residence Service), R-H (Residential Heating Service), RT (Residence Time-of-Use Service) and R-S (Solar Residence Service). The USFC that will be embedded in the distribution portion of rates R, R-H, RT, and RS will be $0.0034/kWh (See PECO Statement No. 14, pages 4-5). The Company's proposed reconciliation process is similar to a traditional energy cost recovery mechanism and would include an annual review by the Bureau of Audits. The mechanism would be subject to the provisions of Sections 1307(a) and 1307(e) of the Public Utility Code.

OTS Position

Q. MR. METRO, WHAT IS YOUR POSITION CONCERNING THE USFC?

A. I have two recommendations, First, it is my position that the USFC should be a separately stated line item in the additional information section of the customer bill. Second, the USFC should be recovered from all customer classes. I recommend that the USFC be derived by using the projected kWh of electric service to be billed for all customers (i.e. total throughput) during the projected period when rates will be in effect.

Q. MR. METRO, WHY DO YOU BELIEVE THE USFC SHOULD BE A SEPARATE LINE ITEM?

A. There are three reasons to separately identify the amount and the cents per Kwh charge on the customer's bill. First, in my opinion, the USFC is a non-traditional business expense. All ratepayers, not just PECO's, should be aware that a portion of their bills are comprised of this charge. Since The Act (Section 2802 (17)) authorizes the implementation of USFC, I believe there is no reason to hide the USFC within the distribution charge of the bill. The customers should have full-discloser and complete information on not only the individual components of the energy bill, but also the amount he paying per Kwh relative to each component. Second, separate line identification aids in the tracking and accountability of the USFC. It is easier to determine that the amount recovered through rates closely approximates what is actually spent on the programs that comprise the Universal Service concept as defined in the Act. Third, the USFC is material in both revenues and customers. This amount constitutes over 1% of the Company's current annual total electric retail revenue and 3% of the Company's total residential customers. The USFC also has the potential to increase by a factor of six (6) based on PECO's latest census data (See PECO Statement No. 16, page 12).

Q. WHAT IS THE BASIS FOR YOUR POSITION THAT ALL CUSTOMERS SHOULD PAY THE USFC?

A. In my opinion, the Act requires all customers to pay for USFC through a non-bypassable rate mechanism (§2802 (17)). Nonbypassable implies that all customers are responsible for the USFC. These costs are social costs that should be borne by all ratepayers.

VI. Stranded Cost - Regulatory Assets

Q. MR. METRO, WHAT IS YOUR TESTIMONY CONCERNING REGULATORY ASSETS?

A. OTS witness, Mr. Charles T. Weakley, has addressed issues regarding regulatory assets and other transition costs in OTS Statement No. 3. I have incorporated Mr. Weakley's adjustments in OTS Exhibit No. 1, Schedule 3, that show the OTS stranded cost adjustments.

VII. Cost of Capital

Q. MR. METRO, WHAT IS YOUR TESTIMONY CONCERNING COST OF CAPITAL?

A. OTS witness, Mr. Kevan Deardorff, has addressed issues regarding the cost of capital in OTS Statement No. 2. I have incorporated Mr. Deardorff's adjustments in OTS Exhibit No. 1, Schedules 1 & 3 , that show the OTS stranded cost adjustments.

Summary

Q. MR. METRO, WOULD YOU PLEASE SUMMARIZE THE STRANDED COST ADJUSTMENTS PROPOSED BY THE OTS?

A. Yes. The following table summarizes the stranded cost adjustments by the OTS witnesses:

Market Value Increases:

$648,150,000 - Averaging Market Studies & Changing the Discount Rate - Metro, Deardorff (OTS Exhibit No. 1, Schedule 4).

$322,377,000 - Average Market Values without Going Forward Decommissioning expenses - Metro (OTS Exhibit

No. 1, Schedule 5).

Regulatory Assets:

$91,915,000 - Weakley (OTS Exhibit No. 3, Schedule 1).

Other Transition Costs:

$8,203,000 - Weakley (OTS Exhibit No. 3, Schedule 2).

Decommissioning:

$55,221,000 - Nuclear - Gill (OTS Exhibit No. 4, Schedule 2).

$39,051,000 - Fossil - Gill (OTS Exhibit No. 4, Schedule 4).

OTS Exhibit No. 1, Schedule 3 shows the OTS recommended maximum amount of stranded cost recoverable from PECO's ratepayers ($4,784,004,000).

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes.

APPENDIX A

Professional and Educational Experience
of
Paul J. Metro

Education

The Pennsylvania State University, University Park, Bachelor of Science, Mineral Economics, 1982

Earned additional credits in Industrial Engineering from 1982-1984, The Pennsylvania State University, University Park

The Pennsylvania State University, Capitol Campus, Master of Engineering Science, Industrial Engineering/Operations Research Emphasis, 1992.

Professional Experience

April 1996 to Present: Pennsylvania Public Utility Commission, Fixed Utility Valuation Engineer in the Office of Trial Staff - Participates in the review and prosecution of gas, electric, telecommunications, water, and sewer rate filings in the areas of valuation, depreciation, rate base, rate structure, and purchased gas.

March 1994 to March 1996: Pennsylvania Public Utility Commission, Fixed Utility Valuation Engineer - Rate Structure/Engineering Section, Energy Division, Office of Trial Staff. Participates in the review and prosecution of natural gas and electric rate filings in the areas of valuation, depreciation, rate base, rate structure, and purchased gas.

December 1987 to March 1994: Pennsylvania Public Utility Commission, Fixed Utility Valuation Engineer - Engineering Section, Engineering and Rate Design Division, Office of Trial Staff. Participates in the review and prosecution of gas, electric, telecommunications, water, and sewer rate filings in the areas of valuation, depreciation, rate base, rate structure, and purchased gas.

September 1986 to December 1987: Pennsylvania Public Utility Commission, Fixed Utility Valuation Engineer - Engineering Section, Rate Design Division, Office of Trial Staff. Participated in the review and prosecution of gas, electric, telecommunications, and water rate filings in the areas of cost of service and tariff rules and regulations.

May 1985 to September 1986: Pennsylvania Public Utility Commission, Fixed Utility Valuation Engineer - Valuation Section, Gas Division, Bureau of Rates. Participated in the review and prosecution of gas rate filings in the areas of valuation, depreciation, rate structure, purchased gas, and cost of service.

Professional Affiliations

Engineers Society of Pennsylvania

Testimony Presented Before The Pennsylvania Public Utility Commission

Equitable Gas Company, Transportation Investigation, R-870666

UGI Corporation - Gas Division, Transportation Investigation, R-870665

National Fuel Gas Distribution Corporation, General Rate Case, R-870719

Equitable Gas Company, 1307(f) Proceeding, R-880932

Pennsylvania Gas & Water Company, 1307(f) Proceeding, R-880958

Equitable Gas - Energy Company, General Rate Case, R-880941

Equitable Gas Company, General Rate Case, R-880971

Equitable Gas Company, 1307(f) Proceeding, R-891238

Lake Latonka Water Company, General Rate Case, R-891257

Philadelphia Electric Company, General Rate Case, R-891364

Equitable Gas Company, 1307(f) Proceeding, R-901645

Roaring Creek Water Company, General Rate Case, R-901625

Equitable Gas Company, General Rate Case, R-901595

West Penn Power Company, General Rate Case, R-901609

Pennsylvania Gas & Water Company, 1307(f) Proceeding, R-901699

Western Utilities, Inc., General Rate Case, A-210017

T.W. Phillips Gas & Oil Co., 1307(f) Proceeding, R-911889

Columbia Gas of Pennsylvania, Inc., General Rate Case, R-901873

Columbia Gas of Pennsylvania, Inc., 1307(f) Proceeding, R-911921

Pennsylvania Gas & Water Company, 1307(f) Remand Proceeding, R-901699

Olwen Heights Water Company, General Rate Case, R-891226

Peoples Natural Gas Company, General Rate Case, R-922180

Pennsylvania Gas & Water Company, Transportation Tariff Filing, R-922169

Pennsylvania Gas & Water Company, 1307(f) Filing, R-922324

West Penn Power, General Rate Case, R-922378

Peoples Natural Gas Company, 1307(f) Filing, R-932598

Equitable Gas Company, 1307(f) Filing, R-932599

National Fuel Gas Distribution Company, General Rate Case, R-932548

Pennsylvania Gas & Water Company, Transportation Tariff Filing, R-932655

Allied Gas Company ET AL, Transportation Tariff Filing, R-932662

Peoples Natural Gas Company, General Rate Case, R-932866, R-932915

Peoples Natural Gas Company, 1307(f) Filing, R-943028

Columbia Gas of Pennsylvania, 1307(f) Filing, R-943029

Equitable Gas Company, 1307(f) Filing, R-943022

Pennsylvania Gas & Water Company, Tariff Filing, R-943078

Pennsylvania Power & Light Company, General Rate Case, R-943271

Equitable Gas Company, Transportation Filing, R-943272

UGI Utilities, Inc., General Rate Case, R-953297

Equitable Gas Company, 1307(f) Filing, R-953320

National Fuel Gas Distribution Corporation, 1307(f), R-953487

Equitable Gas Company, 1307(f) Filing, R-963576

PFG Gas, Inc. and North Penn Gas Co., General Rate Case, R-963524

PECO Energy Company, Electric Securitization Filing, R-973953

Peoples Natural Gas Company, 1307(f) Filing, R-973896

R-00973953
R-00973953C0001-C0007

OTS Exhibit No. 1
Dated: June 20, 1997

Phl. 10-14,15+16-97
GST

PENNSYLVANIA PUBLIC UTILITY COMMISSION

v.

PECO ENERGY COMPANY

Docket No. R-973953

Exhibit to Accompany
Direct Testimony

of

Paul J. Metro

Office of Trial Staff

Concerning:

Rate Restructuring

Market Value

Company Discount Rate

		Average
PECO Ex. TPH-3	$ 3,650,190	
PECO Ex. TPH-4	$ 3,487,881	$ 3,333,661
PECO Ex. TPH-5	$ 2,862,913	

Average	**$ 3,333,661**
PECO proposed Market Value:	$ 2,862,913
Reduction to Stranded Cost	**$ 470,748**

Market Value

OTS Discount Rate

		Average
OTS Ex. 1, Sch 1, p.2	$ 3,840,804	
OTS Ex. 1, Sch 1, p.3	$ 3,667,470	$ 3,511,063
OTS Ex. 1, Sch 1, p.4	$ 3,024,916	

OTS Recommended Market Value:	**$ 3,511,063**
PECO proposed Market Value:	$ 2,862,913
OTS Reduction to Stranded Cost	**$ 648,150**

Net Present Value of Contribution Margin

EDS - Restructuring Filing - Utilizing J. Bustard's Market Revenue Estimates

OTS Discount Rate

Plant Name	(000) Net Present Value
Conemaugh	$ 313,355
Conowingo	630,337
Cromby 1	(7,222)
Cromby 2	(541)
Delaware	(674)
Eddystone 1	(6,546)
Eddystone 2	26,043
Eddystone3&4	119,707
Keystone	219,611
Limerick 1	497,346
Limerick 2	487,085
Muddy Run	251,223
P. Bottom 2	94,705
P. Bottom 3	95,299
Salem 1	37,262
Salem 2	41,396
Schuylkill	(382)
C. Turbines	102,064
Total NPV of Contribution Margin	**$ 2,900,068**
Total NPV excluding Negative Values	**$ 2,915,433**
Inventory and Working Capital Carrying Charges	(173,611)
Future Tax Depreciation Benefits	305,947
Accumulated Deferred Investment Tax Credit Benefits	137,345
Deferred Income Tax	655,690
Total Adjusted NPV excluding Negative Values	**$ 3,840,804**

OTS Exhibit No. 1
Schedule 1
Page 2 of 4
Witness: PJ Metro

Net Present Value of Contribution Margin

ICF Resources, Inc. - Restructuring Filing - Utilizing Dr. B. Venkateshwara's Market Revenue Estimates

OTS Dicount Rate

Plant Name	(000) Net Present Value
Conemaugh	$ 291,837
Conowingo	548,533
Cromby 1	(7,428)
Cromby 2	(540)
Delaware	(673)
Eddystone 1	(10,792)
Eddystone 2	21,336
Eddystone3&4	145,654
Keystone	204,310
Limerick 1	487,356
Limerick 2	473,860
Muddy Run	297,959
P. Bottom 2	74,792
P. Bottom 3	74,127
Salem 1	33,397
Salem 2	41,255
Schuylkill	(381)
C. Turbines	95,165
Total NPV of Contribution Margin	**$ 2,769,765**
Total NPV excluding Negative Values	**$ 2,789,580**
Inventory and Working Capital Carrying Charges	(173,611)
Future Tax Depreciation Benefits	305,947
Accumulated Deferred Investment Tax Credit Benefits	137,345
Deferred Income Tax	608,209
Total Adjusted NPV excluding Negative Values	**$ 3,667,470**

OTS Exhibit No. 1
Schedule 1
Page 3 of 4
Witness: PJ Metro

Net Present Value of Contribution Margin

Putnam, Hayes & Bartlett - Restructuring Filing - Utilizing W. Hieronymus' Market Revenue Estimates

OTS Discount Rate

Plant Name	(000) Net Present Value
Conemaugh	$ 291,494
Conowingo	453,666
Cromby 1	(7,450)
Cromby 2	(539)
Delaware	(672)
Eddystone 1	(18,177)
Eddystone 2	(2,292)
Eddystone3&4	40,540
Keystone	207,104
Limerick 1	458,256
Limerick 2	443,978
Muddy Run	164,466
P. Bottom 2	70,663
P. Bottom 3	76,447
Salem 1	24,459
Salem 2	40,484
Schuylkill	(381)
C. Turbines	65,363
Total NPV of Contribution Margin	**$ 2,307,407**
Total NPV excluding Negative Values	**$ 2,336,917**
Inventory and Working Capital Carrying Charges	(173,611)
Future Tax Depreciation Benefits	305,947
Accumulated Deferred Investment Tax Credit Benefits	137,345
Deferred Income Tax	418,318
Total Adjusted NPV excluding Negative Values	**$ 3,024,916**

Interrogatory OTS-RS-6

OTS-RS-6 Question:

Refer to Exhibits TPH3-TPH5.

a) Are the decommissioning costs claimed on page 25 through 26 the decommissioning costs that PECO will experience after the regulation of generation plants is discontinued?

b) Explain why PECO's stranded cost claim should include recovery for decommissioning costs experienced after the regulation of generation plants is discontinued.

OTS-RS-6 Answer:

a) Yes, the referenced costs are the level incurred after generation is deregulated.(i.e. post 12/31/98).

b) The Electric Competition Act allows for recovery of projected nuclear decommissioning costs and retirement costs attributable to fossil stations.

Responsible Witness: T. P. Hill, Jr., A. B. Cohn

OTS Exhibit No. 1
Schedule 3
Witness: PJ Metro

Company Claim
Stranded Costs
as of December 31,1998
(000)

Net Generating Plant & CWIP	$ 6,688,384
Less: Market Value	$(2,862,913)
Stranded Plant	$ 3,825,471
Regulatory Assets	$ 2,589,057
Regulatory Liabilities	$ (5,319)
NUG Contracts	-
Nuclear Decommissioning	$ 236,929
Fossil Plant Decommissioning	$ 126,605
Other Transition Cost	$ 32,661
Total	$ 6,805,404
Jurisdictional Allocation @100%	$ 6,805,404

Source: PECO Exhibit No. TPH-7

OTS Adjusted
Stranded Costs
as of December 31,1998
(000)

Net Generating Plant & CWIP	$ 6,688,384	
Less: Market Value	$(3,833,440)	(a)
Stranded Plant	$ 2,854,944	
Regulatory Assets	$ 2,497,142	(b)
Regulatory Liabilities	$ (5,319)	
NUG Contracts	-	
Nuclear Decommissioning	$ 181,708	(c)
Fossil Plant Decommissioning	$ 87,554	(d)
Other Transition Cost	$ 24,458	(b)
Total	$ 5,640,487	
Jurisdictional Allocation @100%	$ 5,640,487	
Less 30% Sharing	$ 856,483	
OTS Recommended Maximum Level Stranded Cost	$ 4,784,004	
PECO's Claim	$ 6,805,404	
OTS Stranded Cost Adjustment	$ 2,021,400	

(a) per OTS Exhibit No. 1, Schedules 1 & 5
(b) per OTS Exhibit No. 3, Schedules 1 & 2
(c) per OTS Exhibit No. 4
(d) per OTS Exhibit No. 4

Interrogatory OTS-RS-9

OTS-RS-9 Question:

Provide a detailed schedule showing for each tariffed rate the unbundled components of the Fixed Distribution Service Charge. Show the DSM component, billing, metering, services, and Customer assistance components as an unbundled element.

OTS-RS-9 Answer:

The Fixed Distribution Service Charge in each rate class was set equal to the respective Customer Charge of each rate class effective as of December 31, 1996 and was not derived from the cost of service study presented in Exhibit RAC-1 accompanying the Direct Testimony of Robert A. Clemmer. Because the Customer Charges in effect on December 31, 1996 were not necessarily based on the cumulative cost of specific services provided to the customer, the Fixed Distribution Service Charge can not be shown as unbundled cost components such as DSM, billing, metering, etc.

Responsible Witness: Robert A. Clemmer

OTS-RS-16 Question:

Refer to the Company's response to OTS-RS-9.

a. Provide the supporting calculation for the Fixed Distribution Service Charge for each tariffed rate.

b. Provide a detailed discussion explaining the basis for each Fixed Distribution Service Charge calculation.

c. Provide an estimate showing for each tariffed rate the unbundled components of the Fixed Distribution Service Charge. Show the DSM component, billing, metering, services, and Customer assistance components as an unbundled element.

OTS-RS-16 Answer (REVISED):

a. As provided in the response to OTS-RS-9, the Fixed Distribution Service Charge in each rate class was set equal to the respective Customer Charge of each rate class effective as of December 31, 1996. These Customer Charges were determined and approved by the Commission at Docket No. R-891364.

b. The Fixed Distribution Service Charge in each rate class was set equal to the respective Customer Charge of each rate class effective as of December 31, 1996 in order to avoid cost or price shifting within each rate class.

c. As noted, the Fixed Distribution Service Charge is based upon the customer charge approved at Docket No. R-891364. In that rate case, PECO identified customer costs at levels based on the cost of providing services, including the services identified in this question, as developed in the cost of service study. The Commission approved customer charges at a different level than the costs identified by PECO. If it is assumed that, for the final Customer Charge approved by the Commission at Docket No. R-891364 (with rate adjustments since that case), each service component of the customer charge identified by PECO was changed by an equal percentage, then the following estimate would apply to the four major rate classes. Different assumptions, regarding the composition of the Commission approved charges, would result in different estimates.

($/month/customer)

	HT	GS	RH	R
Metering	49.77	1.29	0.56	0.54
Services	43.86	0.59	0.40	0.32
Billing	3.01	1.00	0.64	0.74
Customer Service (less Assist.)	0.15	0.02	0.01	0.01
Customer Assistance (Incl. DSM)	0.56	0.09	0.06	0.06

Responsible Witness: R. A. Clemmer

Market Values with Decommissioning after 1998
Company Discount Rate

	(000)	Average
PECO Ex. TPH-3	$ 3,650,190	
PECO Ex. TPH-4	$ 3,487,881	$ 3,333,661
PECO Ex. TPH-5	$ 2,862,913	

Market Values without Decommissioning after 1998

	(000)	Average
1 OTS-RS-18	3,974,790	
1 OTS-RS-18	3,810,091	3,656,039
1 OTS-RS-18	3,183,235	

Change in Market Value	**$ 322,377**

1 See OTS Exhibit No. 1, Schedule 5

Docket No. R-00973953

Interrogatory OTS-RS-18

OTS-RS-18 Question:

Provide recalculations of Exhibits TPH-3, TPH-4, TPH-5 using the following assumptions.

a. No on-going fossil plant decommissioning O&M expenses and no contingency factor for nuclear plant decommissioning;
b. No contingency factors for fossil and nuclear plant decommissioning;
c. On-going nuclear plant decommissioning O&M expenses placed in the distribution or "wires" charges.
d. On-going nuclear and fossil plant decommissioning completely removed.

(If implementation of these assumptions would not change the amount of stranded cost, simply state this and the reasons why.)

OTS-RS-18 Answer:

	New Scenario	As Filed	Difference
A			
1. TPH-3	$ 3,698,441	$3,650,190	$ 48,251
2. TPH-4	$ 3,533,742	$3,487,881	$ 45,861
3. TPH-5	$ 2,906,886	$2,862,913	$ 43,973
B			
1. TPH-3	$ 3,682,233	$3,650,190	$ 32,043
2. TPH-4	$ 3,517,445	$3,487,881	$ 29,564
3. TPH-5	$ 2,892,943	$2,862,913	$ 30,030
C			
1. TPH-3	$ 3,955,371	$3,650,190	$305,181
2. TPH-4	$ 3,790,672	$3,487,881	$302,791
3. TPH-5	$ 3,166,639	$2,862,913	$303,726
D			
1. TPH-3	$ 3,974,790	$3,650,190	$324,600
2. TPH-4	$ 3,810,091	$3,487,881	$322,210
3. TPH-5	$ 3,183,235	$2,862,913	$320,322

Responsible Witness: A. B. Cohn

OTS Exhibit No. 1
Schedule 5
Page 3 of 5
Witness: P.J.Metro

Net Present Value of Contribution Margin

Putnam, Hayes & Bartlett - Restructuring Filing -No Nuc. or Fos. Decom.- W. Hieronymus' Market Revenue Est

Plant Name	(000) Net Present Value
Conemaugh	$ 277,878
Conowingo	422,920
Cromby 1	(6,812)
Cromby 2	(536)
Delaware	(669)
Eddystone 1	(16,394)
Eddystone 2	(1,528)
Eddystone3&4	42,618
Keystone	199,460
Limerick 1	477,794
Limerick 2	474,156
Muddy Run	153,609
P. Bottom 2	88,160
P. Bottom 3	100,294
Salem 1	41,091
Salem 2	58,267
Schuylkill	(379)
C. Turbines	62,174
Total NPV of Contribution Margin	**$ 2,372,104**
Total NPV excluding Negative Values	**$ 2,398,421**
Inventory and Working Capital Carrying Charges	(173,611)
Future Tax Depreciation Benefits	305,947
Accumulated Deferred Investment Tax Credit Benefits	137,345
Deferred Income Tax	515,132
Total Adjusted NPV excluding Negative Values	**$ 3,183,235**

OTS Exhibit No. 1
Schedule 5
Page 4 of 5
Witness: P.J. Metro

Net Present Value of Contribution Margin

ICF Res., Inc.- Restructuring Filing -No Nuc.or Foss. Decomm.- Dr. B. Venkateshwara's Market Revenue Est

Plant Name	(000) Net Present Value
Conemaugh	$ 279,116
Conowingo	512,459
Cromby 1	(6,791)
Cromby 2	(537)
Delaware	(670)
Eddystone 1	(9,264)
Eddystone 2	20,868
Eddystone3&4	140,892
Keystone	197,509
Limerick 1	508,855
Limerick 2	506,141
Muddy Run	278,013
P. Bottom 2	92,633
P. Bottom 3	98,650
Salem 1	49,966
Salem 2	59,636
Schuylkill	(379)
C. Turbines	90,729
Total NPV of Contribution Margin	**$ 2,817,825**
Total NPV excluding Negative Values	**$ 2,835,466**
Inventory and Working Capital Carrying Charges	(173,611)
Future Tax Depreciation Benefits	305,947
Accumulated Deferred Investment Tax Credit Benefits	137,345
Deferred Income Tax	704,944
Total Adjusted NPV excluding Negative Values	**$ 3,810,091**

OTS Exhibit No. 1
Schedule 5
Page 5 of 5
Witness: P.J.Metro

Net Present Value of Contribution Margin

EDS - Restructuring Filing -No Nuc. or Foss. Decomm.- Utilizing J. Bustard's Market Revenue Estimates

Plant Name	(000) Net Present Value
Conemaugh	$ 299,408
Conowingo	586,489
Cromby 1	(6,590)
Cromby 2	(538)
Delaware	(671)
Eddystone 1	(5,210)
Eddystone 2	25,273
Eddystone3&4	116,685
Keystone	211,257
Limerick 1	517,524
Limerick 2	517,593
Muddy Run	234,639
P. Bottom 2	111,743
P. Bottom 3	118,919
Salem 1	53,603
Salem 2	59,698
Schuylkill	(380)
C. Turbines	97,462
Total NPV of Contribution Margin	**$ 2,936,906**
Total NPV excluding Negative Values	**$ 2,950,295**
Inventory and Working Capital Carrying Charges	(173,611)
Future Tax Depreciation Benefits	305,947
Accumulated Deferred Investment Tax Credit Benefits	137,345
Deferred Income Tax	754,814
Total Adjusted NPV excluding Negative Values	**$ 3,974,790**

R-00973953
R-00973953 (C001-C007)

OTS Statement No. SR-1
Dated: August 1, 1997

Phil. 10-14, 15+16-97
GST

PENNSYLVANIA PUBLIC UTILITY COMMISSION

v.

PECO ENERGY COMPANY

Docket No. R-973953

Surrebuttal Testimony

of

Paul J. Metro

Office of Trial Staff

Concerning:

Electric Rate Restructuring

Vol 43

Q. WOULD YOU PLEASE STATE YOUR NAME AND BUSINESS ADDRESS?

A. My name is Paul J. Metro. My business address is P.O. Box 3265, Harrisburg, Pennsylvania, 17105-3265

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am employed by the Pennsylvania Public Utility Commission in the Office of Trial Staff as a Fixed Utility Valuation Engineer.

Q. DID YOU SUBMIT DIRECT TESTIMONY IN THIS PROCEEDING?

A. Yes. I submitted OTS Statement No. 1.

Q. WHAT IS THE PURPOSE OF YOUR SURREBUTTAL TESTIMONY?

A. The purpose of my testimony is to rebut PECO's witnesses Messrs. Hill and Xander, and the Office of Small Business Advocate's witness Mr. Kalcic.

Sharing Proposals - Mr. Hill

Q. MR. METRO, WHAT WAS YOUR SHARING PROPOSAL AS STATED IN YOUR DIRECT TESTIMONY?

A. I recommended that the Commission order a sharing of stranded costs. I recommended that the stranded costs associated with net generating plant & CWIP be shared 70 % / 30 % (ratepayer/stockholder). I based my stranded cost sharing proposal on four factors: (1) the projected market rate is not known and measurable; (2) the CTC reconciliation guarantees that PECO will recover 100% of its Commission approved stranded cost; (3) the Commission is granted specific authority under 66 Pa. C.S. §2802 (15) of the Act to determine the level of stranded costs; and (4) for whatever reason, if there is no sharing of stranded costs by the incumbent regulated utility, the prospective competitor utility will be unfairly disadvantaged.

I recommended that PECO's stockholders absorb 30% of the total stranded cost associated with net generating plant and CWIP, which is equal to $856,483,000. With regard to a specific percentage to be absorbed, it is my opinion that 30% stockholder absorption is appropriate after a review of the facts and circumstances of this case. In this regard,

PECO is a high cost electricity provider and has the highest claimed level of stranded costs. Accordingly, it is only logical that PECO's shareholders should absorb some portion of stranded costs.

Q. WHAT IS PECO'S REBUTTAL TO YOUR SHARING PROPOSAL?

A. Through PECO witness Mr. Hill, PECO states that the sharing proposal advanced by OTS is nothing more than an after the fact prudence adjustment. Mr. Hill also states that the "planning and construction of PECO's existing generating plant portfolio has been the subject of intense scrutiny over the years and, as the result of judgements reached in various rate investigations, PECO shareholders have already foregone about $2.3 billion in terms of lost return of and on their investment". (See PECO St.No. 1-R, page 27) Mr. Hill also states that it would be grossly inequitable to require further sharing simply because certain planning decisions turned out to be less than optimal, decades after they were made. (See PECO Statement No. 1-R, page 27, lines 16-21).

Q. DO YOU AGREE WITH MR. HILLS REBUTTAL?

A. No. Even though PECO's planning and construction of its existing generating plant was the subject of scrutiny, PECO is a high cost

electricity provider and has the highest claimed level of stranded costs. Whether the high cost of electricity and/or the highest claimed level of stranded costs is related to regulatory errors or bad judgement by the utility or a combination of both, this Commission must now determine what costs should be recovered by PECO prior to the commencement of deregulation. Any errors that have been committed by the utility or the regulatory process should be corrected in a manner that is fair to both shareholders and ratepayers. In my opinion, that is why PECO should share in the recovery of stranded costs.

Q. MR. METRO, PLEASE COMMENT ON MR. HILL'S TESTIMONY REGARDING WHAT HE BELIEVES TO BE IRRECONCILABLE POSITIONS TAKEN BY THE OTS IN THIS CASE AND THE PP&L RESTRUCTURING PROCEEDING?

A. Mr. Hill avers that there are irreconcilable positions taken by the OTS in this case and the pending PP&L restructuring proceeding. In particular, Mr. Hill identifies three OTS litigation positions that he feels demonstrate an inconsistency in OTS' approach to these issues. The three positions are: (1) fossil decommissioning; (2) sharing proposals; and (3) return on stranded costs (See PECO Statement No.1-R, page 30).

I disagree with Mr. Hill concerning his testimony on this position. Each restructuring proceeding is unique because of the different methods used by the utilities to derive the stranded cost claim. Different OTS witnesses reviewed claims in the PP&L and PECO proceedings. In addition, because of the different method of developing the stranded cost claims, the OTS witnesses developed unique positions in response. OTS analyzes each proceeding and develops testimony based on the facts of that case. the differing OTS positions in PECO and PP&L on these three issues result from the company specific analysis that OTS employs.

<u>Universal Service - Mr. Xander & Mr. Kalcic</u>

Q. MR. METRO, PECO WITNESS MR. XANDER AND THE OSBA WITNESS MR. KALCIC DISAGREE WITH YOUR DIRECT TESTIMONY WHICH PROVIDES THAT THE UNIVERSAL SERVICE FUND SHOULD BE RECOVERED FROM ALL CUSTOMER CLASSES. PLEASE COMMENT.

A. Initially, I recommended that the Universal Service Fund costs be recovered from all customer classes. After reviewing the rebuttal

testimonies of Mssrs. Xander and Kalcic, my position has not changed. However, to avoid a rate cap violation, which might occur due to the requirements of the 66 Pa. C.S. §2804(4), I recommend that the Universal Service Fund costs be recovered from all customer classes after the rate cap is lifted at the end of the CTC period on December 31, 2005.

Q. DOES THIS CONCLUDE YOUR SURREBUTTAL TESTIMONY?

A. Yes.

R-00973953
R-00973953C0001-C0007

OTS Statement No. 2
Witness: K. L. Deardorff
Date: June 20, 1997

Phil. 10-14,15+16-97

GST

PECO ENERGY COMPANY

Docket No. R-00973953

Direct Testimony

of

Kevan L. Deardorff

Office of Trial Staff

Concerning:

Rate of Return/Discount Rate

Vol 43

PECO Energy Company
Docket No. P-00973953

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Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Kevan L. Deardorff. My business address is P.O. Box 3265, Harrisburg, Pa. 17105-3265.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am currently employed by the Pennsylvania Public Utility Commission as a Fixed Utility Financial Analyst. I am assigned to the Office of Trial Staff as an expert witness.

Q. WHAT IS YOUR EDUCATIONAL AND PROFESSIONAL BACKGROUND?

A. I have prepared this information in Appendix A supplementing my direct testimony.

I. Discount Rate (Rate of Return)

Q. PLEASE IDENTIFY THE ISSUES THAT ARE ADDRESSED IN YOUR TESTIMONY.

A. The issues addressed in my direct testimony are the discount rate, the reasonable rate of return for PECO Energy Company (PECO) and each of

the individual components of that rate of return. These components include capital structure, cost rates of debt and preferred stock, and the cost of common equity.

Q. DOES YOUR DIRECT TESTIMONY INCLUDE AN EXHIBIT THAT SUPPORTS YOUR RECOMMENDATIONS WITH RESPECT TO A FAIR RATE OF RETURN?

A. Yes. OTS Exhibit No. 2 presents the analyses that I have conducted regarding rate of return/discount rate.

II. Company Position

A. Summary

Q. WHAT IS PECO's CLAIMED DISCOUNT RATE IN THIS PROCEEDING?

A. Mr. Joseph F. Brennan, the Company's witness, recommends a discount rate of 8.41 percent. This discount rate is based upon the Company's after-tax cost of capital at December 31, 1996. The discount rate calculation is as follows:

	Weighted Cost of Capital (%)	Tax Savings on Debt @ 41.493% (%)	After Tax Cost Rate (%)
Long-Term Debt	3.65%	1.51%	2.14
MIPS Debt	0.30%	0.13%	0.17
Preferred Stock	0.23%		0.23
Common Equity	5.87%		5.87
Total	10.05%		8.41

Source: PECO Exhibit JFBr-1, Schedule 1.

Q. HOW IS PECO's 10.05 PERCENT COST OF CAPITAL CALCULATED?

A. PECO's 10.05 percent cost of capital is calculated as follows:

	Capital Structure (%)	Cost Rate (%)	Weighted Cost Rate (%)
Long-Term Debt	43.1	8.47	3.65
MIPS Debt	3.3	9.21	0.30
Preferred Stock	3.0	7.70	0.23
Common Equity	50.6	11.60	5.87
Total	100.0		10.05

Source: PECO Exhibit JFBr-1, Schedule 1.

B. Basis

Q. WHAT IS THE BASIS FOR THE COMPANY'S CLAIM?

A. On page 6 of his testimony (PECO Statement No. 11), Mr. Brennan stated that his claimed capitalization ratios of 43.1 percent long-term debt, 3.3 percent MIPS debt, 3.0 percent preferred stock, and 50.6 percent common equity are actual at December 31, 1996. The computation of these ratios is shown on Schedule 1 of PECO Exhibit JFBr-1. Also on page 6, Mr. Brennan stated that the actual embedded cost rates of debt and preferred stock were provided by the Company (Responses H-2 and H-7 of Filing Requirements).

Mr. Brennan stated on pages 12 and 13 of Statement No. 11 that his cost of common equity recommendation was based on equal weight given to the DCF and CAPM results for PECO market data. No weight was given to the DCF and CAPM results for his barometer group.

III. OTS Position

A. Summary

Q. WILL YOU PLEASE SUMMARIZE YOUR RECOMMENDATION?

A. The following is a summary of my rate of return/discount rate recommendation:

	Capital Structure[1] (%)	Cost Rate (%)	Weighted Cost Rate (%)	Tax Savings on Debt (%)	After-tax Cost of Capital (%)
Long-Term Debt	43.09	8.47	3.65	1.51	2.14
MIPS Debt	3.29	9.21	0.30	0.13	0.17
Preferred Stock	2.97	7.70	0.23		0.23
Common Equity	50.65	*10.50*	5.32		5.32
Total	100.00		*9.50*		*7.85*

Source: OTS Exhibit No. 2, Schedule No. 1.

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[1] My capital structure ratios are slightly different than Mr. Brennan's due to rounding.

B. Elements Adopted

Q. HAVE YOU ADOPTED ANY ELEMENTS OF THE COMPANY'S RECOMMENDATION IN ARRIVING AT YOUR POSITION?

A. Yes. I have adopted the Company's recommended capital structure and cost rates of debt and preferred stock.

C. Elements Disputed

Q. HOW DOES YOUR RECOMMENDATION DIFFER FROM THE COMPANY'S CLAIM?

A. In the table above, I have italicized the numbers where my recommendation differs from the Company's rate of return claim. My recommendation differs in three areas; the appropriate cost rate of common equity, the overall rate of return, and the discount rate. I recommend a 10.50 percent cost rate of common equity in lieu of Mr. Brennan's 11.6 percent recommendation. My overall rate of return is 9.50 percent in lieu of Mr. Brennan's 10.05 percent recommendation and my discount rate is 7.85 percent in lieu of Mr. Brennan's 8.41 percent recommendation. The only reason that my overall return and discount rate

differ from Mr. Brennan's is that my cost of equity recommendation is different. Therefore, the sole issue in this case concerning rate of return is the cost of common equity.

IV. Cost of Common Equity

A. Summary

Q. WOULD YOU PLEASE SUMMARIZE THE RESULTS OF YOUR COST OF EQUITY ANALYSIS?

A. I have determined that investors require a 10.50 percent cost rate of common equity for PECO.

B. Basis for Determining the Cost of Common Equity

Q. WHAT IS THE BASIS FOR YOUR 10.50 PERCENT COST OF EQUITY RECOMMENDATION?

A. My determination was based on giving equal weighting to the DCF results of PECO and a barometer group of electric companies.

C. Methodology Used

Q. WHAT METHOD HAVE YOU UTILIZED IN THE DETERMINATION OF THE EXPECTED COST RATE OF COMMON EQUITY INVESTMENT?

A. I used the Discounted Cash Flow (DCF) method to determine the cost rate of common equity. To compute the various components of the DCF method, I relied upon current, historical, and forecasted market data for a barometer group of electric companies and PECO.

Q. WHAT FACTORS INFLUENCED YOU TO GIVE WEIGHT TO THE DCF RESULTS FOR PECO?

A. PECO is primarily a vertically integrated electric company engaged in the production, transmission, and distribution of electricity. PECO has adequate financial and market data available to use in a DCF analysis.

Q. WHY HAVE YOU ALSO GIVEN WEIGHT TO THE BAROMETER GROUP'S DCF RESULTS?

A. I have chosen to use a barometer group as an additional source of information for two reasons. The use of data for one company may be

less reliable than using a barometer group because the data for one company may be subject to events which can cause short-term aberrations in the marketplace. The rate of return on common equity for a single company could become distorted in these particular circumstances. The use of a barometer group has the effect of smoothing out any aberrations associated with a single company.

A barometer group of companies is also used as a benchmark to satisfy the long established guideline of providing a utility the opportunity to earn a return equal to that of similar risk enterprises.

D. Barometer Group Selection

Q. WHAT BAROMETER GROUP DID YOU USE FOR YOUR ANALYSIS?

A. In selecting a barometer group, it is important that the proxy companies provide similar services and products. The companies within an industry will certainly differ from one another. That is why it is important to focus upon similarities. This can be accomplished by analyzing some key market information and risk indicators.

OTS Exhibit No. 2, Schedule No. 3 lists thirteen electric companies that satisfy the following selection criteria: located in the eastern and central United States, similar financial risk to PECO, and nuclear generating in excess of 30 percent of total generation.

E. Risk Comparison

Q. WHAT ANALYSIS OF MARKET DATA AND RISK INDICATORS DID YOU PERFORM THAT SUPPORTS THE USE OF THIS BAROMETER GROUP AS A PRIMARY SOURCE TO DETERMINE PECO's EXPECTED ROE?

A. I first examined the percent of nuclear generating capacity to total generating capacity for the barometer group. I have provided this comparison on Schedule No. 3 of OTS Exhibit No. 2. I believe that the barometer group should be similar to PECO with respect to this variable due to the expected large stranded costs associated with nuclear plant. The percent of nuclear generation to total generation capacity for the barometer group ranges between 31.1 and 74.0 percent. PECO's nuclear generation is 69.9 percent of total generation. It is readily apparent that all the

electric utilities in Schedule No. 3 have a large exposure to nuclear generation, as does PECO.

Q. PLEASE DESCRIBE PECO'S FINANCIAL RISK PROFILE IN COMPARISON TO THE BAROMETER GROUP?

A. Financial risk is defined as the percent of debt in the capital structure employed to finance the fixed capital. Common equity ratios for electric utilities are essentially the inverse of the debt ratio, therefore, I used common equity ratios from Schedule 3 to measure financial risk. PECO's equity ratio of 49.9 percent is higher than the barometer group average of 47.5 percent indicating a slightly lower financial risk.

Q. PLEASE DESCRIBE PECO'S INVESTMENT RISK PROFILE IN COMPARISON TO THE BAROMETER GROUP?

A. Schedule No. 3 presents three measures of overall investment risk: Beta, Safety Rank, and Financial Strength. PECO's safety rank of 2.0 indicates lower investment risk in comparison to the barometer group's average safety rank of 2.4. PECO's financial strength is identical to that of the barometer group's financial strength of B++. On the other hand, PECO has a beta of .85 which is slightly higher than the barometer group average

of .75. This comparison indicates that PECO has slightly higher overall investment risk in comparison to the barometer group. This difference should not create too much concern since the increased price volatility inherent in this statistic is due primarily to the uncertainty surrounding the outcome of the current filings. As recently as September of 1996, PECO's beta was in line with the barometer group's beta (.75 vs. .72, respectively)[2]. Overall these three indicators of investment risk indicate that PECO has similar investment risk in comparison to the barometer group.

Q. WHAT DO YOU CONCLUDE FROM YOUR COMPARISON OF THE RISK INDICATORS FOR PECO AND THE BAROMETER GROUP?

A. Based upon my analysis of the risk indicators for PECO and the barometer group, I believe the barometer group is a very close representation of an electric utility with PECO's characteristics, and is a reasonable proxy to use in the determination of a market based expected cost rate of common equity for PECO.

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[2] Value Line Investment Survey, Summary and Index, September 6, 1996.

F. Economic Factors

Q. DOES YOUR COST OF EQUITY ANALYSIS TAKE CHANGING BUSINESS AND ECONOMIC CONDITIONS INTO ACCOUNT?

A. Yes. The financial markets take all factors into account when assessing investments. The aggregate risks of an investment are reflected in the stock price per share. The data for the barometer group and PECO that I have utilized is market based; therefore, my results have accounted for all these factors.

Q. WHAT ECONOMIC FACTORS DO YOU CONSIDER IMPORTANT IN YOUR ANALYSIS OF COST OF CAPITAL?

A. I have made comparisons of important economic variables and have examined their impact on electric utilities over the past twenty years. Schedule No. 4 of my exhibit presents a historical perspective of the Moody's "A" Utility Bond Yield, the U.S. T-Bills rate, the prime rate, and the percent change in the CPI compared to the average dividend yield of my barometer group and PECO for the same period. This schedule also presents a sampling of economic experts' quarterly forecasts for 1997 and 1998 and yearly forecasts for the period 1997 to 2006.

Q. IS THERE A RELATIONSHIP BETWEEN DIVIDEND YIELDS OF ELECTRIC COMPANIES AND BOND YIELDS?

A. Yes. A comparison of the bond yields and dividend yields in Schedule No. 4 reveals a direct relationship between these two variables. I believe it's important in determining an appropriate cost rate of common equity to recognize this relationship. Any potential impact related to projected change in bond yields should be considered in recommending a representative dividend yield for the prospective period.

Q. WHAT HAS BEEN THE HISTORICAL TREND OF PUBLIC UTILITY BOND YIELDS AND ELECTRIC UTILITY DIVIDEND YIELDS?

A. On Schedule No. 4, it can be readily seen that A rated public utility bond yields and electric utility dividend yields have experienced a declining trend since 1981. Since 1981, A-rated public utility bond yields have decreased from 15.95 percent to 7.75 percent, or 820 basis points. The barometer group's dividend yield declined from an average of 12.54 percent to 6.42 percent. PECO's dividend yield decreased from 14.90 percent to 6.32 percent. The barometer group and PECO's average dividend yield decline was 642 and 858 basis points, respectively.

Q. WHAT IS THE OUTLOOK FOR INTEREST RATES IN RELATION TO THE INFLATION RATE?

A. Schedule No 4 of OTS Exhibit No. 2 also presents short-term and long-term forecasts published by Blue Chip Financial Forecasts. Over the next year, forecasting professionals are expecting Treasury Bill (T-Bill) yields to be between 5.5 and 5.7 percent (Blue Chip Financial Forecasts - Quarterly forecasts) and forecasted inflation to be between 3.4 and 3.5 percent. As a result the real rate of interest is expected to be in the two to three percent range for this period.

The longer-term trend for the T-Bill And inflation forecasts is down. Forecasting professionals are expecting T-Bills to be in the range of 4.8 to 5.2 percent over the next ten years. Similarly, inflation is expected to be in a very narrow range of 2.8 to 3.1 percent over the same ten-year period. As a result, the real rate of interest is expected to remain within the equilibrium range of two to three percent.

Forecasting professionals are also expecting interest rates on long-term "A" rated utility bonds to decline from 8.1 percent in the second quarter of 1997 to 7.7 percent in the third quarter of 1998. These forecasts are dependent upon forecasters' belief that investors can expect a slow down in the economy with real GDP growth declining from 2.7

percent in the second quarter of 1997 to 2.0 percent in the third quarter of 1998.

Investors' expectations are, however, continually changing and influenced by Federal Reserve policy. The Federal Reserve's tight monetary policy of recent years has done much to alleviate inflationary fear. If the Federal Reserve continues to maintain their current anti-inflationary bias in monetary policy and manages to attain their interest rate and monetary targets, investors' inflationary expectations will continue to decrease resulting in lower and more stable interest rates.

Q. WHAT EVIDENCE EXISTS THAT INTEREST RATES WILL CONTINUE TO DECLINE IN THE LONGER-TERM FUTURE?

A. Schedule No 4 of OTS Exhibit No. 2 also presents extended forecasts for the various interest rates presented. Forecasters are expecting a steady decline in all the forecasted variables presented in that schedule out to the year 2006.

G. Discounted Cash Flow Analysis (DCF)

Q. WHAT METHOD HAVE YOU UTILIZED IN THE DETERMINATION OF THE EXPECTED COST RATE OF COMMON EQUITY INVESTMENT?

A. I used the Discounted Cash Flow (DCF) method to determine the cost rate of common equity. To compute the various components of the DCF method, I relied upon current, historical, and forecasted market data for the barometer group and PECO.

Q. WILL YOU PLEASE EXPLAIN YOUR DCF METHOD OF ANALYSIS?

A. My analysis employs the standard discrete DCF model, $k = D_1/P_0 + g$, where D_1 is the dividend expected during the year, P_0 is the current price of the stock, and g is the expected growth rate of dividends. For purposes of calculating a dividend yield applicable to the formula, D_0/P_0 (the current dividend divided by the current price) must be adjusted by ½

the expected growth rate[3/] in order to account for changes in the dividend rate in period 1.

Q. PLEASE STATE THE RESULTS OF YOUR DISCOUNTED CASH FLOW (DCF) ANALYSIS AND AN EXPLANATION OF HOW YOU ARRIVED AT THOSE RESULTS.

A. The following table summarizes the results of my DCF analysis:

	Range	Average
PECO	10.55 - 12.22%	11.39%
Barometer Group	10.35 - 10.54%	10.44%

Source: OTS Exhibit No. 2, Schedule No. 5, Pages 1 and 2.

The 10.55 to 12.22 percent range for PECO was developed by using dividend yields calculated on a 9.47 percent spot and 7.80 percent 52-week average basis and a growth rate of 2.75 percent. The 10.35 to 10.54 percent range for the barometer group was developed by using dividend yields calculated on a 7.04 percent spot and 6.85 percent 52-week

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[3/] The adjustment of ½ the growth rate is used when the timing of the dividend increase is not known for certain. It could occur next month or the twelfth month. On average it is safe to assume that the increase will occur half way through the prospective year. Therefore, an adjustment by ½ the expected growth rate is appropriate.

average basis and a growth rate of 3.50 percent. The calculation of the dividend yields and growth rate are described in detail in a subsequent part of my testimony.

H. Dividend Yield

Q. PLEASE EXPLAIN FURTHER HOW YOU DEVELOPED YOUR DIVIDEND YIELDS THAT YOU USED IN YOUR DCF ANALYSIS?

A. A representative dividend yield must be calculated over a time frame that avoids the problems of short-term aberrations and "stale" data series. For purposes of my barometer group DCF analysis, I have placed equal emphasis on the most recent spot and 52 week average dividend yields. For my PECO DCF analysis, I relied more heavily on the 52 week average because the spot yield is being overly influenced by the uncertainty surrounding the current filings. Moreover, it is obvious that the 9.47 percent spot dividend yield is so extraordinarily high that indications are that either growth forecasts are overstated or PECO's current stock price is undervalued. The following table summarizes my dividend yield computations for PECO and the barometer group:

	Dividend Yields (Adjusted)		
	Spot 5/30/97 (%)	52-week Average (%)	Average (%)
PECO	9.47	7.80	8.64
Barometer Group	7.04	6.85	6.94

Source: OTS Exhibit No. 2, Schedule 5, pp. 1 and 2.

Q. PLEASE EXPLAIN WHY YOU DID NOT PRESENT A SEPARATE CALCULATION FOR A GROWTH ADJUSTMENT TO YOUR DIVIDEND YIELD.

A. In this case, the dividends used in the dividend yield calculations are Value Line's projected dividends (D_1) which reflect a full years growth. Therefore, the standard adjustment by ½ the growth rate that I discussed on page 18 has already been accounted for in this analysis.

I. Growth Rate

Q. WHAT INFORMATION DID YOU RELY UPON TO DETERMINE YOUR EXPECTED GROWTH RATE?

A. To arrive at a representative dividend growth rate, I surveyed several series of both projected growth rates and historical growth rates. These growth rates are presented in OTS Exhibit No. 2, Schedule No. 5, Page 3. My growth rate estimates are based on a survey of Value Line estimates, S&P's consensus estimates, and five-year historical growth rates.

Q. WHAT FACTORS DETERMINE THE IMPORTANCE OF ANALYSTS' GROWTH RATE FORECASTS IN YOUR DETERMINATION OF AN OVERALL GROWTH RATE?

A. The availability of data is an important consideration in any analysis of investors' expectations. As a source of growth rates, Value Line provides an abundance of information including projected and historical growth rates. In addition, Value Line has a very wide circulation and is easily available to individual investors. Individual investors comprise the bulk of electric utility ownership.

Standard & Poor's (S&P), on the other hand, has more limited data availability. S&P reports a consensus of projected earnings growth rates, but not projections of dividend growth rates. However, S&P does have the advantage of surveying more than one analyst for each company.

Q. WHICH GROWTH ELEMENTS IN OTS EXHIBIT NO. 2, SCHEDULE NO. 5, PAGE 3 ARE THE MOST RELEVANT IN YOUR DETERMINATION OF THE PROSPECTIVE GROWTH RATE?

A. I have arranged the columns in OTS Exhibit No. 2, Schedule No. 5, page 3 in order of the importance in determining a representative growth rate. I have given primary weight to expected growth rates, shown in columns 1-3, in comparison to historical growth rates, shown in columns 4-5, simply because more information is implicitly contained in these estimates. The bulk of the research evidence has indicated analysts' growth forecasts to be superior to historically-oriented growth measures in forecasting growth. Forecasting professionals have already accounted for historical data in their estimates along with expectations of a wide array of economic variables. To give significant weight to historical growth rates would result in a double count.

Q. WHAT DO YOU CONCLUDE TO BE A REASONABLE GROWTH RATE FOR PECO?

A. Based upon the results on line 10 of OTS Exhibit No. 2, Schedule No. 5, page 3, I conclude that investors could reasonably expect to achieve a growth rate of 2.5 to 3.0 percent for PECO.

Q. WHAT LEADS YOU TO BELIEVE THAT INVESTORS SHOULD EXPECT TO ACHIEVE A GROWTH RATE OF 2.5 TO 3.0 PERCENT FOR PECO?

A. The forecasted growth rates for PECO are 2.0 percent for dividends, 3.0 percent for S & P earnings growth, and 2.5 percent for Value Line five-year earnings growth. The average growth from these three variables is 2.5 percent. Normally I would give significant and equal weight to these three variables; however, at this point in time I have chosen to give no weight to the Value Line forecast of dividend growth. In response to a perceived increase in business risk resulting from the transition to a competitive environment, dividend growth is expected to be restrained in order to strengthen equity ratios[4/]. Thus by giving the Value Line forecasts of dividend growth no weight, I conclude that investors could

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[4/] For PECO, the equity ratio increased from 34.9 percent in 1990 to 48.0 percent in 1995 and is expected to increase further to 51.0 percent in 2000. Value Line Investment Surveys, March 14, 1997.

reasonably expect to achieve a growth rate in the range of 2.5 to 3.0 percent for PECO.

Q. WHAT DO YOU CONCLUDE TO BE A REASONABLE GROWTH RATE FOR THE BAROMETER GROUP?

A. Based upon the results on line 14 of OTS Exhibit No. 2, Schedule No. 5, page 3, I conclude that investors could reasonably expect to achieve a growth rate of 3.25 to 3.75 percent for the barometer group.

Q. WHAT LEADS YOU TO BELIEVE THAT INVESTORS SHOULD EXPECT TO ACHIEVE A GROWTH RATE OF 3.25 to 3.75 PERCENT FOR THE BAROMETER GROUP?

A. The forecasted growth rates for the barometer group are 2.1 percent for dividends, 3.3 percent for S & P earnings growth, and 3.8 percent for Value Line five-year earnings growth. The average growth from these three variables is 3.1 percent. Normally I would give significant and equal weight to these three variables; however, at this point in time I have chosen to give no weight to forecasted dividend growth for the same

reason I gave no weight to PECO's dividend growth rate[5/]. Until the transition is complete I believe that dividend growth rates will be biased and should be given little to no weight in a DCF analysis. Thus by giving the forecasts of dividend growth rates no weight, I conclude that investors could reasonably expect to achieve a growth rate in the range of 3.25 to 3.75 percent for the barometer group.

Q. WHAT COST RATE OF COMMON EQUITY IS INDICATED FROM THE RESULTS OF YOUR DCF ANALYSIS?

A. Given these representative dividend yields and using the midpoint of the growth rate range, I applied the DCF formula with the results presented on Schedule No. 5, Pages 1 and 2, and summarized on page 18 of this testimony. Based upon these DCF results, I believe that 10.50 percent represents a reasonable expected rate of return on common equity for PECO. As previously discussed, my recommendation reflects very little weight given to the PECO DCF results based on a spot yield, since it is obviously an aberration.

[5/] For the barometer group, the average equity ratio increased from 43.2 percent in 1990 to 46.7 percent in 1995 and is expected to increase further to 52.9 percent in 2000. Value Line Investment Survey, March 14 and April 11, 1997.

Q. ARE THE DCF RESULTS RELIABLE GIVEN THE CURRENT GENERAL MARKET CONDITIONS?

A. Yes. The DCF results are grounded on two assumptions concerning general market conditions. These assumptions are that (1) the payout ratio will remain constant and (2) price/earnings ratios will remain constant. Both assumptions are required in a constant growth DCF model so that both the dividend yield and growth rate can be assigned specific values.

Q. PLEASE DISCUSS THE FIRST ASSUMPTION WITH RESPECT TO THE RELIABILITY OF THE DCF RESULTS.

A. The first assumption is that the payout ratio will remain reasonably constant so that the rate of dividend growth will closely follow the growth rate of earnings per share. OTS Exhibit No. 1, Schedule No. 5, Page 4 presents the historical and forecasted payout ratios for PECO and the barometer group. While the historical payout ratios have remained around 73.2 and 80.4 percent, Value Line expects this stable situation to change significantly in the future. This divergence is a signal that earnings and dividends are expected to grow at different rates. It is also an indication that central tendencies among growth forecasts exhibits less confidence.

The following summarizes investors' expectations with respect to payout ratios for PECO and the barometer group:

	Range	Mean	1996 Forecast
PECO	57.2 - 94.4	73.2	78.6 72.2
Barometer Group	71.6 - 86.5	80.4	81.5 70.1

Source: OTS Exhibit No. 2, Schedule No. 5, Page 4.

Q. PLEASE DISCUSS THE SECOND ASSUMPTION WITH RESPECT TO THE RELIABILITY OF THE DCF RESULTS.

A. The second assumption is that the price/earnings ratio will remain the same from time of purchase to time of sale. I am not contending the P/E ratio will be the same for the prospective period. However, for cost of capital purposes in a rate-making context, I must make this strict assumption. Otherwise a specific estimate of a rate of return for the prospective period would be much more complex.

Evidence of investor expectations of stable P/E ratios is presented in OTS Exhibit No. 2, Schedule 5, Page 5. For the barometer group, the P/E ratios on average are expected to decrease slightly over the next five years from 11.4 to 10.8. Again, this is an indication that earnings are expected to increase faster over the next five years in comparison to most

other variables and that extreme care must be given in the growth rate selection process.

The P/E ratio for PECO is expected to increase from 9.8 to 10.8 over the next five years. This expected change should be viewed in context of the recent price decline of PECO stock price due to the uncertainty surrounding the recent filings. As recently as the December, 1996 issue of Value Line, the actual P/E ratio was reported at 10.5 which is not significantly different from the 10.8 expected over the next five years.

J. Market Pressure, Selling and Issuance Expense

Q. HAVE YOU TAKEN INTO CONSIDERATION MARKET PRESSURE AND SELLING AND ISSUANCE EXPENSES IN MAKING YOUR RECOMMENDATION?

A. Yes. I have considered these items but have not made any adjustments to account for them. I believe that market pressure and selling and issuance expenses are an additional cost of capital that are incurred at the time of issuance. However, the current market price of common stock already reflects these items, as investors have already capitalized market pressure

and issuance expenses in determining the value of the stock at the time of purchase. Since my analyses are market based, these items have been taken into consideration. As a result I have made no additional adjustments to account for market pressure and issuance expenses.

V. Pre-tax Interest Coverage

Q. HAVE YOU TESTED THE INTEREST COVERAGE OF YOUR 9.50 PERCENT OVERALL RATE OF RETURN RECOMMENDATION?

A. Yes. I have presented interest coverage calculations in OTS Exhibit No. 2, Schedule No. 6. My recommendation will provide PECO a pre-tax interest coverage of 3.4 times. On Schedule 7 of Exhibit No. 2, I have presented results of an analysis of experienced interest coverages for the period of 1987 to 1996 for PECO and the barometer group. The following is a summary of those experienced coverages:

	Range	Mean	1996
PECO	1.19 - 3.41	2.33	3.23
Barometer Group	2.32 - 3.41	2.80	2.32

Source: OTS Exhibit No. 2, Schedule No. 7.

The Company's pre-tax interest coverage of 3.40 times exceeds the coverages for 1996 and the mean for both PECO and the barometer group and is very near the upper end of both ranges.

Q. HOW DOES 3.40 TIMES INTEREST COVERAGE COMPARE TO RECENT S&P'S BENCHMARKS FOR ELECTRIC UTILITIES?

A. The 3.40 times interest coverage is fairly consistent with the S&P's standard of 3.50 times required for a company with a bond rating of BBB+. PECO's long-term debt is rated BBB+.

VI. Discount Rate

Q. WHAT DISCOUNT RATE DO YOU RECOMMEND AS A RESULT OF YOUR RATE OF RETURN ANALYSIS?

A. OTS Exhibit No. 2, Schedule No. 1 presents the calculation of the discount rate appropriate for PECO. I recommend a discount rate of 7.85 percent. This is a result of reducing my 9.50 percent overall cost of capital by the tax savings of 1.64 percent.

VII. Critique of PECO's Cost of Capital Testimony

Q. PLEASE SUMMARIZE YOUR CRITIQUE OF PECO'S COST OF CAPITAL TESTIMONY?

A. I have three primary areas of disagreement concerning Mr. Brennan's cost of capital testimony and his resultant discount rate recommendation.

- First, Mr. Brennan's barometer group is not appropriate.
- Second, Mr. Brennan's overall recommendation is based totally on PECO data.
- Third, Mr. Brennan has incorrectly given 50 percent weight to the CAPM method in his overall recommendation.

Q. WHAT SPECIFICALLY DO YOU FIND INAPPROPRIATE ABOUT MR. BRENNAN'S BAROMETER GROUP?

A. I find Mr. Brennan's selection criteria to be flawed in two respects. First, Mr. Brennan incorrectly focuses on similarities between PECO's and the barometer group's debt ratings. Because the cost of equity is at issue it is more appropriate to focus on similarities between PECO's and the barometer group's equity ratings.

Second, Mr. Brennan failed to consider generation mix as a selection criteria even though he acknowledges on page 19 of his testimony that generation mix is an element of risk. Considering this criteria Mr. Brennan's barometer group is quite dissimilar to PECO. PECO's generation mix has 69 percent nuclear compared to 26 percent nuclear for Mr. Brennan's barometer group.

Q. WHY IS TOTAL RELIANCE ON PECO DATA INAPPROPRIATE IN THIS CASE?

A. As I previously testified on page 9 of my testimony, short-term aberrations in the stock price of one company can cause the data to be less reliable than using barometer group data in an analysis. On page 19, I noted that the uncertainty created by PECO's current filings has caused a temporary increase in investment risk to the equity shareholder resulting in aberrations in its stock price. The increase in risk is only a short-term phenomenon. The aberrant data should not be considered in any analysis of long-term capital cost rates. As the current filings progress, many of the uncertainties will be eliminated with a subsequent decrease in investment risk.

Q. HAS ANY COMPANY WITNESS EVER TESTIFIED TO THE SHORT-TERM NATURE OF THE RISK SURROUNDING THE CURRENT FILINGS?

A. Yes. Mr. Hill testified in the Application for a Qualified Rate Order at R-00973877 ("Securitization Filing") that "the approval of PECO's request will also eliminate some of the uncertainty surrounding the Commonwealth's restructuring efforts."

Q. WHAT EVIDENCE HAVE YOU PRESENTED THAT INDICATES THE SHORT-TERM INVESTMENT RISK HAS INCREASED FOR PECO?

A. On pages 11 and 12 of my testimony, I presented a comparative analysis of the investment risk of PECO and the barometer group using beta as the indicator of investment risk. Over the past nine months PECO's beta has increased from .75 to .85, indicating an increase in overall investment risk. This is not surprising since the price of PECO's stock has declined over 20 percent compared to less than a 5 percent decline in stock prices for the barometer group. Volatility in price is the main determinate of the level of beta.

Q. MR. BRENNAN BELIEVES THAT THE CAPM RESULTS SHOULD BE GIVEN EQUAL WEIGHT ALONG WITH THE DCF RESULTS. WHY SHOULD THIS METHOD BE REJECTED FOR COST OF CAPITAL?

A. To understand why this method should be rejected for cost of capital purposes, it must first be understood how investors use the Capital Asset Pricing Model (CAPM) in their decision making process. The CAPM and related risk premium (RP) methods give results that indicate to an investor what the equity cost rate should be if current economic and regulatory conditions are the same as those present during the historical period the risk premiums were determined. By comparing CAPM and RP results with current expected equity returns (DCF results), an investor can make rational buy and sell decisions. When expected DCF returns are higher than those indicated by the CAPM and RP historical norms, an investor would have an incentive to buy, and vice versa.

The relevancy of these methods does not carry over from the investment decision making process to the regulatory process because we can never be certain that economic and regulatory conditions underlying the historical period during which the risk premiums were calculated are

the same as today or in the future. This problem is even more pronounced as the electric industry moves from through the restructuring process.

Q. GIVEN THE FACT THAT ECONOMIC AND REGULATORY CONDITIONS TODAY ARE DIFFERENT FROM THE HISTORICAL PERIOD, HOW DOES THIS AFFECT THE RISK PREMIUMS USED IN MR. BRENNAN'S CAPM MODEL?

A. The CAPM model does not measure the current rate of return on common equity directly as does the DCF model. The CAPM model determines the rate of return on common equity by indirectly observing the current cost of debt. An implicit assumption when using these methods is that the variables determining the equity cost rate and debt cost rate are the same, which allows the analyst to apply a constant risk premium. Actually, the variables determining the cost rates in the two markets are different. Changing economic conditions cause these variables in the two markets to change resulting in changing risk premiums over time. Therefore, the use of a constant risk premium fails to capture the effect of changing economic conditions over time.

Q. IS THERE ANY CURRENT ACADEMIC EVIDENCE THAT EXAMINES THE CREDIBILITY OF THE CAPM MODEL?

A. Yes. OTS Exhibit No. 2, Schedule No. 8, presents an article which appeared in the New York Times on February 18, 1992, that summarizes a CAPM study conducted by professors Eugene F. Fama and Kenneth R. French. Their study examined the importance of beta (CAPM's risk factor) in explaining returns on common stock. In CAPM theory, the higher a stock's beta the higher the expected return on that stock. They found that the model did not do well in predicting actual returns. A result of this new information, I believe that rational investors will give less credibility to expected equity returns that are calculated using the simple CAPM model.

Q. WHAT EVIDENCE IS THERE THAT THE DCF METHOD IS SUPERIOR TO OTHER MARKET BASED METHODS FOR DETERMINING THE COST OF EQUITY?

A. Risk premium methods, including Mr. Brennan's CAPM, all rely upon some form of DCF calculation to determine common equity returns from which bond returns are subtracted to determine the equity risk premium. Therefore it follows that the DCF method is clearly superior and is

sufficient to stand alone provided good judgement is used in the determination of its components.

Q. DOES THIS COMPLETE YOUR TESTIMONY?

A. Yes.

APPENDIX A

Kevan L. Deardorff

Educational and Professional Background

I am a graduate of the Pennsylvania State University, where I received a Bachelor of Science Degree in Business Economics and Finance and a Master of Arts Degree in Economics. Before coming to the Pennsylvania PUC in 1983, I worked as a consultant for the United States Environmental Protection Agency between 1980 and 1981, and as a Research Economist for the Pennsylvania Department of Commerce during 1982.

I am currently employed as a Fixed Utility Financial Analyst III. I have completed rate of return analyses in a large number of rate cases and assisted in the analyses of many electric, gas, water and telephone rate cases. I have prepared rate of return and price cap testimony in the following rate cases:

Keystone Water Company	R-822211-12 R-822215-19 R-822221
Western Pennsylvania Water Company	R-832381
Philadelphia Suburban Water Company	R-842592
Duquesne Light Company	R-842583
Western Pennsylvania Water Company	R-842621-25
Riverton Consolidated Water Company	R-842675
Keystone Water Company	R-842755-56 R-842759
Equitable Gas Company	R-842769
Western Pennsylvania Water Company	R-850096-97
West Penn Power Company	R-850220
Dauphin Consolidated Water Supply Co.	R-860350
Western Pennsylvania Water Company	R-860397

Philadelphia Electric Company (Gas Division)	R-870629
National Fuel Gas Distribution Corp.	R-870719
Western Pennsylvania Water Company	R-870825
Philadelphia Suburban Water Company	R-870840
Equitable Gas Company	R-880971
Chartiers Natural Gas Company	R-891283
Columbia Gas of Pennsylvania, Inc.	R-891468
Arrowhead Public Service Corp.	R-891557
Pennsylvania-American Water Co.	R-901652
Citizens Utilities Water Company of Pennsylvania	R-901663
Citizens Utilities Home Water Company	R-901664
National Fuel Gas Distribution	R-901670
York Water Company	R-901813
Columbia Gas of Pennsylvania, Inc.	R-901873
National Fuel Gas Distribution Corp.	R-911912
The Peoples Natural Gas Company	R-00922180
York Water Company	R-00922168
Pennsylvania & Southern Gas Company	R-00922312
North Penn Gas Company	R-00922276
North East Heat and Light Company	R-00922309

Shenango Valley Water Company	R-00922420
Mechanicsburg Water Company	R-00922502
National Fuel Gas Distribution Corp.	R-00932548
Roaring Creek Water Company	R-00932665
Shenango Valley Water Company	R-00932798
The Peoples Natural Gas Company	R-00932866
Blue Mountain Consolidated Water Co.	R-00932873
Allied Gas Company, et. al.	R-00932952
National Fuel Gas Distribution Corp.	R-00942991
Borough of Media Water Works	R-00943098
Newtown Artesian Water Company	R-00943157
Roaring Creek Water Company	R-00943177
Borough of Schuylkill Haven	R-00943156
Pennsylvania Power & Light Company	R-00943271
National Fuel Gas Distribution Corp.	R-00953299
Frontier Companies	P-00951005
PFG Gas, Inc. and North Penn Gas Company	R-00953524
Commonwealth Telephone Company	P-00961024
PECO Energy Company	R-00973877

R-00973953
R-00973953,C0001-C0007

OTS Statement No. 2A
Witness: K. L. Deardorff
Date: June 24, 1997

Phil. 10-14,15+16-97
GST

PECO ENERGY COMPANY

Docket No. R-00973953

Supplemental Testimony

of

Kevan L. Deardorff

Office of Trial Staff

Concerning:

Rate of Return/Discount Rate

Vol 43

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Kevan L. Deardorff. My business address is P.O. Box 3265, Harrisburg, Pa. 17105-3265.

Q. HAVE YOU TESTIFIED PREVIOUSLY IN THIS PROCEEDING?

A. Yes. I previously presented testimony regarding rate of return/discount rate at OTS Statement No. 2 and OTS Exhibit No. 2.

Q. WHAT IS THE PURPOSE OF YOUR SUPPLEMENTAL TESTIMONY?

A. The purpose of this testimony is to quantify the impact of my discount rate recommendation on stranded plant.

Q. WHAT IMPACT ON STRANDED PLANT RESULTS FROM A DECREASE IN THE DISCOUNT RATE FROM 8.41 PERCENT TO 7.85 PERCENT?

A. Changing the discount rate in the net present value calculation results in a decrease in stranded plant of approximately $177 million.

Q. DOES THIS CONCLUDE YOUR SUPPLEMENTAL TESTIMONY?

A. Yes.

R-00973953
R-00973953C0001-C000

OTS Exhibit No. 2
Witness: K. L. Deardorff
Date: June 20, 1997

Phil. 10-14,15+16-97
GST

PECO ENERGY COMPANY

Docket No. R-00973953

Exhibit to Accompany the

Direct Testimony

of

Kevan L. Deardorff

Office of Trial Staff

Concerning:

Rate of Return/Discount Rate

Vol 43

OTS Exhibit No. 2
Schedule No. 1

PECO Energy Company
After-Tax Cost of Capital Conclusion
Discount Rate
at December 31, 1996

		[1] Capital Structure	[2] Cost Rates	[3] Weighted Cost of Capital	[4] Tax Savings on Debt @ 41.493%	[5] After-Tax Cost of Capital
[1]	Long-Term Debt	43.09%	8.47%	3.65%	1.51%	2.14%
[2]	MIPS Debt	3.29%	9.21%	0.30%	0.13%	0.17%
[3]	Preferred Stock	2.97%	7.70%	0.23%		0.23%
[4]	Common Equity	50.65%	10.50%	5.32%		5.32%
[5]	Total	100.00%		9.50%		7.85%

Capitalization Ratios for PECO Energy Company at December 31, 1996

		[1] Amount	[2] Percentage Of Total Capitalization
[1]	Long-Term Debt	$3,953,000,000	43.09%
[2]	MIPS Debt	302,000,000	3.29%
[3]	Preferredd Stock	272,000,000	2.97%
[4]	Common Equity	4,646,000,000	50.65%
[5]	Total	$9,173,000,000	100.00%

Source: Exhibit JFBr-1, Schedule 1

Summary of Risk Indicators for PECO Energy Company
and the Barometer Group of Electric Companies at April 11, 1997

	Company	[1] Generating Percent Nuclear	[2] Total Capital ($Million)	[3] Equity Ratio	[4] Beta	[5] Safety Rank	[6] Financial Strength
[1]	Atlantic Energy Inc	38.3	1933.8	42.0	0.70	3.0	B+
[2]	Baltimore Gas & Electric	42.4	6322.4	47.9	0.85	2.0	B++
[3]	Boston Edison	42.6	2591.8	45.1	0.70	3.0	B
[4]	Carolina Power & Light	45.8	5508.4	50.0	0.85	2.0	A
[5]	DQE	31.3	2941.7	45.5	0.75	2.0	A
[6]	Dominion Resources	43.0	10835.3	46.5	0.75	2.0	B++
[7]	Duke Power	55.0	9348.0	53.5	0.70	1.0	A+
[8]	GPU Inc	38.4	6521.0	49.5	0.85	3.0	B++
[9]	IES Industries Inc	31.1	1385.8	46.6	0.65	3.0	B++
[10]	PP&L Resources	31.0	6231.0	45.5	0.75	2.0	B++
[11]	Public Service Enterprise	55.9	12383.0	47.5	0.80	2.0	A
[12]	Rochester Gas & Electric	74.0	1643.7	50.9	0.65	3.0	B+
[13]	Unicom Corp	72.7	14336.0	46.6	0.80	3.0	B+
[14]	Average	46.3	6306.3	47.5	0.75	2.4	B++
[15]	PECO Energy	69.9	9905.4	49.9	0.85	2.0	B++

Sources: Compustat Database, yearend 1995 (Columns 1 and 2).
Value Line Investment Survey - Ratings and Reports, March 14 and April 11, 1997

Comparison of Key Economic Variables to the Dividend Yields for the
Barometer Group of Electric Companies
and PECO Energy Company
for 1977 to 1996 and Estimates for 1997 to 2006

		[1]	[2]	[3]	[4]	[5]	[6]
		Moody's	U.S.		CPI	Dividend Yield	
		'A' Utility	Treasury	Prime	Percent	Barometer	
	Year	Bond Yield	Bills	Rate	Change	Group	PECO
[1]	1977	8.61	5.27	6.83	6.80	8.00	9.17
[2]	1978	9.29	7.22	9.06	9.00	8.96	10.36
[3]	1979	10.49	10.04	12.67	13.30	10.30	11.57
[4]	1980	13.34	11.51	15.27	12.50	12.21	12.69
[5]	1981	15.95	14.03	18.87	8.90	12.54	14.90
[6]	1982	15.86	10.69	14.86	3.80	11.81	13.51
[7]	1983	13.66	8.63	10.79	3.80	10.68	13.35
[8]	1984	14.03	9.58	12.04	4.00	11.13	17.60
[9]	1985	12.46	7.48	9.93	3.80	9.42	13.97
[10]	1986	9.58	5.98	8.33	1.10	7.59	10.48
[11]	1987	10.09	5.82	8.21	4.40	7.92	10.29
[12]	1988	10.49	6.69	9.32	4.40	7.29	11.54
[13]	1989	9.77	8.12	10.87	4.60	7.28	10.09
[14]	1990	9.86	7.51	10.01	6.10	7.36	7.63
[15]	1991	9.36	5.42	8.46	3.10	6.90	5.63
[16]	1992	8.69	3.45	6.25	2.90	6.55	5.37
[17]	1993	7.59	3.02	6.00	2.70	5.79	4.85
[18]	1994	8.30	4.29	7.15	2.70	6.76	5.76
[19]	1995	7.89	5.51	8.83	2.50	6.67	6.06
[20]	1996	7.75	5.02	8.27	3.30	6.42	6.32
	Recent Forecasts:						
[21]	1997-2nd Qtr	8.10	5.50	9.00	3.40		
[22]	1997-3rd Qtr	8.10	5.60	9.00	3.40		
[23]	1997-4th Qtr	8.00	5.70	9.10	3.50		
[24]	1998-1st Qtr	7.90	5.60	9.20	3.50		
[25]	1998-2nd Qtr	7.80	5.60	9.10	3.50		
[26]	1998-3rd Qtr	7.70	5.50	9.10	3.50		
	Extended Forecasts:						
[27]	1997	7.60	5.20	8.30	3.00		
[28]	1998	7.50	5.00	8.10	3.10		
[29]	1999	7.40	5.00	8.00	3.00		
[30]	2000	7.40	5.00	8.00	2.90		
[31]	2001	7.30	4.90	8.00	2.90		
[32]	2002-06	7.20	4.80	7.80	2.80		

Sources: Economic Indicators, March, 1997
Blue Chip Financial Forecasts, December 1; 1996 and May 1,, 1997
Moody's Bond Record, May, 1995
Standard & Poor's Compustat Data base

Expected Market Cost Rate of Equity
Using Data for PECO Energy Company

	Time Period	(1) Adjusted Dividend Yield(1) (%)	(2) Growth Rate (%)	(3) Expected Rate of Return (%)
(1)	52 Week Average (ending 5/30/97)	7.80	2.75	10.55
(2)	Spot Price(2) (ending 5/30/97)	9.47	2.75	12.22
(3)	Average:	8.64	2.75	11.39

Notes: (1) Value Line's reported dividends are projected for the year ahead.

Sources: Value Line Investment Survey, Ratings and Reports
March 14, and April 11, 1997
Barron's, June 2, 1997

Expected Market Cost Rate of Equity
Using Data for the Barometer Group Electric Companies

	Time Period	[1] Adjusted Dividend Yield(1) (%)	[2] Growth Rate (%)	[3] Expected Rate of Return (%)
[1]	52 Week Average (ending 5/30/97)	6.85	3.50	10.35
[2]	Spot Price(2) (ending 5/30/97)	7.04	3.50	10.54
[3]	Average:	6.94	3.50	10.44

Notes: (1) Value Line's reported dividends are projected for the year ahead.

Sources: Value Line, Ratings and Reports, March 14 and April 11, 1997
Barron's, June 2, 1997

Actual and Estimated Growth Rates
for PECO Energy and the Barometer Groups of Electric Companies

		Expected Growth			Historical Growth	
	Company	[1] Value Line Five Year Dividend Growth	[2] S & P Earnings Growth	[3] Value Line Five Year Earnings Growth	[4] Value Line Five Year Dividend Growth	[5] Value Line Five Year Earnings Growth
[1]	Atlantic Energy Inc	-6.0	2.0	0.0	1.5	-2.0
[2]	Baltimore Gas & Electric	3.0	3.0	6.5	2.0	0.0
[3]	Boston Edison	1.0	2.0	1.5	1.0	5.0
[4]	Caroline Power & Light	3.0	4.0	4.5	3.5	1.5
[5]	DQE	5.0	5.0	4.0	5.5	8.0
[6]	Dominion Resources	1.0	4.0	5.5	3.5	-0.5
[7]	Duke Power	4.5	4.0	4.5	5.0	4.5
[8]	GPU Inc	3.0	4.0	5.5	10.5	1.0
[9]	IES Industries Inc	0.0	2.0	2.0	0.5	2.0
[10]	PP&L Resources	0.0	3.0	2.5	3.0	-0.5
[11]	Public Service Enterprise	0.5	2.0	1.0	1.0	1.0
[12]	Rochester Gas & Electric	0.0	2.0	0.5	2.5	0.5
[13]	Unicom Corp	1.5	4.0	1.5	0.0	-0.5
[14]	Group Average	2.1	3.3	3.8	3.6	2.2
[15]	PECO Energy	2.0	3.0	2.5	-4.5	-0.5

Sources: Value Line Investment Survey, March 14, and April 11, 1996
Standard and Poor's Earnings Guide, May, 1997

Dividend Payout Ratios for PECO Energy and the Barometer Groups of Electric Companies
for 1988-1996 and Five Year Forecasts (1)

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]
	Company	1988	1989	1990	1991	1992	1993	1994	1995	1996	5-Year Forecast
[1]	Atlantic Energy, Inc.	74.5	76.5	97.4	85.7	100.0	85.6	109.2	99.4	137.5	62.5
[2]	Baltimore G&E Co.	57.1	68.5	100.0	92.1	87.7	79.5	78.2	76.7	85.9	62.8
[3]	Boston Edison Co.	97.8	92.1	96.3	81.6	79.0	75.4	73.9	88.5	72.0	75.2
[4]	Carolina P&L Co.	70.6	68.1	67.0	67.8	67.8	74.4	84.7	71.8	69.2	69.0
[5]	DQE	65.3	64.4	61.7	58.1	57.9	59.7	56.8	55.5	56.0	62.3
[6]	Dominion Res, Inc.	68.8	77.9	81.1	78.6	90.2	79.5	90.7	105.3	97.4	67.5
[7]	Duke Power Co.	66.1	59.1	66.7	64.6	79.6	65.7	66.7	61.5	61.7	65.0
[8]	GPU, Inc.	28.6	51.0	51.8	60.7	70.5	63.4	77.3	65.3	78.5	58.7
[9]	IES Industries	83.5	88.7	117.6	109.7	109.4	85.7	89.7	95.5	102.9	85.7
[10]	PP&L Resources Inc.	73.8	70.4	75.3	77.1	78.7	79.7	100.0	86.5	81.5	74.2
[11]	Public Service Enter.	78.2	78.6	81.6	87.7	109.6	79.7	77.7	79.7	87.8	77.2
[12]	Rochester Gas & Electri	66.7	70.7	91.9	89.5	91.8	86.0	98.3	106.5	77.6	90.0
[13]	Unicom Coorporation	99.7	106.0	125.5	112.4	101.8	85.1	96.4	53.7	51.6	61.8
[14]	Average	71.6	74.8	85.7	82.0	86.5	76.9	84.6	80.4	81.5	70.1
							Average 1988-96			80.4	
[15]	PECO Energy Co.	94.4	88.4	67.1	57.2	61.3	58.4	88.1	65.5	78.6	72.2
							Average 1988-96			73.2	

Note: (1) Payout ratio = Dividend per share/earnings per share.

Sources: Value Line Investment Survey, March 14 and April 11, 1997

Current and Expected Price/Earnings Ratios
for the Barometer Group of Electric Companies
and PECO Energy Company

	Company	[1] Current P/E	[2] Five Year Forecasted P/E
[1]	Atlantic Energy Inc	12.5	10.3
[2]	Baltimore Gas & Electric	14.1	10.5
[3]	Boston Edison	10.0	10.0
[4]	Carolina Power & Light	13.2	12.1
[5]	DQE	12.1	11.5
[6]	Dominion Resources	13.3	10.6
[7]	Duke Power	12.5	13.8
[8]	GPU Inc	10.4	10.0
[9]	IES Industries Inc	12.1	12.2
[10]	PP&L Resources	11.2	11.1
[11]	Public Service Enterprise	10.5	9.5
[12]	Rochester Gas & Electric	8.8	10.8
[13]	Unicom Corp	7.4	7.5
[14]	Average	11.4	10.8
[15]	PECO Energy	9.8	10.8

Sources: Value Line, Ratings and Reports, March 14 and April 11, 1997

OTS Exhibit No. 2
Schedule No. 6

PECO Energy Company
Interest Coverage

		[1] Capital Structure	[2] Cost Rates	[3] Weighted Cost of Capital	[4] Effective Tax Rate Compliment(1)	[5] Pre-Tax Cost of Capital
[1]	Long-Term Debt	43.09%	8.47%	3.65%		3.65%
[2]	MIPS Debt	3.29%	9.21%	0.30%		0.30%
[3]	Preferred Stock	2.97%	7.70%	0.23%	0.5851	0.39%
[4]	Common Equity	50.65%	10.50%	5.32%	0.5851	9.09%
[5]	Total	100.00%		9.50%		13.43%

[6] Pre-Tax Coverage: 13.43/3.95 = 3.40

[7] Pre-Tax Coverage: 9.50/3.95 = 2.41

Notes: (1) Effective income tax rate assumed to be 41.493%.
[35% Fed. Inc. Tax + (9.99% State Inc. Tax x (1-.35)].

Historic Interest Coverage Ratios for PECO Energy and the Barometer Groups of Electric Companies for 1987-1996 (1)

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]
	Company	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
[1]	Atlantic Energy, Inc.	3.57	2.87	3.02	2.80	3.39	3.58	3.51	3.07	3.21	2.56
[2]	Baltimore G&E Co.	4.36	3.62	2.75	1.27	2.00	2.46	2.81	2.90	3.04	2.99
[3]	Boston Edison Co.	2.43	1.76	0.31	1.81	1.76	1.85	2.24	2.45	2.42	N/A
[4]	Carolina P&L Co.	2.78	2.13	3.07	2.19	3.16	3.44	3.33	3.44	3.81	4.31
[5]	DQE	1.00	2.23	2.32	2.48	2.79	3.01	3.10	2.61	3.64	N/A
[6]	Dominion Res, Inc.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
[7]	Duke Power Co.	4.39	3.38	4.03	3.31	3.69	3.55	4.72	4.63	4.91	5.14
[8]	GPU, Inc.	4.05	3.84	3.45	3.30	2.79	3.29	3.43	2.16	4.30	N/A
[9]	IES Industries	2.67	2.52	2.38	4.09	2.61	2.54	3.31	3.26	3.05	2.95
[10]	PP&L Resources Inc.	2.75	2.68	2.85	2.94	3.14	3.18	3.33	2.72	3.63	N/A
[11]	Public Service Enter.	3.36	3.05	2.79	2.53	2.57	2.45	2.79	2.94	3.01	2.93
[12]	Rochester Gas & Electri	1.69	2.46	2.42	2.21	2.14	2.55	2.81	2.91	2.85	3.76
[13]	Unicom Coorporation	2.31	2.47	2.60	1.38	1.57	1.99	1.11	1.98	3.02	3.15
[14]	Average	2.95	2.75	2.67	2.53	2.63	2.82	3.04	2.92	3.41	2.32
[15]	PECO Energy Co.	2.05	1.70	1.47	1.19	2.42	2.30	2.97	2.53	3.41	3.23

Note: (1) Pre-tax basis

Sources: Standard and Poor's Compustat Data Base

N.Y. Times Tue. Feb 18, 1992

Market Place

A Study Shakes Confidence In the Volatile-Stock Theory

By ERIC N. BERG

One of the most enduring ideas of modern finance is facing its most serious challenge. Two scholars of finance say they have disproved the theory, common among investors, that stocks more volatile than the market as a whole are the best performers.

Eugene F. Fama and Kenneth R. French, business professors at the University of Chicago, traced the performance of thousands of stocks over 50 years but found no link between relative volatility and long-term returns. The many investors who try to beat the market by buying widely swinging issues are misguided, they say.

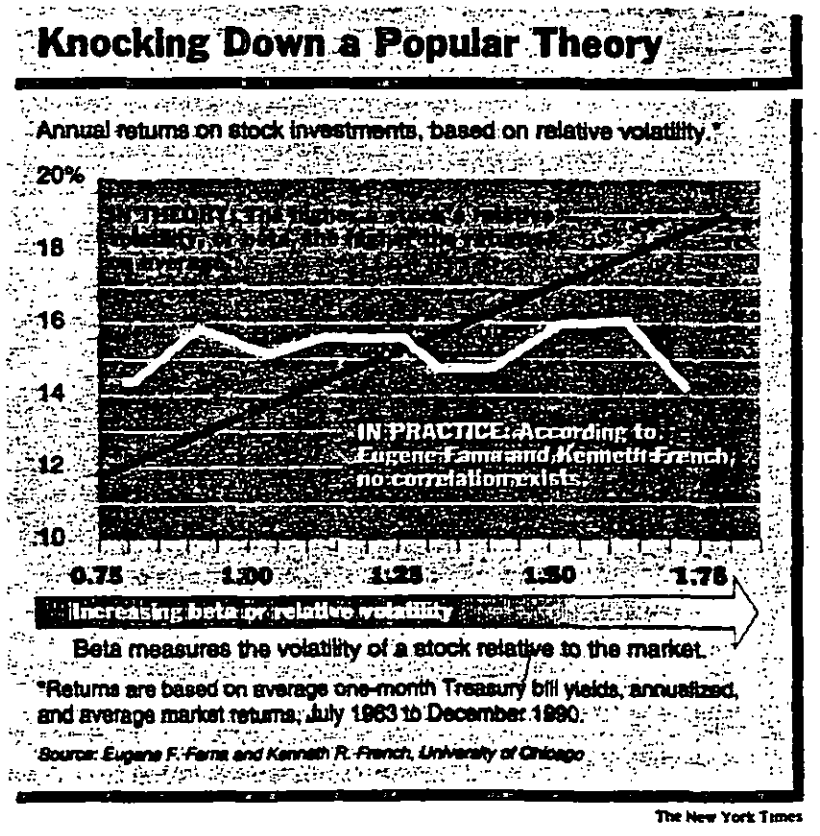
The importance of "beta," the investment community's term for a stock's volatility relative to the market, has long been under challenge. But it is still closely watched by analysts, and business students are still taught that they can earn higher returns by buying stocks whose swings are wider than the market's.

"The fact is," Professor Fama said in a recent telephone interview, "beta as the sole variable explaining returns on stocks is dead."

Some still favor relatively volatile stocks, among them William F. Sharpe, a retired Stanford University professor who won the 1990 Nobel Memorial Prize in Economic Science for theories based on beta. "It is a remarkable set of empirical results about what happened in the past," he said of the University of Chicago study. "But I am not willing to make investment decisions based on the theory that there is no relationship between beta, properly measured, and expected returns."

If Professors Fama and French

Continued on Page D6



A Study Shakes Confidence In the Volatile-Stock Theory

Continued From First Business Page

are right, however, the impact could be far reaching. Some highly volatile groups of stocks that have enjoyed wide followings — airlines, for example — could lose a portion of their appeal if beta-believing investors side with the professors.

Additionally, many executives of publicly held companies have taken the view that if their own company's stock is more volatile than the market as a whole, any project they invest in — from a lowly piece of new equipment to a huge joint venture — must generate an extra high return to compensate investors for swings in the stock's price and earnings. The professors' work could force many companies to rethink the way they approach capital spending, finance scholars say.

Finally, many publicly held utilities have used beta to justify rate requests. They figure the returns that investors demand, given their companies' betas, and develop rate structures that allow them to earn these returns. But recognizing that their low betas tend to argue against large rate increases, a growing number of utilities had already turned to other approaches. More will probably do so if the research of Professors Fama and French gains currency.

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And if investors decide to quit following betas, other theories of market behavior are likely to gain influence. "What we are really taking about is opening the floodgates to a whole new generation of research into what truly drives stock prices," said Anthony B. Sanders, an Ohio State University professor of finance who is currently a visiting professor at the University of Chicago. "Once you hammer a model like the old one closed, you generate all sorts of additional academic interest."

Professor Fama has already won worldwide recognition for his efficient-markets theory — the notion that because investors all have essentially the same information it is impossible to consistently earn returns greater than those justified by the risks.

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Professor Sharpe used Professor Fama's theory as an assumption to develop the capital-asset pricing model, which links returns to risk, as measured by beta.

Professor Sharpe says that a diversified portfolio can reduce the risks peculiar to individual companies — that General Motors stock, for example, will be hurt by a strike. Investors, therefore, earn no rewards for bearing this risk, according to the Sharpe theory.

But investors do earn higher returns for bearing the other type of risk, known as market risk, Professor Sharpe says. This risk, which remains even after an investor diversifies, depends on how much an individual stock is dragged up or down by the market as a whole. Stocks like that of the biotechnology company Genentech, which have betas of more than 1.0, are more volatile than the market, while stocks like that of the power company Consolidated Edison, which have betas of less than 1.0, are calmer than the market.

To calculate market risk, or beta, finance professionals compare changes in the prices of individual stocks with changes in market indicators like the Standard & Poor's 500-stock index. Professor Sharpe and his followers say that in general, the higher a stock's beta, or volatility relative to the market, the greater its long-term returns.

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Professors Fama and French disagree. Their paper, just published by the University of Chicago's Center for Research in Security Prices, says that long-term returns depend not on beta, but on company size and price-to-book ratios. Smaller companies, as measured by the market value of their shares, and those with low prices relative to their book values have in fact outperformed the market, they say.

The professors theorize that investors view smaller companies as more vulnerable to economic downturns and therefore demand higher returns. They also say that low price-to-book ratios typically reflect financial problems, another reason for investors to demand higher returns.

Professors Fama and French are by no means the first to fire an intellectual salvo at the capital-asset pricing model. Since Professor Sharpe developed the model in the early 1960's, a broad array of rival theories has emerged to explain stock price movements: the January effect, which says that stocks usually gain at the beginning of the year, to the weekend effect, which says stocks generally perform poorly on Mondays. Most recently, the arbitrage pricing theory says that stocks are driven by powerful economywide forces like unanticipated inflation and spikes in interest rates.

But finance experts say that Professors Fama and French have presented the most conclusive evidence against beta.

"What they have proven fairly rigorously is what other academics have been talking about for some time," said Richard Roll, a finance professor at the University of California at Los Angeles, who with others developed the arbitrage pricing theory.

Equity Issues This Week

R-00973953
R-00973953C0001-C0007

OTS Statement No. SR-2
Witness: K. L. Deardorff
Date: August 1, 1997

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CJT

PENNSYLVANIA PUBLIC UTILITY COMMISSION

v.

PECO ENERGY COMPANY

Docket No. R-00973953

Surrebuttal Testimony

of

Kevan L. Deardorff

Office of Trial Staff

Concerning:

Rate of Return/Discount Rate

Vol 43

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Kevan L. Deardorff. My business address is P.O. Box 3265, Harrisburg, Pa. 17105-3265.

Q. HAVE YOU TESTIFIED PREVIOUSLY IN THIS PROCEEDING?

A. Yes. I previously presented testimony regarding rate of return/discount rate at OTS Statement No. 2 and OTS Exhibit No. 2.

Q. WHAT IS THE PURPOSE OF YOUR SURREBUTTAL TESTIMONY?

A. I have two reasons for presenting surrebuttal testimony. First, I want to revise my recommended discount rate to account for changes that have occurred since I prepared my direct testimony. Second, I want to briefly comment on the more significant of Mr. Brennan's criticisms of my analysis and recommendation.

Q. YOU STATED THAT YOU REVISED YOUR DISCOUNT RATE. WHAT IS YOUR REVISED DISCOUNT RATE AND HOW DID YOU CALCULATE IT?

A. My revised discount rate recommendation is 7.73 percent. OTS Exhibit No. SR-2, Schedule No. 1 (Updated) presents this calculation. The decrease in the discount rate is the result of my recommended cost of equity decreasing from 10.50 percent to 10.25 percent. This revision was necessary to account for changes that have occurred in both analysts' growth forecasts and market data and to correct an error in a computer program.

Q. PLEASE DESCRIBE THE UPDATES TO YOUR DCF RESULTS?

A. The updates and DCF calculations are presented in OTS Exhibit No. SR-2, Schedule No. 5, pages 1 and 2. The DCF results for PECO are in the range of 10.05 to 10.53 percent with an average of 10.29 percent. The DCF results for the barometer group are in the range of 10.10 to 10.12 percent with an average of 10.11 percent.

Q. ON PAGE 1 OF YOUR SUPPLEMENTAL TESTIMONY YOU INDICATED THAT YOUR DISCOUNT RATE ADJUSTMENT FROM THE COMPANY'S 8.41 PERCENT TO 7.85 PERCENT RESULTED IN AN ADJUSTMENT TO STRANDED PLANT OF $177 MILLION. HOW DOES YOUR REVISED DISCOUNT RATE AFFECT THE ADJUSTMENT TO STRANDED PLANT?

A. The impact on stranded plant is now $218 million rather than the $177 million that was presented in my original testimony. This revision is offered for illustrative purposes only. In addition, the revision does not account for Mr. Brennan's updated discount rate of 8.71 percent recommendation because the Company has not revised their stranded plant claim.

Q. MR. BRENNAN HAS INDICATED THAT THE VALUE LINE CALCULATED BETA FOR PECO HAS INCREASED TO .90. IS THIS UPDATE CORRECT?

A. Yes. The new issue of Value Line dated June 13, 1997 reports that the beta for PECO has increased from .85 to .90 over the last three months. During the same period the average beta for my barometer group has remained constant at .75.

Q. BASED UPON THE .15 DIFFERENTIAL BETWEEN PECO'S BETA AND THE BAROMETER GROUP'S BETA, MR. BRENNAN CALCULATED THAT THIS RISK DIFFERENTIAL SUGGESTS A 100 BASIS POINT DIFFERENCE IN COST RATE. SHOULD PECO'S DISCOUNT RATE REFLECT THIS 100 BASIS POINT DIFFERENCE TO ACCOUNT FOR A RISK DIFFERENTIAL?

A. No. As I previously indicated on pages 11 and 33 of my direct testimony, the recent rise in PECO's beta is reflective of the uncertainty surrounding the current filings. The risk associated with this uncertainty is short-term, therefore, the 100 basis points should not be included in an estimate of the long-term cost of capital to PECO.

Q. MR. BRENNAN ATTEMPTS TO ELEVATE THE IMPORTANCE OF BOND RATINGS AS AN INDICATOR OF INVESTMENT RISK TO SHAREHOLDERS. DO YOU BELIEVE THAT BOND RATINGS ARE AS IMPORTANT TO SHAREHOLDERS AS OTHER MORE DIRECT MEASUREMENTS OF EQUITY RISK?

A. No. Many of the factors examined by Value Line and the bond rating agencies overlap. For example, factors such as the size of company, overall quality of the balance sheet and the stability of the markets for the

company's products are incorporated. However, Value Line goes beyond the factors examined by bond rating agencies in their evaluation of equity safety. Value Line states that their safety rank also examines a company's stock price volatility around its own long-term trend and the marketability of the company's stock[1/]. This explains why Value Line rates PECO's equity as less risky in comparison to the barometer group, while the bond rating agencies rates PECO's debt as more risky in comparison to the barometer group.

Q. MR. BRENNAN STATES THAT S&P GROWTH RATES HAVE NO DEMONSTRATED ADVANTAGE OVER VALUE LINE BECAUSE S&P WOULD NOT TELL HIM HOW MANY ANALYSTS ARE INCLUDED IN THE S&P FIVE-YEAR PROJECTED EPS GROWTH RATE FOR PECO. IS THIS TRUE?

A. Technically this is correct. However, S&P refers this type of inquiry to RHL Research Holding Company, the firm that collects the raw data for S&P. Upon further inquiry, it was revealed that ten analysts provided five year earnings forecasts to RHL, which resulted in the 3.0 percent growth

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1/ Investing in Common Stocks with the aid of The Value Line Rankings and other Criteria of Stock Value, Arnold Bernhard & Co., 1975.

forecast for PECO provided by S&P in their Earnings Guide[2/]. Therefore, Mr. Brennan's conclusion that S&P growth forecasts have no advantage, is incorrect.

Q. MR. BRENNAN ATTEMPTS TO DEMONSTRATE THAT YOUR RECOMMENDATION OF 10.50 PERCENT IS BELOW THE ZONE OF REASONABLENESS BY COMPARING IT TO A DCF ANALYSIS OF ALLEGHENY POWER SYSTEM. IS THIS A FAIR COMPARISON?

A. No. Mr. Brennan's DCF results for APS should not be used as a check on the reasonableness of the DCF results for PECO.

Q. WHY SHOULD THESE RESULTS BE DISCARDED?

A. I have previously testified at pages 8 and 9 of OTS Statement No. 2 as to the problems associated with using the data for a single company in a rate of return analysis. The use of a barometer group would provide a much more reliable comparison.

[2/] Telephone conversation with Robert Guerillo of RHL Research Holding, July 22, 1997.

Q. ARE THERE REASONS TO BELIEVE THAT APS HAS BEEN SUBJECTED TO EVENTS WHICH CAUSED SHORT-TERM ABERRATIONS IN THE MARKET DATA?

A. Yes. Allegheny Power System and DQE announced on April 7, 1997, there intentions to merge.

Q. WHAT EVIDENCE EXISTS THAT THIS HAS CAUSED ABERRATIONS IN THE MARKET DATA FOR APS?

A. Over the past six months the stock price of APS has declined by 18 percent compared to a 9 percent decline for my barometer group over the same time frame. Apparently, APS investors are not to happy about acquiring a company with substantial nuclear exposure and the associated stranded plant.

Q. WHAT EFFECT HAS THE ABERRATION HAD ON THE SPOT DCF RESULTS FOR APS?

A. The spot DCF result for APS at December 13, 1996 is 9.95 percent compared to a current spot DCF result of 11.7 percent.

Q. MR. BRENNAN CRITICIZES YOUR INTEREST COVERAGE ANALYSIS BY COMPARING YOUR INTEREST COVERAGE TO THE BENCHMARK OF 3.65 TIMES (MIDPOINT BETWEEN LONG-TERM DEBT RATED BBB AND A OF 3.15 AND 4.15). IS THIS ANALYSIS MATHEMATICALLY CORRECT?

A. No. Mr. Brennan erroneously chose the midpoint as the relevant comparison point. Since there are two increments between the BBB and the A rating the range between the two points must be trisected in order to arrive at an appropriate comparison for PECO's BBB+ rating. The following pre-tax interest coverage ratios for an electric utility with a business position of 6 are extrapolated from Exhibit JFBr-2, Schedule 4, Page 2:

Rating	Midpoint	Range
A	4.15	3.99 - 4.31
A-	3.82	3.66 - 3.98
BBB+	3.48	3.32 - 3.65
BBB	3.15	2.99 - 3.31

Clearly, my recommended return on equity of 10.25 percent results in an interest coverage ratio of 3.34 times which is consistent with PECO's BBB+ rating. Mr. Brennan's recommendation, however, results in a coverage ratio of 3.77 which is not consistent with a BBB+ rating.

Q. FINALLY, DO YOU AGREE WITH MR. BRENNAN'S CONTENTION THAT THE PENNSYLVANIA PUBLIC UTILITY COMMISSION EMPLOYS A VARIETY OF METHODS IN THE DETERMINATION OF THE MARKET-REQUIRED COST RATE FOR COMMON EQUITY?

A. No. The NARUC study upon which Mr. Brennan based this conclusion is inaccurate. This inaccuracy is confirmed by the Commission's statement in its most recent order at page 56 of its Qualified Rate Order for PECO Energy (Docket No. R-00973877):

> Regarding PECO's argument that the OTS' cost of equity determination is deficient because it relies solely upon the DCF method, the OTS contends that the ALJ appropriately found that, in numerous cases since 1988, the Commission has utilized the DCF method and informed judgement, citing Pennsylvania Public Utility Commission v. Philadelphia Suburban Water Company, 71 Pa.. PUC 593, 623-632 (1989) and Pennsylvania Public Utility Commission v. Western Pennsylvania Water Company, 67 Pa. PUC 529, 559-570 (1988).

In considering this matter, we note that, in numerous recent proceedings, we have determined a utility's cost of common equity using primarily the DCF (Discounted Cash Flow) method and informed judgement. Pennsylvania Public Utility Commission v. Roaring Creek Water Company, Docket No. R-00943177 (Order entered on May 31, 1995); Pennsylvania Public Utility Commission v. Philadelphia Suburban Water Company, supra. Regardless of the procedure employed in determining the fair rate of return for a utility, we exercise informed judgement. Pennsylvania Public Utility commission v. West Penn Power Company, supra. Therefore, we reject PECO's argument that the OTS' reliance solely on the DCF methodology is improper in this proceeding.

Q. DOES THIS CONCLUDE YOUR SURREBUTTAL TESTIMONY?

A. Yes.

OTS Exhibit No. SR-2
Witness: K. L. Deardorff
Date: August 1, 1997

PECO ENERGY COMPANY

Docket No. R-00973953

Exhibit to Accompany the

Surrebuttal Testimony

of

Kevan L. Deardorff

Office of Trial Staff

Concerning:

Rate of Return/Discount Rate

OTS Exhibit No. SR-2
Schedule No. 1
(Updated)

PECO Energy Company
After-Tax Cost of Capital Conclusion
Discount Rate
at December 31, 1996

		[1] Capital Structure	[2] Cost Rates	[3] Weighted Cost of Capital	[4] Tax Savings on Debt @ 41.493%	[5] After-Tax Cost of Capital
[1]	Long-Term Debt	43.09%	8.47%	3.65%	1.51%	2.14%
[2]	MIPS Debt	3.29%	9.21%	0.30%	0.13%	0.17%
[3]	Preferred Stock	2.97%	7.70%	0.23%		0.23%
[4]	Common Equity	50.65%	10.25%	5.19%		5.19%
[5]	Total	100.00%		9.37%		7.73%

OTS Exhibit No. SR-2
Schedule No. 3
(Updated)

Summary of Risk Indicators for PECO Energy Company
and the Barometer Group of Electric Companies at July 11, 1997

		[1]	[2]	[3]	[4]	[5]	[6]
	Company	Generating Percent Nuclear	Total Capital ($Million)	Equity Ratio	Beta	Safety Rank	Financial Strength
[1]	Atlantic Energy Inc	38.3	1933.8	42.0	0.70	3.0	B+
[2]	*Baltimore Gas & Electric*	42.4	6322.4	47.9	0.80	2.0	B++
[3]	Boston Edison	42.6	2591.8	45.1	0.70	3.0	B+
[4]	Carolina Power & Light	45.8	5508.4	50.0	0.80	2.0	A
[5]	DQE	31.3	2941.7	45.5	0.75	2.0	A
[6]	Dominion Resources	43.0	10835.3	46.5	0.70	2.0	B++
[7]	Duke Power	55.0	9348.0	53.5	0.70	1.0	A+
[8]	GPU Inc	38.4	6521.0	49.5	0.85	3.0	B++
[9]	IES Industries Inc	31.1	1385.8	46.6	0.65	3.0	B++
[10]	PP&L Resources	31.0	6231.0	45.5	0.70	3.0	B++
[11]	Public Service Enterprise	55.9	12383.0	47.5	0.80	2.0	A
[12]	Rochester Gas & Electric	74.0	1643.7	50.9	0.65	3.0	B+
[13]	Unicom Corp	72.7	14336.0	46.6	0.90	3.0	B+
[14]	Average	46.3	6306.3	47.5	0.75	2.5	B++
[15]	PECO Energy	69.9	9905.4	49.9	0.90	2.0	B++

Sources: Compustat Database, yearend 1995 (Columns 1 and 2).
Value Line Investment Survey - Ratings and Reports, June 13 and July 11, 1997

OTS Exhibit No. SR-2
Schedule No. 4
(Updated)

Comparison of Key Economic Variables to the Dividend Yields for the
Barometer Group of Electric Companies
and PECO Energy Company
for 1977 to 1996 and Estimates for 1997 to 2007

		[1] Moody's 'A' Utility	[2] U.S. Treasury	[3]	[4] CPI	[5] Dividend Yield	[6]
	Year	Bond Yield	Bills	Prime Rate	Percent Change	Barometer Group	PECO
[1]	1977	8.61	5.27	6.83	6.80	8.00	9.17
[2]	1978	9.29	7.22	9.06	9.00	8.96	10.36
[3]	1979	10.49	10.04	12.67	13.30	10.30	11.57
[4]	1980	13.34	11.51	15.27	12.50	12.21	12.69
[5]	1981	15.95	14.03	18.87	8.90	12.54	14.90
[6]	1982	15.86	10.69	14.86	3.80	11.81	13.51
[7]	1983	13.66	8.63	10.79	3.80	10.68	13.35
[8]	1984	14.03	9.58	12.04	4.00	11.13	17.60
[9]	1985	12.46	7.48	9.93	3.80	9.42	13.97
[10]	1986	9.58	5.98	8.33	1.10	7.59	10.48
[11]	1987	10.09	5.82	8.21	4.40	7.92	10.29
[12]	1988	10.49	6.69	9.32	4.40	7.29	11.54
[13]	1989	9.77	8.12	10.87	4.60	7.28	10.09
[14]	1990	9.86	7.51	10.01	6.10	7.36	7.63
[15]	1991	9.36	5.42	8.46	3.10	6.90	5.63
[16]	1992	8.69	3.45	6.25	2.90	6.55	5.37
[17]	1993	7.59	3.02	6.00	2.70	5.79	4.85
[18]	1994	8.30	4.29	7.15	2.70	6.76	5.76
[19]	1995	7.89	5.51	8.83	2.50	6.67	6.06
[20]	1996	7.75	5.02	8.27	3.30	6.42	6.32
	Recent Forecasts:						
[21]	1997-3rd Qtr	7.80	5.30	8.60	2.30		
[22]	1997-4th Qtr	7.80	5.40	8.70	2.40		
[23]	1998-1st Qtr	7.70	5.40	8.70	2.50		
[24]	1998-2nd Qtr	7.60	5.40	8.60	2.40		
[25]	1998-3rd Qtr	7.60	5.30	8.60	2.40		
[26]	1998-4th Qtr	7.60	5.30	8.50	2.40		
	Extended Forecasts:						
[27]	1998	7.70	5.40	8.50	2.90		
[28]	1999	7.30	5.00	8.00	2.90		
[29]	2000	7.20	4.80	7.80	2.70		
[30]	2001	7.20	4.80	7.80	2.70		
[31]	2002	7.20	4.80	7.80	2.60		
[32]	2003-07	7.10	4.70	7.60	2.60		

Sources:
Economic Indicators, March, 1997
Blue Chip Financial Forecasts, June 1, 1997 and July 1, 1997
Moody's Bond Record, May, 1995
Standard & Poor's Compustat Data base

Expected Market Cost Rate of Equity
Using Data for PECO Energy Company

	Time Period	(1) Adjusted Dividend Yield(1) (%)	(2) Growth Rate (%)	(3) Expected Rate of Return (%)
(1)	52 Week Average (ending 7/18/97)	7.80	2.25	10.05
(2)	Spot Price(2) (ending 7/18/97)	8.28	2.25	10.53
(3)	Average:	8.04	2.25	10.29

Notes: (1) Value Line's reported dividends are projected for the year ahead.

Sources: Value Line Investment Survey, Ratings and Reports
June 13 and July 11, 1997
Barron's, July 21, 1997

Expected Market Cost Rate of Equity
Using Data for the Barometer Group Electric Companies

	Time Period	[1] Adjusted Dividend Yield(1) (%)	[2] Growth Rate (%)	[3] Expected Rate of Return (%)
[1]	52 Week Average (ending 7/18/97)	6.85	3.25	10.10
[2]	Spot Price(2) (ending 7/18/97)	6.87	3.25	10.12
[3]	Average:	6.86	3.25	10.11

Notes: (1) Value Line's reported dividends are projected for the year ahead.

Sources: Value Line, Ratings and Reports, June 13 and July 11, 1997
Barron's, July 21, 1997

Actual and Estimated Growth Rates
for PECO Energy and the Barometer Groups of Electric Companies

		Expected Growth			Historical Growth	
	Company	[1] Value Line Five Year *Dividend* Growth	[2] S & P *Earnings* Growth	[3] Value Line Five Year *Earnings* Growth	[4] Value Line Five Year *Dividend* Growth	[5] Value Line Five Year *Earnings* Growth
[1]	Atlantic Energy Inc	-7.0	1.0	3.5	1.0	-4.5
[2]	Baltimore Gas & Electric	2.5	3.0	7.0	2.0	3.0
[3]	Boston Edison	0.5	2.0	1.0	2.5	5.5
[4]	Caroline Power & Light	3.0	4.0	4.5	3.5	2.0
[5]	DQE	5.0	5.0	3.0	6.0	7.5
[6]	Dominion Resources	0.0	4.0	5.0	3.0	-1.5
[7]	Duke Power	4.5	5.0	4.0	4.5	4.5
[8]	GPU Inc	2.5	4.0	6.5	6.5	0.5
[9]	IES Industries Inc	0.0	2.0	1.5	0.5	2.0
[10]	PP&L Resources	0.0	3.0	2.0	2.5	-1.0
[11]	Public Service Enterprise	0.5	2.0	1.5	0.5	1.0
[12]	Rochester Gas & Electric	0.0	2.0	2.5	2.5	0.5
[13]	Unicom Corp	1.5	3.0	1.5	0.0	-0.5
[14]	Group Average	1.0	3.1	3.3	2.7	1.5
[15]	PECO Energy	2.0	2.0	2.5	0.5	-1.0

Sources: Value Line Investment Survey, June 13, and July 11, 1997
Standard and Poor's Earnings Guide, July, 1997

Page

4 of 5

Missing

Current and Expected Price/Earnings Ratios
for the Barometer Group of Electric Companies
and PECO Energy Company

	Company	[1] Current P/E	[2] Five Year Forecasted P/E
[1]	Atlantic Energy Inc	10.0	10.3
[2]	Baltimore Gas & Electric	11.8	10.5
[3]	Boston Edison	9.8	10.0
[4]	Carolina Power & Light	13.0	11.3
[5]	DQE	11.7	11.5
[6]	Dominion Resources	11.1	11.4
[7]	Duke Power	12.9	13.8
[8]	GPU Inc	10.3	10.0
[9]	IES Industries Inc	13.6	12.5
[10]	PP&L Resources	9.8	11.9
[11]	Public Service Enterprise	10.0	8.6
[12]	Rochester Gas & Electric	8.7	10.7
[13]	Unicom Corp	8.8	7.7
[14]	Average	10.9	10.8
[15]	PECO Energy	9.1	9.8

Sources: Value Line, Ratings and Reports, June 13 and July 11, 1997

OTS Exhibit No. SR-2
Schedule No. 6
(Updated)

PECO Energy Company
Interest Coverage

		[1] Capital Structure	[2] Cost Rates	[3] Weighted Cost of Capital	[4] Effective Tax Rate Compliment(1)	[5] Pre-Tax Cost of Capital
[1]	Long-Term Debt	43.09%	8.47%	3.65%		3.65%
[2]	MIPS Debt	3.29%	9.21%	0.30%		0.30%
[3]	Preferred Stock	2.97%	7.70%	0.23%	0.5851	0.39%
[4]	Common Equity	50.65%	10.25%	5.19%	0.5851	8.87%
[5]	Total	100.00%		9.37%		13.22%

[6] Pre-Tax Coverage: 13.22/3.95 = 3.34

[7] Pre-Tax Coverage: 9.37/3.95 = 2.37

Notes: (1) Effective income tax rate assumed to be 41.493%.
[35% Fed. Inc. Tax + (9.99% State Inc. Tax x (1-.35)].

R-00973953
R-00973953C0001-C0087

OTS Statement No. 3
Dated: June 20, 1997

Phil. 10-14,15+16-97
GS

PENNSYLVANIA PUBLIC UTILITY COMMISSION

v.

PECO ENERGY COMPANY

Docket No. R-00973953

Direct Testimony

and

Exhibit

of

Charles T. Weakley, III

Concerning:

Regulatory Assets

Other Transition Costs

Vol. 43

Q. STATE YOUR FULL NAME, EMPLOYER AND BUSINESS ADDRESS.

A. Charles T. Weakley, III. I am employed by the Pennsylvania Public Utility Commission, P.O. Box 3265, Harrisburg, Pennsylvania 17105-3265.

Q. WHAT IS YOUR POSITION WITH THE PENNSYLVANIA PUBLIC UTILITY COMMISSION?

A. I am a Fixed Utility Financial Analyst in the Office of Trial Staff (OTS).

Q. WHAT ARE YOUR DUTIES AS AN ANALYST IN OTS?

A. My duties as an OTS analyst include participation in formal base rate proceedings as an expert witness, with responsibility for the preparation and presentation of OTS exhibits, schedules and testimony. My education and professional background are set forth in Appendix A, which is attached.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of this testimony is to recommend that PECO Energy Company's (PECO or Company) stranded regulatory assets for which there is a claim of a return of capital but not a return on capital, be included in the Competitive Transition Charge (CTC) on a net present value basis. Second, I am recommending that Other Transition Costs be included in the Competitive Transition Charge on a net present value basis.

REGULATORY ASSETS

Q. WHAT IS A REGULATORY ASSET?

A. A regulatory asset is defined in the Statement of Financial Accounting Standard No. 71 (SFAS 71), page 1, item 3, as follows:

> Regulators sometimes include costs in allowable costs in a period in which the cost would be charged to expense by an unregulated enterprise. That procedure can create assets (future cash inflows that will result from the ratemaking process), reduce assets (reductions of future cash inflows that will result from the ratemaking process), or create liabilities (future cash outflows that will result from the ratemaking process) for the regulated enterprise. For general-purpose financial reporting, an incurred cost for which a regulator permits recovery in a future period is accounted for like an incurred cost that is reimbursable under a *cost-reimbursement-type contract.*

Q. BRIEFLY EXPLAIN THE COMPANY'S CLAIM FOR REGULATORY ASSETS IN THIS FILING?

A. The Company's claim as of December 31, 1998 for generation-related regulatory assets, excluding nuclear and fossil decommissioning under funding, totals $2.6 billion. A summary of the Company's regulatory assets is provided at PECO Exhibit ABC-1, Schedule 6. The following is the Company's estimated balance of regulatory assets as of December 31, 1998.

Description	($1,000)
CC on 50% Limerick Common	$ 175,812
Unamortized Loss on Reacquired Debt	$ 158,311
Nuclear Design Basis Document	$ 28,852
PB/Lim Water Chemistry System	$ 6,692
Limerick 1 Declaratory Order	$ 18,301
Limerick 2 Declaratory Order	$ 67,985
SFAS No. 106	$ 100,580
SFAS No. 109	$1,687,069
Compensated Absences	$ 16,587
CC on 50% Comm PB/Sal/Eddy	$ 17,400
Sub-Total Regulatory Assets	$2,277,589
Electric Fuel Deferral 1996	$ 109,330
Additional Fuel Deferral	$ 202,138
Total Regulatory Assets	$2,589,057

An explanation of each of the above items can be found in PECO Statement No. 3, the Direct Testimony & Exhibits of Alan B. Cohn.

Q. MR. WEAKLEY, HAVE YOU EXAMINED THE COMPANY'S CLAIMS FOR REGULATORY ASSETS?

A. Yes. I have analyzed the Company's claims for regulatory assets and verified the estimated balances as of December 31, 1998. For the regulatory asset that are currently being recovered in base rates, I took the original amounts from the Commission Order and brought the amounts forward to December 31, 1996. For the remaining items, I have review the supporting documentation supplied by the Company. From that point, the Company's Exhibit ABC - 1, Schedule 6, shows the amortizations for 1997 and 1998 which appear to be reasonable. After verifying the estimated balances as of December 31, 1998, I have not found any material discrepancies.

Q. DO YOU AGREE WITH THE COMPANY INCLUDING THE REGULATORY ASSETS AT BOOK VALUE IN THE CTC?

A. No. It is not appropriate to include the book value amounts in the CTC.

Q. WHAT IS YOUR RECOMMENDATION REGARDING PECO'S CLAIM FOR GENERATION-RELATED REGULATORY ASSETS?

A. I am recommending that the stranded regulatory assets for which PECO is only

entitled to a *return of* but not a *return on* capital, be determined on a net present value basis over the 7-year Competitive Transition Charge period. The regulatory assets which PECO is only entitled to a return of, include Peach Bottom/ Limerick Water Chemistry, SFAS 106 - Postemployment Benefits other than Pensions, Compensated Absences, Limerick 1 and Limerick 2 Declaratory Orders and the Additional Fuel Deferral.

Q. WHAT IS THE BASIS FOR YOUR RECOMMENDATION?

A. By definition, stranded costs are to be determined on a net present value basis. 66 Pa. C.S. §2803. The rationale for including these regulatory assets on a net present value basis in the CTC is that the balances would have been recovered by a continuing amortization under the existing regulatory framework.

Q. MR. WEAKLEY, DID YOU CALCULATE THE NET PRESENT VALUE OF EACH REGULATORY ASSET WITH ONLY A RETURN OF CAPITAL?

A. Yes. The results of the net present value calculations are shown on OTS Exhibit No. 3, Schedule 1. In total, this will reduce PECO's claimed stranded costs by $91,915,000.

Q. MR. WEAKLEY, WHY NOT INCLUDE IN THE CTC ALL REGULATORY ASSETS ON A NET PRESENT VALUE BASIS?

A. The regulatory assets upon which PECO is entitled to earn both a return on and a return of capital (e.g. carrying charges and deferred depreciation on 50% of Limerick common plant) are already at their present value and therefore, should be included in the CTC at their stated value.

Q. PLEASE EXPLAIN HOW THE NET PRESENT VALUES WERE CALCULATED?

A. I used the discount rate of 7.85% recommended by OTS Witness Deardorff over the 7-year CTC period and used the Excel net present value formula to calculate the amounts shown on OTS Exhibit No.3, Schedule 1.

Q. PLEASE EXPLAIN PECO'S CLAIM FOR ADDITIONAL FUEL DEFERRALS.

A. The additional fuel deferrals which represent the difference between the rolled-in ECR rates and the Company's projection of average fuel costs, which is $22 million a year or the total understated future energy costs of $198 million ($22 million x 9 years) for the period from January 1, 1997 to December 31, 2005.

Interest was calculated at 9% on a principle balance of $22 million for 1997 and 1998. See PECO Exhibit ABC-1, Schedule 10, page 5 of 5.

Q. MR.WEAKLEY, ARE YOU IN DISPUTE WITH THE ENTIRE $198 MILLION CLAIM?

A. No. I am not proposing to adjust the claims for 1997 and 1998 totaling $44 million. However, I disagree with the remaining $154 million ($198 million minus $44 million) to be included in the CTC.

Q. WHAT IS YOUR RECOMMENDATION?

A. I recommend that the deferred fuel balance of $154 million recoverable in the future be included in the CTC on a net present value basis. The $154 million ($22 million x 7 years) reflects the estimated undercollection for the future period from January 1, 1999 to December 31, 2005. In determining the net present value, I used the same net present value calculation as described above. This will result in a $38.9 million ($202.1 million minus $163.2 million) reduction to the Additional Fuel Deferral. See OTS Exhibit No. 3, Schedule 1.

Q. WHAT IS THE BASIS FOR INCLUDING THE ADDITIONAL DEFERRED

FUEL BALANCE IN THE CTC ON A NET PRESENT VALUE BASIS?

A. By definition, stranded costs are to be determined on a net present value basis. 66 Pa. C.S. §2803. The $154 million of estimated future deferred fuel would be recoverable under a regulated environment over the seven year period. Accordingly, the $154 million should be included in the CTC on a net present value basis.

OTHER TRANSITION COSTS

Q. WHAT ARE OTHER TRANSITION COSTS?

A. The Company is seeking recovery of two specific transition costs. PECO first seeks recovery of the cost of filings and proceedings associated with the implementation of the Electric Competition Act. As shown on PECO Exhibit ABC-1, Schedule 7, the Company has included $8.5 million in its claim for stranded costs as the estimated cost of Commission filings and proceedings. The bulk of the costs are related to the preparation and litigation of the Company's restructuring filing and its Application for a Qualified Rate Order to securitize a portion of its stranded costs. PECO next seeks recovery of the cost of customer choice consumer education programs, which are also mandated by the Electric

Competition Act. The Company is required to implement an education program to provide customers with an understanding of how their energy supply may be obtained in the future. PECO's current estimate of costs associated with the education program for the 4-year period (1997 - 2000) is approximately $24 million. The customer choice consumer education program includes newspaper, radio communications programs, direct mail, community group assistance, and telephone 800 numbers.

Q. WHAT IS YOUR RECOMMENDATION REGARDING THESE OTHER TRANSITION COSTS?

A. I am recommending that both the estimated filing and litigation costs and the customer choice consumer education program costs be included in the CTC on a net present value basis. This will reduce the Company's stranded cost claim by $8.2 million, as shown on OTS Exhibit No. 3, Schedule 2.

Q. WHAT IS THE BASIS FOR THIS RECOMMENDATION?

A. By definition, stranded costs are to be determined on a net present value basis. 66 Pa. C.S. §2803. While these mandated costs are not currently in base rates, they would be recoverable in a regulated environment. Typically, estimated filing and

litigation costs would be normalized over the historic filing interval and the education program costs would be amortized over a 4 year period. Accordingly, these transition costs should be included in the CTC on a net present value basis.

Q. MR. WEAKLEY, ARE YOU RECOMMENDING A CARRYING CHARGE ON THE CTC?

A. No. I have been advised by counsel that nothing in the Act provides for a carrying charge on the CTC. The CTC recovery is no different than the recovery of any other accounting expense. I have been further advised by counsel, that the Company cannot receive both a *return on* and a *return of* an amortized recovery of an expense.

Q. DOES THE COMPLETE YOUR DIRECT TESTIMONY?

A. Yes.

APPENDIX A

Professional and Educational Background
of
Charles T. Weakley, III

Education:

A.A. in Accounting, Harrisburg Area Community College, 1973.

B.B.A. in Administration, Pennsylvania State University, 1975.

Graduate Studies in Operations Management, Pennsylvania State University, 1977.

Employment:

Prior to accepting my position with the PUC, in the Bureau of Rates in February 1984, I was a Corporation Tax Officer with the Pennsylvania Department of Revenue.

I am a Certified Public Accountant, however, my license is currently inactive, since I am no longer in public practice. In addition, I am a Member of the Pennsylvania Institute of Certified Public Accountants and have three years of public accounting experience.

Testimony:

I have testified and/or submitted testimony in the following proceedings:

PECO Rate Case, R-842590, R-850152 and R-891364

Penn Power Rate Case, R-842740, R-850267 and R-870732

Met-Ed Rate Case, R-842770 and R-00922314

Penelec Rate Case, R-842771

Duquesne Light Rate Case, R-850021, R-860378 and R-870651

PECO - Gas Operations Rate Case, R-870629

Philadelphia Suburban Water Company Rate Case, R-870860 and R-891270

Peoples Natural Gas Rate Case, R-880961

Equitable Gas Rate Case, R-880971, R-901595 and R-912164

PECO-PGC No. 6, 1307(f) Proceeding, R-891290

T.W. Phillips Gas and Oil Co. PGC-90, R-891572

T.W. Phillips Gas and Oil Co. Rate Case, R-891566

Arrowhead Public Service Corporation Rate Case, R-891557

Peoples Natural Gas - PGC-90, 1307(f) Proceeding, R-901640

Peoples Natural Gas - PGC-91, 1307(f) Proceeding, R-911919

PECO-PGC No. 8, 1307(f) Proceeding, R-911976

West Penn Power - Petitions (CAAA, 1990) P-910511 and R-910512

Borough of Phoenixville - Rate Case, R-912038

Shenango Valley Water Company - R-912060 and R-00932798

Dallas Water Company, Inc. - R-00922326

Harvey's Lake Water Company, Inc. - R-00922327

Noxen Water Company, Inc. - R-00922328

Shavertown Water Company, Inc. - R-00922329

Pennsylvania Gas and Water Company (Spring Brook/Crystal Lake) R-00922404

Pennsylvania-American Water Company - R-00922428

Pennsylvania Gas and Water Company (Scranton) R-000922482

National Fuel Gas Distribution Corporation - R-00932548

Lemont Water Company, Rate Case, R-00932673

The Peoples Natural Gas Company, Rate Case, R-00932866

The Peoples Natural Gas Company, 1994-1307(f), R-00943028, C-945601

Equitable Gas Company - R-00943246

Pennsylvania Power & Light Company - R-00943271

Peoples Natural Gas - PGC-96, 1307(f) Proceeding, R-00963563

PECO Energy Company, Securitization Filing - R-00973877

Peoples Natural Gas - PGC-97, 1307(f) Proceeding, R-00973896, R-00973928, A-122250F0007

OTS Exhibit No. 3
Dated: June 20, 1997

PENNSYLVANIA PUBLIC UTILITY COMMISSION

v.

PECO ENERGY COMPANY

Docket No. R-00973953

Exhibit to Accompany the

Direct Testimony

of

Charles T. Weakley, III

Concerning:

Regulatory Assets

Other Transition Costs

OTS Exhibit No. 3
Schedule 1

OTS Recommended Net Present Value Adjustment
for Regulatory Asset with a *Return Of* only
($1,000)

Description	PECO's Estimated Balance @ 12/31/98	OTS Recommended Balance	OTS Recommended Reduction
CC on 50% Limerick Common	$ 175,812	$ 175,812	
Unamortized Loss on Reaquired Debt	$ 158,311	$ 158,311	
Nuclear Deisgn Basis Documentation	$ 28,852	$ 28,852	
PB / Lim Water Chemistry System	$ 6,692	$ 5,003	$ 1,689
Limerick 1 Declaratory Order	$ 18,301	$ 13,680	$ 4,621
Limerick 2 Declaratory Order	$ 67,985	$ 50,825	$ 17,160
SFAS No. 106 (a)	$ 100,580	$ 75,190	$ 25,390
SFAS No. 109 (b)	$ 1,687,069	$ 1,687,069	
Compensated Absences (a)	$ 16,587	$ 12,403	$ 4,184
CC on 50% Common PB/Sal/Eddy	$ 17,400	$ 17,400	
Sub-Total Regulatory Assets	$ 2,277,589	$ 2,224,544	
Electric Fuel Deferral 1996	$ 109,330	$ 109,330	
Additional Fuel Deferral	$ 202,138	$ 163,268	$ 38,870
Total Regulatory Assets	$ 2,589,057	$ 2,497,142	**$ 91,915**

OTS Exhibit No. 3
Schedule 2

OTS Recommended Net Present Value Adjustment
for Other Transistion Costs
($1,000)

Description	PECO's Estimated Other Transition Costs	OTS Recommended Balance	OTS Recommended Reduction
Cost of Filings and Proceeings	$ 8,500	$ 6,355	$ 2,145
Consumer Education Programs	$ 24,000	$ 17,942	$ 6,058
Totals	$ 32,500	$ 24,297	**$ 8,203**

R-00973953
R-00973953C0001-C0007

OTS Statement No. SR-3
Dated: August 1, 1997

Phil. 10-14,15+16-97
GJT

PENNSYLVANIA PUBLIC UTILITY COMMISSION

v.

PECO ENERGY COMPANY

Docket No. R-00973953

Surrebuttal Testimony

of

Charles T. Weakley, III

Concerning:

Regulatory Assets

Other Transition Costs

Vol 43

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Charles T. Weakley. My business address is the Pennsylvania Public Utility Commission, P. O. Box 3265, Harrisburg, Pennsylvania 17105-3265.

Q. ARE YOU THE SAME CHARLES T. WEAKLEY WHO FILED DIRECT TESTIMONY IN THIS PROCEEDING?

A. Yes. I have previously submitted OTS Statement No. 3 and Exhibit No. 3.

Q. WHAT IS THE PURPOSE OF YOUR SURREBUTTAL TESTIMONY?

A. The purpose of this testimony is to address Mr. Hill's rebuttal testimony (PECO STATEMENT NO. 1-R) concerning the return on PECO's stranded assets and Mr. Cohn's rebuttal testimony (PECO STATEMENT NO. 3-R) concerning regulatory assets.

Q. ON PAGE 26, LINES 12-13, OF PECO STATEMENT NO. 1-R, MR. HILL STATES: "MR. WEAKLEY, IN TURN, WOULD APPARENTLY DENY PECO ANY RETURN ON ITS STRANDED ASSETS BASED ON THE ADVICE OF COUNSEL". DO YOU AGREE WITH THIS STATEMENT?

A. No. My direct testimony in this proceeding addresses the stranded regulatory assets for which there is a return of capital but not a return on capital. I have testified that these regulatory assets should be included in the CTC on a net present value basis. The statement on page 10 of my direct testimony concerning the carrying charge on the CTC, to which Mr. Hill refers, was intended to apply to those regulatory assets which are entitled to only a return of capital. The statement does **not** apply to the remaining stranded regulatory or plant assets which are entitled to both a return on and a return of capital. Consequently, Mr. Hill's criticism is invalid and should be rejected.

Q. ON PAGE 20, LINES 12-14, OF PECO STATEMENT NO. 3-R, MR. COHN STATES: "WHEN REGULATORY ASSETS THAT DO NOT EARN A RETURN ARE DISCOUNTED TO PRESENT VALUE, THEN THE UNAMORTIZED BALANCE OF SUCH ASSETS MUST EARN A RETURN DURING THE CTC RECOVERY PERIOD OR A DOUBLE DISCOUNTING WILL OCCUR". DO YOU AGREE WITH THIS STATEMENT?

A. No. The Act requires that stranded costs are to be determined on a net present value basis. It is true that if regulatory assets that do not earn a return on capital are discounted to present value and are not securitized but

collected through a CTC, PECO will loose the time value of money related to these assets. However, I do not believe that these regulatory assets must earn a return during the CTC recovery period. Present valuing and allowing a return over the CTC period is equivalent to stating these regulatory assets at their nominal value, which would violate the Act.. See , 66 Pa. C.S. §2803. Moreover, no double discounting results since these regulatory asset balances would have been recovered by a continuing amortization under the existing regulatory framework.

Q. DOES THIS COMPLETE YOUR SURREBUTTAL TESTIMONY?

A. Yes.

R-00973953

R-00973953C0001-C0007

OTS Statement No. 4
Witness: Darren D. Gill
Dated: June 20, 1997

Phil. 10-14,15+16-97
GST

PENNSYLVANIA PUBLIC UTILITY COMMISSION

v.

PECO ENERGY COMPANY

Docket No. R-00973953

Direct Testimony

of

Darren D. Gill

Office of Trial Staff

Concerning:

Nuclear and Fossil Plant Decommissioning

101 43

Q. WOULD YOU PLEASE STATE YOUR NAME AND BUSINESS ADDRESS?

A. My name is Darren D. Gill. My business address is P.O. Box 3265, Harrisburg, Pennsylvania 17105-3265.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am employed by the Pennsylvania Pubic Utility Commission in the Office of Trial Staff as an Fixed Utility Valuation Engineer.

Q. WHAT IS YOUR EDUCATIONAL AND PROFESSIONAL BACKGROUND?

A. I am a 1991 graduate of the Pennsylvania State University, University Park, Pennsylvania, where I earned a Bachelor of Science Degree in Nuclear Engineering. Concurrently, in 1991, I was awarded a Bachelor of Science Degree in Applied Physics from Shippensburg University, Shippensburg, Pennsylvania. Attached to my testimony as Appendix A is a statement which more fully describes my educational background and employment experience.

Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?

A. The purpose of my direct testimony in this proceeding is to recommend a reduction to PECO Energy Company's (PECO or the Company) claim for nuclear and fossil decommissioning.

Q. HOW IS YOUR TESTIMONY ORGANIZED?

A. I have divided my direct testimony into three sections. Section I contains my discussion and recommendation concerning the Company's claim for nuclear plant decommissioning. Section II contains my discussion and recommendation concerning the Company's claim for fossil plant decommissioning. Section III summarizes my recommendations.

SECTION I - NUCLEAR PLANT DECOMMISSIONING

Q. WHAT IS NUCLEAR PLANT DECOMMISSIONING?

A. Nuclear plant decommissioning is the dismantlement, decontamination, removal and disposal of the components of a nuclear generating facility at the end of its useful life.

Q. HOW DOES PECO CURRENTLY HANDLE THE FUNDS IT RECEIVES FOR NUCLEAR DECOMMISSIONING EXPENSE?

A. As required by NRC regulations and applicable Commission orders, funds collected for nuclear decommissioning expenses are deposited in external nuclear decommissioning trust funds, which the IRS has designated as qualified for tax purposes. In a qualified fund, the Company can claim a current tax deduction for amounts paid into the fund for both federal and state tax purposes. In addition, the earnings on the fund are not treated as taxable income to the Company.

Q. WHAT IS PECO'S CLAIM RELATED TO NUCLEAR PLANT DECOMMISSIONING IN THIS PROCEEDING?

A. "Based on PECO's ownership share in Limerick 1 and 2, Peach Bottom 1, 2 and 3, and Salem 1 and 2, PECO's total estimated decommissioning expenses, as of December 31, 1998, will be $1.49 billion (in year-end 1998 dollars)." (Ref. PECO Statement No. 3, Page 11, lines 1-3)

Q. HOW DOES PECO PROPOSE TO RECOVER PROJECTED COSTS ASSOCIATED WITH NUCLEAR PLANT DECOMMISSIONING?

A. Of the $1.49 billion total, PECO proposes, first, to reflect an accrual of $607.4 million in the trust by December 31, 1998, and second, to recover the remaining $887.6 million over the remaining lives of the nuclear plants.

Q. HOW DOES PECO PROPOSE TO RECOVER NUCLEAR DECOMMISSIONING EXPENSES FOR THE PRE-DEREGULATION TIME PERIOD?

A. PECO proposes to recover $239.6 million as a stranded cost. The Company avers this is the difference between the $607.4 million of the total that should have been accrued in the trust as of December 31, 1998, and the $352.7 million that actually will be in the trust at that time.

Q. HOW DOES PECO PROPOSE TO RECOVER NUCLEAR DECOMMISSIONING EXPENSES DURING THE DEREGULATED TIME PERIOD?

A. The Company proposes to include the remaining $887.6 million, of the $1.49 billion total, as an ongoing operating and maintenance expense in its calculation of the market value of the company's nuclear generating assets after December 31, 1998.

Q. DO YOU AGREE WITH THE COMPANY'S ESTIMATE OF $1.49 BILLION FOR TOTAL NUCLEAR DECOMMISSIONING COSTS?

A. No. I do not agree with the Company's estimate of $1.49 billion for total nuclear decommissioning costs.

Q. WHY DO YOU DISAGREE WITH THE COMPANY'S ESTIMATE OF $1.49 BILLION FOR TOTAL NUCLEAR DECOMMISSIONING COSTS?

A. The Company's estimate of nuclear decommissioning costs is inflated by $135,908,634 because the Company has included a 10% contingency factor in its estimate. PECO's total estimate for nuclear decommissioning should be $1.36 billion.

Q. MR. GILL, PLEASE DEFINE "CONTINGENCY FACTOR".

A. A contingency factor is an addition to the estimated cost of a project which acts as a "specific provision for unforeseeable elements of cost within the defined project scope." (Ref. PECO Statement 8, (Limerick Study) Section 4, page 2 of 21)

Q. WHY DO YOU DISAGREE WITH THE USE OF A CONTINGENCY FACTOR IN THE NUCLEAR DECOMMISSIONING ESTIMATE?

A. First, the inclusion of a contingency factor is improper because it is simply the incorporation of an estimate for unknown circumstances on top of what is already an estimate of expenses to be incurred well into the future. I have been informed by council, 66 Pa. C.S. Section 2804 (4)(III)(F) of the recently enacted electric restructuring legislation permits the company to

seek to increase its allowance for nuclear decommissioning costs should new information become available. Since this opportunity is available to the Company it is inappropriate for the Company to inflate its nuclear decommissioning claim with a contingency factor.

Second, the Company's only reason for the use of a 10% contingency factor is the Commission's proposed Policy Statement on nuclear decommissioning issued on July 18, 1996. OTS Exhibit No. 4, Schedule 1, indicates that the motion proposing the Policy Statement was passed by the Commission, however, no formal policy statement has been entered.

Q. WHAT EFFECT DOES REMOVING CONTINGENCIES HAVE ON THE COMPANY'S CLAIM FOR STRANDED COSTS?

A. It changes the estimate of the amount that should be in the fund at December 31, 1998 from $607.4 million to $552.2 million. OTS Exhibit No. 4, Schedule 2, details my calculation of $181.7 million as the stranded cost associated with the difference between the OTS recommended amount required in the fund at December 31, 1998 and the actual fund balance of $352.7 million. This is a reduction of $55.2 million from the Company's stranded cost claim of $236.9 million.

Q. EARLIER IN THIS TESTIMONY, YOU INDICATED THERE ARE TWO COMPONENTS ASSOCIATED WITH PECO'S CLAIM FOR NUCLEAR DECOMMISSIONING. DOES THE REMOVAL OF THE CONTINGENCY FACTOR ALSO HAVE AN EFFECT ON THE SECOND COMPONENT OF THE COMPANY'S CLAIM?

A. Yes. The removal of the contingency factor also effects the Company's estimate of operating and maintenance expenses after December 31, 1998.

Q. WHAT EFFECT DOES THE REMOVAL OF THE CONTINGENCY FACTOR HAVE ON THE ESTIMATE OF OPERATING AND MAINTENANCE EXPENSE AFTER DECEMBER 31, 1998?

A. At OTS Exhibit No. 4, Schedule 3, page 3 of 5, PECO computes a decrease in the estimate of operating and maintenance expense of $80.7 million, from the Company's original estimate of $887.6 million to $806.9 million over the operating lives of the plants. In terms of annual estimated expenses, there is a reduction from $36.71 million to $33.37 million.

Q. OTS WITNESS, MR. METRO PROPOSES TO REMOVE ALL ON-*GOING NUCLEAR AND FOSSIL DECOMMISSIONING* EXPENSES AFTER DECEMBER 31, 1998 FROM THE CALCULATION OF THE MARKET VALUE OF PECO'S

NUCLEAR AND FOSSIL GENERATING ASSETS. WHY ARE YOU PROPOSING ADJUSTMENTS TO THE COMPANY'S ON-GOING CLAIM FOR NUCLEAR AND FOSSIL DECOMMISSIONING AFTER DECEMBER 31, 1998?

A. In the event the Commission does not accept Mr. Metro's proposal to remove the Company's entire on-going claim for nuclear and fossil decommissioning after December 31, 1998, I am providing the impact of my adjustments to the on-going operating and maintenance expenses PECO has claimed in this proceeding.

Q. FOR TAX PURPOSES, HOW DOES PECO CURRENTLY DEAL WITH CONTRIBUTIONS TO THE NUCLEAR DECOMMISSIONING FUND?

A. As allowed by the IRS, PECO currently treats contributions to the nuclear decommissioning fund as tax deductible in a qualified trust fund.

Q. HOW DOES PECO PROPOSE TO HANDLE THE TAX TREATMENT OF CONTRIBUTIONS TOWARD NUCLEAR DECOMMISSIONING AFTER DECEMBER 31, 1998?

A. PECO proposes to treat contributions toward nuclear decommissioning after December 31, 1998 as not tax deductible, and taxed at PECO's full corporate tax rate.

Q. DO YOU AGREE WITH THE COMPANY'S PROPOSAL TO TREAT CONTRIBUTIONS TO DECOMMISSIONING FUNDS AFTER DECEMBER 31, 1998 AS NOT TAX DEDUCTIBLE?

A. No. I do not agree with the Company's proposal.

Q. WHY ARE YOU RECOMMENDING THAT NUCLEAR DECOMMISSIONING FUNDING AFTER DECEMBER 31, 1998 CONTINUE TO BE TREATED AS TAX DEDUCTIBLE?

A. There is a possibility the IRS may allow nuclear decommissioning funding to remain tax deductible. If this occurs, then recognizing funding at a non-tax deductible level would provide the Company with excess revenues. Should the reverse occur, PECO has a remedy under the Electric Restructuring Act. As stated previously, the Act permits the company to seek to increase its allowance for nuclear decommissioning costs should new information become available, such as future nuclear decommissioning expense funding being classified as non-tax deductible.

Q. WHAT IS THE EFFECT OF THIS ADJUSTMENT ON PECO'S CLAIM FOR NUCLEAR DECOMMISSIONING COST RECOVERY?

A. At OTS Exhibit No. 4, Schedule 6, page 2 of 2, PECO's calculation shows an annual decrease of $14 million in the Company's claim for operating and maintenance expense for nuclear decommissioning after December 31, 1998, due to the recognition of nuclear decommissioning funds as continuing to be tax deductible. There is a reduction from $36.7 million per year to $22.7 million per year.

SECTION II - FOSSIL PLANT DECOMMISSIONING

Q. WHAT IS FOSSIL PLANT DECOMMISSIONING?

A. Fossil plant decommissioning is the dismantlement, removal and disposal of the components of a fossil-fired steam generating facility at the end of its useful life.

Q. HOW ARE FOSSIL DECOMMISSIONING EXPENSES CURRENTLY HANDLED IN PENNSYLVANIA?

A. The Commission has traditionally allowed a utility to recover the net of positive salvage and cost of removal on a current basis for book and

ratemaking purposes. The Commission has used a five year average of actually experienced net salvage as a leveling device.

Q. WHAT IS PECO'S CLAIM RELATED TO FOSSIL PLANT DECOMMISSIONING IN THIS PROCEEDING?

A. "For fossil-fired steam generating units totally or jointly owned by PECO, the Company estimates decommissioning expenses of $148.8 million." (Ref. PECO Statement No. 3, page 18, lines 22-23)

Q. HOW DOES PECO PROPOSE TO RECOVER PROJECTED COSTS ASSOCIATED WITH FOSSIL PLANT DECOMMISSIONING?

A. Of the $148.8 million total, PECO proposes, first, to reflect a stranded cost of $126.6 million and second, to recover the remaining $22.2 million over the remaining lives of the fossil-fired plants.

Q. HOW DOES PECO PROPOSE TO RECOVER FOSSIL DECOMMISSIONING EXPENSES FOR THE PRE-DEREGULATION TIME PERIOD?

A. PECO proposes to recover $126.6 million as a stranded cost. The Company avers this is the portion of the total that would have been recovered as of December 31, 1998, if estimated decommissioning

expenses had been accrued in rates since the in-service date of each fossil-fired generating unit.

Q. HOW DOES PECO PROPOSE TO RECOVER FOSSIL DECOMMISSIONING EXPENSES DURING THE DEREGULATED TIME PERIOD?

A. The Company proposes to include the remaining $22.2 million, of the $148.8 million total, as an ongoing operating and maintenance expense in its calculation of the market value of the company's fossil generating assets after December 31, 1998.

Q. DO YOU AGREE WITH THE COMPANY'S ESTIMATE OF APPROXIMATELY $148.8 MILLION FOR TOTAL FOSSIL DECOMMISSIONING COSTS?

A. No. I do not agree with the Company's estimate of approximately $148.8 million for total fossil decommissioning costs.

Q. WHY DO YOU DISAGREE WITH THE COMPANY'S ESTIMATE OF APPROXIMATELY $148.8 MILLION FOR TOTAL FOSSIL DECOMMISSIONING COSTS?

A. The Company's estimate of fossil decommissioning costs is inflated by $23.9 million because the Company has included a contingency factor in its estimate. PECO's total estimate for fossil decommissioning should be $124.9 million.

Q. WHY DO YOU DISAGREE WITH THE USE OF A CONTINGENCY FACTOR IN THE FOSSIL DECOMMISSIONING ESTIMATE?

A. As I stated previously, the inclusion of a contingency factor is improper because it is simply the incorporation of an estimate for unknown circumstances on top of what is already an estimate of expenses to be incurred well into the future.

Q. WHAT EFFECT DOES REMOVING THE CONTINGENCY FACTOR HAVE ON THE COMPANY'S CLAIM FOR STRANDED COSTS?

A. At OTS Exhibit No. 4, Schedule 3, page 4 of 5, the Company calculates a figure of $106.3 million as the stranded cost associated with the portion of the total that would have been recovered as of December 31, 1998, if estimated decommissioning expenses had been accrued in rates since the in-service date of each fossil-fired generating unit. This adjustment results in a reduction of $20.3 million from the Company's claim of $126.6 million.

Q. EARLIER IN THIS TESTIMONY, YOU INDICATED THERE ARE TWO COMPONENTS ASSOCIATED WITH PECO'S CLAIM FOR FOSSIL DECOMMISSIONING. DOES THE REMOVAL OF THE CONTINGENCY FACTOR ALSO HAVE AN EFFECT ON THE SECOND COMPONENT OF THE COMPANY'S CLAIM?

A. Yes. The removal of the contingency factor also effects the Company's estimate of operating and maintenance expenses after December 31, 1998.

Q. WHAT EFFECT DOES THE REMOVAL OF THE CONTINGENCY FACTOR HAVE ON THE ESTIMATE OF OPERATING AND MAINTENANCE EXPENSE AFTER DECEMBER 31, 1998?

A. OTS Exhibit No. 4, Schedule 3, page 4 of 5, shows an decrease in the estimate of operating and maintenance expense of $3.7 million, from the Company's estimate of $22.2 million to $18.5 million over the operating lives of the plants. In terms of annual estimated expenses, there is a reduction from $2.8 million to $2.3 million.

Q. ARE YOU PROPOSING ANY ADDITIONAL ADJUSTMENTS TO PECO'S FOSSIL DECOMMISSIONING CLAIM?

A. Yes. PECO has used incorrect service lives for most of its fossil-fired generating stations in the calculation of the stranded cost and on-going operating and maintenance expense due to fossil decommissioning.

Q. HOW HAS PECO ALLOCATED THE FOSSIL DECOMMISSIONING EXPENSE BETWEEN THE STRANDED COST COMPONENT AND ON-GOING OPERATING AND MAINTENANCE EXPENSE?

A. PECO determines the stranded cost component for fossil decommissioning by calculating a ratio that is applied to the total fossil decommissioning estimate. This ratio is the number of years the plant will be in service at December 31, 1998 divided by the total age of the plant at the nameplate decommissioning year.

PECO determines the on-going operating and maintenance expense for fossil decommissioning by calculating a ratio that is applied to the total fossil decommissioning estimate. This ratio is the number of years the plant will be in service after December 31, 1998 divided by the total age of the plant at the nameplate decommissioning year.

Q. PLEASE EXPLAIN WHY YOU BELIEVE PECO HAS USED INCORRECT SERVICE LIVES FOR ITS FOSSIL-FIRED GENERATING STATIONS?

A. The Company's market value analysis assumes life extensions for the Keystone, Conemaugh, and Eddystone Stations, however, the impact of these potential life extensions was not considered in the allocation of fossil decommissioning expenses between the pre-deregulation and deregulated time periods. (Ref. OTS Exhibit No. 4, Schedule 5). The Company has used the nameplate decommissioning year and not the adjusted for life extension decommissioning year. Since PECO has reflected all revenues and expenses related to these life extensions in its market value analysis, it is proper to recalculate the fossil decommissioning funding levels based on these extended service lives as well.

Q. HOW HAS PECO'S INCONSISTENCY IN ITS USE OF FOSSIL-FIRED GENERATING STATION LIVES IMPACTED THE STRANDED COST CLAIM AND ULTIMATELY THE RATEPAYER?

A. The inconsistency that is inherent in PECO's stranded cost claim is the use of the extended service lives for the Company's market value analysis, but employing the original service lives for allocation of the decommissioning

costs between the pre-deregulation and deregulated time periods. Ignoring the extended service lives distorts the sharing of fossil decommissioning expenses between the pre-deregulated and deregulated time periods to the detriment of the regulated customer by imposing a greater responsibility for the decommissioning costs on the regulated market.

Q. WHAT IS THE COMBINED EFFECT OF REMOVING THE CONTINGENCY FACTOR AND USING THE EXTENDED SERVICE LIVES ON THE COMPANY'S CLAIM FOR STRANDED COSTS?

A. At OTS Exhibit No. 4, Schedule 4, I have calculated a figure of $87.6 million as the stranded cost associated with the portion of the total that would have been recovered as of December 31, 1998, if estimated decommissioning expenses had been accrued in rates since the in-service date of each fossil-fired generating unit. This is a reduction of $39 million from the Company's claim of $126.6 million.

Q. WHAT IS THE COMBINED EFFECT OF REMOVING THE CONTINGENCY FACTOR AND USING THE EXTENDED SERVICE LIVES ON THE ESTIMATE OF OPERATING AND MAINTENANCE EXPENSE AFTER DECEMBER 31, 1998?

A. At OTS Exhibit No. 4, Schedule 4, I have calculated an increase in the estimate of operating and maintenance expense of $15.1 million, from the Company's estimate of $22.2 million to $37.3 million over the operating lives of the plants. In terms of annual estimated expenses, there is a reduction from $2.8 million to $1.7 million.

Q. DO YOU HAVE ANY OTHER RECOMMENDATIONS CONCERNING PECO'S CLAIM FOR FOSSIL DECOMMISSIONING COST RECOVERY?

A. Yes. I recommend the Commission require the Company to place all funds received for fossil decommissioning in a non-qualified trust fund.

Q. WHY DO YOUR RECOMMEND THE COMMISSION REQUIRE THE COMPANY TO PLACE ALL FUNDS RECEIVED FOR FOSSIL DECOMMISSIONING IN A NON-QUALIFIED TRUST?

A. Requiring the Company to place all funds received for fossil decommissioning in a non-qualified trust is the only means to insure the funds contributed for decommissioning will actually be available at the time the plants are actually decommissioned.

Q. PLEASE EXPLAIN WHY YOU BELIEVE THAT IF A TRUST IS NOT ESTABLISHED, THERE MAY NOT BE SUFFICIENT FUNDS AVAILABLE AT THE TIME THE PLANTS ARE ACTUALLY DECOMMISSIONED.

A. If PECO is not required to place funds associated with fossil decommissioning into a trust, then the Company could use the funds received for fossil decommissioning for any purpose it deemed necessary. Thus; when the plants are ultimately ready for decommissioning, the funds may not be available. If this situation occurs, future taxpayers may again be asked to provide funding for decommissioning, since another party, such as the federal government, may need to perform the decommissioning of PECO's fossil-fired stations.

SECTION III - SUMMARY

Q. MR. GILL, WOULD YOU PLEASE SUMMARIZE YOUR RECOMMENDATIONS?

A. *Nuclear*

I recommend the Commission allow a projection of $1.36 billion in total for nuclear decommissioning costs. As components of this figure, first, I recommend PECO receive $181.7 million in stranded costs to bring the

fund up to its projected December 31, 1998 level. Second, should the Commission not accept Mr. Metro's total removal of $887.6 million in nuclear decommissioning expense from the calculation of the market value of the Company's nuclear generating assets, then I recommend the Commission reduce that figure to $806.9 million, with annual payments over the lives of the plants based on deposition into a qualified trust fund.

Fossil

I recommend the Commission allow a projection of $124.9 million in total for fossil decommissioning costs. As components of this figure, first I recommend PECO receive $87.6 million in stranded costs to bring the fund up to its projected December 31, 1998 level. Second, should the Commission not accept Mr. Metro's total removal of $22.2 million in fossil decommissioning expense from the calculation of the market value of the Company's fossil-fired generating assets, then I recommend the Commission increase that figure to $37.3 million, with annual payments over the lives of the plants based on the extended service lives projected in the market value models used in PECO Exhibits TPH-3 to 5. Use of the extended service lives reduces the annual expense from $2.8 million to $1.7 million. Finally, I recommend the Commission direct PECO to place funds received for fossil decommissioning in a non-qualified trust fund.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes, it does.

APPENDIX A

Professional and Educational Experience
of
Darren D. Gill

Education

The Pennsylvania State University, University Park, PA, Bachelor of Science, Nuclear Engineering, 1991

Shippensburg University, Shippensburg, PA, Bachelor of Science, Applied Physics, 1991

Professional Experience

April 1996 to Present: Pennsylvania Public Utility Commission, Fixed Utility Valuation Engineer in the Office of Trial Staff. Participates in the review and prosecution of natural gas and electric, telecommunications, water and sewer rate filings in the areas of valuation, depreciation, rate base, rate structure, and purchased gas.

July 1994 to March 1996: Pennsylvania Public Utility Commission, Fixed Utility Valuation Engineer - Rate Structure/Engineering Section, Energy Division, Office of Trial Staff. Participates in the review and prosecution of natural gas and electric rate filings in the areas of valuation, depreciation, rate base, rate structure, and purchased gas.

November 1991 to May 1994: NSS Numanco, Nuclear Division, Nuclear Engineer/Plant Outage Specialist. Provided technical support in the areas of health physics, nuclear plant refueling (reactor dis/reassembly and fuel movement), and LASER welding, tube repair and shot peening on steam generators. These duties were performed at various nuclear generating sites throughout the United States.

Professional Affiliations

Engineers Society of Pennsylvania

American Nuclear Society (ANS) National Member

Testimony Presented Before The Pennsylvania Public Utility Commission

National Fuel Gas Distribution Corporation, 1307(f) Filing - R-00953487

North Penn Gas Company and PFG Gas, Inc., Rate Case Filing - R-00953524

PG Energy Inc., Tariff Filing - R-00963612

Equitable Gas Company, 1307(f) Filing - R-00973895

Pennsylvania Electric Company, Petition - P-00900450

Equitable Gas Company, Rate Case Filing - R-00963858

OTS Exhibit No. 4
Witness: Darren D. Gill
Dated: June 20, 1997

PENNSYLVANIA PUBLIC UTILITY COMMISSION

v.

PECO ENERGY COMPANY

Docket No. R-00973953

Exhibit to Accompany the

Direct Testimony

of

Darren D. Gill

Office of Trial Staff

Concerning:

Nuclear and Fossil Plant Decommissioning

Docket No. R-00973953

Interrogatory OTS-RB-21

OTS-RB-21 Question:

Refer to PECO Statement No. 10, page 11, lines 13-16.

Was that proposed Policy Statement accepted by the Commission? If so, provide the date adopted any accompanying Commission statements.

OTS-RB-21 Answer:

The motion proposing the policy statement was passed by the Commission, however no formal policy statement has been entered. Attachment OTS-RB-20(a) provides the associated statement.

Responsible Witness: A. B. Cohn

PECO Energy Company
R-00973953
ESTIMATED NUCLEAR DECOMMISSIONING FUND DEFICIENCY
($000)

OTS Exhibit No. 4
Schedule 2

KEY ASSUMPTIONS

EARNINGS RATE = 7.5%
INFLATION RATE = GDP DEFLATOR
CONTINGENCY RATE USED = NONE
COSTS ARE BASED UPON A STUDY PERFORMED BY TLG & ASSOCIATES IN 1995/96

NUCLEAR UNIT	EST DECOM COST @ 12/31/98 *(a)	FUND RATIO AS PER COMPANY CALC	FUND REQUIRED @ 12/31/98	EST FUND BALANCE @ 12/31/98	EST FUND DEFICIENCY
	(1)	(2)	(3)=(1)*(2)	(4)	(5)=(3)-(4)
PEACH BOTTOM 1	$54,734	0.60	$32,840	$8,713	($24,127)
PEACH BOTTOM 2	$132,712	0.60	$79,627	$58,186	($21,441)
PEACH BOTTOM 3	$177,677	0.60	$106,606	$58,228	($48,378)
SALEM 1	$128,270	0.55	$70,549	$44,259	($26,290)
SALEM 2	$133,608	0.44	$58,788	$38,263	($20,525)
LIMERICK 1	$321,915	0.34	$109,451	$91,460	($17,991)
LIMERICK 2	$410,170	0.23	$94,339	$53,608	($40,731)
TOTAL	**$1,359,086**		**$552,200**	**$352,717**	**($199,483)**
LESS: DEFERRED TAXES AS OF 12/31/98					$17,775
NET DEFICIENCY =					**($181,708)**

*(a) REFER TO OTS EXHIBIT NO. 4, SCHEDULE 3, PAGE 3.

Interrogatory OTS-RB-31

OTS-RB-31 Question:

Provide a calculation of the cost of nuclear and fossil plant decommissioning, by generating site, with contingency factors entirely eliminated.

OTS-RB-31 Answer:

Refer to Attachment OTS-RB-31(a).

Responsible Witness: A. B. Cohn

Interrogatory OTS-RB-32

OTS-RB-32 Question:

a. Provide the "Going Forward Decommissioning Expense Accrual", as shown in Exhibit ABC-1, Schedule 4, Page 2 of 2, assuming no contingency factors.

b. Provide a similar "Going Forward" table for fossil plant decommissioning, assuming no contingency factors.

OTS-RB-32 Answer:

Refer to the response provided to OTS-RB-31.

Responsible Witness: A. B. Cohn

PECO Energy Company
Development of 12/31/98 Decommissioning Cost
and
Development of Going Forward Decommissioning Expense Accrual

Development of 12/31/98 Decommissioning Cost

		TLG Estimate	Less Contigency	TLG w/o Contingency	TLG @12/31/96	TLG @12/31/97	TLG @12/31/98
		a	b	c = a - b	d	e	f
Limerick 1	$	368,890,000	$ 68,019,000	$ 300,871,000	$ 306,888,420	$ 312,903,433	$ 321,915,052
Limerick 2	$	466,542,000	$ 83,185,000	$ 383,357,000	$ 391,024,140	$ 398,688,213	$ 410,170,434
Salem 1 (a)	$	142,012,737	$ 22,127,635	$ 119,885,102	$ 122,282,804	$ 124,679,547	$ 128,270,318
Salem 2 (a)	$	148,006,424	$ 23,132,759	$ 124,873,665	$ 127,371,139	$ 129,867,613	$ 133,607,800
Peach Bottom 1 (b)	$	62,937,000	$ 11,781,000	$ 51,156,000	$ 52,179,120	$ 53,201,831	$ 54,734,043
Peach Bottom 2 (b)	$	152,195,006	$ 28,158,548	$ 124,036,458	$ 126,517,187	$ 128,996,924	$ 132,712,035
Peach Bottom 3 (b)	$	201,061,116	$ 34,999,438	$ 166,061,678	$ 169,382,912	$ 172,702,817	$ 177,676,658
TOTAL	$	1,541,644,283	$271,403,379	$ 1,270,240,904	$1,295,645,722	$1,321,040,378	$1,359,086,341

Development of Going Forward Decommissioning Expense Accrual

		TLG Adj By In-Service Ratios	Remaining TLG	TLG @ End Dates	Annual Payments		
		g = f * ratio	h = f - g	i = h infl by GDP	j		
Limerick 1	$	109,451,118	$212,463,934	$508,562,574	$ 7,981,787		
Limerick 2	$	94,339,200	$315,831,234	$909,028,721	$ 9,775,634		
Salem 1 (a)	$	70,548,675	$ 57,721,643	$103,035,830	$ 3,179,130		
Salem 2 (a)	$	58,787,432	$ 74,820,368	$154,535,527	$ 3,352,062		
Peach Bottom 1 (b)	$	32,840,426	$ 21,893,617	$36,421,158	$ 1,361,335		
Peach Bottom 2 (b)	$	79,627,221	$ 53,084,814	$88,309,317	$ 3,300,788	1.02	1.0196
Peach Bottom 3 (b)	$	106,605,995	$ 71,070,663	$118,229,702	$ 4,419,139		
TOTAL	$	552,200,067	$806,886,274		$ 33,369,875	1.0288	0.58565
						0.4259	
						0.4249	

(a) original TLG estimate reduced to account for PECO share 42.59%

(b) original TLG estimate reduced to account for PECO share 42.49%

PECO Energy Company
Fossil Decommissioning Cost Estimates
Contigencies Removed
as of December 31, 1998

Fossil Plant	Date Installed (1)	Terminal Date (2)	Net Cap MW Summer	Type of Fuel	Years from Inst Date to Collect Date (3) = 1999 - (1)	Inst Date to Terminal Date (4) = (2) - (1)	Portion Accrued Ratio (5) = (3)/(4)	Decom Cost (a) ($1,000) (6)	Cost Portion Accrued ($1,000) (7) = (5)*(6)	Cost From Market ($1,000) (8) = (6) - (7)	Est Ann. Accrual ($1,000) (9) = (8)/[(4)-(3)]
CONEMAUGH 1	1970	2005	176	COAL	29	35	0.828571429	$ 7,547	$ 6,253	$ 1,294	$ 216
CONEMAUGH 2	1971	2006	176	COAL	28	35	0.8	$ 10,617	$ 8,494	$ 2,123	$ 303
CROMBY 1	1954	2004	144	COAL	45	50	0.9	$ 8,039	$ 7,235	$ 804	$ 161
CROMBY 2	1955	1999	201	OIL	44	44	1	$ 12,853	$ 12,853	$ -	
DELAWARE 7	1953	1999	126	OIL	46	46	1	$ 5,555	$ 5,555	$ -	
DELAWARE 8	1953	1999	124	OIL	46	46	1	$ 5,555	$ 5,555	$ -	
EDDY 1	1960	2010	279	COAL	39	50	0.78	$ 13,294	$ 10,369	$ 2,925	$ 266
EDDY 2	1960	2010	302	COAL	39	50	0.78	$ 13,294	$ 10,369	$ 2,925	$ 266
EDDY 3	1974	2009	380	OIL	25	35	0.714285714	$ 10,372	$ 7,409	$ 2,964	$ 296
EDDY 4	1976	2011	380	OIL	23	35	0.657142857	$ 10,372	$ 6,816	$ 3,556	$ 296
KEYSTONE 1	1967	2002	179	COAL	32	35	0.914285714	$ 7,729	$ 7,067	$ 662	$ 221
KEYSTONE 2	1968	2003	178	COAL	31	35	0.885714286	$ 11,218	$ 9,936	$ 1,282	$ 321
SCHUYLKILL	1958	1999	166	OIL	41	41	1	$ 8,409	$ 8,409	$ -	
								$ 124,855	$ 106,320	$ 18,535	

(a) based upon a study prepared by TLG Associates, refer to Schedule 5, page 2 for development of 1998 costs

PECO Energy Company
Development of TLG
Fossil Decommissioning Cost Estimates
as of December 31, 1998
($000)

FOSSIL PLANT	TLG Estimate 97 Dollars (1)	Less: Contigency (1a)	Adjusted TLG Estimate (1b)	PECO Share (2)	1998 gdp (3)	Decom Cost 98 Dollars (4) = (1b)*(2)*(3)
CONEMAUGH 1	$ 42,140	$ 6,738	$ 35,402	20.72%	1.0288	$ 7,547
CONEMAUGH 2	$ 59,288	$ 9,482	$ 49,806	20.72%	1.0288	$ 10,617
CROMBY 1	$ 9,316	$ 1,502	$ 7,814	100.00%	1.0288	$ 8,039
CROMBY 2	$ 14,738	$ 2,245	$ 12,493	100.00%	1.0288	$ 12,853
DELAWARE 7	$ 6,477	$ 1,077	$ 5,400	100.00%	1.0288	$ 5,555
DELAWARE 8	$ 6,477	$ 1,077	$ 5,400	100.00%	1.0288	$ 5,555
EDDY 1	$ 15,483	$ 2,561	$ 12,923	100.00%	1.0288	$ 13,295
EDDY 2	$ 15,483	$ 2,561	$ 12,923	100.00%	1.0288	$ 13,295
EDDY 3	$ 12,093	$ 2,011	$ 10,082	100.00%	1.0288	$ 10,372
EDDY 4	$ 12,093	$ 2,011	$ 10,082	100.00%	1.0288	$ 10,372
KEYSTONE 1	$ 42,284	$ 6,492	$ 35,792	20.99%	1.0288	$ 7,729
KEYSTONE 2	$ 61,286	$ 9,338	$ 51,948	20.99%	1.0288	$ 11,218
SCHUYLKILL	$ 9,677	$ 1,503	$ 8,174	100.00%	1.0288	$ 8,409
	$ 306,834	$ 48,597	$ 258,237			$ 124,856

PECO Energy Company
R-00973953
Fossil Decommissioning Cost Estimates Per OTS

OTS Exhibit No. 4
Schedule 4

FOSSIL PLANT	DATE INSTALLED	TERMINAL DATE	YEARS FROM INST DATE TO COLLECT DATE	YEARS FROM INST DATE TO TERMINAL DATE	PORTION ACCRUED RATIO	DECOM COST (a) ($000)	COST PORTION ACCRUED ($000)	COST FROM MARKET ($000)	EST. ANNUAL ACCRUAL
CONEMAUGH 1	1970	2021	29	51	0.568627451	$7,547	$4,291	$3,256	$148
CONEMAUGH 2	1971	2021	28	50	0.56	$10,617	$5,946	$4,671	$212
CROMBY 1	1954	2004	45	50	0.9	$8,039	$7,235	$804	$161
CROMBY 2	1955	1999	44	44	1	$12,853	$12,853	$0	$0
DELAWARE 7	1953	1999	46	46	1	$5,555	$5,555	$0	$0
DELAWARE 8	1953	1999	46	46	1	$5,555	$5,555	$0	$0
EDDY 1	1960	2025	39	65	0.6	$13,294	$7,976	$5,318	$205
EDDY 2	1960	2025	39	65	0.6	$13,294	$7,976	$5,318	$205
EDDY 3	1974	2025	25	51	0.490196078	$10,372	$5,084	$5,288	$203
EDDY 4	1976	2025	23	49	0.469387755	$10,372	$4,868	$5,504	$212
KEYSTONE 1	1967	2018	32	51	0.62745098	$7,729	$4,850	$2,879	$152
KEYSTONE 2	1968	2018	31	50	0.62	$11,218	$6,955	$4,263	$224
SCHUYLKILL	1958	1999	41	41	1	$8,409	$8,409	$0	$0
					TOTALS =	$124,854	$87,554	$37,300	$1,721

(a) Based on OTS Exhibit No. 4, Schedule 3, page 4.

Interrogatory OCA-III-26

OCA-III-26 Question:

Please state whether the Company is considering life extensions for any of the fossil plants shown on Schedule 5 and, if so, how such life extensions have been reflected in the terminal dates shown on that schedule.

OCA-III-26 Answer:

The Company's market value analysis presented in the testimony of Thomas P. Hill, Jr. assumes life extensions for Keystone, Conemaugh 1, and Eddystone 2, 3, and 4. The impact of these potential life extensions have not been included on Schedule 5 as they have not been formally approved.

Responsible Witness: A. B. Cohn

Docket No. R-00973953

Interrogatory PAIEUG-IV-6

PAIEUG-IV-6 Question:

Refer to page 15, lines 1-9, of Mr. Cohn's testimony. Provide copies of all assumptions, data, computations, workpapers and spreadsheets with all cell formulas left intact that support the computations and amounts described by Mr. Cohn.

PAIEUG-IV-6 Answer:

The enclosed disk provides a copy of the Excel spreadsheets used to calculate the decommissioning expense assuming tax deductibility and non-tax deductibility. The $79 million represents the difference in market value when comparing the results of market value runs using the different decommissioning expenses. The market value model is that used in Exhibits TPH-3 to 5.

Responsible Witness: A. B. Cohn

Decommisioning										
	Fund As Of 12/31/96 (1)	Fund Expected 1/1/99 (2)	Decom Cost In 1998 $ (3)	Current Expense Needed (4)	Adjusted Current Expense (4a)	Year Of CE (5)	Annual Pmt Based on (4) (6)	Annual Pmt Based on (4a) (7)	(8) = (7) * n	(9) = [(4) - (8)]*T + (4a)
Peach Bottom 1	$ 6,228,372	$ 8,712,529	$ 24,082,979	$ 40,063,274	$ 30,372,884	2014	$ 1,377,822	$ 1,044,559	16,712,938	$ 40,063,274
Peach Bottom 2	$ 45,328,430	$ 54,118,474	$ 58,393,296	$ 97,140,249	$ 73,644,245	2014	$ 3,340,766	$ 2,532,711	40,523,373	$ 97,140,249
Peach Bottom 3	$ 45,365,855	$ 58,229,166	$ 78,177,730	$ 130,052,672	$ 98,595,906	2014	$ 4,472,662	$ 3,390,827	54,253,237	$ 130,052,672
Limerick 1	$ 68,730,557	$ 85,360,610	$ 233,710,328	$ 559,418,831	$ 383,056,312	2024	$ 7,551,937	$ 5,171,112	134,448,905	$ 559,418,831
Limerick 2	$ 37,960,594	$ 55,727,417	$ 347,414,357	$ 999,931,594	$ 660,753,706	2029	$ 8,915,673	$ 5,891,467	182,635,479	$ 999,931,594
Salem 1	$ 34,734,793	$ 49,861,645	$ 63,493,807	$ 113,339,413	$ 83,862,346	2016	$ 3,176,786	$ 2,350,574	42,310,335	$ 113,339,413
Salem 2	$ 29,763,229	$ 38,485,657	$ 82,302,405	$ 169,989,079	$ 120,563,450	2020	$ 3,261,559	$ 2,313,235	50,891,178	$ 169,989,079
Totals	$ 268,111,830	$ 350,495,498	$ 887,574,902	$ 2,109,935,111	$ 1,450,848,850		$ 32,097,204	22,694,485	521,775,445	$ 2,109,935,111

Total Deferred Taxes
1/1/99 $ 17,774,970

Assumes:
Earnings Rate - 7.5%
Payments are tax deductible

OTS Exhibit No. 4
Schedule 6
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