

R-10973753  
PECO STATEMENT NO. 14-R  
Phila. 10/14, 15, 16/97  
E. H. Ibert

BEFORE THE  
PENNSYLVANIA PUBLIC UTILITY COMMISSION

APPLICATION OF PECO ENERGY COMPANY  
FOR APPROVAL OF ITS RESTRUCTURING PLAN  
UNDER SECTION 2806 OF THE PUBLIC UTILITY CODE

PROTECTIVE SERVICE OFFICE  
27 OCT 20 11 09:46

REBUTTAL TESTIMONY  
OF  
STEPHEN R. XANDER

DOCUMENT  
FOLDER  
NOV 04 1997

Regarding Universal Service Cost Recovery, CTC/ITC True-Up Mechanisms, and CTC  
Recovery from Self-generators

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1  
2 **REBUTTAL TESTIMONY OF STEPHEN R. XANDER**  
3

4  
5 **I. INTRODUCTION**  
6

7  
8 **Q. Mr. Xander, did you present written direct testimony in this proceeding?**

9 **A.** Yes, I did.  
10

11 **Q. Mr. Xander, what is the purpose of your rebuttal testimony?**

12 **A.** The purpose of my rebuttal testimony is to respond to direct testimony presented  
13 by witnesses on behalf of the Office of Trial Staff (“OTS”), the Office of  
14 Consumer Advocate (“OCA”), the Office of Small Business Advocate (“OSBA”),  
15 the Philadelphia Area Industrial Energy Users Group (“PAIEUG”), the  
16 Environmentalists, the Navy, Enron and the American Association of Retired  
17 Persons (“AARP”) with respect to the following matters:  
18

19 **Universal Service Fund Mechanism**

- 20 • Appropriateness of reconciliation mechanism (Ms. Brockway on behalf of the  
21 OCA)  
22 • Initial funding level (Mr. Colton on behalf of the Environmentalists)  
23 • Expenses to be included in reconciliation (Ms. Brockway, Mr. Colton)  
24 • Collection of funds (Ms. L. Smith on behalf of OCA, Mr. Metro on behalf of  
25 OTS, Mr. Cooper on behalf of AARP)

- 1           • Identification on customer bills (Mr. Metro on behalf of OTS)
- 2           • Application of funds (Ms. Brockway, Mr. Bowen on behalf of Enron, Mr.
- 3           Colton)

4

5           **CTC/ITC True-Up Mechanisms**

- 6           • Relationship between ITC and CTC (Mr. Phillips on behalf of the Navy)
- 7           • CTC true-up (Mr. Baron on behalf of PAIEUG, Ms. L. Smith)

8

9           **Recovery from Self-Generators**

- 10          • Recovery from Self-generators (Mr. Baron)

11

12                           **II.       UNIVERSAL SERVICE FUND MECHANISM**

13

14           **Appropriateness of Reconciliation**

15

16   **Q.    Do any parties object to the Universal Service Fund Charge (USFC)**  
17   **reconciliation methodology as proposed by the Company?**

18   A.    No party objected to the general concept of a reconcilable USFC mechanism or,  
19        except as noted elsewhere in this testimony, the specifics of our methodology.  
20        Ms. Brockway did raise some concerns about reconciliation mechanisms in  
21        general but concluded with the following statement (OCA Statement No. 6, page  
22        35): “I recognize the need for PECO to account for any universal service costs,

1 particularly if the Company is going to ramp up the level of these programs in the  
2 future. The Commission should only permit a deferral or reconciliation of these  
3 costs, however, if the Company is also required to calculate and account for any  
4 offsetting savings.”

5  
6 **Q. What is the Company’s response to this recommendation?**

7 A. The Company has made modifications to its USFC mechanism that address Ms.  
8 Brockway’s concern. *The specifics of these modifications are contained later in*  
9 *my rebuttal testimony under the heading “Expenses to be Included in*  
10 *Reconciliation.”*

11  
12 **Initial Funding Level**

13  
14 **Q. Please address Mr. Colton’s proposal for an initial Universal Service funding**  
15 **level of \$59.1 million.**

16 A. Mr. Colton uses actual 1995 uncollectible account charge-offs associated with the  
17 Customer Assistance Program (CAP), then adds 1996 LIURP costs,  
18 administrative costs for LIHEAP, general collection costs, and CAP  
19 administrative costs. He also includes all MEAF program costs. These costs total  
20 \$59.1 million and are summarized on Mr. Colton’s Exhibit RDC-6.

21  
22 **Q. How does his proposal differ from the Company’s proposal?**

1 A. First, the Company's proposal includes the pro forma level of CAP, CAP Rate,  
2 and 48 month Special Payment Agreements that are included in PECO's overall  
3 uncollectible expense claim in this proceeding (Exhibit TPH-1, D-17a). Second,  
4 the Company's proposal does not include administrative costs for LIHEAP,  
5 general collection costs, CAP administrative costs, or MEAF program costs. The  
6 Company did, however, include the 1996 LIURP costs. A summary of the  
7 Company's proposed initial funding level of \$35.7 million is contained in Exhibit  
8 SRX-1 to my written direct testimony (PECO Statement No. 14).

9  
10 **Q. What is the Company's response to Mr. Colton's proposed initial funding**  
11 **level?**

12 A. The Company believes that its use of the pro forma level of uncollectible account  
13 expense associated with its current universal service programs is appropriate  
14 because it recognizes the lower costs associated with the CAP Rate Pilot program.  
15 It should be noted that any increase in PECO's proposed level would increase the  
16 amount of uncollectible accounts expense included in this restructuring  
17 proceeding (Exhibit TPH-1, page D-17) to be recovered in unbundled distribution  
18 rates.

19  
20 The reason that the Company did not propose to include administrative costs in  
21 the USFC is that it does not share the opinion that such costs will decrease  
22 significantly as the Universal Service program expands. Nevertheless, the  
23 Company does not object to the inclusion of properly allocated administrative

1 costs in the funding mechanism. Attached Exhibit SRX-6 details the Company's  
2 \$50.6 million revised funding level for the USFC, which includes appropriate  
3 administrative program costs.

4  
5 **Expenses to be Included in Reconciliation**

6  
7 **Q. Please summarize the concerns of Ms. Brockway and Mr. Colton with**  
8 **expenses not included in the Company's proposed reconciliation**  
9 **methodology.**

10 A. Ms. Brockway and Mr. Colton both contend that expansion of the Universal  
11 Service program will reduce collection expenses and other uncollectible accounts  
12 expense (i.e., over 90 day arrearages normally expensed). These items were not  
13 included in the Company's original USFC reconciliation methodology.

14  
15 **Q. What is the Company's response?**

16 A. The Company agrees to include appropriate administrative collection expenses as  
17 discussed above. Although the uncollectible accounts expense associated with  
18 over 90 day arrearages may be reduced as more customers are placed in the  
19 Universal Service program, there is no data to determine reliably the percentage of  
20 such arrearages currently attributable to customers qualifying for Universal  
21 Service. The Company therefore proposes the following alternative that should  
22 provide for any migration of other uncollectible accounts expense to the Universal  
23 Service Fund. First, the non-universal service uncollectibles included in this

1 proceeding (i.e., 90 day arrearages) that are associated with the residential classes  
2 would be identified. This amount of approximately \$28.5 million, is detailed on  
3 the attached Exhibit SRX-7. Second, the Company would identify such  
4 uncollectible account expense annually and compare it to the \$28.5 million level.  
5 Third, any reduction from the \$28.5 million level expense would be credited  
6 against the USFC true-up mechanism and any increase would be charged. This  
7 proposal would effectively capture any actual changes in other uncollectible  
8 accounts expense and avoid any speculative, arbitrary assignments of possible  
9 reductions that may, or may not, result as the Universal Service program expands.

10  
11 **Q. What is the Company's response to Mr. Colton's conclusion that \$26 million**  
12 **of other uncollectible accounts expense is associated with low income**  
13 **customers?**

14 A. The Company disagrees with this conclusion for several reasons. Implicit in Mr.  
15 Colton's calculation is the assumption that 85% of other uncollectible accounts is  
16 attributable to low-income customers qualifying for Universal Service  
17 (Environmentalists Statement No. 1, page 30). To support this 85% assumption,  
18 he uses two other percentages supplied by PECO. The first Company supplied  
19 percentage of 88% , however describes only the relationship of **low-income**  
20 **residential customers** to the total number of customers having **Special Payment**  
21 **Agreements over 48 months**. The Over 48 Month Special Payment Agreement  
22 customer population is not representative of the entire customer population that  
23 has over 90 day arrearages. To use the 88%, to draw conclusions about the

1 percentage of low-income customers included in the **entire customer population**  
2 that comprises over 90 day arrearages is, therefore, invalid. Further PECO has  
3 already included 88% of the Special Payment Agreements over 48 months in its  
4 USFC reconciliation mechanism (Exhibit SRX-1 of PECO Statement No. 14).

5  
6 The second percentage referenced by Mr. Colton of 73% is an estimate of the  
7 percentage of the “high risk” group (i.e. customers having any Special Payment  
8 Agreement within the last 2 years) who had incomes below 150% of poverty.

9 Once again, the Company maintains that the percentage of low income customers  
10 in the “high-risk” group is not representative of those in the entire customer  
11 population who have over 90 day arrearages. Mr. Colton then “qualitatively”  
12 adjusts the 73% up to 85% to determine the percentage of Uncollectible Accounts  
13 associated with the low-income group.

14  
15 As Mr. Colton’s methodology demonstrates, any attempt to quantify definitively  
16 the amount of other uncollectible accounts that is associated with Universal  
17 Service is at best speculative. As described above, the Company’s proposed  
18 *alternative eliminates the need for such speculation yet effectively provides the*  
19 *desired result of capturing in the USFC any potential migration from other*  
20 *uncollectible accounts expense to Universal Service program expense.*

21

22

1           **Collection of Funds**

2

3   **Q.    Please summarize the assertion of Ms. L. Smith, Mr. Metro, and Mr. Cooper**  
4           **that all rate classes should be charged for Universal Service programs.**

5    A.    Mr. Metro’s position is that the “nonbypassable” terminology in the Competition  
6           Act requires collection of charges from all rate classes. In addition, Ms. L. Smith  
7           and Mr. Cooper rely on the reasoning that all of society benefits from a universal  
8           service program and, therefore, all rate classes should support it.

9

10 **Q.    What is the Company’s response?**

11    A.    We disagree that the use of the word “nonbypassable” in the Competition Act  
12           necessarily requires that all customer classes be assigned these costs. To prevent  
13           interclass cost shifting, Universal Service Fund costs should be assigned to all  
14           customer classes in accordance with the cost allocation principles incorporated in  
15           the last base rate case. In PECO’s case these traditional cost allocation principles  
16           mandate that only those classes (e.g., R and R-H) that receive direct benefits bear  
17           the cost responsibility. After the costs have been allocated in this manner,  
18           however, the recovery mechanism should be nonbypassable, as is the Company’s  
19           proposed USFC.

20

21 **Q.    Please address Mr. Cooper’s suggestion that the Independent System**  
22           **Operator should collect Universal Service charges from all generation**  
23           **providers and manage the Universal Service Fund.**

1 A. The Company disagrees with this approach. In Sections 2802 (17) and 2804 (8),  
2 the Competition Act clearly provides that the incumbent electric distribution  
3 company is responsible for administering Universal Service Programs and for  
4 recovering revenue from customers to fund such programs. The relevant sections  
5 state as follows:

6 “There are certain public purpose costs, including programs for  
7 low-income assistance, energy conservation and others, which have  
8 been implemented and supported by public utilities’ bundled rates.  
9 The public purpose is to be promoted by continuing universal service  
10 and energy conservation policies, protections and services; and full  
11 recovery of such costs is to be permitted through a nonbypassable  
12 rate mechanism”.

13  
14 “The commission shall establish **for each electric utility** an  
15 appropriate cost recovery mechanism which is designed to fully  
16 recover **the electric utility’s** universal service and energy  
17 conservation costs over the life of these programs.” (emphasis  
18 added.)  
19

## 20 **Identification on Customer Bills**

21

22 **Q. Please summarize Mr. Metro’s recommendation with respect to itemizing the**  
23 **USFC on customer bills.**

24 A. Mr. Metro recommends separately stating the USFC as a line item to be shown in  
25 the additional information section of customer bills. He believes such  
26 identification would clearly show customers this “non-traditional” charge, and  
27 would aid in the tracking and accountability of this item (OTS Statement No. 1,  
28 page 30).  
29

1 **Q. Please summarize the Company's recommendation.**

2 A. The Company proposed to include the USFC rate in its tariff as a separately  
3 identifiable component of its distribution rate, but did not propose creating  
4 another separate line item in the unbundled customer bill.

5

6 **Q. What is the Company's response to Mr. Metro's recommendation?**

7 A. The Company does not agree with Mr. Metro's recommendation. The Company's  
8 proposal would satisfy Mr. Metro's objectives because both the rate and method  
9 of calculation of the USFC will appear in the Company's tariff as shown in  
10 Exhibit SRX-3 attached to my original testimony. In fact, the Commission has  
11 already endorsed this same approach for the Purchased Gas Cost (PGC) rate  
12 adjustment mechanism, which is subject to quarterly and annual reconciliations.  
13 The PGC collects approximately one-half of the total Mcf charges for gas service  
14 and does not appear as a separate line item on customer bills. Only the rate itself  
15 is noted as additional information on the bill.

16

17 In addition, the Company intends to notify affected customers of all USFC rate  
18 changes. Finally, the reconciliation mechanism would be subject to both annual  
19 review by the Bureau of Audits and to Commission approval, ensuring full  
20 accountability.

21

22

1           **Application of Funds**

2   **Q.   Please summarize the parts of the testimony of Ms. Brockway, Mr. Colton,**  
3           **and Mr. Bowen that you will address concerning application of Universal**  
4           **Service funds.**

5   A.   Ms. Brockway recommends that the CAP bill reductions be confined to the  
6           distribution component of the bill (OCA Statement 6, pages 24-26). Mr. Colton  
7           recommends that Universal Service funds should be apportioned between the  
8           distribution company and the electric service provider to promote competitive  
9           neutrality (Environmentalists Statement No. 1, pages 34-35). Mr. Bowen states  
10          that "...universal service support must be portable and should be allocated to each  
11          component of a low-income customer's electric bill on a pro rata basis in  
12          proportion to the average comparative level of charges on bills." (Enron Statement  
13          No. 5, pages 33-34 )

14  
15   **Q.   What is the Company's response to these various positions?**

16   A.   As indicated in my direct testimony (pages 7 - 8, PECO Statement No. 14) the  
17          Company believes that a pro rata allocation of the CAP Rate discount to the  
18          distribution, CTC/ITC, and generation components of customer bills is the  
19          appropriate methodology. Exhibit SRX-4, page 2 of 2 attached to my direct  
20          testimony, shows how PECO would implement this concept if it were providing  
21          the generation. If the Company is not supplying the generation, the Company  
22          would be willing to provide the related discount to the generation provider. The  
23          discount would be calculated just as if the customer were being supplied

1 generation by PECO ( i.e., [cents/kWh discount off PECO generation price] x  
2 [first 500kWh monthly usage]. We believe this overall approach would promote  
3 competitive neutrality and encourage other generation suppliers to serve low-  
4 income customers.

5  
6 **Q. Please compare the Company's proposal with Mr. Colton's and Mr. Bowen's**  
7 **proposals.**

8 A. The Company's proposal is similar in that it adopts a pro rata allocation of the  
9 CAP Rate discounts to various bill components. It differs with respect to the  
10 specific methodology to provide funds to other generation suppliers, and it would  
11 not share other components of the Universal Service Fund such as LIURP and  
12 uncollectibles. Mr. Colton recommends that funds be provided from the total  
13 Universal Service revenues collected based on the percentage of generation  
14 charged to the total billed charges. A drawback to this methodology is that the  
15 more a supplier charges, the greater his allocation of Universal Service funds.  
16 Mr. Bowen's methodology overcomes this particular deficiency by using average  
17 charges to develop the pro rata allocation. However, the Company believes his  
18 methodology to be flawed for another, more significant reason. In addition to the  
19 CAP Rate discounts, the revenue stream collected by the Company for Universal  
20 Service will undoubtedly include uncollectible accounts expense associated with  
21 Special Payment Agreements and delinquencies for Universal Service customers.  
22 The Company does not believe that it is appropriate to share these amounts with  
23 nonutility providers because they do not have "provider of last resort"

1 responsibilities. For example, they will not be required to write Special Payment  
2 Agreements for customers that fall behind in payments, nor will they be required  
3 to carry customers with delinquencies because of the termination moratorium in  
4 the winter months. If a customer falls behind, the likely scenario is for the  
5 generation supplier to terminate its contract. The utility would then perform the  
6 supplier of last resort role. Accordingly, the nonutility generation provider should  
7 not be expected to have near the same level of uncollectible accounts expense and  
8 should not share in the Universal Service Fund as it did. The Company's  
9 methodology recognizes this situation by only providing the CAP Rate discount  
10 benefit to the nonutility generation supplier.

### 11 III. ITC/CTC TRUE-UP MECHANISMS

#### 12 Relationship Between ITC and CTC

13  
14  
15  
16 **Q. Please summarize Mr. Philips' concerns with the ITC and CTC rate  
17 methodologies, as described on pages 17-18 of his testimony.**

18 A. Mr. Philips is concerned over what appears to be two different methods in  
19 calculating the ITC and CTC, which he believes could lead to billing  
20 inconsistencies. He also questions why the Securitization Rate Reduction (SRR)  
21 is netted with the ITC rather than netted against the CTC.

22  
23 **Q. What is the Company's response?**

1 A. I believe Mr. Philips' concern over different design methodologies for the ITC  
2 and CTC is unfounded, but may be the result of an incomplete description on page  
3 10 of my direct testimony (PECO Statement No. 14). Although it is true that the  
4 ITC and CTC have different designs, the application of the mechanics of the  
5 methodologies yields the same results. Because in PECO's recent securitization  
6 proceeding the Company needed to design the ITC/SRR mechanics before the  
7 CTC was designed, we needed a methodology that would preserve the rate  
8 structure for each rate class and prevent any intraclass cost shifting without  
9 knowing specifically what the ultimate rate structure would be. The "percentage-  
10 of-revenue" methodology I proposed in the securitization case accomplishes this  
11 objective. It also eliminates the need to design a completely separate set of billing  
12 determinants (i.e., usage, demand, and blocking structure) for each tariffed rate or  
13 to change these determinants which PECO otherwise would have to do each time  
14 the ITC changed due to the issuance of new bonds or after reconciliation.

15

16 I note that in the recent securitization proceeding, no party took exception to the  
17 proposed percentage-of-revenue methodology, and it was adopted by the  
18 Commission. The Company's proposal to net the SRR and ITC to show the net  
19 *reduction in the customer bill as a result of the securitization process* was also  
20 uncontested in that proceeding.

21

22

1           **CTC True-up**

2

3   **Q.    Please summarize the Company's CTC true-up proposal.**

4

5   A.    The Company's proposal for reconciling the collection of a levelized CTC is to  
6           track over or under recoveries and adjust the termination date for the CTC  
7           accordingly.

8

9   **Q.    Please summarize Ms. Smith's and Mr. Baron's positions with respect to this**  
10       **issue.**

11   A.    Ms. L. Smith appears to accept the levelized approach, with adjustments to the  
12       CTC termination date but recommends that the CTC be reconciled on a rate class-  
13       by-rate class basis (OCA Statement No. 4, pages 11-12). Mr. Baron does not  
14       adopt a levelized CTC recovery approach, but nevertheless endorses the concept  
15       of using the true-up mechanism to change the termination date of the CTC  
16       recovery (PAIEUG Statement No. 1, p. 25, pages 30-33). Mr. Baron also  
17       recommends that the CTC be reconciled on a company-wide basis rather than on a  
18       rate class basis.

19

20   **Q.    What is the Company's response?**

21   A.    Mr. Alfred Miller's rebuttal testimony, PECO Statement No. 2-R, discusses the  
22       Company's overall position on recovery of the CTC on a levelized vs. declining  
23       basis. Mr. Miller explains why the Company believes that recovery on a levelized  
24       basis is the preferred approach. In addition, the Company favors a company-wide



1 increased reliance on self-generation causing at least a 10% usage reduction, not  
2 for reductions caused by other operational factors.

3

4

#### V. CONCLUSION

5 **Q. Does that conclude your rebuttal testimony?**

6 **A. Yes it does.**

**Universal Service Fund Costs**  
**Initial Funding Level**  
\$1,000's

CAP Uncollectibles, Rate Discounts, and 48 Month Agreements (Exh SRX-1)	32,920
--	--------

LIURP (Exh SRX - 1)	<u>2,772</u>
Total Original Co. USFC	35,692

## Additions:

Collection Costs - Exh MCK-6		13,216
Less: Portion Associated with Non- Residential Rate Classes		
13,216 *(1-.90472(a))	1,259	

11,957

CAP Administrative Costs Exh MCK-6	2,675
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LIHEAP Outreach - Exh MCK-6	307
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MEAF Administrative Exh MCK-6 (b)	<u>13</u>
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50,644

(a) Per Exh RAC-1, P45 of 83, D-15 Allocators to residential classes

(b) MEAF program costs are excluded since they are not included in rates (Shareholders fund the program)

Baseline Level of  
90 Day Arrearage Uncollectible Accounts  
Expense Associated with Residential Classes  
\$1,000's

Total Uncollectible Account	
Expense Included in Filing, Exh TPH-1, D-17a	65,400
Amount Included in USFC, Exh SRX - 1	<u>32,920</u>
Remainder	32,480
Less:	
Portion of 48 Mo. Agreement Expense associated with Non-Low Income Customers 8,100-7,125 (a)	<u>975</u>
Uncollectible Acct Exp - 90 Day Arrearages	31,505
Less: Portion of 90 Day Arrearages associated with Non-Residential Classes 31,505 * (1-.90381(b))	<u>3,030</u>
Portion of 90 Day Arrearage Uncollectible Acct Exp Associated with Residential Classes	28,475

(a) Exh SRX - 1

(b) Exh RAC - 1, P47 of 83, H-3 Allocators to residential classes

R-00973953  
PECO STATEMENT NO. 15-R  
Phila. 10/14, 15, 14/97  
T.E. Holbert

BEFORE THE  
PENNSYLVANIA PUBLIC UTILITY COMMISSION

APPLICATION OF PECO ENERGY COMPANY  
FOR APPROVAL OF ITS RESTRUCTURING PLAN  
UNDER SECTION 2806 OF THE PUBLIC UTILITY CODE

**DOCKETED**  
NOV 04 1997

REBUTTAL TESTIMONY  
OF  
GREGORY A. CUCCHI

PROT. ADMIN. OFFICE  
57 OCT 27 11 9:46

Regarding Billing and Metering, Standards of Conduct, Fulfillment of Supplier of Last  
Resort Obligation, and Phase-In Procedures

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REBUTTAL TESTIMONY OF GREGORY A. CUCCHI

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**I. INTRODUCTION**

**Q. Please state your name and business address?**

A: Gregory A. Cucchi, 2301 Market Street, Philadelphia, Pennsylvania.

**Q: Mr. Cucchi, did you present written direct testimony in this proceeding?**

A. Yes, I did. I submitted direct testimony (PECO St. 15) with PECO Energy Company's April 1, 1997 filing. I also presented supplemental testimony (PECO St. 15-S) on June 5, 1997 in response to questions Commissioner Hanger asked parties to address regarding proposed restructuring procedures.

**Q. What issues will you address in your rebuttal testimony?**

A. I will address the following issues, which various of the intervenors addressed in their written direct testimony:

1. Whether billing and metering functions should be unbundled from regulated distribution functions at this time and provided competitively;
2. The appropriate standards of conduct that should govern the relationship between PECO and its competitive generation operations;
3. PECO's proposal for fulfilling its supplier of last resort obligation; and
4. Proposed procedures for the phase-in of customer choice.

1 **Q. Are there any issues you addressed in your direct testimony that you do not**  
2 **address in your rebuttal testimony?**

3 A. Yes. In my direct testimony, I described, for informational purposes, PECO's  
4 contemplated approach to the provision of retail transmission access and related  
5 ancillary services, the establishment of supply obligations, and proposed load  
6 reconciliation procedures. However, the response of various intervenors and the  
7 Commission to that proposal, in addition to recent changes in the structure and  
8 organization of PJM, and evolving FERC rules on the issue of retail transmission  
9 access, has caused PECO to reexamine and revise its proposed approach. PECO  
10 will present its revised position on these issues, which accepts much of the  
11 intervenors' positions, through the testimony of David J. Pratzon (PECO St. 21-  
12 R). Mr. Pratzon is more familiar with these changes, and has been directly  
13 involved in reshaping PECO's proposals in response to the evolving PJM  
14 structures and FERC rules.

15

16 **II. BILLING AND METERING**

17

18 **Q. Can you please summarize PECO's position on billing and metering?**

19 A. PECO's proposal is that it would continue to own, maintain and read customers'  
20 billing meters and would offer a customer two billing options: (1) to receive a  
21 consolidated bill from PECO or, (2) separate bills from the supplier and PECO.  
22 Metering and distribution billing functions are an integral part of the operation of

1 the distribution system and should not be unbundled and transformed into  
2 competitive services.

3

4 **Q. Have any intervenors commented on whether PECO should unbundle its**  
5 **billing and metering services?**

6 A. Yes. A number of individuals have testified on this subject and encourage the  
7 Commission to require the Company to unbundle billing and metering services so  
8 that Suppliers can offer these services.

9

10 **Q. Does PECO believe that billing and meter services should be unbundled?**

11 A. No, not at this time. The Competition Act provides that the Electric Distribution  
12 Company (“EDC”) will continue to provide meters and meter reading services and  
13 that there are two billing options currently available. (See §2807(D), §2807(C))  
14 In fact, the arguments offered by the intervenors in this area go beyond unbundling  
15 these service and is, in effect, a deregulation of billing and metering. There are a  
16 number of practical and policy reasons, as discussed in detail below, why it is  
17 inappropriate to deregulate metering and billing. Deregulating these services:

- 18 • is contrary to the Competition Act
- 19 • could inhibit access
- 20 • will make it difficult for the EDC to prevent slamming
- 21 • will add complexity and difficulty in complying with Chapter 56
- 22 • will lead to additional stranded investment.

1 In addition, in jurisdictions where metering and billing have been deregulated, or  
2 are in the process of being deregulated, there is no proof that such deregulation  
3 will add benefit to consumers or promote direct access.

4

5 **Q: The Commission recently issued a guideline that EDCs provide, in their**  
6 **restructuring plans, for the option of Suppliers providing a consolidated bill.**  
7 **Please comment.**

8 A: On July 11, 1997, the Commission issued its Final Order on Guidelines for  
9 Maintaining Customer Services at the Same Level. The Commission believes that  
10 the Competition Act allows Suppliers the option of providing a consolidated bill.  
11 The Company does not agree with the Commission's interpretation of the  
12 Competition Act. The reference in the Competition Act, referred to by the  
13 intervenors to support deregulating these services, is not sufficient to override the  
14 clear language of the legislation that customer service functions, including billing  
15 and metering, are to remain with the EDC. As I describe in more detail below, it  
16 would not be in the best interests of customers to deregulate these services at this  
17 time.

18

19 **Q. Is it necessary, in your opinion, to deregulate billing and metering services to**  
20 **implement direct access?**

21 A. No. Deregulating these services may, in fact, inhibit direct access. If the EDC's  
22 meter is the billing meter, customers will have more flexibility in their choice of  
23 Suppliers. This will eliminate any possibility that customers will be tied to a long-

1 term arrangement with a Supplier by virtue of the fact that the Supplier installed  
2 the billing meter. If metering is made competitive and Suppliers are allowed to  
3 install their own meters, changing meters when changing Suppliers will produce  
4 obvious inefficiencies, inconvenience, and additional costs to customers. Even if  
5 Suppliers are required to keep their meter installed, until one can be installed by  
6 another supplier, or a “utility” meter is installed, these inefficiencies and customer  
7 costs will still exist.

8  
9 **Q. Does the current use of existing meters prove that a regulated utility will not**  
10 **introduce technological innovations?**

11 A. No. Mr. Jacobson states (Enron St. 4, p. 13) that “the fact that meter readers are  
12 still utilized in the utility industry, given the technological advancements in  
13 metering devices, is a perfect example of how monopoly regulation obstructs the  
14 introduction of new, innovative technologies and promotes the continued  
15 utilization of technologies that would otherwise be obsolete.” Yet under the  
16 current market structure in Pennsylvania, real-time prices are not available for all  
17 customers. There is consequently no need for advanced metering systems, and the  
18 continued use of older technology, which has already been installed, is cost-  
19 effective. Mr. Jacobson fails to provide any analysis or documentation to support  
20 his assertion that real-time metering costs would be less than current methods of  
21 meter reading. When the generation market is open to competition that allows  
22 real-time pricing, this situation will change. PECO will be in a position to begin to  
23 provide real-time metering for those customers who require it.

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**Q. Will PECO's proposal simplify the oversight of anti-competitive behavior?**

A. Yes. If the Commission allowed many generation suppliers to offer metering and billing services, it would have to ensure that each company did not engage in arrangements that could restrict switching Suppliers. PECO's proposal requires regulatory oversight of PECO's distribution company only. Moreover, PECO would be obligated to provide these services at approved rates even if a customer switched to an alternate Supplier.

In addition, if the EDC is not issuing a bill it will not be in a position to monitor slamming in accordance with the Competition Act. Section 2807(D)(1) states that "[t]he Commission shall establish regulations to ensure that an electric distribution company does not change a customer's electricity supplier without direct oral confirmation from the customer of record or written evidence of the customer's consent to a change of supplier." If the EDC does not provide metering or billing functions then it will not be able to play a role in preventing illegal slamming.

**Q. Has the deregulation of the natural gas industry proven the necessity for competition in billing and metering services?**

A. No. Mr. Jacobson claims that deregulating natural gas commodity prices in California without simultaneous competition in "revenue cycle services" had "drastically diminished the opportunity for customers to reap the benefits that should accompany new players entering the market" (Enron St. 4, p. 5). He

1 asserts that competition is not robust because only three gas marketers remain in  
2 the market, and that competition would have been more effective if revenue cycle  
3 services had been deregulated. By focusing on the alleged plight of the marketers,  
4 Mr. Jacobson ignores the obvious and large benefits to consumers from  
5 competition for supply: delivered prices are “drastically” lower for all customers.  
6 Customer savings on commodity prices easily exceed the entire portion of their bill  
7 allocable to revenue cycle services. Mr. Jacobson provides no evidence that the  
8 number of marketers in California is inefficient or that more marketers would or  
9 should appear if revenue cycle services were deregulated.

10  
11 New Energy Ventures witness Ms. Day makes similar arguments “...over the years  
12 participation of marketers has declined from a high of 12 to 3 or 4 remaining  
13 today. Once the margins on natural gas purchases fell to +/- 5%, the marketers’  
14 profit margins fell to unacceptably low levels.” (NEV St. 2, p. 7). Again, the focus  
15 is on the plight of the marketers and their alleged inability to reap high profits.  
16 There is no analysis to show that this market is inefficient or that customers have  
17 not benefited substantially. In sum, the experience of the natural gas industry has  
18 shown that large benefits can be achieved for consumers without deregulating  
19 revenue cycle services.  
20

1     **Q.     Many of the intervenors cite the California restructuring proceeding and the**  
2     **California Commission’s decision to deregulate billing and metering services**  
3     **to support deregulation of these services in Pennsylvania. Do you agree with**  
4     **this approach?**

5     A.     No. Although it is useful to study other states and how they are handling  
6     restructuring and direct access, each Commission faces different legislative and/or  
7     regulatory requirements. What is mandated (and, indeed, may be appropriate) in  
8     one state is not always transferable to another. California’s restructuring  
9     legislation, unlike Pennsylvania’s Competition Act, is silent on billing and metering  
10    issues.

11    The Pennsylvania legislation specifically provides for two billing options:  
12    “[s]ubject to the right of an end-use customer to choose to receive separate bills  
13    from its electric generation supplier, the electric distribution company may be  
14    responsible for billing customer for all electric services, regardless of the identity of  
15    the provider of those services.” §2807 (C ).

16  
17    The California proceeding is also at a different posture than the proceeding before  
18    this Commission. The California decision was the result of a comment proceeding  
19    addressing alternative strategies for metering and billing. This current proceeding  
20    addresses PECO’s proposed plan to ensure direct access by January 1, 1999 in  
21    accordance with Pennsylvania’s Competition Act. The Commission has  
22    established working groups to address issues that apply to all utilities and I believe

1 that any decision to unbundle customer service functions, particularly billing and  
2 metering, should be handled in such a generic proceeding and in coordination with  
3 the outcomes of the various Commission working groups.

4 In addition, although the CPUC has authorized deregulation of metering and  
5 billing, it has not shown that its proposed arrangements will work. The plan is  
6 controversial and no one knows what will happen. Interestingly, no intervenor  
7 mentions the results of competitive metering services in the United Kingdom,  
8 where actual experience has been gained.

9  
10 **Q. What happened in the United Kingdom?**

11 A. Two problems emerged. First, competitive meter operators did not install and  
12 connect the meters by the time the electricity pool required them. Second, the  
13 operators did not succeed in linking their meters to an integrated data system. As  
14 a result, the financial settlements which depended upon this data were jeopardized,  
15 delayed, and required estimation.

16  
17 **Q. Do you have any other concerns with the comparison to the California  
18 proceeding on deregulating metering and billing?**

19 A. Yes. Competitive metering and billing can be established only by expanding the  
20 Commission's regulatory oversight and imposing new transactions costs on market  
21 participants. These new costs and regulatory requirements threaten to burden and  
22 hinder the operation of the market.

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Because utility distribution companies must have accurate meter information even if another company provides metering and billing services, the CPUC “will direct those energy suppliers that wish to offer their own metering services to enter into a service agreement with the distribution company specifying the nature of the information to be collected, the means for sharing data, and a reasonable approach for ensuring that the metering equipment is installed, calibrated and maintained properly.”<sup>1</sup> Besides the obvious transaction costs of negotiating such a contract with every competitor, it is not clear what explicit charges the new energy service providers may demand from the utilities to access such vital information. This approach also requires the CPUC to review and approve each agreement, prevent discriminatory or anti-competitive behavior, and resolve all disputes.

Second, the CPUC must ensure that energy service providers do not use meter technology to lock in customers and hinder price-based competition for electric power. The CPUC must check regularly to make sure that each energy service provider is in compliance.

Third, the CPUC must protect the distribution utility’s revenue stream if another energy service provider takes over billing services. Accordingly, the CPUC has ordered the California utilities to establish and file credit requirements for energy service providers. Once again, even if the credit requirements do maintain the

1 utilities' financial security, they create another regulatory hurdle subject to dispute,  
2 arbitration, and verification.

3

4 **Q. Are there other reasons why deregulation of of billing and metering should**  
5 **be rejected?**

6 A. Yes. Rejection of deregulation of billing and metering would avoid the need to  
7 provide for the recovery by PECO of costs that would be stranded as a result. If  
8 the Commission decides to open billing and metering to competition, it must  
9 establish some mechanism, presumably available to all of Pennsylvania's electric  
10 utilities, which provides for the recovery of such stranded costs. This, in my view,  
11 could best be accomplished on a generic basis.

12

13 **Q. Do you see any other problems with deregulating billing and metering at this**  
14 **time?**

15 A. Yes, particularly as it relates to compliance with the Commission's extensive and  
16 comprehensive customer service regulations. If a Supplier were permitted to  
17 provide a consolidated bill, the Company would no longer have control over  
18 activities covered by the regulations, such as billing inquiries and dispute  
19 procedures. Although Suppliers have committed to adhering to the appropriate  
20 standards, there are many issues that must be resolved such as:

21 • If the Supplier cannot terminate service but is providing a consolidated  
22 bill, who issues notices and negotiates payment arrangements?

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<sup>1</sup> CPUC Decision 97-05-039 (Opinion on the Unbundling of Revenue Cycle Services), p.15.

- 1                   • Will Suppliers need to adhere to the winter termination procedures
- 2                   found at 52 Pa. Code §56.99 et seq?
- 3                   • If the customer chooses a different supplier each month or so, what
- 4                   happens to the billing responsibility and how can that be coordinated
- 5                   with the distribution utility?
- 6                   • How does the unbundling of billing and metering fit with the provider
- 7                   of last resort obligation in the Competition Act?

8

9                   Deregulating metering and billing would also add complexity to the everyday  
10                  transfer of service for customers. When a customer calls to request service at a  
11                  new address or discontinue service at his/her current address, if the EDC no longer  
12                  has control over the billing and metering, there would be added costs, procedures  
13                  and unnecessary complexities to this process. The existing meter, if not a EDC  
14                  meter, may have to be changed because the Supplier is different or the customer  
15                  may be undecided about a Supplier and a EDC meter may then have to be  
16                  installed. In addition to the added costs, this would be extremely complicated for  
17                  customers who need to make relocating as simple as possible.

18

19                  It is clear that there are a significant number of issues that must be resolved before  
20                  these services can, or should, be unbundled. It is not as simple as accepting the  
21                  position that these services are not natural monopolies.

22

1 **Q: In your opinion, could reliability of service be jeopardized by deregulating**  
2 **metering?**

3 A: Yes. Metering is complex and touches on many areas of the EDU's system,  
4 including safety, reliability and the integrity of the system.

5  
6 **Q. Would there be potential negative system impacts if metering were made**  
7 **competitive without a coordinated effort with the appropriate data transfer**  
8 **and accountability?**

9 A. Yes. The EDC needs customer metering to continue in its obligation to provide  
10 distribution and related services to customers in a least-cost, reliable manner. The  
11 distribution company uses such data to plan expansion, size new transformers,  
12 determine the adequacy of existing transformer loading, and will ultimately be able  
13 to use such devices for detecting outages. It is critical that the distribution  
14 company have this metering capability to maintain reliability at current levels or  
15 improve it, as is required by the Competition Act. To put the distribution company  
16 at the mercy of Suppliers to accurately transfer customer data, some of whom will  
17 have little incentive to do so on a timely manner, will be inefficient and  
18 cumbersome. There is no proven open system architecture at this time that would  
19 facilitate the timely transfer of such information. Suppliers may attempt to use  
20 proprietary technology to gain competitive advantage over other suppliers, in  
21 order to "uncommoditize" the kilowatt-hour, and may have little incentive to share  
22 such technology with their competitors. To allow such a data transfer system to

1 develop over time, with responsibility shared among competing suppliers in an  
2 emerging generation market, will provide a reliability risk for customers.

3 In addition, the EDC will not be in a position to resolve disputes regarding  
4 metering, prevent Suppliers from removing a customer meter when they terminate  
5 a contract with that customer, resolve customer inquiries concerning metering  
6 accuracy, and independently verify supplier deliveries with actual customer usage  
7 profiles. The PUC would need to assume the responsibility of resolving such  
8 disputes in a timely manner.

9  
10 **Q: Can you please summarize why the Commission should not deregulate billing**  
11 **and metering?**

12 A: Yes. Even assuming the Commission has the authority to deregulate billing and  
13 metering, customer choice can, and should, be implemented without deregulating  
14 these services. There are many issues associated with deregulating metering and  
15 billing and there is no need to expedite the decision on whether to deregulate these  
16 services to ensure that customers have access to Suppliers beginning in January,  
17 1999. Furthermore, deregulating these services, in conjunction with all of the  
18 other changes taking place may actually add unnecessary complexity and  
19 contribute to customer confusion.

20  
21 If the Commission decides that deregulating billing and metering is appropriate it  
22 should begin the process by gathering and studying data and proposing legislation  
23 to deregulate these services.

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**III. STANDARDS OF CONDUCT**

**Q. In your direct testimony, you sponsored a proposed Code of Conduct. What is the purpose of such a Code?**

A. The purpose of the Code is to ensure that PECO cannot unfairly advantage its future competitive supply operations due to PECO's continuing distribution services monopoly. The Code will ensure that there is a "level playing field," and that all competitors, including PECO affiliates, groups or divisions, will have a fair opportunity to compete for customers.

**Q. Are there any changes to the Code you originally proposed that PECO wishes to recommend to the Commission?**

A. Yes. I have attached as Exhibit GAC-6 an amended version of PECO's proposed Code of Conduct. This Code of Conduct contains only minor changes to the original Code I proposed, which changes are red-lined for ease of reference.

**Q. Are you familiar with the additional competitive restrictions and Code provisions that Enron would have the Commission adopt in this proceeding?**

A. Yes, Enron witness Mr. Dirmeier proposes several additional restrictions and rules, which he contends are necessary to safeguard the competitive process. These include:

- 1           •       Prohibitions on the use of PECO’s name by competitive supply  
2                   groups or affiliates;
  
- 3           •       A requirement that PECO maintain a “log” of all of its contacts  
4                   with suppliers and with customers, which Mr. Dirmeier says is  
5                   necessary to enable the Commission to make sure that PECO  
6                   observes the rules in the Code of Conduct;
  
- 7           •       Expansion of the rules restricting the sharing of information by  
8                   PECO with its competitive supply business to almost any  
9                   communication of any kind, instead of just “market” information  
10                  that would be of some commercial value or use to a competitive  
11                  supplier;
  
- 12          •       Severe structural separation that is, and as Dirmeir acknowledges  
13                  is, intended to be the virtual equivalent of divestiture;
  
- 14          •       Prohibitions against PECO’s promotion of any competitive business  
15                  conducted by a PECO affiliate or division, and not just PECO’s  
16                  competitive generation business (even if the competitive business  
17                  fully compensates PECO for this service to avoid cross-  
18                  subsidization); and,
  
- 19          •       Rules requiring PECO or a PECO wholesale power marketing  
20                  affiliate to offer wholesale power to non-affiliates on the same  
21                  terms and conditions offered to PECO’s competitive generation

1 supply group or affiliate if such power is considered “surplus”  
2 power.

3

4 **Q. Have other parties proposed any expansion of the Code of Conduct?**

5 A. Yes. Barbara Alexander on behalf of the OCA has suggested that PECO’s  
6 competitive supply groups or affiliates should not be allowed to obtain anything  
7 other than tariffed services from PECO, and that such groups and affiliates should  
8 not be allowed to use the same computer systems and other equipment even if the  
9 competitive supply groups or affiliates fully compensate PECO for these services.  
10 Also, Donald Johnstone on behalf of the Mid-Atlantic Power Supply Association  
11 (MAPSA) has proposed a Code of Conduct in his testimony. Mr. Johnstone’s  
12 proposed Code, however, does not appear to vary materially in substance from the  
13 Code that PECO has proposed. Accordingly, PECO’s recommendation is that its  
14 Code be adopted in favor of the MAPSA Code, since PECO’s Code tracks more  
15 closely the Commission’s own Sample Code, which the Commission has circulated  
16 for consideration in several contexts in recent months.

17

18 **Q. Does PECO agree that the additional restrictions Mr. Dirmeier and Ms.  
19 Alexander have proposed are necessary to safeguard competition?**

20 A. No. Through the rebuttal testimony of J. Gregory Sidak (PECO St. 10-R), PECO  
21 explains how the additional restrictions Mr. Dirmeier and Ms. Alexander have  
22 proposed would not promote, or enable, competition, but rather would be anti-  
23 competitive, and impose unfair and unnecessary burdens on PECO’s competitive

1 supply groups or affiliates. It is my understanding that: (1) the Commission does  
2 not have the legal authority to impose Mr. Dirmeier's proposed requirement with  
3 respect to sales of surplus wholesale power to non-affiliates since the terms and  
4 conditions of wholesale power purchases and sales are regulated exclusively by  
5 FERC; and (2) sales of wholesale power between PECO and an affiliate already  
6 require FERC approval under Section 205 of the Federal Power Act.

7  
8 **Q. Would the additional restrictions proposed by Mr. Dirmeier and Ms.**  
9 **Alexander impose added burdens on PECO's competitive supply groups?**

10 A. Yes. All of these restrictions will add costs to PECO's competitive supply  
11 group. Since they are unnecessary to safeguard competition for the reasons  
12 articulated by Mr. Sidak, the ultimate injury will be to consumers, who will not  
13 have the benefit of the full fruits of competition. Indeed, the proposed restrictions  
14 appear quite transparently to be designed to benefit Enron, and not consumers. In  
15 my view, it would be poor policy for the Commission to impose rules whose effect  
16 would be to advantage new market participants and disadvantage existing utilities.

17  
18 **Q. Please describe PECO's new organization insofar as it is relevant to**  
19 **implementation of PECO's proposed Code of Conduct.**

20 A. PECO will separate its competitive businesses from its regulated, electric  
21 distribution company operations. The Venture Group, will, at the outset, include  
22 PECO's competitive telecommunications businesses and Horizon Energy  
23 Company. Horizon Energy is an affiliate of PECO through which PECO will

1 participate as a supplier in its Pilot and the other Pilots in Pennsylvania. The  
2 Merchant Group, will contain all other (non-nuclear) competitive businesses that  
3 PECO will conduct, whether through affiliates or PECO groups or divisions. As  
4 part of this reorganization into a regulated wires segment and two separately  
5 constituted competitive segments, the “sales” and “marketing” functions previously  
6 performed by employees of PECO will no longer be performed by PECO  
7 employees who work for the electric distribution company; these functions will be  
8 transferred to the Merchant or Venture Groups. Those employees who remain  
9 with the electric distribution company will continue to handle customers’ “wires”  
10 service related questions, such as billing, service restoration, and service quality  
11 issues. They will not, however, be responsible for promotion or marketing of  
12 PECO’s competitive, unregulated products and services offered by the Venture  
13 Group or the Merchant Group.

14  
15 **Q. How will this new organization help PECO implement the Code of Conduct?**

16 A. It will make it far easier to manage and police the Code to prevent sharing of  
17 market information the electric distribution company receives, as employees who  
18 work in the separate Merchant and Venture Groups will not have access to such  
19 information. Also, employees of the separate electric distribution company will  
20 not have incentives to violate those rules preventing favoritism of PECO’s  
21 competitive operations because they will not be wearing two hats -- one regulated  
22 and the other competitive. Their only job will be to address their customers’  
23 delivery service concerns, and their performance will not be evaluated or measured

1 based on the financial success of PECO's competitive generation supply  
2 businesses.

3  
4 **Q. With respect to Horizon Energy, or any other future competitive supply**  
5 **group or affiliate, what specific measures will PECO take to ensure**  
6 **compliance with the Code of Conduct PECO has proposed?**

7 A. Horizon Energy will have its own leadership and staff, and will occupy separate  
8 offices in Chesterbrook which is located in suburban Philadelphia. Accordingly,  
9 Horizon will be physically removed from those PECO facilities where electric  
10 distribution company "wires" and "non-wires" functions are coordinated and  
11 carried out. In addition, Horizon employees will not have access to those  
12 computer systems and databases routinely accessed by electric distribution  
13 company employees, including those parts of the new billing system that PECO is  
14 acquiring which will require.

15  
16 **Q. Will Horizon make use of any PECO facilities or services?**

17 A. Yes, and I would expect that any additional future competitive supply group or  
18 division, if any, might do so also. In accordance with the affiliated interest  
19 agreement between PECO and Horizon that the Commission approved, Horizon  
20 may obtain some services from PECO. For example, Horizon has contracted with  
21 PECO to use PECO's call center to handle its customer service needs in  
22 connection with Horizon's current operations in core market natural gas service  
23 pilots in Maryland and New Jersey.

1

2 **Q. Will Horizon pay for such services?**

3 A. Yes. Horizon will pay the higher of cost or market for such services, in  
4 accordance with the affiliated interest agreement.

5

6 **Q. Will Horizon contribute to the costs of shared facilities?**

7 A. Yes. For example, Horizon will pay for the use of the space it will occupy in the  
8 Chesterbrook facility, and contribute to the costs of the PECO phone system, and  
9 PECO-licensed computer software, that it will use.

10

11 **Q. Will PECO actively promote Horizon using PECO employees or facilities?**

12 A. No. PECO will not actively promote Horizon -- Horizon will promote Horizon.  
13 For example, PECO will not allow Horizon to place bill inserts in the PECO bill  
14 and PECO call-takers will not be allowed to promote Horizon's services to  
15 customers that call PECO's customer service center.

16

17 **Q. Does PECO believe that these specific measures are fair and reasonable?**

18 A. Yes. Indeed, these measures go well beyond what is necessary to prevent PECO  
19 from unfairly capitalizing on its distribution monopoly. Although their  
20 implementation will be costly, PECO has put forth these measures to ensure that  
21 PECO's regulated services customers do not cross-subsidize PECO's competitive  
22 generation supply operations, and to remove any unfair advantages those

1 operations might otherwise have due to association with PECO's regulated wires  
2 business.

3

4 **Q. Will Horizon use the PECO name to market its services?**

5 A. It may do so. PECO does not agree with those who have suggested that PECO  
6 competitive suppliers should not be allowed to use the PECO name in conjunction  
7 with its marketing efforts. If the PECO name has value, it is due to the legitimate  
8 efforts and success of PECO's management over the years, and therefore it is not  
9 unfair for a PECO affiliate to use the PECO name. Enron and other large suppliers  
10 are spending millions of dollars to promote their names and images through  
11 advertising across PECO Energy's service territory and in some instances  
12 throughout the nation. Just as PECO could not prevent Enron from taking  
13 advantage of whatever success that results from these efforts, Enron and other  
14 suppliers should not be able to prevent PECO from using its name to benefit its  
15 competitive operations. The Code of Conduct will prevent PECO from unfairly  
16 leveraging its monopoly control of the wires to advantage its competitive supply  
17 business, but should not forbid PECO from using legitimately acquired advantages,  
18 such as the value of the PECO name.

19

20 **Q. Do you have any concluding thoughts with respect to Code of Conduct**  
21 **issues?**

22 A. Yes. PECO will comply with the reasonable restrictions it has proposed. I believe  
23 it is very important, however, for the Commission to ensure that PECO's affiliates

1 and supply groups be given a fair chance to compete as Pennsylvania moves  
2 toward competition. If PECO's affiliates are successful, Enron's profits may not  
3 be as substantial, but consumers will benefit, because they will have more choices  
4 offered by an array of companies competing for their business through price,  
5 production innovation, and other means. It would be a mistake to tie one hand  
6 behind PECO's back by imposing the additional burdensome, unfair, and  
7 unnecessary restrictions that Enron and others have proposed.

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10 **IV. FULFILLMENT OF SUPPLIER OF LAST RESORT OBLIGATION**

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12

13 **Q. Have any of the parties proposed changes to the ways PECO has explained**  
14 **how it will fulfill its statutorily imposed obligation to serve during the**  
15 **stranded cost recovery transition period?**

16 A. Yes. Richard Silkman on behalf of Senator Fumo and several consumer action  
17 groups and OCA witness Alexander have proposed changes.

18

19 **Q. Please describe Dr. Silkman's contentions.**

20 A. Dr. Silkman claims that PECO will continue to serve customers at a total bundled  
21 rate and that, as a result, PECO will somehow be able to "lock in" customers at a  
22 higher price than they would pay if they were to obtain their energy from a  
23 competitive supplier. Dr. Silkman's proposed remedy for these alleged defects is  
24 to require PECO to conduct competitive bidding to acquire its supply for such  
25 "provider of last resort" customers.

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**Q. Please respond to Dr. Silkman's claims.**

A. First, Dr. Silkman's characterization of PECO's proposals is incorrect. PECO will not charge fully bundled rates to any customer starting January 1, 1999; as of that date, PECO will provide fully unbundled service and charge fully unbundled rates to all customers, whether they receive their supply from PECO or from a competitive supplier. PECO will be the supplier of last resort for three categories of customers: (1) customers that are not eligible to obtain competitive supply during the phase-in period of January 1, 1999 through December 31, 2000; (2) customers that are eligible but choose not to obtain their supply from a competitive supplier; and (3) customers who choose a competitive supplier but then return to PECO because they want to or have to (because no supplier is willing to offer them service). PECO's requirement for returning customers to stay for one year was developed to avoid gaming of average market rates which results in cost-shifting to others and reduces volatility of the EDC's load for its load planning requirements.

Second, PECO will provide unbundled energy supply to these customers because it has a statutory obligation to do so, and not because it is trying to "lock in" these customers.

Third, at least with respect to the first two categories of customers I described above, PECO's total CTC and generation charges will be capped at current levels

1 until December 31, 2005. Under PECO's proposal, the generation charge these  
2 customers will pay could actually be less than the market price of energy as a result  
3 of this rate cap. Even under alternative proposals, these customers would pay an  
4 unbundled proxy for the market price, meaning that there is no proposal under  
5 consideration that would result in charges to these customers that are higher than  
6 actual market prices during this period.

7  
8 Fourth, with respect to those customers that choose a competitive supplier and  
9 then return to PECO Energy Company, whether by choice or not, and whose  
10 generation rates will not be subject to the rate cap in accordance with §2807 of the  
11 Competition Act, PECO proposes they pay market prices.

12  
13 Accordingly, the premise of Dr. Silkman's claim is incorrect. Neither PECO's  
14 proposals, nor the proposals of any of the intervenors, would have PECO charge  
15 its provider-of-last-resort customers for energy at prices higher than market prices.

16  
17 **Q. Should PECO obtain supply to serve such customers only through**  
18 **competitive bidding?**

19 No, although the proposal I made in my direct testimony included competitive  
20 bidding as one possibility. The Commission, however, should not decide that this  
21 will be the only way that PECO may procure supply to serve its customers, since it  
22 might not always be the least-costly-way to do so. The number of customers  
23 PECO will serve may fluctuate considerably over relatively short periods of time,

1 which suggests that PECO should be given the flexibility to employ a portfolio of  
2 short-term and long-term options to obtain needed supply to maximize its ability to  
3 control costs. PECO should not always have to go through a Commission-  
4 supervised RFP process, which can sometimes be needlessly burdensome and time-  
5 consuming, and which might preclude PECO from obtaining inexpensive short-  
6 term supplies when they become available and flies in the fact of a competitive  
7 market.

8  
9 **Q. What is Ms. Alexander's proposal?**

10 A. Ms. Alexander believes that there is a need for more specificity with regard to the  
11 method that will be used to set the Electric Generation Charge that "supplier of  
12 last resort" customers will pay. Ms. Alexander also objects to PECO's proposal  
13 that customers that return to PECO for service must do so for one full year to  
14 avoid gaming of this regulated Electric Generation Charge. She suggests that  
15 customers be allowed to switch for shorter periods, and that to address the gaming  
16 issue, either: (1) customers that switch back to PECO more than once in a year be  
17 required to pay a "reasonable" fee; or (2) PECO be permitted to offer a short-term  
18 tariffed service that would allow it to charge the short-term spot market price to  
19 customers that do not wish to take PECO's unbundled, supply service for a full  
20 year.

1 **Q. Please respond to Ms. Alexander's proposals.**

2 A. PECO's proposal for the one-year requirement assumed that PECO's Electric  
3 Generation Charges would be fixed, and that they will reflect costs over an entire  
4 year. In these circumstances, gaming is a significant risk. Customers could leave  
5 PECO during non-summer periods, and then return to PECO during the summer,  
6 when PECO's averaged energy rate will be less than prevailing market prices.

7  
8 As Ms. Alexander correctly notes, it is not yet settled how PECO and other  
9 utilities will set "market" prices that their supplier of last resort customers will pay.  
10 PECO's current view is that at least for customers without access during the  
11 phase-in, and for customers that do not switch at all, the generation prices will be  
12 fixed for at least one-year periods. For customers that leave and then wish to or  
13 have to come back, however, PECO is, as Ms. Alexander correctly observes,  
14 undecided how it would charge such customers. If a spot market exists, or if some  
15 other accepted index comes into existence, then the prices could be monthly  
16 averages of actual market prices, and the potential for gaming from the likely  
17 subset of PECO customers that might try to play the game would be significantly  
18 reduced. Under such circumstances, a one-year term would not be necessary. If,  
19 however, the prices that these customers pay are fixed prices that are intended to  
20 be proxies for the market and would remain in effect for periods of one year or  
21 longer, then gaming would be a significant risk.

22

1 With respect to Ms. Alexander's specific proposals, PECO is not adverse to either  
2 of them. PECO is concerned, however, that it would be difficult to determine the  
3 *trigger and level for the proposed fee that would be necessary to deter gaming*, and  
4 therefore suggests that Ms. Alexander's second alternative would be preferable.  
5

6 **V. PROCEDURES FOR PHASE-IN**

7  
8 **Q. Have any parties discussed your proposed procedures to phase-in direct  
9 access?**

10 A. Yes, but I will not respond specifically to them. PECO has participated actively in  
11 the Commission's working group addressing this issue and I understand that a  
12 consensus approach will soon emerge from that group.  
13

14 **Q. As a result of its participation in the Phase-In working group does PECO  
15 propose to revise its approach?**

16 A. Yes. To ensure that similarly situated commercial and industrial customers are not  
17 competitively disadvantaged, PECO proposes to allow each such customer to shop  
18 one-third of its peak load at each step of the Phase-In. Although this approach will  
19 be more costly to implement and administer than a first come-first serve full  
20 requirements approach for all customers, PECO is willing to undertake it because  
21 it fulfills the principles of the Act. Foremost, the approach is competitively neutral.  
22 Furthermore, it is easy to understand and provides greater flexibility for such  
23 customers by not restricting participation to those who register within a limited

1 time frame. Significantly as well, such an approach would promote economic  
2 development as new customers would also be eligible to participate regardless of  
3 when during the Phase-In they establish businesses in Pennsylvania.

4

5 **Q. Would PECO's approach differ for residential customers?**

6 A. Yes. As the concern of competitive disadvantage does not apply to such  
7 customers, residential customers would participate in the Phase-In on a  
8 first-come-first served full requirements basis.

9

10 **VI. CONCLUSION**

11 **Q. Mr. Cucchi, does that conclude your rebuttal testimony?**

12 A. Yes, it does.

1 Exhibit GAC-6

2 PROPOSED CODE OF CONDUCT

- 3 1. PECO, in its role as the ~~Local Distribution Utility (“LDU~~Electric  
4 Distribution Company (“PECO EDC”), shall not give a competitive  
5 generation affiliate or marketing group or division (“PECO Supplier”)  
6 preference over a non-affiliate in processing a request by a customer for  
7 service.  
8
- 9 2. PECO EDC shall supply services and apply the rules and other  
10 provisions of its Tariffs to non-affiliates in the same manner it applies  
11 them to a PECO Supplier.  
12
- 13 3. PECO EDC shall not sell non-power goods or services to a PECO  
14 Supplier at a price below the cost or market price, whichever is higher,  
15 for said goods or services. PECO EDC will not purchase non-power  
16 goods or services from a PECO Supplier at a price above the market  
17 price for said goods or services.  
18
- 19 4. PECO EDC shall simultaneously make available to all Suppliers any  
20 market information, not in the public domain, that it provides to a  
21 PECO Supplier.  
22
- 23 5. Employees of PECO EDC who have responsibility for operating the  
24 distribution system, such as receiving requests for power, purchasing  
25 power, scheduling delivery, or billing and metering, shall not be shared  
26 with a PECO Supplier, and their offices shall be physically separated  
27 from the office(s) used by those working for the PECO Supplier. Any  
28 shared facilities shall be fully and transparently allocated between the  
29 ~~LDU~~PECO EDC function and the PECO Supplier function. PECO  
30 EDC accounts and records shall be maintained such that the costs a  
31 PECO Supplier incurs may be clearly identified.  
32
- 33 6. PECO EDC shall not condition the provision of any regulated  
34 distribution services on the purchase of power from a PECO Supplier.  
35
- 36 7. ~~PECO shall not allow a PECO Supplier to utilize PECO’s name in a~~  
37 ~~manner such that customers can reasonably imply from that use~~Neither  
38 PECO EDC nor a PECO Supplier may directly or by implication falsely  
39 and unfairly represent that:  
40
- 41 • that the regulated distribution services provided by PECO EDC  
42 are of a superior quality when power is purchased from a PECO  
43 Supplier; or

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- that the merchant services (for power) are being provided by PECO ~~as the LDUEDC~~ rather than a PECO Supplier; or
  - that the power purchased from an Supplier that is not a PECO Supplier may not be reliably delivered.
8. PECO EDC shall establish and file with the Commission a dispute resolution procedure to address complaints alleging violations of these rules.

R-80973953  
PECO STATEMENT NO. 16-R  
Phila. 19/4/15/1497  
B. Holbert

BEFORE THE  
PENNSYLVANIA PUBLIC UTILITY COMMISSION

APPLICATION OF PECO ENERGY COMPANY  
FOR APPROVAL OF ITS RESTRUCTURING PLAN  
UNDER SECTION 2806 OF THE PUBLIC UTILITY CODE

PROCEEDINGS OFFICE

OCT 20 11 9:47

REBUTTAL TESTIMONY

OF

MARILYN C. KRAY

DOCUMENT  
FOLDER

Responding to Opposing Party Testimony Regarding  
Universal Service and Energy Conservation Programs.

CKETE

NOV 04 1997

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1 I will also discuss the Commission's Final Order on Guidelines for Universal Service and  
2 Energy Conservation ("Commission's Universal Service Guidelines") adopted July 11,  
3 1997.

4  
5 **II. COMMISSION GUIDELINES FOR UNIVERSAL SERVICE ADOPTED ON**  
6 **JULY 11, 1997**

7  
8 **Q: Does the Company's proposed Universal Service Program comply with the**  
9 **Commission's Universal Service Guidelines?**

10 A. Yes. In fact, the Company's proposed plan substantially exceeds the Commission's  
11 Universal Service Guidelines. The Company's Universal Service Program includes all  
12 the existing universal service and energy conservation policies, protections and services  
13 included in the Commission's Guidelines. In addition, the PECO program also meets the  
14 Commission's eligibility guidelines.

15  
16 Most importantly, the Company has proposed a significant expansion of its customer  
17 assistance program in terms of size and expenditure levels above what is recommended in  
18 the Commission's Universal Service Guidelines. This is explained in more detail below  
19 and in the rebuttal testimony of Stephen R. Xander. (PECO St. 14-R).

1           **III.    UNIVERSAL SERVICE ELIGIBILITY CRITERIA**

2

3   **Q:    Have any of the parties objected to the Company's eligibility criteria for Universal**  
4   **Service?**

5   A:    The parties do not object to the income level set for eligibility, a customer must be at or  
6   below 150% of the federal poverty guidelines, but there is disagreement among the  
7   parties on the use of the payment troubled criteria included in the Company's proposal  
8   and whether the Company should eliminate the payment troubled criteria and expand its  
9   program to include all low income customers (defined as customers whose income is at or  
10  below 150% of the federal poverty level).

11

12 **Q:    What is the Company's its payment troubled criteria and how does it fit with the**  
13 **Company's Universal Service Program?**

14 A:    Eligibility requirements for participation in the Company's customer assistance program,  
15   which is part of its overall Universal Service Program, are that a customer be at or below  
16   150% of the federal poverty level and that customer must be payment troubled. In my  
17   direct testimony, I outlined the Company's definition of payment troubled for eligibility  
18   for participation in its Universal Service Program. I would like to point out that *not all*  
19   components of the Company's Universal Service Program require the customer to be  
20   payment troubled. The payment troubled criteria is used for determining eligibility in the  
21   customer assistance program portion of Universal Service.

1 The Company currently operates two payment assistance programs: (1) the Customer  
2 Assistance Program (“CAP”) and (2) the pilot Customer Assistance Program (“CAP  
3 Rate”). CAP Rate, which a discounted tariffed rate for low-income customers, will be the  
4 payment assistance program that is part of the Company’s Universal Service Program.  
5 CAP Rate is currently under review by the Commission in a separate proceeding (See  
6 Commission Dockets R-943515C001-C003). After a full evaluation of CAP Rate, but  
7 not later than May, 1998, the Company will file to replace the pilot with a permanent  
8 program.

9  
10 A customer is considered payment troubled who (1) is already enrolled in CAP or CAP  
11 Rate (2) has a payment arrangement<sup>1</sup> or (3) has been past due on five out of the last six  
12 bills. *Ms. Brockway claims that the Company’s definition is too narrow and that the*  
13 *Commission has a broader list of criteria for payment troubled. The Commission’s*  
14 *Universal Service Guidelines, on page 33, sets payment troubled as a criteria for CAP*  
15 *eligibility and provides a list of four definitions of payment troubled. The Commission’s*  
16 *Universal Service Guidelines do not require utilities to use all four or suggest that one*  
17 *definition is superior.*

---

<sup>1</sup> My direct testimony stated that customers with payment arrangements extending beyond 48 months would be considered payment troubled. This was an error and the customer does not have to have an agreement extending beyond 48 months. The customer must have a payment arrangement.

1 The Company's definition of payment troubled fits with the Commission's accepted  
2 definition of payment troubled. One Commission approved definition is that the  
3 household have a reasonable arrearage. (Commission's Universal Service Guidelines,  
4 p. 33). In order for a customer to be eligible for CAP Rate, he/she must have a payment  
5 arrangement on an arrearage.

6  
7 **Q: Mr. Colton and Mr. Cooper recommend that PECO expand its program to include**  
8 **all low income customers, without payment troubled as a criteria. What is the**  
9 **Company's response?**

10 A: The Company's proposal for its Universal Service Program will significantly expand its  
11 customer assistance program. PECO is proposing to increase its program from the  
12 current enrollment of 41,000 (the combined total for CAP and CAP Rate) to  
13 approximately 70,000 customers beginning on January 1, 1999. This represents almost  
14 half of the customers PECO estimates are low income and payment troubled

15  
16 As shown by the Company's continual increase in support for low income energy  
17 assistance programs in the past, the Company is aware that there is a large population of  
18 low income customers in its service territory who may require assistance. In fact, in my  
19 direct testimony I pointed out that the latest census data estimates that 250,000  
20 households in the Company's service territory are at or below 150% of the federal  
21 poverty level. This represents approximately 18.9% of the Company's total residential  
22 customers. While the Company recognizes the potential need, it is also not in the

1 position (without more detail on how significantly the costs of the program may increase)  
2 to expand its program, at this time, to more than six times the current size .  
3 Rather than requiring the Company to enroll all customers who are low income in its  
4 program, the Company proposes that it begin its program with 70,000 customers and  
5 evaluate how well the first significant expansion works. This is in line with Ms.  
6 Brockway's recommendations that 50% of the target population be enrolled in the  
7 Company's Universal Service Program.  
8

9 **Q: What effect would the proposed significant expansion of the eligibility criteria to**  
10 **include all low income customers have on the Company's proposed Universal**  
11 **Service Program?**

12 **A:** We believe that the proposed significant expansion of the program would place too large  
13 a financial and administrative burden on the Company. The Company is concerned about  
14 expanding its program to such a large scope by including all low income customers,  
15 without sufficient information to quantify the increase in costs. Ms. Brockway  
16 acknowledges that with expansion comes increased costs and that the major increased  
17 cost will be with the *gross billing deficiency*, which refers to the difference between the  
18 amount billed at the discounted rate and the amount that would have been billed at the  
19 regular residential rate. She offsets this, however, with the assumption of the savings and  
20 retargetting of dollars currently spent on collection activity associated with low income  
21 customers. While the legislation and the Company's proposed reconciliation mechanism  
22 provides for Company reconciliation and collection of universal service costs, if the costs  
23 increase to an unreasonable level the universal service portion of the customer's bill may

1 become disproportionately large and objectionable to other customers who do not receive  
2 benefits from the Universal Service Program.

3  
4 **Q: Please address Ms. Brockway's and Mr. Colton's contention that if the program**  
5 **cost increases, i.e. the gross billing deficiencies, this will be offset, in part, by the**  
6 **retargetting of other costs?**

7 A: Mr. Stephen R. Xander (PECO St. 14-R) addresses this issue in his rebuttal testimony.  
8 Mr. Xander proposes appropriate modifications to the Company's reconciliation  
9 methodology to deal with this possibility.

10  
11 **Q: What does the Company propose about any further expansion of its Universal**  
12 **Service Program?**

13 A: The Company proposes that the Commission approve its initial plan for expansion from  
14 41,000 customer to approximately 70,000 customers. The Commission Order and Ms.  
15 Brockway recommend that the Company conduct a top-down analysis of its CAP Rate.  
16 Dr. Gil Peach, who prepared the top-down analysis of Equitable's program, is performing  
17 a top-down analysis of CAP Rate. After some experience with the expanded program,  
18 and after Dr. Peach's evaluation is complete (which includes a comparison with CAP),  
19 the Company and the Commission will be in a better position to determine whether any  
20 expansion beyond the 70,000 level is warranted. If so, PECO will revise its program and  
21 determine an appropriate time period for any further expansion. This is consistent with  
22 Ms. Brockway's recommendation that the Company's proposed increase of the program  
23 makes sense at this time and that the Company and the Commission "will be in better

1 position to determine the appropriate speed of any further ramp-up to a higher  
2 participation level once this [Dr. Peach's] evaluation is completed.”

3  
4 **IV. PERCENTAGE OF INCOME**

5  
6 **Q: Ms. Brockway and Mr. Colton suggest that the Company alter its program to be a**  
7 **percentage of income program as opposed to a discounted tariffed rate. What is**  
8 **the Company's position?**

9 A: The Company disagrees that a percentage of income plan is appropriate for its customer  
10 assistance program. As described in more detail below, the Company believes that its  
11 proposed Universal Service Program, with the use of a tariffed rate, is preferable.

12  
13 **Q: Can you please explain the difference between PECO CAP Rate and a percentage of**  
14 **income plan?**

15 A: Yes. The Company's CAP Rate includes a tariffed rate and bills a customer based on  
16 his/her actual energy usage. A percentage of income plan bills the customer for a fixed  
17 amount each month based on the customer's income, regardless of his/her actual usage.

18  
19 **Q: Why did PECO choose a tariffed rate instead of a percentage of income program?**

20 A: PECO believes that a tariffed rate offers benefits in terms of program administration and  
21 conservation incentives that a percentage of income plan does not.

22

1 **Q: Please explain.**

2 A: The Company currently uses certification by the Pennsylvania Department of Public  
3 Welfare (DPW) to confirm that a customer is receiving government assistance payments  
4 such as Temporary Aid for Needy Families (formerly known as Aid for Dependent  
5 Children), Social Security Income and Medicaid. The Department of Revenue (DOR) is  
6 also used to verify a customer's eligibility. The Company verifies whether the customer  
7 is at or below 100% or 150% of the federal poverty level and requires a yes or no  
8 response from DPW or DOR. This is a much more streamlined process than what is  
9 required for a percentage of income program.

10  
11 To verify a customer's income for a percentage of income program, it is necessary to  
12 determine the exact amount of the yearly income. The more information that must be  
13 verified, the more the administrative costs of the program will increase. With a  
14 percentage of income plan, the amount of the income, not just whether it fits into a  
15 category, must be determined and then payments are based on a sliding scale. A potential  
16 problem is the fact that customers may be motivated to under report income because the  
17 monthly payment will be smaller if their income is less.

18  
19 The Company's experience is that a percentage of income plan is costly. The Company's  
20 CAP (as opposed to CAP Rate) is a combined percentage of bill and percentage of  
21 income plan with high administrative costs. The Company believes that some of the  
22 administrative costs associated a percentage of income plan would be put to better use  
23 toward the program itself (i.e. reductions to customer bills.) This is the reason that the

1 Company designed its pilot CAP Rate as a tariffed rate. The Company believes that a  
2 tariffed rate will serve to help low income customers afford electric service and will  
3 encourage conservation.

4 In addition, a percentage of income plan violates cost causation principles. Customers  
5 should, to the extent possible, pay costs they cause to be incurred on the system. If the  
6 customer's payment is not based on actual usage, then the customer is not contributing to  
7 the costs he/she added to the system.

8  
9 **Q: Please explain the conservation incentives associated with using a tariffed rate  
10 versus a percentage of income plan?**

11 A: The CAP Rate inverted block structure is more effective in encouraging customers to  
12 conserve energy than a percentage of income plan because customers have an incentive to  
13 keep usage at a reasonable level. Percentage of income programs do not have such an  
14 incentive because payments are not tied to usage.

15  
16 **V. USE OF COMMUNITY BASED ORGANIZATIONS**

17  
18 **Q: Mr. Colton and Ms. Brockway testify on the merits of using community based  
19 organizations. What role, if any, will community based organizations play in the  
20 implementation of the Company's Universal Service Program?**

21 A: PECO acknowledges that community based organizations ("CBOs") can provide a  
22 valuable service for low income energy assistance. We have observed that our low  
23 income customers have needs beyond their inability to pay their electric bills. These

1 needs include employment, housing, education, and others. PECO does not have the  
2 skills to be an effective social service organization to address these needs, nor is it  
3 positioned to leverage the benefits of other local, state, and federal agencies through the  
4 human services network.

5  
6 Accordingly, we will seek to partner with those human service organizations that provide  
7 a holistic approach to meeting the needs of our customers. That is, organizations that are  
8 able to treat not only symptoms such as inability to pay utility bills, but the cause of the  
9 problems troubling low income customers.

10  
11 **Q: How will CBOs fit into the Company's Universal Service Program?**

12 A: The Company believes that an effective use of CBOs can be developed to incorporate the  
13 administrative savings from the streamlined intake for its tariffed rate and referral of our  
14 customers to the appropriate agencies.

15  
16 When selecting which CBOs to partner with, PECO will establish a set of decision  
17 making criteria to be used in the selection process. This is consistent with PECO's  
18 documented practices associated with vendor selection. In the case of selecting CBOs,  
19 the intent of the criteria will be to select those organizations which can assist the  
20 Company in maximizing the benefits to our low income customers. As this time, it would  
21 be premature to conclude which CBOs will be selected to provide the services we require  
22 for our Universal Service Program.

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**VI. LIURP AND RENEWABLES**

**Q: Ms. Brockway addresses PECO’s Low Income Usage Reduction Program (LIURP) and makes recommendations for changes. Does the Company agree?**

A: PECO agrees that there is always room for improvement in its program and generally agrees with Ms. Brockway’s suggestions. Ms. Brockway makes seven specific recommendations for LIURP and I will address them in the order presented:

1. The 800 kWh usage limit: PECO will consider reducing the 800 kWh limit when the pool for potential LIURP referrals at this level is exhausted.

2. Diagnostics according to rate class: PECO addresses rates based on the energy service that is provided by the Company. Where PECO is not the energy provider for gas, the customer receives referrals from the educator for the appropriate agency to address that customer’s needs. We would be prohibited by LIURP regulations to perform weatherization treatments that address a specific source of energy on a property that is not our customer’s for a particular energy source.

3. Expansion of the list of baseload measures: The Company has expanded its baseload treatments to include refrigerator replacement. The Company is also evaluating an expansion of LIURP to cover the replacement of inefficient air conditioners with high efficiency units.

1 4. Renewables: The Commission Order permits the electric distribution company to test  
2 the effectiveness of a renewables pilot. PECO will explore the feasibility of a renewables  
3 pilot.

4  
5 5. High customer non-participation rate: The Company and its LIURP vendor continue  
6 to review the reasons relating to the difficulties contacting LIURP participants. Ms.  
7 Brockway recommends that PECO use the resources of CBOs to assist in contact these  
8 customer. The Company agrees and will explore this option.

9  
10 6. Advisory Committee: The Company plans to utilize the CAP Advisory committee to  
11 review all low income programs offered by the Company. The Company will solicit the  
12 input from various interested parties in the near future.

13  
14 7. Spending Levels. The amount the Company spends on LIURP complies with the  
15 regulations and has been approved by the Commission. The Company believes that our  
16 current funding is sufficient. In addition, through our efforts to make LIURP a more  
17 efficient and effective program we have significantly increased the number of households  
18 receiving LIURP treatments over the last two years.

19  
20 **VII. PREPAYMENT METERS**

21  
22 **Q: Ms. Brockway and Mr. Colton are critical of the Company's proposed use of**  
23 **prepayment meters for low income customers. Do you have any comments?**

1 A: Yes. PECO proposed using prepayment meters as part of its CAP Rate, and the  
2 Commission approved the use of 100 prepayment meters for CAP Rate customers. As of  
3 June 30, 1997, no customer on CAP Rate has met the criteria for the installation of a  
4 prepayment meter. The Company will not expand its proposed use of prepayment meters  
5 without the approval of the Commission.

6  
7 The Company recognizes, however, the concern of the parties that PECO may be  
8 unaware when a customer with a prepayment meter is without service. It is important to  
9 note the PECO can determine that a customer with a prepayment meter is without or  
10 using substantially less service through the use of automated audit reports which would  
11 track power purchases as well as meter reading data. The Company believes that this is  
12 an area where it can work with the community groups to develop a plan to perform  
13 outreach when data indicates that a customer with a prepayment meter is potentially  
14 without power.

15

16 **VIII. CONSUMER PROTECTION AND CHAPTER 56 COMPLIANCE**

17

18 **Q: Ms. Alexander and Mr. Cooper offer testimony on the importance of ensuring**  
19 **adequate consumer protections and adherence to Chapter 56. Do you have any**  
20 **comments.**

21 A: Ms. Alexander and Mr. Cooper raise important issues relating to consumer protections  
22 and adherence to Chapter 56. As a stated in my direct testimony, PECO will continue to  
23 comply with the Commission's customer service regulations. On July 11, 1997, the

1 Commission issued its Final Order on Guidelines for Maintaining Customer Services at  
2 the Same Level of Quality which addresses the issues raised by Ms. Alexander and Mr.  
3 Cooper. Revised Exhibit MCK-7 outlines how PECO's plans to address the customer  
4 interactions referenced in the Commission's Guidelines for Maintaining Customer  
5 Services at the Same Level of Quality.

6  
7 Metering, billing, provider of last resort, and code of conduct issues raised by Ms.  
8 Alexander and Mr. Cooper are addressed in the rebuttal testimony of Mr. Gregory A.  
9 Cucchi.

10  
11 **VII. CONCLUSION**

12 **Q: Does this conclude your rebuttal testimony?**

13 **A: Yes.**

## LIST OF CUSTOMER INTERACTIONS

1. Application for Service:

PECO will continue to take applications for service and follow the requirements of Chapter 56. If a customer contacts PECO and wishes to choose another Supplier, PECO will coordinate with the Supplier to initiate service. PECO recognizes that there is an *outstanding issue of how a customer will receive information describing the various Suppliers*. This is being discussed in the Commission's Competitive Safeguards Working Group. PECO will continue to participate in this working group and to analyze the most efficient and cost effective way to coordinate the initiation of service.

2. Credit Screening

PECO will continue to use the credit standards contained in Chapter 56. The Company believes that the same credit screening and standards should be used by both the electric distribution company and Suppliers.

3. Metering/Meter Reading

PECO will continue to provide metering and perform meter reading service consistent with the Commission's Chapter 56 requirements. This issue is addressed in more detail in the testimony of Mr. Gregory A. Cucchi.

4. Billing and Priority of Payment

The issue of the billing options available for customers is addressed in the testimony of Mr. Gregory A. Cucchi.

PECO will follow the Commission's guidelines for the application of partial payments.

5. Complaint Resolution

PECO will continue to comply with the Commission's complaint resolution regulations. PECO will be responsible for handling disputes if a customer receives one bill from PECO which includes the Supplier's charges. If a customer receives a separate bill from a Supplier, then PECO and the Supplier will be responsible for handling their own disputes. PECO, however, will establish with Suppliers protocols and contract terms, using the Chapter 56 procedures and appropriate time limitations, to handle misdirected disputes to ensure timely responses to customers and to the Commission.

6. Discontinuance of Service

PECO will continue to comply with the Commission's regulations governing discontinuance of service. Before PECO will process a discontinuance request, the Company must have oral or written verification from its customer. The Company cannot discontinue service upon receipt of notice from a Supplier, a customer verification procedure must be in place.

7. Termination of Service/Payment Agreements

The provisions of Chapter 56 will continue to apply to termination of service to a customer by PECO. PECO will be the only entity who can physically terminate a customer's service.

*If a customer receives one bill from PECO that includes Supplier charges, PECO will be responsible for complying with all applicable provisions of Chapter 56. If a customer is billed for electric supply directly by the Supplier and the Supplier seeks to terminate its relationship with the customer, prior to the end of the contract term, the Supplier must provide appropriate written notice to the customer and PECO. The Supplier's notice to the customer must clearly state that the customer will return to PECO if the supply contract is terminated. If the customer fails to take any steps to remedy his/her relationship with the Supplier, the customer will return to PECO as the Supplier of last resort. PECO may continue collection and termination for the customer upon proper application of the appropriate Chapter 56 provisions.*

PECO will continue to provide payment arrangements in accordance with Chapter 56 for customers receiving a combination bill. If a customer is billed for electric supply directly by the Supplier, PECO will negotiate payment arrangements for its distribution bill but will not negotiate payments arrangements for the Supplier's bill.

8. Reconnection or Restoration of Service

PECO will continue to comply with the Chapter 56 requirements regarding reconnection and restoration of service.

R-00973953  
PECO ENERGY STATEMENT NO. 17-R

Phila. 10/14, 15/16/97

J.S. Hilbert

BEFORE THE

PENNSYLVANIA PUBLIC UTILITY COMMISSION

APPLICATION OF PECO ENERGY COMPANY  
FOR APPROVAL OF ITS RESTRUCTURING PLAN  
UNDER SECTION 2806 OF THE PUBLIC UTILITY CODE

REBUTTAL TESTIMONY

OF

GWENDOLYN S. KING

REGARDING CONSUMER EDUCATION

DOCKETED  
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DOCUMENT  
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1 comment on the OCA proposal and on potential funding sources for a statewide  
2 program. I also note that while PECO Energy does not object to a statewide  
3 program under certain conditions, which I will discuss, it also remains open to  
4 other options, including implementation by PECO Energy of the comprehensive  
5 consumer education program I described in my direct testimony, or other possible  
6 versions of both statewide and individual EDC programs. PECO Energy remains  
7 hopeful that the stakeholders will reach consensus on the structure of an effective  
8 consumer education program. In any event, PECO Energy remains committed to  
9 providing meaningful, useful and successful consumer education regarding electric  
10 competition. (2) In addition, I discuss the fundamental purpose of a consumer  
11 education program, which is to offer accurate and unbiased information about  
12 electric competition using effective methods, and not, as suggested by  
13 Environmentalist witness Colton or OCA witness Alexander, to create  
14 “excitement” about electric generation competition. (3) Further, I address  
15 criticisms by OCA witness Alexander, Environmentalist witness Colton and Enron  
16 witness Bowen that PECO Energy Company’s consumer education materials have  
17 not been unbiased. (4) Next, I address Mr. Colton’s recommendations for  
18 consumer education outreach to low-income consumers. (5) Finally, I comment  
19 on Environmentalist witness Biewald’s suggestion that consumer education  
20 programs should focus on the environmental impacts of generation sources.

1    **II.    STATEWIDE CONSUMER EDUCATION PROGRAM**

2

3    **Q.    Why is PECO Energy updating its consumer education testimony?**

4    A.    *In my Direct Testimony, I described the comprehensive \$24 million Consumer*  
5    Education program PECO Energy designed to reach its large and varied customer  
6    base, using tailored approaches including a toll-free number; newspaper, television  
7    and radio announcements; direct mail; and a Speakers Bureau. We believe that  
8    implementation of this program would fulfill, and even exceed, the legislative  
9    directive that “each electric distribution company, in conjunction with the  
10   Commission, shall implement a consumer education program informing customers  
11   of the changes in the electric utility industry... [and] provide consumers with  
12   information necessary to help them make appropriate choices as to their electric  
13   service.” Competition Act, Section 2407(D)(3). The Company remains  
14   committed to an effective Consumer Education Program that reaches all customers  
15   in a timely manner. However, PECO Energy recognizes that there may be  
16   numerous approaches to consumer education that would satisfy the legislative  
17   mandate. As evidenced by the Commission’s position on consumer education as  
18   set forth on pages 27-29 of the Pilot Program Preliminary Order and Opinion,  
19   discussions held at the Consumer Education Working Group meeting on June 17,  
20   1997, and the Direct Testimony of Ms. Alexander and Mr. Bowen, there is active  
21   discussion regarding a Commission-led, statewide education program as a  
22   mechanism for implementing the legislative mandate.

1 **Q. What is PECO Energy’s position with respect to a Commission-led, statewide**  
2 **consumer education program?**

3 A. PECO Energy Company considers the concept of a Commission-led, statewide  
4 consumer education program to be one acceptable approach, within certain  
5 parameters. We agree with OCA witness Barbara Alexander that such a program  
6 should be developed by a professional, with input from an advisory body that  
7 includes representatives of key stakeholders, and should be supplemented by the  
8 individual education programs of local distribution companies within their own  
9 service territories on utility-specific issues such as explanations of their pilot  
10 programs. We also agree with the Commission and with Alexander that all  
11 consumer education programs should be subject to ongoing evaluation and  
12 modified as needed in response to the results of evaluation activities. (Pilot  
13 Program Preliminary Opinion and Order, p. 29; Alexander Testimony, p. 21).  
14 The Company remains flexible in this area and open to working with the Consumer  
15 Education Working Group.

16

17 **Q. Enron witness Mr. Bowen has stated that “PECO should be precluded from**  
18 **preparing or disseminating customer education information or materials,”**  
19 **even on utility-specific issues such as the nature of its pilot program. (Bowen**  
20 **Testimony, pp. 27-28). Do you agree?**

21 A. No. The Competition Act specifically requires that “each electric distribution  
22 company, in conjunction with the Commission, shall implement a consumer  
23 education program.” Competition Act, Section 2807(D) (3). Even OCA witness

1 Alexander, notwithstanding her support for a statewide program, points out that  
2 local distribution companies must educate consumers about “the specific nature of  
3 the pilot programs in their service territory, prices for distribution services, format  
4 of the distribution company bill, how to select a supplier, and how and where to  
5 contact the utility for further information...” (Alexander Testimony, p. 18).

6 PECO Energy considers this a sensible approach. In any event, the likelihood is  
7 that customers will naturally turn to their EDC with questions on utility-specific  
8 issues. In fact, the Company should anticipate these “local” questions and be  
9 prepared to respond and educate customers. Moreover, the Company is  
10 knowledgeable about the numerous segments of its varied customer base  
11 (including urban, suburban, ethnic, elderly, small commercial, low-income, etc.)  
12 and can effectively reach these different groups using tailored methods of  
13 communication. Bowen’s stated concern is that EDC consumer education  
14 programs will mix marketing and education. However, as Alexander notes  
15 (Alexander Testimony, p. 18), and as PECO Energy stated in its Comments on the  
16 Pilot Program Preliminary Opinion and Order, pp. 52-53, the provisions of the  
17 Commission’s forthcoming Code of Conduct, coupled with Commission review of  
18 consumer education materials, will ensure that no mixing of marketing and  
19 consumer education occurs.

20  
21 **Q. How should a statewide consumer education program be funded?**

22 A. All stakeholders who seek a voice in the development and design of the program  
23 should contribute to its funding. PECO Energy therefore supports Barbara

1 Alexander's suggestion that the program should be funded "by a combination of  
2 resources from the Commission itself, the distribution companies and other  
3 governmental, educational and non-profit organizational funding." (Alexander  
4 Testimony, p. 21) In addition, PECO Energy applauds Enron's offer to contribute  
5 to the funding of a statewide program. (Bowen Testimony, p. 28). Because the  
6 competitive generation suppliers licensed in Pennsylvania will be among the likely  
7 significant beneficiaries of an educated consumer class, PECO Energy believes it is  
8 inherently fair to encourage all competitive generation suppliers to follow the  
9 example set by Enron and agree to contribute to a statewide education program.  
10 The Company suggests that an advisory body of key stakeholders develop  
11 reasonable and equitable funding recommendations.

12  
13 **Q. Please summarize the components of a statewide education program**  
14 **acceptable to PECO Energy.**

15 A. The statewide program, if adopted, should be:

- 16 • Commission-led;
- 17 • Developed by a professional experienced in consumer education initiatives  
18 and public relations techniques, who is selected with input from an advisory  
19 group or sub-committee of the Consumer Education Working Group;
- 20 • Subject to ongoing advice and input from an advisory group of key  
21 stakeholders;
- 22 • Based on uniform themes and messages;

- 1           • Comprised of specific, identified methods for educating consumers;
- 2           • Funded by all stakeholders who want input into the design and content of
- 3           the program; and
- 4           • Subject to ongoing evaluation.

5

6   **III.   THE PURPOSE OF CONSUMER EDUCATION PROGRAMS**

7

8   **Q.   Do you agree with Ms. Alexander that the Consumer Education Program**  
9           **should “motivate customers to participate in the competitive market” and**  
10           **“get customers excited about or ready to shop for electricity?” (Alexander,**  
11           **p. 11).**

12   **A.**   No. According to the Competition Act, the purpose of the consumer education  
13           program is to provide consumers “with information necessary to help them make  
14           appropriate choices as to their electric service.” The Company certainly believes  
15           that the information provided should be accurate, unbiased and understandable,  
16           and should be presented in a manner intended to capture consumers’ interest, so  
17           that they will not hesitate to participate in the restructured market out of fear,  
18           confusion, or lack of knowledge. We are concerned here with consumer  
19           education, not marketing. It is our view that creation of “excitement” is a  
20           marketing objective. In other words, consumer education should eliminate  
21           information barriers to participation; marketing should stimulate desire to  
22           participate.

1 **Q. According to Mr. Colton, a consumer education program should “motivate**  
2 **consumers to engage in the decisionmaking.” He also asserts that “not**  
3 **making a choice is not okay.” (Colton Testimony, p.13). Do you agree?**

4 A. No. A consumer education program should enable consumers to engage in  
5 decision-making, if that is what they wish to do, based on their own needs and  
6 wants, after being provided with accurate and unbiased information in an  
7 understandable format. By stating that “not making a choice is not okay,” Colton  
8 leaves the impression that consumer education programs will have failed if  
9 consumers remain with their existing suppliers. He fails to acknowledge that  
10 consumers who elect to purchase electric generation from the competitive supplier  
11 affiliated with their EDC or decide to remain with their EDC are, in fact, exercising  
12 choice.

13  
14 **IV. CONTENT OF PECO ENERGY’S PROPOSED CONSUMER**  
15 **EDUCATION PROGRAM**

16  
17 **Q. Colton, Alexander and Bowen point out numerous examples of what they**  
18 **believe to be biased statements in PECO Energy’s consumer education**  
19 **materials. Please respond to these criticisms.**

20 A. PECO Energy will not individually rebut each item in its consumer education  
21 program that has been challenged, as this would be fruitless. Various non-utility  
22 stakeholders accept as an article of faith that a local distribution utility must be  
23 incapable of providing a content-neutral education program. As a result, the

1 stakeholders have chosen to interpret the Company's education materials to date  
2 and how those messages have been phrased as reflective of bias on PECO  
3 Energy's part. For example, Alexander takes the contradictory position that  
4 PECO Energy displayed bias by noting in its consumer education materials that  
5 electric generation competition may result in annoyances such as longer bills or  
6 telemarketing initiatives, while conceding at the same time that "in fact these are  
7 legitimate concerns." (Alexander, pp. 11-12). The Company fails to see how  
8 pointing out these legitimate concerns to consumers benefits PECO Energy as a  
9 competitive generation supplier that, itself, will likely be engaging in telemarketing  
10 initiatives and running the risk of being annoying to some consumers. In another  
11 example of perceived bias, Bowen complains about the wording of a particular  
12 question in a PECO Energy consumer education brochure: "You mean I will have  
13 to sign a contract with someone to supply me with electricity?" (Bowen  
14 Testimony, p.31). In fact, that specific question arose in focus groups with  
15 consumers and addresses a concern they expressed. Bowen also objects to PECO  
16 Energy using its own name and stating that it is the provider of its current  
17 consumer education materials. (Bowen Testimony, p. 30.) It is unclear to the  
18 Company what other entity's name ought to appear on the consumer education  
19 materials developed, distributed and funded by PECO Energy. Moreover, if  
20 Bowen is suggesting that materials be distributed anonymously, PECO Energy  
21 believes that this will result in an ineffective and confusing program in which the  
22 communications are likely to be ignored or discarded by consumers. Additionally,

1 the Company is concerned that failure to identify itself will result in consumer  
2 suspicion that PECO Energy is engaging in deception or has something to hide.

3  
4 PECO Energy reiterates that it has developed a content-neutral and unbiased  
5 consumer education program directed to providing consumers with information  
6 that will enable them to make appropriate choices about their electric generation  
7 supplier. However, the Company recognizes that a statewide program offers  
8 opportunities to achieve economies of scale and to put to rest the fears of  
9 stakeholders about perceived bias on the part of the local distribution companies.  
10 PECO Energy is therefore willing to accept the proposal for a statewide consumer  
11 education program that allows for utility-specific programs.

12  
13 **V. CONSUMER EDUCATION AND UNIVERSAL SERVICE**

14  
15 **Q. Mr. Colton recommends that PECO Energy Company hire a minimum of**  
16 **two full-time professional employees, along with necessary support staff,**  
17 **dedicated to providing community outreach, education and training for its**  
18 **consumer education program. He also recommends that PECO Energy**  
19 **Company commit \$3 million to a Consumer Education Trust Fund,**  
20 **essentially to provide grants for education outreach to low-income customers.**  
21 **(Colton, Exhibit RDC-3). What is your response to these proposals?**

22 **A.** PECO Energy disagrees with Mr. Colton's recommendations regarding consumer  
23 education. Mr. Colton, who has testified here on behalf of the Environmentalists,

1 explains that he is a low-income advocate whose recommendations on PECO  
2 Energy's consumer education program are directed to "whether [it] serves[s] to  
3 attain and maintain universal service within the electric industry." (Colton  
4 Testimony, pp. 1-3). PECO Energy does agree that education about universal  
5 service is one component of a consumer education program that provides  
6 "information necessary to help [consumers] make appropriate choices about their  
7 electric service." To that end, PECO Energy included as an exhibit to the Direct  
8 Testimony of Marilyn Kray a detailed customer education plan devoted solely to  
9 educating PECO Energy's low-income customers about universal service and  
10 customer choice. (Exhibit MCK-5). This plan outlines a variety of outreach  
11 activities and approaches. The Company currently has sufficient staff, as well as  
12 ties to community groups, to enable it to provide effective communications to all  
13 of its customers, including low-income customers.

14  
15 **VI. ENVIRONMENTAL DISCLOSURE AND CONSUMER EDUCATION**

16  
17 **Q. Does PECO have any comments in general on the issue of environmental**  
18 **disclosure?**

19 **A.** Yes. As a preliminary matter, the Company is aware that the Commission, in its  
20 *July 10, 1997 Order on Customer Information-Interim Requirements*, has directed  
21 that suppliers disclose energy sources "upon customer inquiry, upon entering into a  
22 sales agreement and whenever a significant change occurs in the terms of service."  
23 (Customer Information Order, pp. 18-21, 44). PECO believes that such a

1 requirement for disclosing the “sources” of generation on an as-requested basis is  
2 reasonable and not unduly burdensome to energy suppliers. However, PECO  
3 would object to the imposition of more intrusive and burdensome requirements by  
4 regulatory fiat.

5  
6 **Q. Bruce Biewald, a witness for the Environmentalists, wants the Commission to**  
7 **require all electric generation suppliers to disclose their fuel mix and**  
8 **advocates a “comprehensive program of consumer education on the**  
9 **environmental effects of electricity production and use.” (Biewald**  
10 **Testimony, pp. 5, 9-13.) Please respond.**

11 A. The Company believes that dissemination of information about generation source  
12 and fuel mix constitutes marketing. Among the stated purposes of the  
13 Competition Act are to permit competitive market forces to control electric  
14 generation costs and to benefit all classes of customers. Competition Act, Section  
15 2802. Nowhere does it state that any particular generation source or fuel mix  
16 should be given preferential treatment by being highlighted in consumer education  
17 materials. Suppliers must do their own marketing and advertising to persuade  
18 customers of the benefits their products offer, and no stakeholders’ particular  
19 interests should be advanced under the guise of consumer education. PECO  
20 Energy believes that only suppliers making marketing claims about fuel mix  
21 should be required to make disclosure of generation source in order to substantiate  
22 the claims. Further, there is no agreement on what constitutes the “environmental  
23 effects of electricity production and use,” and attempts to determine what

1           *information should be supplied to the public will no doubt create controversy.*  
2           For example, coal plants west of Pennsylvania are subject to less stringent air  
3           emission requirements than Pennsylvania plants and these plants send their  
4           emissions directly into Pennsylvania. Is that a proper subject for education  
5           materials? Nuclear power produces no emissions. Should this fact be included in  
6           consumer education materials about the environmental impacts of electricity  
7           production? If environmental education is to be included in consumer education  
8           programs about electric competition, then PECO Energy certainly believes  
9           discussion of the environmental benefits of nuclear power is warranted. The  
10          Company believes, however, that environmental issues are more properly  
11          discussed in marketing materials, if at all.

12

13   **VII. CONCLUSION**

14

15   **Q. Does this conclude your rebuttal testimony?**

16   **A. Yes, it does.**

R-00973953  
PECO STATEMENT NO. 18-R  
Phila. 10/14, 15/14/97  
E. Hobart

BEFORE THE  
PENNSYLVANIA PUBLIC UTILITY COMMISSION

INDEXED  
NOV 04 1997

APPLICATION OF PECO ENERGY COMPANY  
FOR APPROVAL OF ITS RESTRUCTURING PLAN  
UNDER SECTION 2808 OF THE PUBLIC UTILITY CODE

DOCUMENT  
FOLDER

REBUTTAL TESTIMONY OF  
ROBERT A. LEONE

RECEIVED  
GENERAL COUNSEL'S OFFICE  
OCT 10 11 09 AM '97

Responding to the  
Testimony of Dr. Richard Silkman  
Regarding the REMI Economic Model

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**REBUTTAL TESTIMONY  
OF ROBERT A. LEONE**

**I. QUALIFICATIONS**

1     **Q.     Please state your name and business address.**

2     A.     Robert A. Leone, Boston University, School of Management, 595 Commonwealth  
3            Avenue, Boston, Massachusetts 02215.

4     **Q.     What are your current work affiliations?**

5     A.     I am a Professor of Operations Management and Chair of the Undergraduate Program  
6            faculty at the Boston University School of Management where I am presently teaching  
7            and conducting research in the fields of operations management and public management.  
8            My primary research focus is on understanding competitive strategy in industries  
9            experiencing radical structural change. My primary teaching focus is general  
10           management. In addition, I am a Senior Advisor of Putnam, Hayes & Bartlett, Inc., an  
11           economic and management consulting firm.

12    **Q.     Please describe your prior work background.**

13    A.     Since completing my Ph.D. in Economics at Yale University in 1971, I have held a  
14           number of appointments in government and academic institutions. From 1971 to 1973, I  
15           was a Lecturer in the Department of Economics and a Research Associate at the Institute  
16           for Social and Policy Studies at Yale University, as well as a Research Associate at the  
17           National Bureau of Economic Research. I was an Assistant Professor of Business

1 Administration at the Harvard Business School from 1973 to 1977 and an Associate  
2 Professor from 1977 to 1982. During the period 1980 to 1981, I also served as Senior  
3 Economist to the President's Council of Economic Advisers. In 1982, I became a  
4 Lecturer in Public Policy at the John F. Kennedy School of Government at Harvard  
5 University. In 1988, I began teaching at the Boston University School of Management.  
6 From 1990 to 1992, I was Associate Dean for Academic Affairs, and from 1992-1994  
7 Director of Research. I am presently co-editor, Curriculum and Case Notes, of the  
8 Journal of Policy Analysis and Management.

9 As an economist, I am trained in industrial organization and urban and regional  
10 economics.

11 I have consulted with numerous public and private organizations on issues  
12 relating to operations management and competitive analysis. My clients have included  
13 private corporations, government agencies, and trade associations. I also have served  
14 occasionally as an expert witness in civil litigation and regulatory proceedings on  
15 economic and management issues. Since 1991, I have testified twice, both times in  
16 proceedings before the U.S. International Trade Commission, regarding the importation  
17 of certain steel products.

18 Much of my research has involved energy policy and government regulation of  
19 energy and other industries in the setting of regional economics. Consequently, my  
20 professional activities require me to evaluate and use large-scale economic forecasting  
21 and simulation models in public policy analysis.

22 Exhibit RAL-1 contains my curriculum vitae.

1 **II. PURPOSE AND SCOPE OF TESTIMONY**

2 **Q. What is the purpose and scope of your testimony?**

3 A. I have been retained by PECO Energy Company (“PECO”) to:

- 4 1. evaluate and comment on the appropriateness of Dr. Silkman’s use of the REMI  
5 model in evaluating his alternative electricity rate structures;
- 6 2. evaluate and comment on Dr. Silkman’s modeling assumptions; and
- 7 3. comment on Dr. Silkman’s conclusions.

8 **III. SUMMARY**

9 **Q. Please summarize the conclusions of your analysis.**

10 A. My analyses of the REMI model and Dr. Silkman’s use of it have led me to three  
11 conclusions:

- 12 - The REMI model is widely-used and well-respected. So long as its strengths and  
13 weaknesses are well understood and the analyst does not simply use it as a “black  
14 box,” it is appropriate to use this model to assess the regional economic  
15 consequences of utility industry restructuring.
- 16 - Dr. Silkman, in my judgment, has not employed the REMI model properly. As I  
17 will explain in more detail later, the developers of the REMI model identify 6  
18 steps necessary to simulate the effects of utility industry restructuring. Dr.  
19 Silkman has overstated the effects of Step 1, misapplied Step 2 and simply  
20 ignored Steps 3, 4, 5, and 6. **As a result, Dr. Silkman’s analysis understates  
21 job creation from the PECO plan by about 8,600 jobs and improperly  
22 “creates” dollars in the Philadelphia economy by failing to identify the costs  
23 of cutting rates in his alternative scenarios.**
- 24 - Given Dr. Silkman’s errors and omissions, his quantitative conclusions are simply  
25 uninformative. Dr. Silkman’s analysis likely understates the overall economic  
26 benefits of industry restructuring, overstates the benefits of his proposed rate cuts  
27 and exaggerates the differential impact of his proposed rate cuts and the PECO  
28 plan.

1 IV. JOBS TO BE CREATED BY THE PECO PLAN

2 Q. What is the basis for your conclusion that Dr. Silkman understated job creation  
3 from the PECO plan and overstated the job benefits from his scenarios?

4 A. Dr. Silkman's representation of the PECO proposal illustrates why I have arrived at my  
5 conclusion. The PECO plan calls for a 3% reduction in rates in 1998, and a 9 year rate  
6 cap as required by the Electricity Generation Customer Choice and Competition Act.  
7 While Dr. Silkman acknowledges this rate cap in footnote 4 of his testimony, his  
8 simulation of the PECO plan ignores it and, in fact, escalates PECO's rates at 2.2% to  
9 2.3% each year following the initial 3% rate reduction. Using Dr. Silkman's inflation  
10 assumptions, over the period that the rate cap is in effect, relative electric rates drop by  
11 more than 20% under the PECO plan, not 3% as Dr. Silkman portrays them. Thus, even  
12 if all other aspects of Dr. Silkman's calculations were correct, this one correction alone  
13 would result in over 10,200 new jobs under the PECO plan, rather than the 1,200 to 1,600  
14 jobs that he has modeled. Indeed, with this single change, the only Silkman scenarios  
15 that create more jobs than PECO's proposal are those that lower rates to the national  
16 average. Since rates nationally reflect costs nationally and these costs are well below  
17 those obtainable in the Northeast even by the most aggressive competitors, this finding is  
18 neither surprising nor especially relevant to policy-makers.

19 Moreover, Dr. Silkman has ignored the negative consequences of rate cuts, as  
20 measured either by lost jobs, reduced wages or lost dividend income. For example, there  
21 are currently 7,200 PECO employees, hundreds of vendors to the utility industry, and  
22 42,000 PECO shareholders who reside in the Philadelphia area. In addition, there are



1           aside its 25% for savings and taxes and spends the rest. This process continues over and  
2           over again. When all the income creation opportunities are totaled, the initial \$100 I  
3           received has generated \$400 in income. The multiplier on my original \$100 is, therefore,  
4           4.

5           This multiplier process is a valid input to a regional economic impact analysis. It  
6           is important in applying this concept, however, to recognize that the initial infusion of  
7           \$100 to me may come at the expense of someone else in the region. The multiplier of 4  
8           only applies to the net infusion of income to the region. If my \$100 comes at the expense  
9           of my next door neighbor, the multiplier applies to \$0, not \$100.

10           Thus, when Dr. Silkman cuts electricity rates by 10% he generates about \$333  
11           million in income for electricity consumers.<sup>1/</sup> He applies the multipliers in the REMI  
12           model to that amount. He never indicates, however, where these savings come from. Are  
13           they due to improved productivity? If so, where are the corresponding income job losses  
14           to wage earners and local vendors? Are they due to reduced dividends to shareholders?  
15           If so, where is the corresponding income loss to utility industry shareholders that reside in  
16           the area?

17           In addition, when I receive income I may choose to spend it outside the region --  
18           on a well-deserved vacation in Florida, for example. In this case, the multiplier applies to  
19           Florida, not the PECO service territory. These "leakages" are especially important to  
20           take into account in an electric industry restructuring simulation, for two reasons.

---

<sup>1/</sup> During 1996, PECO's service territory revenues were \$3,331 million, according to PECO's Form 10-K.

1           First, many of the industrial and commercial beneficiaries of lower rates are  
2 publicly held companies whose shareholders, like PECO shareholders, are located all  
3 across the country. To the extent these shareholders are the beneficiaries of lower rates,  
4 the multiplier applies in their home regions, not the Philadelphia area. To illustrate:  
5 approximately 33% of the benefits of lower rates flow to large commercial and industrial  
6 users in Dr. Silkman's analysis. If the shareholders of these large companies are  
7 distributed across the nation in a pattern similar to the pattern of PECO stock ownership  
8 (i.e., about 90% of the stock ownership is outside the Philadelphia region),<sup>2/</sup> then  
9 approximately 30% of the benefit of lower electric rates accrues outside the region. In  
10 the 10% rate cut scenario, about \$100 million in rate reductions (\$333 million x 30%)  
11 represent benefits to shareholders who reside outside the region. Dr. Silkman has ignored  
12 this effect.

13           Second, one of the consequences of electricity industry restructuring is to open up  
14 inter regional competition. Restructuring itself may result in consumers switching from

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<sup>2/</sup> More than 24% of PECO shareholders reside in the 5 county PECO territory. These shareholders own 9.25% of PECO's 220 million outstanding shares. Half of all PECO shares are owned by institutional investors managing mutual funds, retirement and other accounts for indirect owners of PECO shares. Institutional investors typically operate in national markets. Since the PECO service territory represents about 1.3% of the U.S. population, it is reasonable to assume that at least 1.3% of these institutionally owned shares are held for the benefit of Philadelphia-area indirect shareholders. (This is almost certainly a low estimate. Just as individuals are more likely to own shares of the local utility and other local companies, they are also more likely to be the beneficiaries of institutionally managed shares. For example, the institutional retirement accounts of the Commonwealth of Pennsylvania are much more likely to serve Pennsylvania residents than residents of other states). At a minimum, therefore, 10% of PECO dividend income accrues to residents of the PECO service territory. The same logic applies to the ownership of shares in non-utility companies.

1 the purchase of electricity produced locally to electricity produced in another region,  
2 creating another unaccounted leakage in the multiplier process.

3 Conceptually, the REMI model attempts to capture leakages. Because the model  
4 is generic, however, the analyst must make sure that any policy-specific leakages are  
5 accurately captured and Dr. Silkman has not done so.

6 **The Input/Output Concept:** The second key concept underlying the REMI  
7 model is the input/output concept. As a consumer, when I spend my \$75 of higher  
8 income, I purchase relatively predictable items: some groceries, a little life insurance and  
9 maybe gasoline, for example. Grocery stores, in turn, predictably purchase their wares  
10 from food suppliers, hire employees to run the store and purchase electricity to keep the  
11 freezers cold and the store well lit. Similarly, the purchase patterns of my insurance  
12 company and gas station are also reasonably predictable when viewed economy wide.  
13 Input/output analysis tracks these predictable patterns to determine where my \$75 goes  
14 throughout the economy.

15 Once again, however, because the REMI model is a generic model, the burden is  
16 on the analyst to account for any changes in these input/output parameters necessary to  
17 capture accurately the regional consequences of a policy change. In particular, since  
18 industry restructuring is intended to lower the cost of producing electricity, it is essential  
19 to account for the job losses associated with downsizing and other cost-cutting initiatives.  
20 It is also necessary to account for the substitution of electric power produced outside the  
21 area for power produced inside the region. These lost, lower paid or “exported” utility

1 industry jobs need to be accounted for in any simulation of the job consequences of  
2 restructuring. Dr. Silkman has ignored these effects.

3 **The Supply/Demand Concept:** The third key concept underlying the REMI  
4 model is the concept of supply and demand. If income rises in a region, this will make it  
5 attractive for individuals to move in. The labor supply will drive down wage rates and  
6 the economy will settle in at new wage and population levels when supply and demand  
7 equilibrate. This is, of course, one of the most basic and powerful concepts of  
8 economics. It is also among the most difficult concepts to implement in an economic  
9 model. Price changes reverberate throughout the economy, setting in motion a seemingly  
10 infinite number of actions and reactions.

11 While the REMI modelers have captured many of these supply/demand effects,  
12 they have not specified supply/demand interactions for energy or electricity use. For  
13 industrial and commercial consumers, *the model includes fuel costs, but not electricity*  
14 *rates*. The analyst must translate changes in electricity rates into changes in overall fuel  
15 costs in a way that captures the business response to these rate changes.

16 Dr. Silkman has not done this correctly. For example, it appears that he has  
17 substantially overstated the fuel cost reductions to industrial customers. Dr. Silkman  
18 failed to consider that many of PECO's large users already pay for electricity under  
19 discounted rate riders that are substantially lower than the rates that he uses to develop  
20 the discounts in his alternative scenarios.<sup>3/</sup> In addition, by lowering costs by, say, 10%,

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3/ Dr. Silkman's national rate scenario lowers fuel costs for industrial users by 40.72%. He  
(continued...)

1 and not rates, Dr. Silkman ignored that fact that lower rates encourage higher  
2 consumption. thus, even with a 10% rate cut, costs should not fall by 10% as industrial  
3 consumers take advantage of the opportunity to purchase more electricity. In other  
4 words, Dr. Silkman has overstated the cost reductions in his model that would accrue to  
5 industrial customers, and thus, the economic benefits of these cost reductions are  
6 overstated as well.

7 *The REMI model also does not explicitly account for residential electricity*  
8 *supply/demand effects.* Instead, the model accounts for a consumer price index and a  
9 *pattern of overall household expenditures that includes electricity.* Analysts wishing to  
10 simulate the impact of a residential electricity price change must first translate these rates  
11 into changes in the consumer price index and household spending patterns. Dr. Silkman  
12 failed to do this. In addition, Dr. Silkman ignored the responses of residential consumers  
13 to choice.

14 There are other key concepts embedded in the structure of the REMI model, but I  
15 believe these three are the most relevant to understanding the application of this model to  
16 a utility industry restructuring analysis. There are also additional errors and omissions in

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3/(...continued)

apparently arrives at this number by observing first that the national average cost of a kWh for an industrial consumer is 4.6 cents and second that PECO's industrial rate tariff calls for a 7.76 cent/kWh average charge. Lowering the rate from 7.76 cents to 4.6 cents requires a rate reduction of 40.72%. However, I have been advised that many of PECO's industrial customers already have discounted rates. Consequently, the average large industrial rate is 7.2 cents, not 7.76. Using Dr. Silkman's own approach, therefore, a 40.72% rate cut would cut industrial rates in the Philadelphia area to a level 7% below the national average.

1 Dr. Silkman's analysis which I will address later. The examples I have just cited lead me  
2 to conclude that Dr. Silkman has likely understated the overall benefits of utility industry  
3 restructuring, overstated the benefits of his proposed rate cuts, and exaggerated the  
4 differential impact of his proposed rate cuts and the PECO plan.

5 **Q. Please comment generally on the abilities and limitations of economic models, such**  
6 **as the REMI model, to project the economic effect of present financial decisions.**

7 A. A properly designed and executed model, like the REMI model, can provide worthwhile  
8 insights into the economic effect of policy choices.

9 As is the case with any sophisticated economic model, the proper use of the REMI  
10 model is neither simple nor straightforward. The burden is on the analyst to insure that  
11 the model simulates the specific effects of interest. Moreover, precisely because the  
12 REMI model endeavors to capture so many economic interactions, the effects of errors  
13 and omissions in policy specification can easily multiply as the model's equations  
14 perform their arithmetic.

15 As an analyst, I would personally choose not to use the REMI model to assess the  
16 regional consequences of industry restructuring. I would not do so because the  
17 adaptations and adjustments needed to insure that the model captured the effects of  
18 restructuring accurately are highly judgmental and, once made, not apparent to the user of  
19 the model's results. I would be concerned that I was introducing errors that I could not  
20 see, and preventing users of my results from fully understanding the basis for my  
21 conclusions.

1           That is an individual professional preference, however. I would not quarrel with  
2           an analyst who chose to use the REMI model if he or she adequately addressed the  
3           challenge of translating a specific policy application into the REMI model construction  
4           and, having done so, interpreted the results with an appreciation of the potential  
5           limitations of the simulations produced. After all, it is important to recognize that no  
6           model can precisely project the future economic effects of present choices. The real  
7           world does not always react as the necessarily simplified economic theories in computer  
8           models would predict.

#### 9                           **VI. REMI'S SIX STEPS TO SIMULATE RESTRUCTURING**

10       **Q.    You previously stated that Dr. Silkman did not employ the REMI model properly.**  
11       **Please elaborate.**

12       **A.    In reviewing the procedure used by Dr. Silkman to simulate the effects of different**  
13       **electricity prices, I was concerned that he had overlooked several important factors, and**  
14       **thus had failed to model all or even most of the major effects of restructuring. I**  
15       **subsequently concluded that my concerns were justified when I reviewed the six steps**  
16       **that REMI model developers prescribe to analysts preparing a simulation of the effects of**  
17       **utility industry restructuring. Exhibit RAL-3 is a copy of an article recently prepared by**  
18       **Frederick Treyz, vice president of REMI, and Lisa Petragalia, explaining the steps needed**  
19       **to quantify the effects of electric restructuring.**

1     **Q.     Please describe these six steps.**

2     A.     The first step is to change commercial and industrial fuel costs. As noted previously, it  
3           appears that Dr. Silkman has substantially overstated the fuel cost reductions to industrial  
4           customers. Exhibit RAL-4 is the source data used by Dr. Silkman for industrial rates,  
5           which he converted into fuel costs. What this exhibit shows is the bill of an industrial  
6           customer, using 2,500,000 kWh, at PECO's HT tariff rate and under comparable rates of  
7           other utilities. However, I have been advised that many of PECO's large users already  
8           pay under discounted rate riders that are substantially lower than the 7.76¢/kWh that Dr.  
9           Silkman implicitly uses in his base case and that he uses to develop the discounts in his  
10          alternative scenarios. In other words, Dr. Silkman has overstated the cost reductions in  
11          his model that would accrue to industrial customers, and thus, the economic benefits of  
12          such cost reductions are overstated as well.

13                 The second step requires changes to the consumer price index. Residential  
14                 electricity prices do not directly enter the REMI model. Again, the analyst must simulate  
15                 their effect either by modifying the consumer price index or reducing consumer prices for  
16                 expenditures on household operations (which includes electricity purchases). Dr. Silkman  
17                 chooses instead to simulate the effect of lower residential electricity prices by lowering  
18                 taxes collected in the model. This does not yield equivalent results. The rate cut to  
19                 residences is not a tax cut. It is a reduction in the price of an item consumed by  
20                 households, which allows households to make additional expenditures on other consumer  
21                 items and even to buy additional electricity. These expenditures affect the economy in  
22                 ways that are fundamentally different from a tax cut.

1 Q. Please continue with an explanation of the next three steps which Dr. Silkman  
2 should have taken to simulate restructuring.

3 A. Step 3 requires the analyst to fine tune household demand to reflect demand induced  
4 changes in consumption. Dr. Silkman also ignores this step. In so doing, he ignores the  
5 fact that consumers may respond to lower prices through higher consumption, the  
6 purchase of different electricity using products or other adjustments. For example, a 30%  
7 cut in residential electricity rates will almost certainly encourage increased consumption  
8 of electricity. In the REMI model, every 1% decrease in the price of household operation  
9 (the category that captures residential electricity) results in a 0.86% increase in demand  
10 for that category. If a similar price elasticity applied to electricity, a 30% price cut would  
11 yield about a 25% increase in electricity consumption.

12 Step 4 requires the analyst to adjust public utility revenues. Dr. Silkman also  
13 ignores this step and in so doing ignores the reality that someone's price is someone  
14 else's revenue. Simply put, if consumers pay less, then utilities receive less. Dr. Silkman  
15 does not model these revenue losses. Lost utility revenue reduces utility employment  
16 and, at fixed costs, reduces profitability. By not changing public utility revenue in the  
17 model he implicitly assumes that someone will continue to pay the same bill to produce  
18 electricity despite up to a 40% rate cut. As a result, Dr. Silkman has artificially created  
19 money in the Philadelphia market to support jobs. The failure of many users of the REMI  
20 model to adjust both sides of the equation where payments are concerned has been noted  
21 previously in an article by Dr. Edwin Mills, which I have included as Exhibit RAL-5.

1           Step 5 requires the analyst to account for efficiency. Restructuring is anticipated  
2 to yield efficiencies through increasing labor and total factor productivity, driving utility  
3 wages down, and reducing the need for redundant capital. Absent increased demand for  
4 electricity to absorb these efficiencies, job and income loss to the region result. Dr.  
5 Silkman omits these factors from his analysis, and, therefore, overstates job and income  
6 gains from restructuring. **To properly estimate net job creation, the analyst must**  
7 **subtract the job losses from increased productivity from the jobs created by lower**  
8 **rates.**

9   **Q.   Please continue with an explanation of the sixth step.**

10   A.   Step six requires the analyst to account for the dividend implications of restructuring for  
11 local shareholders. By ignoring the consequences of achieving lower rates, Dr. Silkman  
12 greatly undermines the usefulness of his own analysis. There are almost 42,000 direct  
13 PECO shareholders in the Philadelphia area and tens of thousands of other indirect  
14 owners of PECO shares through mutual funds and retirement plans. To the extent that  
15 lower electricity rates are achieved at shareholders' expense, lower rates do not represent  
16 a net infusion of income into the region but simply a transfer of income from one  
17 neighbor to another. By ignoring this reality, Dr. Silkman exaggerates the economic  
18 development benefits of deep price cuts and overstates the differences between his  
19 proposed deep price cuts and the PECO plan.

1 **Q. What proportion of PECO's shares are held by Philadelphia area residents?**

2 A. PECO's shareholder data cannot precisely determine that number. However, it is known  
3 that Philadelphia area residents hold over 20.5 million shares. An additional number  
4 undoubtedly hold shares in street names, and thus cannot be identified by location. Also,  
5 almost 50% of the shares are held by institutional investors, including entities such as the  
6 Vanguard Group that is headquartered in the Philadelphia area and the Commonwealth of  
7 Pennsylvania. I would expect that at a minimum 1.3% of the indirect shares are owned  
8 by Philadelphia residents, since the Philadelphia area is about 1.3% of the national  
9 population. It is reasonable to assume, therefore, that at least 10% and almost certainly  
10 more of PECO's 220 million shares are held by, or in behalf of, Philadelphia area  
11 residents.

12 **Q. Why is this significant to your critique of Dr. Silkman's analysis?**

13 A. As explained above, Dr. Silkman's use of the REMI model has failed to recognize the  
14 detrimental economic effect to the Philadelphia area of his proposed rate cut. One  
15 measure of that detrimental effect is the impact on dividends. For example, if PECO  
16 were forced to eliminate payment of its dividend for several years, the result would be  
17 almost \$40 million per year in disposable income lost to the Philadelphia area economy.  
18 To put this figure in perspective, Dr. Silkman's 10% rate cut scenario generates about  
19 \$333 million in lower electricity costs and purports to create about 5,000 jobs. However,  
20 by ignoring perhaps \$40 million in lost income to shareholders in the region and by  
21 ignoring the portion of the rate reductions that accrue to non-PECO shareholders of

1 industrial companies who reside outside the area -- another \$100 million -- he has  
2 overestimated the economic stimulus of the 10% rate cut by \$140 million. The likely job  
3 creation impact of the 10% rate cut, therefore, is more likely in the vicinity of 3,000 jobs  
4 than 5,000 jobs.<sup>4/</sup>

5 **Q. Please summarize.**

6 A. In sum, the authors of the REMI model identify 6 steps necessary to adequately capture  
7 the regional economic impacts of electricity industry restructuring. Dr. Silkman ignores 4  
8 of these 6 steps, incorrectly applies a fifth and overstates the positive aspects of the sixth.  
9 Individually, each of these errors and omissions leads to an overstatement of the  
10 differences between his proposed deep price cut scenarios and the PECO plan to which he  
11 purports to compare them. Collectively, these errors and omissions make it inappropriate  
12 to use his quantitative results for policy-making purposes.

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<sup>4/</sup> Working with Professor Joseph Kalt of Harvard University, I have studied the implications of different geographic patterns of shareholder ownership, yielding some counterintuitive, but readily understandable results. For example, conventional wisdom shows New England facing an income loss if natural gas prices rise because New England has no local sources of supply. This conclusion ignores the fact that New England is both wealthier and older than the U.S. average and actually owns much of the natural gas producing industry - - so much in fact, that high natural gas prices generate more dividend income for shareholders who live in New England than they generate higher prices for New England consumers. The end result is that higher natural gas prices actually stimulate economic growth in New England - - a reality that can only be captured by properly accounting for both shareholder income and the residential locations of shareholders. See Joseph Kalt and Robert Leone, "Regional Effects of Energy Price Decontrol: The Roles of Interregional Trade, Stockholding and Microeconomic Incidence, *Rand Journal of Economics*, Vol. 17, No. 2, Summer, 1986.

## VII. FINAL COMMENTS

1  
2 **Q. Are there other errors in Dr. Silkman's analysis?**

3 A. Yes. Dr. Silkman correctly notes that REMI-type models are most useful when they  
4 allow the comparison of *differences* between policies. This places significant importance  
5 on the base case to which all policies are compared. Dr. Silkman's base case, in my  
6 judgment, is seriously flawed. It totally ignores the competitive change in electricity  
7 markets that is taking place independent of the PECO or any other plan. To ignore these  
8 changes is to ignore relative price reductions in competing regions, competitive inroads to  
9 the existing PECO territory from other regions, and the loss of industrial growth  
10 opportunities to other regions. It is a practical competitive reality that, independent of  
11 overall pricing policy. PECO and other local firms must react to these competitive threats  
12 and opportunities.

13 For example, in the base case we can expect other regions of the country to  
14 implement restructuring proposals of their own. These policies will change electricity  
15 rates elsewhere, thus attracting businesses now located in the PECO service territory.  
16 With or without the PECO plan, PECO and other providers will have to respond to these  
17 competitive threats. Similarly, with or without the specific PECO plan, consumers in the  
18 PECO territory will have some form of choice in the future. Especially in the case of the  
19 largest industrial consumers, choice is likely to lead them to look to lower-cost sources of  
20 supply outside the region. Again, PECO and other local providers will need to respond.  
21 These responses will take place in the base case, independent of PECO's plan or Dr.  
22 Silkman's proposed deep rate cut alternative scenarios. To attribute these benefits of

1 restructuring to deep price cuts or the PECO plan is to overstate the benefits of both,  
2 while understating the intrinsic benefits of restructuring.

3 In sum, Silkman's analysis starts from an unrealistic premise. He errs in  
4 assuming that the five-county economic region will capture competitive advantage by  
5 lowering its prices for electricity. In fact, restructuring is anticipated to occur generally,  
6 negating many of the competitive benefits that could accrue if the region acted alone to  
7 reduce prices. I conclude that Dr. Silkman's characterization of the base case leads to an  
8 overstatement of the benefits of the deep price cut policies he proposes because much of  
9 the benefit of lower rates can and will be achieved without the rate cut policies he  
10 proposes.

11 **Q. Do you have any other examples of the flaws in Dr. Silkman's deep price cut**  
12 **scenarios?**

13 A. Yes. The logic of Dr. Silkman's scenarios and the structure of their input to the REMI  
14 model always makes lower prices better. As an example, I have taken Dr. Silkman's  
15 model and incorporated a 99% cut in electric costs.<sup>5/</sup> As Exhibit RAL-6 demonstrates,  
16 such a price cut would create 150,000 more jobs than Dr. Silkman's most extreme  
17 scenario. I could prepare similar scenarios that cut the price of food, or other retail items  
18 and produce comparable job growth. For example, as shown in Exhibit RAL-7,  
19 according to the REMI model, an 8% reduction in the price of shoes and clothing

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<sup>5/</sup> Because the model will not accept a zero input, I have reduced electric costs by 99%.

1 produces 10,500 jobs. Since shoes and clothing are about 8% more expensive in the  
2 Philadelphia region than the national average, why not cut these rates?<sup>6/</sup> Cutting these  
3 prices to the national average would create about as many jobs as cutting electricity prices  
4 to their national average.<sup>7/</sup> What this demonstrates, of course, is not the need to regulate  
5 the price of a pair of Nikes. Rather, the example shows that if the costs of producing  
6 electricity (or any other goods or services) are ignored, it is a foregone conclusion that  
7 lower relative prices produce better economic results.

8 However, this conclusion does not enlighten the policy debate. Clearly, free  
9 electricity is not attainable, and the job growth predicted by the model under a near-zero  
10 price scenario is not plausible. However, if the results of a 99% price scenario are  
11 implausible because they ignore costs, can the results of Dr. Silkman's 40% price cut  
12 scenario be relied on when he ignores costs? What about the 10% price cut scenario?  
13 Because there is no accounting for the means of achieving the rate cuts in Dr. Silkman's  
14 analysis, it is impossible to rely upon any conclusions from Dr. Silkman's calculations.

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<sup>6/</sup> "Beating the High Cost of Living," American Demographics, June, 1997, p. 30.

<sup>7/</sup> Various consumer items appear to cost about 8% more in the Philadelphia region than in the rest of the United States. The REMI model projects about 10,500 jobs for an 8% decline in shoe and apparel prices. This is close to the difference in total jobs between Dr. Silkman's national average electricity price cut versus the corrected PECO plan.

1     **Q.     Are there other economic results of restructuring that are not considered in Dr.**  
2     **Silkman’s analysis?**

3     A.     Yes. Dr. Silkman asserts that the purpose of restructuring is to make electric rates for  
4     PECO’s customers competitive with other electric rates in the region and country. He  
5     then bases his economic analysis on achievement of this policy goal. The analysis is  
6     fundamentally flawed at the outset, however, by Dr. Silkman’s characterization of the  
7     objectives of industry restructuring.

8             First, restructuring offers consumers choice. Dr. Silkman never takes into account  
9     the value of choice. Indeed, his analysis of the PECO plan implicitly assumes that no  
10    customers exercise choice.

11            Second, restructuring is intended to provide consumers with access to low cost  
12    electricity wherever it may be available. Dr. Silkman does not account for the  
13    consequences of importing lower cost power into the region and displacing local  
14    economic activity in the process, nor does he account for the productivity improvements  
15    in electricity production.

16            And third, restructuring is intended to create innovative new ways to meet the  
17    electricity needs of consumers. In particular, through the provision of creating new  
18    services, the unbundling of existing services and the entry of new competitive entities,  
19    **restructuring should permit consumers to lower their costs to use electricity, not**  
20    **merely their cost to acquire it.** In a competitive world some consumers may willingly  
21    pay higher prices for specialized electricity services (for example, long-term rate  
22    guarantees) because such purchases will allow them to reduce their total cost of using

1 electricity. Dr. Silkman ignores these benefits and the cost to use versus cost to acquire  
2 tradeoff.

3 **Q. How will restructuring achieve benefits that are not reflected in Dr. Silkman's**  
4 **analysis?**

5 A. The policy goal of restructuring is to use competitively disciplined market forces to create  
6 new suppliers, insure the vigorous pursuit of operating economies, and enhance  
7 opportunities for product and service innovation. To insure the full discipline of  
8 competition, consumers will have individual choice, and, therefore, the opportunity to  
9 have their individual energy-using preferences satisfied by suppliers with skills focused  
10 on meeting their individual needs. Any evaluation of the economic consequences of a  
11 restructuring plan that ignores the essential purposes of restructuring is limited at best and  
12 misleading at worst. Indeed, any analysis that assumes that the consequences of  
13 restructuring manifest themselves only in rates is flawed from the outset.

14  
15 **Q. Does this conclude your testimony?**

16 A. Yes, it does.



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**PROFESSIONAL ACTIVITIES:**

1992-1994                Director of Research, Boston University School of Management.  
1990-1992                Associate Dean for Academic Affairs, Boston University School of  
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1980-1981                Senior Economist, Council of Economic Advisers.  
1977-1982                Associate Professor, Harvard Business School.  
1973-1977                Assistant Professor, Harvard Business School.  
1971-1973                Research Associate, National Bureau of Economic Research.  
1971-1973                Lecturer, Department of Economics, Yale University.  
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1994-Present	Co-editor, Curriculum and Case Notes, Journal of Policy Analysis and Management.
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1994	Member, Boston Mayor Thomas Menino's Transition Team for Health and Hospitals.
1990	Lawrence Berkeley Laboratory Advisory Committee of Energy Efficiency Standards for Home Appliances.
1988	Office of Technology Assessment Study of Telecommunications Industry.
1988	General Services Administration Privatization Study Panel.
1988	Environmental Protection Agency Small Business Advisory Committee.
1987-Present	Member, Policy Committee, Association for Policy Analysis and Management.
1987-1994	Chairman, Lexington Board of Assessors.
1987	Lexington Town Manager Selection Committee.
1986	Lexington Town Comptroller Selection Committee.
1986	Member, Lexington Board of Assessors.

- 1985 National Academy of Sciences Committee on the Reduction in Generation of Hazardous Wastes.
- 1984 Alliance to Save Energy Third Party Financing of Energy Savings Committee
- 1984 Lexington Ad Hoc Committee on Data Processing.
- 1983 National Academy of Sciences Committee on the U.S. Steel Industry.

### **EXPERT TESTIMONY:**

Testimony Since January 1, 1991:

Before the International Trade Commission, Washington, DC. Oral testimony regarding the Importation of Certain Steel Wire Rod Products, February 15, 1994.

Before the International Trade Commission, Washington, DC. Oral testimony regarding the Importation of Certain Seamless Carbon and Alloy Standard, Line and Pressure Steel Pipe, June 20, 1995.

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**REMI MODEL SIMULATION  
CORRECTED BASE CASE**

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
<b>Employment</b>											
Manufacturing	0.057	0.122	0.197	0.279	0.368	0.458	0.548	0.640	0.736	0.798	0.841
Durables	0.020	0.042	0.066	0.092	0.119	0.146	0.174	0.200	0.230	0.251	0.285
Non-durables	0.037	0.080	0.131	0.187	0.247	0.310	0.375	0.440	0.506	0.547	0.576
Non-Manufacturing	1.252	2.213	3.154	4.071	4.973	5.861	6.723	7.566	8.401	8.490	8.517
Mining	0.000	0.001	0.001	0.002	0.002	0.002	0.003	0.003	0.003	0.003	0.003
Construction	0.130	0.220	0.305	0.382	0.455	0.523	0.587	0.646	0.704	0.684	0.662
Trans + Pub Util	0.040	0.073	0.106	0.138	0.171	0.205	0.238	0.272	0.305	0.315	0.322
Fin., Ins, Real Estate	0.105	0.187	0.266	0.341	0.414	0.483	0.546	0.605	0.660	0.680	0.654
Retail Trade	0.402	0.694	0.969	1.225	1.468	1.696	1.908	2.106	2.286	2.267	2.225
Wholesale Trade	0.059	0.107	0.155	0.202	0.250	0.297	0.342	0.387	0.433	0.448	0.458
Services	0.507	0.915	1.330	1.749	2.176	2.810	3.046	3.487	3.934	4.044	4.122
Agri./Forestry/Fishing	0.009	0.016	0.023	0.030	0.038	0.045	0.053	0.060	0.068	0.070	0.071
Government	0.025	0.074	0.136	0.210	0.295	0.389	0.491	0.599	0.705	0.802	0.883
State and Local	0.025	0.074	0.136	0.210	0.295	0.389	0.491	0.599	0.705	0.802	0.883
Federal - Civilian	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Federal - Military	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Farm	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>Total Employment</b>	<b>1.334</b>	<b>2.409</b>	<b>3.488</b>	<b>4.558</b>	<b>5.635</b>	<b>6.705</b>	<b>7.763</b>	<b>8.805</b>	<b>9.844</b>	<b>10.091</b>	<b>10.241</b>
<b>Disposable Personal Income</b>	<b>0.078</b>	<b>0.139</b>	<b>0.206</b>	<b>0.276</b>	<b>0.349</b>	<b>0.425</b>	<b>0.503</b>	<b>0.584</b>	<b>0.668</b>	<b>0.702</b>	<b>0.733</b>
<b>Price Index (1992 = 100)</b>	<b>-0.034</b>	<b>-0.060</b>	<b>-0.088</b>	<b>-0.116</b>	<b>-0.146</b>	<b>-0.178</b>	<b>-0.211</b>	<b>-0.247</b>	<b>-0.286</b>	<b>-0.298</b>	<b>-0.311</b>
<b>Investment</b>											
Residential	0.014	0.023	0.031	0.038	0.045	0.050	0.055	0.060	0.064	0.059	0.055
Non-residential	0.004	0.007	0.009	0.012	0.014	0.016	0.018	0.020	0.021	0.020	0.020
Prod. Durable Equip.	0.013	0.022	0.030	0.039	0.047	0.055	0.062	0.069	0.075	0.073	0.070
<b>Total Fixed Investment</b>	<b>0.031</b>	<b>0.051</b>	<b>0.071</b>	<b>0.089</b>	<b>0.106</b>	<b>0.121</b>	<b>0.135</b>	<b>0.148</b>	<b>0.160</b>	<b>0.152</b>	<b>0.145</b>
<b>Tax Revenues</b>											
State Government	0.009	0.017	0.025	0.034	0.043	0.052	0.062	0.072	0.082	0.086	0.090
Individual Income Tax	0.004	0.008	0.012	0.016	0.021	0.025	0.030	0.035	0.040	0.042	0.043
Sales Tax	0.005	0.009	0.013	0.017	0.022	0.027	0.032	0.037	0.042	0.045	0.046



## Forecasting the Effects of Deregulation:

## Using the REMI Model to Evaluate Electric Utility Restructuring

by Frederick Treyz and Lisa Petraglia\*

The latest wave of deregulation is transforming the structure of the electricity industry from a patchwork of monopolies to an open system of competitive firms. This change is being led by policy makers who believe that deregulation will result in lower electric rates, and more efficient production and distribution of electric power. These direct changes are tied into broader economic benefits resulting from higher real incomes and increased business competitiveness. In this article, we describe how a regional economic forecasting and policy analysis model is used to quantify the effects of electric utility deregulation on a regional economy.

The analysis is conducted using a 53-sector REMI model of New Jersey. The REMI model, developed by Regional Economic Models, Inc., is a widely used economic forecasting and policy analysis model. REMI is a structural economic model that incorporates elements of econometric, input-output, and computable general equilibrium models. Although the model is calibrated to a specific state, the behavioral responses are estimated using panel data for all states over the last 25 years. As in input-output models,

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the REMI model incorporates interindustry transactions. In addition, the model includes: substitution among factors of production in response to changes in relative factor costs, migration response to changes in expected income, wage response to changes in labor market conditions, and changes in the share of local and export markets in response to changes in regional profitability and production costs.

Inclusion of price responsive product and factor demands and supplies are a common feature of the REMI model and computable general equilibrium (CGE) models. The models differ, however, in that static CGE models usually invoke market clearing in all product and factor markets, and dynamic CGE models typically assume a perfect foresight intertemporal clearing of markets or temporary market clearing if expectations are imperfect; whereas, the REMI EDFS model does not require product and factor markets to clear continuously. The time paths of responses between variables are determined by combining a priori model structures with econometrically estimated parameters.

The REMI model makes use of state level unit energy prices for the three fuels electricity, natural gas and residual oil as well as their purchased fuel weights. These data are industry specific. The derivation of an industry specific aggregate fuel cost figures into factor and overall production cost. The model's policy variable levels allow for exogenous changes to the unit cost of any of the specific fuels and the resultant substitution among the fuels is captured through the Cobb-Douglas specification of aggregate fuel costs. This is the extent of the model's energy capabilities which are not to be confused with those of energy sector models. REMI is interfaced with one such model, Energy 2020, which is developed by Systematic Solutions for utility clients.

The restructuring study presented in this article follows a four-step process. First, the REMI control forecast is selected to represent the economy in the absence of new policies. Next, direct restructuring effects are input as policy variable values. In step three, the model is run to generate an alternative economic forecast. Last, the control and alternative forecasts are compared to evaluate the total economic effects of restructuring.

The second step of the utility restructuring simulation is to change policy variables to represent direct changes that are part of restructuring. Electric industry restructuring is a result of efforts to deregulate the industry with the aim of enhancing competition in all phases of industry activity. Restructuring plans undertaken by individual states or regional power districts affect generation, distribution, and transmission of electricity. Therefore, a wide range of issues need to be considered in a comprehensive study of restructuring policies.

Table I presents an outline of the areas that need to be addressed in an electric utility restructuring study.\*\* These include rate changes to businesses and consumers, other changes in utility sales, structural changes, and utility dividend implications. The lowest level of the hierarchy represents policy variables (e.g., Consumer Price (share)) that are given values and input into the model before a simulation is run.

Electric utility restructuring may result in lower rates to businesses and consumers due to enhanced competition. Business rates are changed by decreasing the relative electricity fuel cost, which can be entered as a percentage or a proportion. This reduction in electric rates increases the competitiveness of commercial and industrial users of electricity, and results in substitution of electricity for other factors of production.

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\*\*The study elements are based on the forthcoming REMI graphical user interface.

Consumer prices are adjusted using the general price index or the price of household operation, which is the specific consumption category using electricity. In the case of adjusting the general price index, there is no response in consumer demand to changes in prices. Every one percent decline in the price of household operation, however, results in an 0.86% increase in demand for this category. In order to enter lower rates, the percentage rate decrease is calculated as the dollar value of the rate cut divided by total household expenditures. This value is input into the model to simulate consumption effects.

The consumer price change can be refined in various ways. To simulate a price elasticity between 0 and -0.86, for example, a combination of general price index and household operation price changes are used. Also, the industrial demands induced by the price change in household operation can be adjusted to more precisely reflect the electricity component of this consumption category.

TABLE I: Elements of Utility Restructuring Study

<b>Part 1 Rate changes to business</b>
Relative Electricity Fuel Cost (share)
<b>Part 2 Rate changes to consumers</b>
The consumption category using electricity (price elasticity -.86)
Consumer Price (share)
and change the general price index (price elasticity 0)
Consumer Expenditure Price Index (\$ equivalent amount)
Consumer Expenditure Price Index (share)
<b>Part 3 Refine inputs to represent the electric portion of household operations</b>
Fine tune the intermediate demands to reflect electric only
Demand (amount)
<b>Part 4 Changes in electric utility sales not reflected in demand changes</b>
Change electric sales directly
Public Utilities Sales (amount)
or adjust market shares
Regional purchase coefficient (share)
Export market share (share)
<b>Part 5 Structural changes due to deregulation</b>
Productivity changes
Labor Productivity (share)
Factor Productivity (share)
and/or wage changes associated with reorganization
Wage bill (employee equivalents)
and/or more efficient use of previously redundant capital
Nullify Investment Effect of Sales (amount)
<b>Part 6 Utility dividend implications for local stockholders</b>
Dividends, Interest and Rent (amount)
Dividends, Interest and Rent (share)

Direct electricity price reductions improve the competitive position of the region and thereby raise demand for its goods and services. Increases in demand can also be implemented directly. The public utility sales policy variable allows the user to specifically change the dollar amount of output of the electric utility sector. Market shares policy variables are used to change the proportion of local demand supplied locally (using the regional purchase coefficient policy variable), or to change the share of export trade (using the Export Market Share policy variables). These shares might change due to a predicted change in the competitive position of local utilities. This change is not captured by changes in this model's electricity price policy variables since REMI does not endogenously model fuel supply and demand relationships.

Utility restructuring may also change the way that power companies produce, distribute, and market electricity. Business reorganization may affect factor productivity, wages, and the use of capital, and each of these changes can be entered using their respective policy variables. Productivity changes can be input specifically for labor productivity, which measures employees per unit of output, or total factor productivity, representing the total use of labor and capital per unit of output. Increases in productivity lower both the use of factors and the cost of producing output.

Wage changes are simulated in employee equivalent units. Thus, if wages per worker decrease by 5% in the utility industry, the wage bill policy variable should be set to -0.05 times the number of affected workers. This policy variable changes the wages of workers without changing labor productivity. Combined shifts in labor productivity and the wage bill can be used to represent net adjustments to the labor force that may result from increased competition in the electric power industry.

Changes in the use of capital may also be important. As the default response to increased sales, the REMI model includes a capital stock adjustment process. If a policy results in more efficient use of capital, however, then increased sales in the public utility sector may not require additional electric plants and equipment. To represent the more efficient use of previously redundant capital, a policy variable to nullify the investment effect of sales is used as an input for the simulation.

Changes in the profitability of utilities may also affect their dividend distributions. Although shareholders are often a national constituency, many could reside in the state or service area that is being studied. Adjustments to the dividends received by local shareholders of utilities can be entered as either a share or dollar amount of the dividends, interest, and rental income policy variable.

In order to demonstrate the performance of the model, we present the results of an individual exogenous shock that could represent one aspect of a larger utility deregulation study. Table 2 shows the predicted effects of a permanent 10% decrease in commercial and industrial electric rates for New Jersey, for the first, second, fifth and tenth years of a simulation. Since electricity represents approximately one half of fuel costs, the 10% electric cost decline translated into a 4.6% decline in total fuel costs. This cost reduction leads to an overall economic stimulus, as the state becomes more competitive.

Exports outside of the state increase as lower production costs raise industry profits and lead to businesses increasing export capacity. The initial first year increase in exports is only \$61 million compared to the \$349 million increase in the tenth year since businesses take time to respond to the new cost environment. The increase in exports represents a component of the

overall increase in output and gross regional product.

Output and gross regional product also rise due to internally generated increases in economic activity. Output, which measures total production, expands by \$398 million in the

	1st yr.	2nd yr.	5th yr.	10th yr.
Fuel Costs	-4.6%	-4.6%	-4.6%	-4.6%
Exports*	61	115	232	349
Output*	398	537	835	1,128
Gross Regional Product*	211	282	433	577
Prices	-1.2%	-1.3%	-1.3%	-1.5%
Real Disposable Income*	280	316	387	459
Employment	4,611	5,499	6,996	7,679
Population	1,932	4,348	9,442	15,074
*in million chain-weighted 1992 dollars				

first year of the simulation and by \$1.12 billion after the tenth year. Gross regional product, which represents the value added component only, has a corresponding increase of \$211 million in the first year and \$577 million in the tenth year.

The increase in output levels are caused by increases in state employment, population, and demand, as well as exports. Reductions in fuel costs increase income in real terms, which

raises demand for goods and services. A higher level of real income per capita also attracts additional workers to the state, which tends to lower nominal wages and further reduce prices.

Employment increases dramatically in New Jersey, up by over four thousand people in the first year of the simulation. As new jobs are created due to the enhanced competitiveness of the state, people move into the state to take advantage of increasing employment opportunities as well as higher real wages. The increase in population, in turn, generates a higher level of demand for goods and services, which leads to further labor demand, etc. In the electric cost reduction scenario, in the tenth year employment has increased by over seven thousand people and population has increased by over fifteen thousand people.

Although these benefits of electric cost reductions are large, the 10% cost reduction is probably unrealistic, and would be only an element of a larger electric utility restructuring plan. Other effects, such as changes in taxes or dividend disbursements, might have a negative economic effect. In a realistic policy study, these total effects need to be considered in order to evaluate a complete economic policy.

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# Electric Rate Comparison

January, 1997

High Voltage - 5000 kW - 2,500,000 kWh

Rank	Company	\$	Cents/kWh
1	LILCO	286,245	11.45
2	CON ED	240,370	9.61
3	ATLANTIC ELECTRIC	214,751	8.59
4	<i>PECO</i>	<i>193,962</i>	<i>7.76</i>
5	PSE&G	185,336	7.41
6	PP&L	170,906	6.84
7	BALTIMORE G&E	165,810	6.63
8	DUQUESNE	157,144	6.29
9	MET ED	138,585	5.54
10	PENN POWER	136,200	5.45
11	PENN ELEC	129,922	5.20
12	DELMARVA	128,525	5.14
13	WEST PENN POWER	95,389	3.82





# THE MISUSE OF REGIONAL ECONOMIC MODELS

*Edwin S. Mills*

## Introduction

That economic analysis is sometimes used selectively and prejudicially to support positions motivated by self-interest or ideology is hardly news to most scholars. The purpose of this paper is to describe an important example of the misuse of economic models to support ideology and self-interest of state and local government officials. Billions of dollars of taxpayers' money are at stake.

The subject of the paper is the use by state and local governments and their consultants of regional economic models in order to justify proposed government projects in physical capital facilities. The models are used in ways that systematically exaggerate the public benefits of proposed government projects, thus biasing government decision-making in the direction of excessive government spending and expansion into areas that should be left to the private sector.

Most state and local governments require that economic impact studies be undertaken before important proposed investment projects can be approved. The purpose of economic impact studies is similar to that of environmental impact studies: to measure the positive and negative economic impacts of a proposed project on people and businesses in the surrounding areas. That is certainly a desirable goal; most scholars would agree that no important government project should be undertaken without a prior economic impact study. It is also important that such studies be carried out objectively and with models that are appropriate for the purpose.

This paper analyzes the use of a model called REMI in economic impact studies. REMI is an acronym for Regional Economic Models

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Incorporated, a firm in Amherst, Massachusetts of which George Treyz is president. Two facts justify concentration on REMI in this paper. First, it is widely used, perhaps more widely used than any similar model. Second, it is available in explicit detail in publicly accessible papers. Several consulting firms have regional models of one kind or another, but most consultants keep their models proprietary and there is no easy way to evaluate them. The same is true of most macro models owned by profit-making consulting firms. To REMI's credit, the REMI model is completely public.

Two excellent surveys of economic impact studies and related regional models are Nijkamp (1986) and the *Journal of Regional Science*, vol. 25 (1985). Roger Bolton's (1985) contribution is especially valuable. Based on these surveys, reading of dozens of published model documents, and reading of many impact analyses undertaken with proprietary models, REMI appears to be among the very best regional impact models extant. Much research and hard work have gone into REMI's formulation and estimation; much of its content is based on publications in scholarly journals. Thus, my at times severe criticism is of the ways REMI is misused, not of REMI itself. Any model can be misused. How responsibility for misuse of REMI should be divided between REMI staff and the government officials who use it, I have no way to ascertain.

## The Model

### *A Brief Description*

The description of REMI in this section is based on careful reading of all REMI reports available in early 1992. Relevant published and unpublished papers are listed in the references. Like any such model, REMI evolves and becomes more detailed and complex as time passes. REMI has been estimated for states, counties, and groups of counties such as metropolitan areas. Inevitably, more detail is available for some places than for others.

The most detailed version of REMI contains 49 private production sectors. Production functions are Cobb-Douglas, relating sectoral output in the region to sectoral labor, capital, and fuel inputs, assuming constant returns to scale. Regional share coefficients indicate shares of inputs purchased locally, and are determined in the same way that regional export shares are determined. Shares of sectoral production exported from the region are similarly set by share coefficients, which depend on endogenous regional prices relative to national prices for each sector. Regional consumption of each locally produced consumer good and service is proportional to local dispos-

able income, allowing for regional variation in consumer demands. Local prices are set by local production costs, but do not affect the composition of local demand. Disposable income is correctly defined as earnings plus property income plus government transfers minus taxes paid. Sectoral investment equations bring sectoral capital stocks to their desired levels, determined by marginal productivity conditions. Local wage rates are determined by demands for workers in various occupations, by overall demand and supply for local labor, and by national wages and local consumer prices. Labor demand adjusts gradually to the level indicated by equilibrium labor market conditions. The local labor force depends on the local population, adjusted for labor force participation rates by cohorts. Cohorts are adjusted by births, deaths and aging. Economic migration between the region and elsewhere is modeled as a function of income and amenities in the region relative to national averages.

The model's representation of government sectors is crucial for this paper. Personal taxes per dollar of personal income (less transfers) equal national average taxes per dollar of personal income (similarly adjusted) multiplied by a local tax factor. Personal taxes per dollar of adjusted personal income do not vary with government policy simulations carried out with the model. Government spending is represented by six equations, one each for: federal civilian; federal military; state and local education; state and local health and welfare; state and local safety; and state and local miscellaneous. The first two categories are exogenous. State and local spending in each of its four categories is proportional to the region's share of national population, adjusted for national average state and local spending and a local factor. Analyses of government expenditure on proposed projects and policy simulations are carried out by adding terms to relevant equations to represent the government actions. For example, spending on a proposed state or local government project would be represented by terms added to the demand equations for inputs needed to produce the project.

### *Evaluation of the Model*

The key point about REMI's representation of government sectors is that the model contains no budget constraint for any set of governments. There is no requirement that state and/or local government tax receipts plus user fees plus transfers from other governments plus increase in indebtedness equal expenditures. In fact, there is no exhaustive list of government receipts and expenditures. For example, there is no government debt or debt service in the model.

REMI is calibrated one region at a time, based on estimates using data from all states. REMI has been estimated for all 48 contiguous states to ensure that state estimates add up to 48-state totals that are consistent with a national 48-state model. Particular state or local projects are small relative to 48-state totals, and there is of course no way to analyze an exhaustive set of state and local proposals in all 48 states. The implication is that the national government's budget constraint is of relatively minor importance in the model. For example, a national decision to build a military base in a particular county would have only negligible effects on national taxes paid by residents of the county. However, a county government decision to build a domed stadium to be financed by county government funds logically implies some combination of reduction in other spending by the county government, increased taxes in the county or increased indebtedness by the county government. State government projects are somewhere between the above extremes. A convention center to be built in a particular municipality and to be financed partly by the municipal government's funds and partly by state government funds requires some tax increases, or other changes among those listed above, in the municipality. Using state government funds requires state tax increases, or other changes among those listed above. But state tax increases (if that is the method of financing) paid by local residents are a large or small part of the total costs paid by the state depending on how large the municipality is relative to the state and on the pattern of state tax increases. The remainder of the required state tax increase is paid by state residents outside the municipality, but they are not represented in the model analysis.

The implication of the above is that REMI makes it appear that all increments to government spending, federal, state and local, for projects REMI analyzes are free. To finance new government projects, the model introduces no extra taxes, no cuts in other government services or transfers, and no increase in government indebtedness. Many projects whose impacts are analyzed by REMI are infrastructure investments. Frequently, capital costs are to be paid by governments and the facility is expected to generate revenues from user fees that will cover operating costs. Since most infrastructure projects are capital intensive, REMI evaluates the projects as though the capital were free. There is no opportunity cost of government project spending in REMI.

The contention here is not that there are no federal, state or local taxes in REMI. It has been shown above that there are. Indeed, it is possible that state and/or local taxes might be so high that REMI would predict that they would drive workers and/or businesses from

the jurisdiction. State and local government spending is basically driven by population in REMI. Thus, if a proposed government project would increase population and employment, REMI calculates increases in government tax receipts and spending that would result from the changes in population and employment. But REMI is used to analyze government projects, not overall state and/or local government spending or receipts. Nothing in the REMI model requires that government project spending be matched by tax receipts that would cover parts of project costs not covered by money from other sources.

A state or local government project may nevertheless have some adverse effects on the local economy, according to REMI. If there is little local unemployment and immigration is not very responsive to increases in local wages, then a proposed government project may reduce private output and employment. Some output and employment are transferred to the government sector. But it is impossible for REMI to indicate a reduction in total real private income from a proposed government project. This is an implication of the structure of the model, not of particular parameter sets. Since a project requires no increased taxes or other measures that might deter private spending, total employment and private income are predicted by REMI to rise as a result of any government project spending. If there is any labor response because of immigration or reduced unemployment, REMI inevitably shows an increase in total employment and private income from any proposed government project analyzed. The model result occurs regardless of the project's merits.

The conclusion is that REMI inevitably exaggerates the benefits of government projects. The opportunity cost of state and local government funds for projects is represented to be zero. In fact, REMI is certain to show that the transfer of any project or economic activity from the private to the government sector is socially beneficial. REMI contains nothing that could permit the model to indicate that the private sector has a comparative advantage in producing any good or service. Hence, a transfer of an activity from the private to the government sector avoids the private sector's capital costs, while at the same time failing to register governments' expenditures in capital and labor as costs. Thus increases in consumer welfare result (since the private sector had to charge prices that covered costs whereas the government can give the good or service to consumers). Total earnings are unaffected, since the same employment and wage rates are required in the government as in the private sector.

None of the above relies on choices of particular parameter values for REMI. The conclusions are inherent in REMI's structure.

*How REMI Is Used*

I do not have an exhaustive list of applications of REMI. REMI has kindly furnished a list of REMI projects and REMI clients, but I have come across several economic impact studies done for proposed state and/or local government projects that indicate that REMI was employed, but are not on the lists furnished by REMI. Nevertheless, between the lists furnished by REMI and applications that have come to my attention in other ways (mostly reports sent to me in connection with other work), it is my estimate that I have seen nearly 100 applications of the model. (Some analyses may appear in more than one source.) That is probably a quite representative list of REMI applications.

I have no way to calculate accurately how much money is involved in government projects that REMI has been used to analyze. However, projects that I know about plus descriptions of analyses furnished by REMI make clear that, in the last five to ten years, REMI has been used to analyze projects whose costs are many billions of dollars. Likewise, it is impossible to know how much influence REMI has had in the process of project approval. REMI calculations are advisory to the political process. However, government agency statements in support of proposed projects frequently quote REMI calculations as to how many jobs and how much taxes the project will generate. A few examples of REMI uses are: analysis of the economic impact of proposed expansion of the McCormick Convention Center in Chicago; analysis of proposed expansion of MASSPORT/Logan Airport in Boston; economic impact of expansion of Fort Drum in New York; several economic impact analyses of proposed highway expansion projects. Many uses are reported of REMI for general modeling of state or sub-state areas by state and sub-state government agencies to analyze an unidentified variety of state and sub-state programs. Finally, it should be stated that REMI will do analysis for clients, rent REMI programs to clients, or sell the model to clients. REMI has no control over modifications to the model made by clients in some of the above arrangements.

Many REMI applications appear to be entirely appropriate and may provide better analyses than any alternative model available. However, the description of REMI in the previous section implies that use of REMI to analyze economic impacts of proposed government investments leads to exaggerated estimates of projects' net public benefits. A typical economic impact analysis concludes that (x) jobs, (y) dollars of private income, and (z) dollars of state and local government tax revenues will be generated by the proposed

project. These conclusions are generated by simulations with REMI that were described in the previous section. In project analysis, one simulation is done in the absence of the project and another in the presence of the project. REMI enables users to calculate multipliers, which are employment- or income-generated per dollar of government spending on the project. Typical income multipliers I have seen in economic impact analyses are between two and five. That means that each dollar of spending on the proposed project is projected to generate 2 to 5 dollars of additional income in the area included in the study. Income generated includes both income paid to workers and contractors on the project and also income generated by subsequent income recipients of subsequent rounds of spending. The multiplier process is precisely analogous to Keynesian multiplier analysis that appeared in macro texts some years ago. But REMI takes account of limitations on labor supply and of leakages outside the jurisdictions studied, which some Keynesian macro multiplier analyses did not do.

The exaggeration of public benefits of government projects in such REMI simulations stems precisely from the incomplete modeling of government sectors. If state and local government budget constraints were included in the model, REMI would recognize that increased government spending would entail increased taxes or other government fiscal alterations as indicated above. Then, increased spending by recipients of the increased government spending would have to be weighted against reduced spending by those whose taxes were increased or by reduced spending by recipients of government purchases that were cut in order to finance the project.

Obviously, all costs of a government project not financed by charges for use of the facility should be regarded as being financed by taxes with negative multiplier effects. It is often proposed to finance a government facility by taxes ostensibly levied on facility users—for example, a tax on hotel and restaurant bills in the vicinity of a proposed convention center. To the extent that such taxes are paid by convention center users, they are simply indirect charges for use of the facility and should be, but typically are not, added to user charges with the same assumed deterrent effect on use as direct user charges. In fact, such taxes are paid by all those who consume the taxed services, whether they use the proposed facility or not. To that extent, they are just one kind of tax levied on the population and have the same negative multiplier effect as any other tax to pay for the facility. More important, I have indicated in Mills (1991) that taxes ostensibly levied on facility users seldom cover more than a small fraction of facility costs. The remainder must be paid by usual

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taxes levied on local residents and businesses. It really does not matter whether other taxes are to be increased or other government expenditures are to be reduced to pay for the tax-financed part of a facility's cost. If other spending is to be reduced, it could have been reduced in the absence of the facility, so the facility requires taxes in excess of what they would need to be in the absence of the facility.

Finally, the analysis does not depend on whether the facility is bond financed or not. The present value of taxes needed to finance bond debt service, discounted at the government's borrowing rate, equals the sale price of the bond. If taxpayers' discount rates exceed the government borrowing rate then of course the present value of the debt service costs is less than the sale price of the bond, but the difference is not likely to be large.

An additional benefit is typically claimed in economic impact analyses of proposed government projects: the so-called outside money multiplier. A proposed convention center or domed stadium, for example, is assumed to draw patrons from outside the jurisdiction in which effects are being analyzed. It is undoubtedly true that many patrons of a large convention center or sports stadium come from outside the county or metropolitan area in which the center is located. Such patrons spend money in the jurisdiction but outside the facility on hotels, meals, etc. REMI is then used to trace the effects of such outside spending through the local economy, and multipliers are calculated that are precisely analogous to those calculated for spending on the project itself.

An unusually well documented example of distortions from regional impact analyses has been provided by the plans for a billion dollar expansion of McCormick place, Chicago's convention and exposition center. The consultant's economic impact study, KPMG Peat Marwick (1990), concluded that the outside money multiplier would result in a permanent net creation of 6,000 jobs. (Outside money multiplier jobs are permanent in that the outside money comes in each year. Construction multiplier jobs result from a one-time injection of construction money and disappear after the construction multiplier has worked itself out.) Virginia Carlson (1991) redid the calculations using all the consultant's assumptions except that she took account of jobs that would be displaced by the McCormick expansion and of the impact of local taxes that are to be levied to help finance the project. Her estimate is that the expansion of McCormick Place will result in a net loss of 348 jobs. She estimates that 3,335 jobs will be created by direct and indirect effects of outside money spent on the expanded convention center. The offsets are 2,799 jobs lost because of business displacement and 884 jobs lost

because of negative multiplier effects of tax increases. No estimates are made by Carlson of revenues that will be raised by the increased taxes, but they are unlikely to raise more than enough to offset the center's operating losses. Capital costs must be financed in other ways. Interestingly, the Peat Marwick analysis was undertaken with a U.S. government model and Carlson's analysis was undertaken with REMI. Carlson predicts net job loss despite the absence of a government-balanced-budget equation in REMI.

The outside money multiplier has really nothing to do with the fact that the project is government-sponsored. Any local business activity that sells goods or services outside the local area—a pension management company or auto assembly plant, for example—brings precisely the same kinds of outside money benefits to the local area. In most kinds of private investments, state and local governments recognize this benefit and provide temporary and declining tax forgiveness, low interest loans, or other subsidies that are intended to stimulate investments in the private businesses. Convention centers and domed stadiums are no different and there is nothing in the modeling that indicates that government policies toward them should be different or that governments should own them. Visiting patrons to conventions or sporting events consume services that are exported from the local area just as is true of any other locally produced commodity or service that is sold to businesses or residents outside the local area. The fact that government produces the export good or service has nothing to do with the magnitude of the local benefit. The absence from the models of a cost side to government financing of the projects makes it appear that there are public benefits that are peculiar to government projects.

Of course, any increased outside money spending in a jurisdiction resulting from a government or private investment in the jurisdiction is precisely offset by decreased spending in other jurisdictions, other things equal. It is a zero-sum game. However, our federal political system produces state and local governments that, at best, represent narrow local interests. The zero-sum character of outside money multipliers should be taken into account in federal spending programs, but state and local government programs cannot be expected to do so.

## Conclusion

The conclusion of this paper is that REMI and other regional models are frequently misused by state and local governments and their consultants in ways that patently exaggerate the benefits of

proposed state and local government projects. By ignoring the need of state and local governments to raise money to finance capital costs of proposed projects, and by counting construction wages as benefits *instead of costs*, the models permit users to make it appear to the public that there are benefits to government projects that would not flow from similar private projects.

Such biased analysis cries out for explanation. Why do governments produce such patently exaggerated estimates of benefits of government projects? After all, the notion that state and local governments have budget constraints is not exactly an alien concept either to the public, to government officials or to scholars.

I simply throw out the following conjectures to stimulate thought. First, government officials like to promote big government. They benefit from large government roles in the economy. Adequate evidence is the observation that state and local governments resist cutting spending and, indeed, frequently raise taxes, in recessions when taxpayers' ability to pay has decreased. Second, to justify increased spending, government officials must identify some publicly desired goal to be accomplished by government spending. Creation of new jobs is among the best such goals that can be found. Third, they must make it plausible that government can accomplish the goal in a way that the private sector cannot. This is where REMI is so valuable. It is a complex computer model that lay people cannot understand or evaluate, and it has important scientific merits. Thus, the frequent government claim that the best scientific model available shows that x thousand jobs will be created by the project helps to carry the day. Finally, the inherent characteristics of the project help. A convention center can be claimed to improve the image of the city, and a domed stadium can be claimed to help keep the team in town.

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**REMI MODEL SIMULATION**  
**99 PERCENT REDUCTION RELATIVE TO THE BASE CASE**

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
<b>Employment</b>											
Manufacturing	7.037	10.522	13.137	14.947	16.184	17.004	17.512	17.767	17.914	17.950	17.842
Durables	2.522	3.708	4.563	5.109	5.451	5.655	5.767	5.798	5.863	5.923	5.920
Non-durables	4.514	6.814	8.574	9.838	10.733	11.349	11.745	11.969	12.051	12.028	11.922
Non-Manufacturing	123.192	130.030	136.469	139.637	141.242	141.771	141.335	140.520	139.606	138.937	138.044
Mining	0.051	0.053	0.056	0.058	0.058	0.058	0.057	0.056	0.056	0.055	0.055
Construction	12.610	12.386	12.423	12.211	11.897	11.538	11.142	10.760	10.428	10.157	9.902
Trans + Pub Util	4.073	4.524	4.967	5.280	5.532	5.747	5.931	6.099	6.235	6.340	6.425
Fin., Ins, Real Estate	10.097	10.718	11.216	11.391	11.428	11.352	11.189	10.967	10.730	10.568	10.407
Retail Trade	38.849	39.256	39.824	39.542	38.856	37.946	36.827	35.632	34.496	33.521	32.500
Wholesale Trade	6.089	6.816	7.498	7.937	8.235	8.434	8.555	8.631	8.703	8.795	8.858
Services	50.562	55.355	59.499	62.190	64.174	65.609	66.525	67.243	67.807	68.325	68.696
Agri./Forestry/Fishing	0.861	0.921	0.986	1.028	1.061	1.087	1.110	1.132	1.152	1.176	1.200
Government	2.202	4.991	7.057	8.993	10.731	12.279	13.653	14.859	15.769	16.606	17.321
State and Local	2.202	4.991	7.057	8.993	10.731	12.279	13.653	14.859	15.769	16.606	17.321
Federal - Civilian	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Federal - Military	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Farm	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>Total Employment</b>	<b>132.430</b>	<b>145.542</b>	<b>156.663</b>	<b>163.577</b>	<b>168.156</b>	<b>171.054</b>	<b>172.501</b>	<b>173.146</b>	<b>173.290</b>	<b>173.494</b>	<b>173.206</b>
<b>Disposable Personal Income</b>	<b>4.980</b>	<b>5.477</b>	<b>6.267</b>	<b>6.948</b>	<b>7.526</b>	<b>8.019</b>	<b>8.447</b>	<b>8.831</b>	<b>9.181</b>	<b>9.513</b>	<b>9.811</b>
<b>Price Index (1992 = 100)</b>	<b>-4.919</b>	<b>-5.329</b>	<b>-5.363</b>	<b>-5.415</b>	<b>-5.520</b>	<b>-5.672</b>	<b>-5.844</b>	<b>-6.034</b>	<b>-6.279</b>	<b>-6.538</b>	<b>-6.802</b>
<b>Investment</b>											
Residential	1.274	1.209	1.144	1.073	1.003	0.937	0.873	0.814	0.764	0.721	0.679
Non-residential	0.435	0.410	0.423	0.421	0.408	0.390	0.367	0.343	0.321	0.300	0.281
Prod. Durable Equip.	1.395	1.332	1.392	1.400	1.374	1.325	1.262	1.192	1.128	1.069	1.012
<b>Total Fixed Investment</b>	<b>3.104</b>	<b>2.951</b>	<b>2.959</b>	<b>2.894</b>	<b>2.785</b>	<b>2.652</b>	<b>2.502</b>	<b>2.349</b>	<b>2.213</b>	<b>2.090</b>	<b>1.972</b>
<b>Tax Revenues</b>											
State Government	0.611	0.671	0.768	0.852	0.923	0.983	1.036	1.083	1.126	1.166	1.203
Individual Income Tax	0.295	0.324	0.371	0.411	0.446	0.475	0.500	0.523	0.544	0.563	0.581
Sales Tax	0.316	0.347	0.397	0.441	0.477	0.508	0.536	0.560	0.582	0.603	0.622



**REMI MODEL SIMULATION  
EIGHT PERCENT REDUCTION IN CLOTHING AND SHOE PRICES**

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Employment											
Manufacturing	0.254	0.267	0.294	0.320	0.347	0.406	0.403	0.436	0.467	0.498	0.526
Durables	0.031	0.040	0.055	0.070	0.085	0.100	0.116	0.132	0.149	0.166	0.181
Non-durables	0.223	0.227	0.239	0.250	0.262	0.276	0.290	0.305	0.319	0.332	0.345
Non-Manufacturing	6.859	6.843	7.063	7.233	7.430	7.655	7.902	8.163	8.376	8.636	8.888
Mining	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.003
Construction	0.689	0.614	0.596	0.576	0.560	0.549	0.543	0.540	0.536	0.538	0.541
Trans + Pub Util	0.144	0.145	0.155	0.162	0.171	0.180	0.191	0.202	0.212	0.222	0.232
Fin., Ins, Real Estate	0.275	0.295	0.327	0.350	0.374	0.398	0.424	0.449	0.472	0.497	0.521
Retail Trade	4.168	4.145	4.197	4.235	4.282	4.333	4.387	4.440	4.455	4.494	4.528
Wholesale Trade	0.351	0.344	0.354	0.361	0.369	0.378	0.388	0.398	0.408	0.422	0.434
Services	1.200	1.268	1.400	1.512	1.636	1.774	1.927	2.088	2.244	2.411	2.578
Agri./Forestry/Fishing	0.030	0.030	0.033	0.035	0.037	0.039	0.041	0.044	0.046	0.049	0.052
Government	0.142	0.308	0.427	0.538	0.640	0.733	0.819	0.900	0.966	1.030	1.090
State and Local	0.142	0.308	0.427	0.538	0.640	0.733	0.819	0.900	0.966	1.030	1.090
Federal - Civilian	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Federal - Military	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Farm	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>Total Employment</b>	<b>7.255</b>	<b>7.418</b>	<b>7.785</b>	<b>8.091</b>	<b>8.418</b>	<b>8.762</b>	<b>9.128</b>	<b>9.501</b>	<b>9.810</b>	<b>10.164</b>	<b>10.505</b>
Disposable Personal Income	0.168	0.155	0.180	0.206	0.232	0.257	0.285	0.313	0.340	0.370	0.400
Price Index (1992 = 100)	-0.510	-0.562	-0.581	-0.598	-0.618	-0.638	-0.658	-0.679	-0.700	-0.721	-0.743
Investment											
Residential	0.080	0.073	0.069	0.064	0.061	0.058	0.055	0.053	0.051	0.049	0.048
Non-residential	0.017	0.011	0.010	0.010	0.009	0.009	0.008	0.008	0.008	0.008	0.008
Prod. Durable Equip.	0.054	0.035	0.034	0.033	0.031	0.030	0.029	0.029	0.028	0.029	0.029
<b>Total Fixed Investment</b>	<b>0.152</b>	<b>0.120</b>	<b>0.113</b>	<b>0.107</b>	<b>0.101</b>	<b>0.096</b>	<b>0.093</b>	<b>0.090</b>	<b>0.087</b>	<b>0.086</b>	<b>0.085</b>
Tax Revenues											
State Government	0.021	0.019	0.022	0.025	0.028	0.032	0.035	0.038	0.042	0.045	0.049
Individual Income Tax	0.010	0.009	0.011	0.012	0.014	0.015	0.017	0.019	0.020	0.022	0.024
Sales Tax	0.011	0.010	0.011	0.013	0.015	0.016	0.018	0.020	0.022	0.023	0.025

R-00973953  
PECO STATEMENT NO. 19-R  
Phila 10/14, 15/1997  
R. Holbert

BEFORE THE  
PENNSYLVANIA PUBLIC UTILITY COMMISSION

APPLICATION OF PECO ENERGY COMPANY  
FOR APPROVAL OF ITS RESTRUCTURING PLAN  
UNDER SECTION 2806 OF THE PUBLIC UTILITY CODE

INDEXED  
NOV 04 1997

REBUTTAL TESTIMONY  
OF  
BENJAMIN A. McKNIGHT III

DOCUMENT  
FOLDER

Responding to Opposing Parties' Proposals  
With Respect to Deferred Income Tax Issues

July 18, 1997

RECEIVED  
11/9/97  
OFFICE

**REBUTTAL TESTIMONY OF BENJAMIN A. McKNIGHT III**

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1                   **REBUTTAL TESTIMONY OF BENJAMIN A. McKNIGHT III**  
2   **ARTHUR ANDERSON LLP**

3  
4  
5   **I. INTRODUCTION**

6  
7       **Q.     WOULD YOU PLEASE STATE YOUR NAME, OCCUPATION AND**  
8       **BUSINESS ADDRESS?**

9       A.     My name is Benjamin A. McKnight. I am a certified public accountant and a  
10            partner in the firm of Arthur Andersen LLP, independent public accountants. My  
11            business address is 33 West Monroe Street, Chicago, Illinois 60603.

12       **Q.     WOULD YOU PLEASE DESCRIBE THE FIRM OF ARTHUR**  
13       **ANDERSEN?**

14       A.     Arthur Andersen is an independent public accounting firm with more than 318  
15            offices in 72 countries located throughout the world. Our clients include a large  
16            number of New York Stock Exchange companies. We provide audit services to  
17            approximately one-third of the electric and gas distribution companies in the  
18            United States and to a substantial number of natural gas transmission, water and  
19            telephone companies. However, our clients are, for the most part, users of  
20            regulated utility services rather than suppliers..

21       **Q.     WOULD YOU PLEASE STATE YOUR PROFESSIONAL BACKGROUND**  
22       **AND QUALIFICATIONS TO TESTIFY AS AN EXPERT WITNESS IN**  
23       **THIS PROCEEDING?**

24       A.     I have a B.S. degree from Florida State University and a M.B.A. from  
25            Northwestern University. I have been with Arthur Andersen since 1972. A  
26            substantial portion of my career has been devoted to accounting and regulatory  
27            matters related to regulated gas, electric, telecommunications and water  
28            companies. I have performed numerous independent audits of these companies. I

1 have participated in or been responsible for determination of historical cost,  
2 working capital and cost of service, including affiliated transactions, as required by  
3 state and federal regulatory commissions and have supervised our professional  
4 services in connection with various rate case proceedings and a large number of  
5 public financings. I have testified on accounting and regulatory matters before  
6 various utility commissions, including the Pennsylvania Public Utility Commission.  
7 I have also testified before United States Treasury and Internal Revenue Service  
8 National Office officials.

9  
10 I have authored a chapter on regulation and accounting for regulated enterprises  
11 published in *Accountants' Handbook*<sup>11</sup> and co-authored a chapter on natural gas  
12 industry accounting and financial reporting developments published in *The 1994*  
13 *Natural Gas Yearbook*<sup>2</sup>. I am a frequent speaker on regulatory and accounting  
14 subjects before regulators, industry groups and professional organizations. I am a  
15 member of the American Institute of Certified Public Accountants (AICPA) and  
16 the Illinois CPA Society.

17  
18 **Q. WHAT ARE YOUR CURRENT RESPONSIBILITIES?**

19 A. I am Accounting and Audit Technical Coordinator for Arthur Andersen's Utilities  
20 and Telecommunications Industries Program, which includes our practice with  
21 respect to natural gas, electric, telecommunications and water companies. In this  
22 capacity, I am responsible for the consistent application of accounting principles  
23 and audit procedures relating to our clients in these industries. I am or have been  
24 the Arthur Andersen engagement partner for various electric and gas utility and  
25 telecommunications companies. I served a three-year term as Chairman of the  
26 AICPA's Public Utilities Committee, of which I was a member from October 1986

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<sup>1</sup> Accountants' Handbook, Eighth Edition, © 1996 by John Wiley & Sons, Inc.

<sup>2</sup> The 1994 National Gas Yearbook, © 1994 by Executive Enterprises

1 through September 1992. The activities of the Committee include semi-annual  
2 liaison meetings with the Staff Subcommittee on Accounts of the National  
3 Association of Regulatory Utility Commissioners and the accounting staffs of  
4 various regulatory commissions, including the Securities and Exchange  
5 Commission. I have worked closely with the Financial Accounting Standards  
6 Board and its staff on various technical and practice issues regarding regulated  
7 enterprise projects.

8  
9 **II. SFAS 109 REGULATORY TAX ASSET**

10 **Q. HAVE YOU REVIEWED THE PORTIONS OF THE APPLICATION OF**  
11 **PECO ENERGY COMPANY ("PECO") FOR APPROVAL OF ITS**  
12 **RESTRUCTURING PLAN UNDER SECTION 2806 OF THE PUBLIC**  
13 **UTILITY CODE RELEVANT TO YOUR TESTIMONY?**

14 **A. Yes, I have.**

15  
16 **Q. HAVE YOU REVIEWED THE TESTIMONY OF MESSRS. CATLIN AND**  
17 **KOLLEN REGARDING THE RECOVERY OF THE REGULATORY**  
18 **ASSET RECORDED IN ACCORDANCE WITH STATEMENT OF**  
19 **FINANCIAL ACCOUNTING STANDARDS No. 109 (SFAS No. 109)**  
20 **(ACCOUNTING FOR INCOME TAXES)?**

21 **A. Yes, I have.**

22  
23 **Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?**

24 **A. The purpose of my rebuttal testimony is to describe the potential impact on PECO**  
25 **of the proposal set forth in the direct testimony presented by Mr. Catlin on behalf**  
26 **of the Pennsylvania Office of Consumer Advocate (OCA) and Mr. Kollen on**  
27 **behalf of the Philadelphia Area Industrial Energy Users Group (PAIEUG)**  
28 **regarding discounting of the SFAS No. 109 regulatory income tax asset. The**

1           quantification of the SFAS No. 109 regulatory income tax asset requested in  
2           PECO's stranded cost claim is explained in Mr. Cohn's rebuttal testimony.

3

4       **Q.    WOULD YOU PLEASE SUMMARIZE YOUR REBUTTAL TESTIMONY?**

5       A.    If PECO is not allowed to recover the full value of its recorded SFAS No. 109  
6           regulatory income tax asset, a loss would be incurred and reported for financial  
7           reporting purposes at the time such recovery is no longer determined to be  
8           probable.

9       **Q.    DO YOU AGREE WITH THE CONCLUSIONS REACHED BY MR.**  
10       **JAMES L. WARREN IN HIS REBUTTAL TESTIMONY REGARDING**  
11       **THE INCOME TAX REGULATORY ASSET?**

12      A.    I have read Mr. Warren's testimony and concur with his conclusions relating to  
13           discounting the SFAS No. 109 regulatory asset. Discounting in the manner  
14           proposed by Messrs. Catlin and Kollen is not appropriate for that portion of the  
15           regulatory asset assignable to stranded plant costs. Such discounting is also not  
16           appropriate for that portion of the SFAS No. 109 regulatory income tax asset  
17           related to non-stranded generating plant because, as Mr. Cohn explains in his  
18           rebuttal testimony, PECO has compensated for an accelerated collection of the  
19           regulatory asset allocable to non-stranded generation plant by reducing the amount  
20           of the stranded generating plant.

21      **Q.    DO YOU AGREE WITH MR. KOLLEN'S STATEMENTS ON PAGES 17**  
22      **AND 18 OF HIS TESTIMONY THAT HIS PROPOSAL TO DISCOUNT**  
23      **THE RECOVERY OF THE REGULATORY ASSET FOR DEFERRED**  
24      **TAXES OVER A PERIOD OF 25 YEARS WOULD NOT RESULT IN AN**  
25      **IMMEDIATE WRITE-OFF OF ANY PART OF THE REGULATORY**  
26      **ASSET?**

1 A. No. When PECO adopted SFAS No. 109, it recorded a deferred tax liability for  
2 book/tax differences which had previously received flow-through ratemaking  
3 treatment. A corresponding regulatory asset was recorded to reflect the ultimate  
4 collection of this deferred tax expense in ratemaking. As Mr. Warren explains, an  
5 additional amount was recorded to reflect collection of this cost at the revenue  
6 requirement level. The regulatory assets were recorded pursuant to paragraph 29  
7 of SFAS No. 109 and paragraph 9 of Statement of Financial Accounting Standards  
8 No. 71 (SFAS No. 71) (*Accounting for the Effects of Certain Types of*  
9 *Regulation*).

10 Messrs. Catlin's and Kollen's proposals to discount this regulatory asset serve to  
11 exclude a portion of these incurred costs from allowable costs (i.e., recoverable  
12 stranded costs available for recovery). Paragraph 32 of Statement of Financial  
13 Accounting Standards No. 121 (SFAS No. 121) (*Accounting for the Impairment*  
14 *of Long-Lived Assets and for Long-Lived Assets to Be Disposed Of*) amended  
15 SFAS No. 71 to provide that a rate-regulated enterprise should charge a  
16 regulatory asset to earnings if and when that asset is no longer probable of future  
17 recovery. As such, if the regulatory treatment proposed by Messrs. Catlin and  
18 Kollen cause all or a portion of the regulatory asset to no longer be probable of  
19 future recovery, such amount must be written off at that time.

20 **Q. WOULD SUCH A REQUIRED WRITE-OFF REFLECT A REAL**  
21 **ECONOMIC LOSS TO PECO?**

22 A. Yes it would. Under traditional ratemaking, the recovery of the SFAS No. 109  
23 regulatory tax asset for book/tax plant differences previously flowed-through,  
24 including the related gross-up, is designed to coincide with the payment of the  
25 deferred tax liability. Additionally, the SFAS No. 109 regulatory tax asset and

1 deferred tax liability offset each other in the calculation of rate base and produce  
2 no return.

3 PECO's proposal for recovery of its SFAS No. 109 regulatory tax asset, including  
4 the impact of the adjustment made to market value as discussed by Mr. Cohn, is  
5 consistent with traditional ratemaking in that amounts received will coincide with  
6 payment of the deferred tax liability. As Mr. Warren explains the recovery of plant  
7 costs through the Competitive Transition Charge (CTC) (without a return) causes  
8 the reversal and repayment of associated deferred taxes to occur over the seven-  
9 year CTC period. Accordingly, there is no time value of money that would accrue  
10 to PECO under its proposal for recovery of its SFAS No. 109 regulatory tax asset.

11

12 The proposal by Messrs. Catlin and Kollen to discount the regulatory asset over 25  
13 or 27 years causes PECO to collect less in the CTC than it will pay to the  
14 government over the next seven years. Accordingly, PECO suffers an economic  
15 loss.

16 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

17 **A. Yes.**

18