

COMMONWEALTH OF PENNSYLVANIA



OFFICE OF CONSUMER ADVOCATE

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Consumer Advocate

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SECRETARY'S BUREAU consumer@paoca.org

February 7, 2011

Rosemary Chiavetta
Secretary
Pennsylvania Public Utility Commission
Commonwealth Keystone Building
400 North Street
Harrisburg, PA 17120

RE: Petition of PECO Energy Company for
Approval of its Smart Meter Technology
Procurement and Installation Plan – Petition
for Approval of PECO Energy Company's
Initial Dynamic Pricing and Customer
Acceptance Plan
Docket No. M-2009-2123944

Dear Secretary Chiavetta:

Enclosed for filing into the evidentiary record are the following testimonies on behalf of the Office of Consumer:

Direct Testimony of J. Richard Hornby, OCA Statement No. 1
Direct Testimony of Nancy Brockway, OCA Statement No. 2
Surrebuttal Testimony of J. Richard Hornby, OCA Statement No. 1-S
Surrebuttal Testimony of Nancy Brockway, OCA Statement No. 2-S

All statements were admitted into the record by Order Dated February 4, 2011 by the Honorable Judge Marlane R. Chestnut, in the above-referenced proceeding.

Copies have been served as indicated on the enclosed Certificate of Service.

Respectfully Submitted,

A handwritten signature in cursive script that reads "Jennedy S. Johnson".
Jennedy S. Johnson
Assistant Consumer Advocate
PA Attorney I.D. # 203098

Enclosures

cc: Honorable Marlane R. Chestnut w/o enclosures
Certificate of Service w/o enclosures

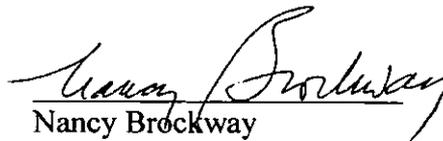
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BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Petition of PECO Energy Company for Approval of its Smart Meter Technology Procurement and Installation Plan - Petition for Approval of PECO Energy Company's Initial Dynamic Pricing and Customer Acceptance Plan : Docket No. M-2009-2123944

AFFIDAVIT

I, Nancy Brockway, being first duly sworn, deposes and says that this affidavit was prepared by me and that I am familiar with the contents thereof; that the facts set forth in my Direct Testimony, OCA Statement No. 2 and Exhibit NB-1, and Surrebuttal Testimony, OCA Statement No. 2-S are true and correct to the best of my knowledge, information and belief; and that I adopt the same as my sworn testimony in this proceeding.


Nancy Brockway

Subscribed and sworn to before me on this 26th day of January 2011.


Notary Public

My Commission Expires: 3/26/2015

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JASON RODRIGUEZ
Notary Public
Commonwealth of Massachusetts
My Commission Exp. Mar. 26, 2015

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BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Petition of PECO Energy Company for :
Approval of its Smart Meter Technology : Docket No. M-2009-2123944
Procurement and Installation Plan - Petition :
for Approval of PECO Energy Company's :
Initial Dynamic Pricing and Customer :
Acceptance Plan :

DIRECT TESTIMONY

of

J. RICHARD HORNBLY

On behalf of:

PENNSYLVANIA OFFICE OF CONSUMER ADVOCATE

DECEMBER 23, 2010

Synapse Energy Economics
22 Pearl Street
Cambridge, Massachusetts 02139

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1 I. INTRODUCTION AND SUMMARY

2
3 Q. PLEASE STATE YOUR NAME, EMPLOYER, AND PRESENT POSITION.

4 A. My name is J. Richard Hornby. I am a Senior Consultant at Synapse Energy Economics,
5 Inc., 22 Pearl Street, Cambridge, MA 02139.

6 Q. ON WHOSE BEHALF ARE YOU TESTIFYING IN THIS CASE?

7 A. I am testifying on behalf of the Pennsylvania Office of Consumer Advocate (OCA).

8 Q. PLEASE DESCRIBE SYNAPSE ENERGY ECONOMICS.

9 A. Synapse Energy Economics (“Synapse”) is a research and consulting firm specializing in
10 energy and environmental issues. Its primary focus is on electricity resource planning and
11 regulation including computer modeling, service reliability, portfolio management,
12 financial and economic risks, transmission planning, renewable energy portfolio
13 standards, energy efficiency, and ratemaking. Synapse works for a wide range of clients
14 including attorneys general, offices of consumer advocates, public utility commissions,
15 and environmental groups, the U.S. Environmental Protection Agency, Department of
16 Energy (DOE), Department of Justice, Federal Trade Commission and the National
17 Association of Regulatory Utility Commissioners. Synapse has a professional staff of
18 twenty-two with extensive experience in the electricity and natural gas industries.

19 Q. PLEASE SUMMARIZE YOUR WORK EXPERIENCE AND EDUCATIONAL
20 BACKGROUND.

21 A. I am an energy regulatory consultant specializing in planning, market structure,
22 ratemaking, and gas supply/fuel procurement in the electric and gas industries. Over the
23 past twenty years, I have presented expert testimony and provided litigation support on
24 these issues in more than 100 proceedings in over thirty jurisdictions in the United States

1 and Canada. Over this period, my clients have included staff of public utility
2 commissions, state energy offices, consumer advocate offices and marketers.

3 Prior to joining Synapse in 2006, I was a Principal with CRA International and,
4 prior to that, Tabors Caramanis & Associates. From 1986 to 1998, I worked with the
5 Tellus Institute (formerly Energy Systems Research Group), initially as Manager of the
6 Natural Gas Program and subsequently as Director of their Energy Group. Prior to 1986,
7 I was Assistant Deputy Minister of Energy for the Province of Nova Scotia.

8 I have a Master of Science in Energy Technology and Policy from the
9 Massachusetts Institute of Technology (MIT) and a Bachelor of Industrial Engineering
10 from the Technical University of Nova Scotia, now merged with Dalhousie University. I
11 have attached my resume to this testimony as Exhibit__(JRH-1).

12 **Q. PLEASE SUMMARIZE YOUR EXPERIENCE WITH THE ECONOMICS OF,**
13 **AND RATEMAKING FOR, ENERGY EFFICIENCY AND DEMAND**
14 **RESPONSE, INCLUDING DEMAND RESPONSE ENABLED BY ADVANCED**
15 **METERING INFRASTRUCTURE (AMI).**

16 **A.** My experience with energy efficiency measures and policies began over thirty years ago
17 as a project engineer responsible for identifying and pursuing opportunities to reduce
18 energy use in a factory in Nova Scotia. Subsequently, in my graduate program at MIT, I
19 took several courses on energy technologies and policies and prepared a thesis analyzing
20 federal policies to promote investments in energy efficiency. After MIT, I spent several
21 years with the government in Nova Scotia, during which time I administered a provincial
22 program to promote energy conservation in the industrial sector and later included energy
23 conservation in all sectors as part of energy plans developed for the province.

1 Since 1986, as a regulatory consultant I have helped review and prepare numerous
2 integrated resource plans (IRPs) in the gas and electric industries, and testified regarding
3 cost allocation and rate design. During the past several years I have led projects to
4 estimate the avoided costs of electricity and natural gas in New England for a coalition of
5 efficiency program administrators. In addition I have reviewed the economics of demand
6 response, and of AMI proposals in New Jersey, Maine, Maryland, the District of
7 Columbia, Pennsylvania, Nevada and Texas. I have testified regarding the alignment of
8 utility financial incentives and rates with the pursuit of energy efficiency in proceedings
9 in North Carolina, South Carolina, Indiana and Minnesota.

10 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

11 A. PECO Energy Company (“PECO” or the “Company”) has requested approval of its
12 proposed Initial Dynamic Pricing and Customer Acceptance Plan (“Dynamic Pricing
13 Plan” or “Plan”). The OCA retained Synapse to review the reasonableness of the
14 Company’s request. The purpose of my testimony is to describe my analyses of the
15 Company proposal and present my conclusions and recommendations based upon that
16 review.

17 The OCA has retained two witnesses to address the Company’s requests from the
18 perspective of residential customers, Ms. Nancy Brockway and myself. Ms. Brockway
19 addresses consumer protection issues associated with the Dynamic Pricing Plan. My
20 testimony addresses the design of PECO’s proposed Plan as well as the Company’s
21 proposed recovery of the Plan’s costs via its Generation Supply Adjustment (GSA) cost
22 recovery mechanism. The fact that I do not address other aspects of the Company’s filing
23 should not be interpreted to mean I agree with those aspects.

1 Q. **WHAT DATA SOURCES DID YOU RELY UPON TO PREPARE YOUR**
2 **TESTIMONY AND EXHIBITS?**

3 A. I relied primarily on the Direct Testimony, exhibits, and workpapers of the Company
4 witnesses. I also relied upon Company responses to various data requests, some of which
5 I provide in Exhibit__(JRH-4).

6 Q. **PLEASE SUMMARIZE YOUR CONCLUSIONS AND RECOMMENDATIONS**
7 **REGARDING THE DESIGN OF THE PROPOSED PLAN.**

8 A. My analysis indicates that the Company’s proposed Plan will not provide the insight
9 needed to identify dynamic rates that can be successfully and effectively deployed on a
10 system-wide basis. The Company is over-emphasizing Critical Peak Pricing (“CPP”) in
11 comparison to Time-of-Use (“TOU”) and has not included other promising designs such
12 as Peak Time Rebate (PTR) in its Plan. In addition the Company did not consider PJM’s
13 proposed changes in demand response products when designing the proposed rates for
14 CPP and TOU.

15 Based upon the results of those analyses I recommend that the Commission require the
16 Company to:

- 17 o Revise its proposed offers and promotional materials to place equal emphasis on
18 CPP offers and TOU offers. Specifically the Company should, in consultation
19 with its stakeholders, develop the same number of combinations of TOU offers
20 and promotional materials as CPP offers and promotional materials, or justify
21 why it will not do so;

- 1 ○ Revise its proposed offers and promotional materials, to the extent allowed within
2 its budget, to test PTR offers and promotional materials and to test customized
3 information feedback provided via In-Home Displays (“IHDs”); and
4 ○ Analyze the implication of PJM’s proposed changes in Demand Response
5 products for the peak periods used in its rates for CPP and TOU, and propose
6 changes as appropriate.

7 **Q. PLEASE SUMMARIZE YOUR MAJOR CONCLUSIONS AND**
8 **RECOMMENDATIONS REGARDING THE COMPANY’S PROPOSAL FOR**
9 **COST RECOVERY.**

10 A. Based upon my analyses my conclusions are that the Company:

- 11 • Has not provided detailed descriptions of the method for calculating CPP and TOU
12 rates in its proposed riders for those rates;
13 • Has proposed to collect under-recoveries of generation supply costs incurred to serve
14 customers on CPP and TOU rates from remaining customers taking default service;
15 and
16 • Has proposed to allocate an unreasonable amount of Plan costs to customers taking
17 default service.

18 Based upon those conclusions I recommend that the Commission require the Company
19 to:

- 20 • Revise its proposed riders for CPP and TOU to include a detailed description of the
21 methodology for calculating the rates for those riders;

- 1 • Clarify, and if necessary justify compliance of its proposal for collecting under-
- 2 recoveries of the generation supply costs it incurs to serve CPP and TOU customers
- 3 with Commission Orders; and
- 4 • Allocate the costs of its Plan that are not direct incentives given to CPP and TOU
- 5 customers among all customers in the respective rate class.

6

7 **II. PROPOSED DYNAMIC PRICING AND**

8 **CUSTOMER ACCEPTANCE PLAN**

9

10 **Program Objectives and Design**

11 **Q. PLEASE SUMMARIZE THE OBJECTIVES OF THE PROPOSED PLAN.**

12 A. According to its lead witness, Mr. Frank Jiruska, PECO is proposing its Plan in order to

13 comply with Act 129, as well as to gain insight into the design and promotion of dynamic

14 rates in order to ensure the successful and effective deployment of those rates on a

15 system-wide basis.

16 **Q. ARE THE OBJECTIVES OF THE PROPOSED PLAN REASONABLE?**

17 A. Yes.

18 **Q. PLEASE SUMMARIZE THE DESIGN OF THE PROPOSED PLAN.**

19 A. The Company proposes to offer two new rate options under its Plan: CPP and TOU

20 Pricing. It proposes to offer these two new rate options to small and medium commercial

21 and industrial customers as well as residential customers who are not in the Customer

22 Assistance Program (“CAP”). It proposes to begin offering the new rates in the Fall of

23 2012.

24 The Company proposes to proactively test several different methods of offering

25 and promoting these rates using a “test and learn” approach. The Company has not

1 finalized all details of the different methods. The different “offers” consist of different
2 combinations of each new rate, an enabling technology and an education component. The
3 enabling technologies are either an IHD or a Programmable Controllable Thermostat
4 (“PCT”). The different methods of promotion consist of different combinations of
5 explicit financial incentives, bill protections and communication approaches.
6 Exhibit__(JRH-2) presents a summary of the combinations of offers and promotional
7 methods that the Company proposes to test in its residential rate classes.

8 The Company proposes to test customer acceptance of the different combinations
9 of offers and promotional methods on a total of 200,000 customers. It expects
10 approximately 5 per cent of these customers to enroll and participate, *i.e.*, approximately
11 10,000 participants. The Company proposes a budget of \$11.56 million for the Plan,
12 which equates to about \$1,100 per expected participant. PECO estimates that it will be
13 able to offset approximately \$5.5 million of that amount from its Federal stimulus grant.

14 **Q. IS THE COMPANY PROPOSING TO SOLICIT INPUT FROM**
15 **STAKEHOLDERS DURING ITS IMPLEMENTATION OF THE PLAN?**

16 A. Yes. The Company solicited input from stakeholders during the development of its Plan
17 and proposes to solicit input from stakeholders during its implementation of the Plan.
18 Consultation with stakeholders will be particularly important because many details of the
19 Plan are not finalized at this point, and because the Company expects to refine its
20 approach during the implementation phase based on its experience and the experience of
21 other utilities deploying similar pricing offers.

22

1 **Q. PLEASE COMMENT ON THE DESIGN OF THE PROPOSED PLAN.**

2 A. According to the Company a key objective of the Plan is to gain insight into the design
3 and promotion of dynamic rates in order to ensure a successful and effective deployment
4 on a system-wide basis. In order to achieve this objective the Company should be testing
5 offers and promotional methods that are realistic, i.e., ones that have a reasonable
6 expectation of being cost-effective if deployed on a system-wide basis and can appeal to
7 a broad group of customers.

8 Company witness Dr. George notes on page 7 of his Direct Testimony that the 17
9 pricing pilots implemented in the last decade "...have focused almost exclusively on
10 estimating average dynamic rate impacts and hardly at all on understanding customer
11 preferences for such rates and how to effectively enroll customers in these programs."
12 California provides an example of the problem that can result from a pilot that does not
13 test a realistic approach. California provided generous incentives to customers who
14 agreed to participate in its Statewide Pricing Pilot (SPP) of dynamic pricing and achieved
15 enrollments of approximately 20 percent in that pilot.¹ In contrast, Pacific Gas and
16 Electric (also in California) is now deploying dynamic pricing on a system-wide basis,
17 with less generous incentives, and achieving enrollment of less than 1 percent of its
18 customers in that tariff (Response to OCA-I-6 in Exhibit__(JRH-4)).

19 My analysis indicates that the proposed Plan will not achieve its objective of
20 identifying dynamic rates that can be successfully and effectively deployed on a system-
21 wide basis for two reasons. First, the Plan is over-emphasizing CPP in comparison to
22 TOU and other promising designs such as Peak Time Rebate (PTR). Second, the

¹ Company witnesses George and Faruqui played key roles in the SPP.

1 Company did not consider PJM's proposed changes in demand response products when
2 designing the proposed rates for CPP and TOU.

3 **Over-Emphasis on TOU**

4 **Q. PLEASE SUMMARIZE THE PLAN'S PRIMARY EMPHASIS ON CPP AS**
5 **COMPARED TO TOU.**

6 A. The Plan is not placing equal emphasis on testing CPP and testing TOU. Instead, the
7 Plan is placing most of its emphasis on testing CPP. As a result the two rates are not
8 being tested on a level playing field.

9 The extent to which the Plan is emphasizing CPP in comparison to TOU in the
10 residential class is illustrated in Exhibit__(JRH-2), which presents each combination of
11 offers and promotional methods that the Company is proposing for residential rate
12 classes. (Table 3-6 of PECO Exhibit 1 presents a summary of all combinations proposed
13 for all rate classes.) As shown in Exhibit__(JRH-2), the Company is proposing to test
14 *eleven different combinations of CPP offers and promotional methods on residential rate*
15 *class R customers but it is proposing to test only two combinations of TOU offers and*
16 *promotional methods in that class. If the Company were placing equal emphasis on*
17 *testing CPP and testing TOU it would have the same number of combinations for each.*

18 **Q. WHY IS THE PLAN'S OVER-EMPHASIS ON CPP UNREASONABLE?**

19 A. The Plan's over-emphasis on CPP is not reasonable because it will not be a fair test of the
20 two rates. This over-emphasis is of particular concern because, of the two rates, TOU has
21 the potential to be much more cost-effective from a Total Resource Cost (TRC)
22 perspective. PECO used the TRC test to measure the cost-effectiveness of the ratepayer
23 funded programs in its Energy Efficiency and Conservation (EEC) Plan filed July 1, 2009

1 in Docket No. M-2009-2093215. This test compares the total benefits from an initiative
2 to the total costs of the initiative. TOU has the potential to be much more cost-effective
3 than CPP from a TRC perspective because it has the potential to produce a much larger
4 aggregate reduction in peak demand.

5 TOU has the potential to produce a much larger aggregate reduction in peak
6 demand because many more customers are likely to enroll in TOU than in CPP.
7 Experience with system-wide deployment of TOU and CPP elsewhere indicates that
8 enrollment of residential customers in TOU has been as high as 40 percent² whereas
9 enrollment of residential customers in CPP has been less than 1 percent (Response to
10 OCA-I-6 in Exhibit__(JRH-4)). The potential for much higher enrollment in TOU than
11 in CPP offsets the Company's estimates of lower reductions per participant group
12 resulting from TOU (4%) than from CPP (16%), as presented on page 16 of the direct
13 testimony of Company witness Faruqui. For example, if 40 percent of residential
14 customers participate in TOU, and reduce their peak demand by an average of 4 percent,
15 their aggregate reduction in demand will be 1.60 percent. In contrast, if 1 percent of
16 residential customers participate in CPP, and reduce their peak demand by an average of
17 16 percent, their aggregate reduction in demand will be 0.16 percent – ten times less.

18 **Q. COULD THE PLAN'S OVER-EMPHASIS ON CPP BE CONTRIBUTING TO ITS**
19 **HIGH COST?**

20 A. Yes. As noted earlier, the Company expects to target 200,000 customers and to enroll
21 10,000 of them as participants at a budget of \$11.56 million, which is about \$1,100 per
22 participant. PECO estimates that it will be able to offset approximately \$5.5 million of

² PECO Energy Efficiency and Conservation Plan, filed July 1, 2009, Docket No. M-2009-2093215, page 158.

1 the Plan's budget from its Federal stimulus grant. However, the gross cost of the offers
2 and promotional methods the Plan will test are a concern looking forward. The Company
3 has not given any indication that it expects to receive a further Federal grant to offset the
4 cost of deploying any of these pricing offers on a system-wide basis after the Plan
5 terminates.

6 In contrast, in its EEC Plan the Company proposed a Residential Super Peak TOU
7 under which it projected an enrollment of 27,000 participants at a cost of \$8.771 million.
8 That estimate translates into a program cost of about \$325 per participant. At that cost,
9 the Residential Super Peak TOU program was cost-effective with a TRC of 1.59 and a
10 levelized cost of saved capacity of \$32 per kW-year³. If the cost per participant of that
11 program were to be double or triple, as implied by the costs for the offers and
12 promotional methods proposed in the Plan, the program's TRC would be less than one
13 and it would not be cost-effective. Exhibit__(JRH-3) provides a comparison of the Plan's
14 budget and the Residential Super Peak TOU budget.

15 **Q. HAS THE COMPANY DEMONSTRATED THAT IT PLACED EQUAL**
16 **EMPHASIS ON IDENTIFYING APPROACHES TO PROMOTE CPP AND**
17 **APPROACHES TO PROMOTE TOU WHEN DEVELOPING THE PLAN'S**
18 **PROPOSED BUDGET?**

19 **A.** No. Company witness Dr. George is not familiar with the approaches that the Salt River
20 Project, a utility with one of the Country's highest levels of participation in TOU, has
21 used to promote that rate (Response to OCA-I-13 in Exhibit__(JRH-4)). Company

³ Ibid., pages 157 and 158.

1 witness Patterer has not examined the costs of other pricing pilots (Response to OCA-I-
2 37 in Exhibit__(JRH-4)).

3 **Q. IS IT IMPORTANT THAT THE COMPANY IDENTIFY PRICING OFFERS**
4 **THAT IT CAN DEPLOY SYSTEM WIDE AT RELATIVELY LOW COST?**

5 A. Yes. It is important that the Company identify pricing offers that it can deploy system
6 wide at relatively low cost in order for them to remain cost-effective over time. The value
7 of those pricing offers is driven primarily by the value of the capacity costs avoided by
8 the demand reductions they produce. The value of those avoided capacity costs may be
9 lower in the future than they are at present.

10 The Company has derived its CPP and TOU rates for peak periods from the PJM
11 market price for capacity in the EMAAC zone. Its rates for the year June 2012 – May
12 2013 are based on the EMAAC zone price for that year of \$140 per MW-day, which is
13 equivalent to \$51 per kw-year (Direct testimony of Dr. Faruqui, page 10, Response to
14 OCA-I-32 in Exhibit__(JRH-4)). The Company proposes to reset the CPP and TOU rates
15 annually to reflect the changes in the PJM market price for capacity in the EMAAC zone.
16 Various market fundamentals may combine to cause that market price to decline in the
17 future. Those market fundamentals include low load growth, increased utilization of
18 existing generation capacity due to reduction in transmission constraints and generation
19 capacity additions from renewable resources driven by Renewable Portfolio Standards
20 (RPS).

1 **Q. WHAT ACTION DO YOU RECOMMEND THE COMPANY BE REQUIRED TO**
2 **TAKE TO EQUALIZE ITS TREATMENT OF CPP AND TOU?**

3 A. I recommend that the Commission require the Company to revise its proposed offers and
4 promotional materials to place equal emphasis on CPP offers and TOU offers.
5 Specifically the Company should, in consultation with its stakeholders, develop the same
6 number of combinations of TPP offers and promotional materials as CPP offers and
7 promotional materials, or justify why it will not or is unable to do so.

8 **Expanding Range of Offers in Plan**

9 **Q. ARE THERE ADDITIONAL CHANGES TO THE PLAN THAT THE COMPANY**
10 **SHOULD CONSIDER?**

11 A. Yes. By reducing its emphasis on CPP, it is possible that the Company will free up funds
12 in the Plan budget that could be used to cover the cost of testing PTR offers and of testing
13 customized feedback via IHDs.

14 **Q. WHY SHOULD THE COMPANY RE-CONSIDER TESTING PTR OFFERS?**

15 A. The Company considered PTR during the development of its Plan but ultimately did not
16 include it. The Company should reconsider PTR because it has the potential to be more
17 successful and cost-effective than CPP. The primary advantage of PTR is that it can be
18 offered to all customers, including those on CAP rates. If the customer elects to reduce
19 demand during a critical peak, he or she receives the rebate. If the customer does not
20 elect to reduce demand, he or she is no worse off.

21

1 **Q. WHY SHOULD THE COMPANY CONSIDER TESTING CUSTOMIZED**
2 **FEEDBACK PROVIDED VIA IHDS?**

3 A. There is increasing interest in the potential for customized feedback to help customers
4 reduce their annual electricity use. If this potential can be achieved, it will provide
5 significant benefits to ratepayers in the form of bill savings and to society in the form of
6 reduced emissions. Customized feedback that helps customers identify specific actions
7 they can take to change their usage patterns and levels, including identifying various
8 programs under the EEC Plan for which they are eligible, will be more useful to
9 customers than simple statistics on their usage. Moreover, all customers have the
10 potential to participate in and benefit from such an offer.

11 The Plan already includes tests of customer acceptance of feedback regarding
12 electricity usage via IHDS. PECO plans to test this approach with participants on existing
13 rates as well as with participants on TOU and CPP pricing offers (PECO Exhibit 1, page
14 31). However, the Company does not describe the exact nature of the information it is
15 proposing to provide.

16 **Q. IS PECO'S SISTER COMPANY, COMMONWEALTH EDISON, TESTING THIS**
17 **RANGE OF OFFERS?**

18 A. Yes. Commonwealth Edison is testing 24 different offers, reflecting different
19 combinations of rates and enabling technologies. The rates being tested include CPP,
20 TOU, and PTR. The technologies being tested include IHDS and PCTs. Exhibit__(JRH-
21 5) presents the matrix of offers that Commonwealth Edison is testing.

22

1 **Q. WHAT ACTION DO YOU RECOMMEND THE COMPANY BE REQUIRED TO**
2 **TAKE TO EXPAND THE RANGE OF OFFERS IN THE PLAN?**

3 A. I recommend that the Commission require the Company to revise its proposed offers and
4 promotional materials, to the extent allowed within its budget and after consultation with
5 its stakeholders, in order to test PTR offers and promotional materials as well as
6 customized information feedback provided via IHD.

7

8 **PJM's Proposed Changes in Demand Response Products**

9 **Q. PLEASE SUMMARIZE THE BASIS UPON WHICH THE COMPANY HAS**
10 **DESIGNED ITS CPP AND TOU RATES FOR PEAK PERIODS.**

11 A. The Company has derived its CPP and TOU rates for peak periods from the PJM market
12 price for capacity in the EMAAC zone. The Company is proposing peak periods for CPP
13 and for TOU that are sub-sets of the peak period in the PJM market. For example, PJM
14 defines the peak period as the sixteen hours between 7 a.m. and 11 p.m. week days except
15 certain holidays, whereas the Company defines the critical peak for CPP as the 4 hours
16 between 2 p.m. and 6 p.m. on 15 summer week days and the peak for TOU as the 4 hours
17 between 2 p.m. and 6 p.m. on non-holiday weekdays.

18 **Q. PLEASE DESCRIBE PJM'S EXISTING DEMAND RESPONSE PRODUCT, ITS**
19 **PROPOSED CHANGES AND THE POTENTIAL IMPLICATION OF THOSE**
20 **PROPOSED CHANGES FOR THE COMPANY'S PROPOSED PLAN.**

21 A. PJM has traditionally paid utilities, and other providers, a fixed annual payment for
22 access to a pre-arranged maximum quantity of demand response during a total of sixty
23 hours per year. Under this approach PJM could call upon this demand response resource

1 no more than ten days each summer and no more than six hours on each of those days.
2 PECO has developed its CPP and TOU rates for peak periods consistent with this
3 traditional approach to demand response (Appendix A, Direct Testimony of Company
4 witness Dr. Faruqi).

5 Due to a dramatic increase in its reliance on demand response and shifts in the
6 hours when system peaks occur, PJM has concluded that its existing demand response
7 product is too limited. On December 2, 2010, PJM submitted a petition to the Federal
8 Energy Regulatory Commission (FERC) requesting approval to create two new
9 additional demand response products. The additional products are an Annual Demand
10 Resource and an Extended Summer Demand Resource. PJM proposes continuing the
11 existing demand response product and renaming it a Limited Demand Resource.

12 The Company did not take PJM's proposed changes into consideration when
13 developing its rates for CPP and TOU (Response OCA-I-32(d) in Exhibit__(JRH-4)).
14 The basic implication of PJM's proposed changes in Demand Response products for the
15 Company's proposed plan is that the peak period proposed for CPP may not cover all or
16 most hours in which the system peak will occur in the future. As a result, the Company
17 should evaluate the implications of those proposed changes in the choice of peak periods
18 for CPP and TOU.

19 **Q. WHAT ACTION DO YOU RECOMMEND THE COMPANY BE REQUIRED TO**
20 **TAKE TO ADDRESS PJM'S PROPOSED CHANGES IN DEMAND RESPONSE**
21 **PRODUCTS?**

22 A. I recommend that the Commission require the Company to analyze the implication of
23 PJM's proposed changes in Demand Response products for the peak periods used in its

1 rates for CPP and TOU, and after consultation with its stakeholders, propose changes as
2 appropriate.

4 III. PROPOSED COST RECOVERY

5
6 **Q. PLEASE SUMMARIZE THE COSTS ASSOCIATED WITH THE COMPANY'S**
7 **PLAN AND ITS PROPOSAL FOR RECOVERING THOSE COSTS.**

8 A. The Company will incur two basic categories of costs under its Plan. The first category
9 is generation supply costs for customers on the CPP and TOU rates. The Company
10 proposes to recover those costs by charging customers on CPP and TOU the generation
11 supply adjustment (GSA) applicable to their rate class, excluding the over/under recovery
12 component of that adjustment.

13 The second category of costs associated with the Plan is the set of costs to design
14 and implement the various pricing offers and promotional materials. The Company
15 proposes to collect all of those costs solely from customers on default service through the
16 generation supply adjustment (GSA).

17 **Q. PLEASE COMMENT ON THE COMPANY'S PROPOSAL FOR RECOVERING**
18 **GENERATION SUPPLY COSTS FROM CUSTOMERS ON ITS CPP AND TOU**
19 **RATES.**

20 A. There are two problems with the Company's proposal for recovering generation supply
21 costs from customers on CPP and TOU rates. First, the proposed riders for CPP and
22 TOU presented in Exhibit WJP-2 to the Direct Testimony of Company witness Patterer
23 do not describe the exact method through which the Company will set its CPP and TOU
24 rates to collect these generation supply costs. Mr. Patterer describes the general method

1 through which it will set these rates on pages 5 and 6 of his Direct Testimony, where he
2 makes a cross-reference to the detailed description provided in the Direct Testimony of
3 Company witness Faruqui. However, the proposed riders for CPP and TOU presented in
4 Exhibit WJP-2 simply state:

5 *The Energy and Capacity Charges will be calculated quarterly based on*
6 *data from the most recent Generation Supply Adjustment (GSA) for*
7 *procurement classes 1, 2 and 3 as well as the annual change in PJM*
8 *capacity market prices.*

9
10 Original Page No. 73A.

11 The second problem is the Company's proposal to collect any under-recovery of
12 generation supply costs incurred from serving customers on CPP and TOU from all
13 remaining customers on default service. The GSA is set quarterly to collect expected
14 costs from expected sales. If CPP and TOU rates are successful in encouraging
15 customers to change their usage patterns and / or reduce their use, actual sales and
16 revenues to customers on those rates will be different from expected sales. Under those
17 circumstances the amount the Company collected from CPP and TOU customers would
18 be less than the generation supply costs. In particular the Company will likely under-
19 recover generation supply costs.

20 The Company proposes to exclude the reconciliation component of the GSA
21 when it develops its rates for CPP and TOU. As a result, when the Company under-
22 recovers the generation supply costs from CPP and TOU customers, it will effectively
23 shift that under-recovery to the remaining customers on default service who are paying
24 the full GSA, including the reconciliation component. The Company has confirmed that it
25 intends to recover any under-recovery of generation supply costs for CPP and TOU
26 customers from the remaining customers on default service (response OSBA-I-7, OCA-I-

1 31 and OCA-I-36 in Exhibit __ (JRH-4)). The Company's proposal is not reasonable and
2 appears to be inconsistent with the Commission's position regarding this issue in its
3 Order in the PPL TOU proceeding (Docket No. R-2010-2122718, entered March 9, 2010,
4 pages 17 to 18). If the Company is indeed proposing to shift recovery of such shortfalls
5 from CPP and TOU customers to all remaining customers on default service it should not
6 be permitted to do so.

7 **Q. WHAT ACTION DO YOU RECOMMEND THE COMPANY BE REQUIRED TO**
8 **TAKE TO CORRECT THESE TWO PROBLEMS?**

9 A. I recommend that the Commission require the Company to revise its proposed riders for
10 CPP and TOU to include a detailed description of the methodology for calculating the
11 rates for those riders and to clarify, and if necessary, justify compliance of its proposal
12 for collecting under-recoveries of the generation supply costs it incurs to serve CPP and
13 TOU customers with Commission Orders.

14 **Q. PLEASE COMMENT ON THE COMPANY'S PROPOSAL FOR RECOVERING**
15 **ALL PLAN COSTS FROM CUSTOMERS ON DEFAULT SERVICE.**

16 A. The Company's proposal to recover all costs of its Plan from default service customers
17 through the GSA is not consistent with the principles of cost causation and is not
18 equitable. The Plan is primarily a test of CPP and TOU rates as opposed to a simple
19 offering of new rates to customers taking default service. As indicated in Exhibit __ (JRH-
20 3), \$2 million or 18% of the costs the Company will incur to implement the Plan are
21 incentives to customers who enroll in CPP and TOU. The remaining \$9.5 million are
22 costs associated with a pilot that will collect information that will benefit all customers in

1 each rate class, *i.e.*, customers on Default Service and customers on Competitive Energy
2 Service.

3 The allocation of 100% of the Plan's costs to default service customers is not
4 consistent with the principles of cost causation. Default Service customers did not and
5 will not cause the Company to incur these costs. The cause of these costs is the need to
6 comply with the Act 129 mandate of offering dynamic pricing.

7 The allocation of 100% of the Plan's costs to default service customers is also not
8 equitable. Company witnesses George and Faruqui each agree that all customers will
9 benefit from the information regarding dynamic pricing that the Plan will develop
10 (Responses to OCA-I-24 and OCA-I-25 in Exhibit __ (JRH-4)). For example, customers
11 will have better information on which to base their assessment of the pricing offers of
12 Electric Generation Suppliers (EGSs) and EGSs will have better information regarding
13 which to design and promote their pricing offers.

14 **Q. WHAT ACTION DO YOU RECOMMEND THE COMPANY BE REQUIRED TO**
15 **TAKE WITH RESPECT TO COST RECOVERY FOR THE PLAN?**

16 A. I recommend that the Commission require the Company to allocate the costs of its Plan
17 that are not direct incentives given to CPP and TOU customers among all customers in
18 the respective rate class.

19 **Q. DOES THIS COMPLETE YOUR DIRECT TESTIMONY?**

20 A. Yes.

21
22 137415

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Petition of PECO Energy Company for :
Approval of its Smart Meter Technology : Docket No. M-2009-2123944
Procurement and Installation Plan - Petition :
for Approval of PECO Energy Company's :
Initial Dynamic Pricing and Customer :
Acceptance Plan :

EXHIBITS TO THE
DIRECT TESTIMONY
of
J. RICHARD HORNBY

On behalf of:

PENNSYLVANIA OFFICE OF CONSUMER ADVOCATE

DECEMBER 23, 2010

Synapse Energy Economics
22 Pearl Street
Cambridge, Massachusetts 02139

DIRECT TESTIMONY OF J. RICHARD HORNBY

LIST OF EXHIBITS

- Exhibit___(JRH-1) Resume of James Richard Hornby
- Exhibit___(JRH-2) Summary of PECO Proposed Initial Treatments for Residential Customers
- Exhibit___(JRH-3) Comparison of Proposed Budgets - PECO Energy Company. Residential Super Peak TOU in July 2009 EEC versus Initial Dynamic Pricing and Customer Acceptance Plan
- Exhibit___(JRH-4) PECO Energy Company Responses to Selected Data Requests
- Exhibit___(JRH-5) Matrix of Dynamic Pricing Options and Enabling Technologies being tested by Commonwealth Edison

J. RICHARD HORNBY

PROFESSIONAL SUMMARY

Thirty-five years of energy sector experience as a regulatory consultant, senior civil servant, and project engineer. Expert witness on a wide range of electric and gas industry planning and ratemaking issues in over 120 cases before state commissions and arbitration panels in 30 states and provinces.

EXPERIENCE

Synapse Energy Economics, Inc., Cambridge, MA, 2006 - present
Senior Consultant -- Responsible for economic analyses, project management, and business development. Primary areas of analyses and expert testimony are aligning utility incentives with energy efficiency, electricity resource planning and smart grid. Clients include staff of regulatory commissions, consumer advocates, and environmental groups.

CRA International/ Tabors Caramanis, Cambridge, MA, 1998- 2006¹
Principal. Responsible for economic analyses, project management and business development. Prepare and present advice, written reports and expert testimony on management and economic issues in electricity and natural gas markets, both wholesale and retail. Clients include regulators, utilities and marketers in the U.S., Canada and United Arab Emirates. Projects include expert testimony in energy contract price arbitration proceedings, management consulting to improve service quality and cost performance of electric distribution system, expert testimony on rates for unbundled utility services, procurement of electricity via aggregation, and development of a regulatory framework for a green-field natural gas retail market.

Tellus Institute, Boston, MA, USA, 1986-1998

Vice-President and Director of Energy Group (1997-1998). Directed energy consulting practice. Led analyses of utility restructuring/deregulation, pricing/ratemaking, economic viability, and environmental impacts. Prepared reports and presented expert testimony on policy issues, strategic plans, utility regulation, and ratemaking. Clients included federal and state energy and environmental agencies, public utility commissions, consumer advocates, environmental organizations and utilities.

Manager of Natural Gas Program (1986-1997). Developed and managed gas program covering a range of gas industry issues including restructuring, unbundled services, ratemaking, efficiency programs and supply planning.

Nova Scotia Department of Mines and Energy, Halifax, Nova Scotia, 1981-1986

Member, Canada-Nova Scotia Offshore Oil and Gas Board (1983-1986)

Member of federal-provincial board responsible for regulating petroleum industry exploration and development activity offshore Nova Scotia.

¹ CRA International acquired Tabors Caramanis and Associates in November 2004.

Assistant Deputy Minister of Energy (1983–1986)

Responsible for analysis and implementation of provincial energy policies and programs, as well as for Energy Division budget and staff. Directed preparation of comprehensive energy plan emphasizing energy efficiency and provincial resources. Senior advisor on implementation of fiscal, regulatory, and legislative regime to govern offshore gas.

Director of Energy Resources (1982-1983) Directed the analysis and implementation of policies to promote development of provincial coal, peat, gas and tidal power resources

Assistant to Deputy Minister. (1981-1982) Provided planning and management support.

Nova Scotia Research Foundation, Dartmouth, Canada, 1978–1981.

Consultant. Editor of Nova Scotia's first comprehensive energy plan. Administered government funded industrial energy conservation program.

Canadian Keyes Fibre, Hantsport, Canada, 1975-1977.

Project Engineer. Responsible for energy cost reduction and pollution control projects.

Imperial Group Limited, Bristol, England, 1973-1975.

Management Consultant. Provided industrial engineering consulting services.

EDUCATION

M.S., Technology and Policy (Energy), Massachusetts Institute of Technology, 1979

Thesis: "An Assessment of Government Policies to Promote Investments in Energy Conserving Technologies"

B.Eng. Industrial Engineering (with Distinction), Dalhousie University, Canada, 1973

SUMMARY OF PECO PROPOSED INITIAL TREATMENTS FOR RESIDENTIAL CUSTOMERS					
Residential Rate Class	Offers			Promotional Methods	Combination #
	Tariff	Technology	Education		
R	Existing	In Home Display (IHD)	none	none	1
	TOU	none	none	Sign-up incentive	2
		IHD	none	incentive	3
	CPP	none	none	none	4
		none	none	Sign-up incentive	5
		None	None	Incentive w/o 1 st year bill protection	6
		None	None	Incentive and alternative message	7
		None	None	Incentive & 1 st touch	8
		None	None	Incentive & 2 nd touch	9
		None	None	Incentive& 3 rd touch	10
		None	None	Other possibilities TBD later	11
		?	Enhanced education	?	12
		IHD	None	incentive	13
	Programmable Communicating Thermostat (PCT)	none	incentive	14	
R-H	CPP	none	none	Sign-up incentive	1
PCT		none	incentive	2	
R & Enrolled in Load Control Program	CPP	none	none	Sign-up incentive	1
CAP	existing	IHD	none	none	1
SOURCE	PECO Energy Company's Initial Dynamic Pricing and Customer Acceptance Plan. October 28, 2010. Table 3-6.				

Notes

1. In Home Display (IHD) estimated installed cost \$155 (OCA-I-17)
2. Programmable Communicating Thermostat (PCT) estimated installed cost \$485 (OCA-I-17)
3. Sign – up incentive is \$25 (PECO Energy Company's Initial Dynamic Pricing and Customer Acceptance Plan. October 28, 2010. Page 32)
4. Incentive consists of sign-up incentive plus first year bill protection (PECO Energy Company's Initial Dynamic Pricing and Customer Acceptance Plan. October 28, 2010. Page 32)

Comparison of Proposed Budgets - PECO Energy Company

Residential Super Peak TOU in July 2009 EEC versus Initial Dynamic Pricing and Customer Acceptance Plan

Cost Category	Residential Super Peak TOU (1)	Initial Dynamic Pricing and Customer Acceptance Plan (2, 3)
	(\$ 000)	(\$ 000)
Participant specific costs		
Incentives (3)	\$ 3,568	\$ 450
Equipment (3)	\$ 917	\$ 1,590
Sub-total	\$ 4,485	\$ 2,040
	51%	18%
Other Program Costs		
Plan Preparation & Development		\$ 1,285
Direct labour / PECO Oversight	\$ 358	\$ 1,050
Implementation (3)	\$ 1,592	\$ 2,450
Umbrella Costs	\$ 545	
Evaluation	\$ 374	\$ 750
Education	\$ -	
IT (3)	\$ 186	\$ 1,375
Promotion / Communication	\$ 1,231	\$ 2,610
Sub-total	\$ 4,286	\$ 9,520
	49%	82%
Total	\$ 8,771	\$ 11,560
Cumulative Participants	27,000	10,000
Cost per Participant		
Participant specific	\$ 166	\$ 204
Other Program	\$ 159	\$ 952
Total	\$ 325	\$ 1,156

Sources

- 1 PECO Energy Efficiency and Conservation Plan, July 1, 2009, pages 157 and 158
- 2 Exhibit WJP-1B
- 3 Response OCA-I-38

PECO Energy Company Responses to Selected Data Requests

OCA-I-6

OCA-I-13

OCA-I-24

OCA-I-25

OCA-I-31

OCA-I-32

OCA-I-36

OCA-I-37

OSBA-I-7

**Petition of PECO Energy Company for Approval of its
Smart Meter Technology Procurement and Installation Plan**

**Petition for Approval of PECO Energy Company's
Initial Dynamic Pricing and Customer Acceptance Plan
Docket No. M-2009-2123944**

**Responses of PECO Energy Company
to the Interrogatories of the Office of Consumer Advocate, Set I**

OCA-I-6:

Direct Testimony of Dr. George, page 4 lines 11 to 16.

- a. What percentage of ComEd and Ameren Corporation residential customers are on RTP? Please provide the supporting source material.
- b. What percentage of Gulf Power residential customers are on CPP and TOU rates respectively? Please provide the supporting source material.
- c. What percentage of PG&E residential customers are on dynamic pricing? Please provide the supporting source material.

Response:

- a. Dr. George's testimony indicated that there are fewer than 10,000 customers enrolled in each of the ComEd and Ameren RTP tariff programs. Information obtained at a recent conference indicated that currently there are roughly 10,750 participants in the program, out of an eligible population of approximately 1 million. (See presentation by David Becker, which is provided on the enclosed CD as Attachment OCA-I-6(a)). Thus, the participation rate for Ameren is roughly 1%. A conversation with David Becker indicated that the ComEd program has roughly 10,000 enrolled customers. According to the US Energy Information Administration (EIA) 2009 data, (<http://www.eia.doe.gov/cneaf/electricity/page/eia861.html>), ComEd has roughly 3.4 million residential customers, so less than 1% of all residential ComEd customers are enrolled in RTP.
- b. PECO does not have any information on Gulf Power's pure TOU or CPP rates and is not aware that Gulf Power has such rates. Gulf Power's combination CPP/TOU rate has approximately 10,000 residential customers enrolled, or roughly 2.7% of the total customer base of 375,000 (based on EIA data).

- c. PG&E's SmartRate tariff has approximately 25,000 residential customers enrolled, out of a total of 4.6 million residential customers (EIA data). As such, less than 1% of all residential PG&E customers are enrolled in SmartRate. However, not all customers are currently eligible for SmartRate, since not all PG&E customers have received smart meters. PECO does not know the number of eligible customers at the time SmartRate was last marketed.

Responsible Witness: Dr. Stephen S. George

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**Responses of PECO Energy Company
to the Interrogatories of the Office of Consumer Advocate, Set I**

OCA-I-13:

Direct Testimony of Dr. George, page 11 lines 1 to 3.

- a. Salt River Project (SRP) in Arizona is said to have about 30% of its residential customers on TOU rates. Has Dr. George reviewed the promotional strategies and service offerings of SRP? If so please provide that review and explain how, if at all, it informed PECO Energy's petition. If he has not reviewed the SRP approach please explain why not.
- b. Commonwealth Edison (ComEd) in Illinois initiated a pilot in May to test a range of pricing offerings and promotional strategies. Has Dr. George reviewed the promotional strategies and service offerings of ComEd? If so please provide that review and explain how, if at all, it informed PECO Energy's petition. If he has not reviewed the ComEd approach please explain why not.

Response:

- a. Dr. George has not reviewed the promotional strategies and service offerings of SRP. Dr. George is not aware of any published studies on the marketing plans or effectiveness of that tariff. On the other hand, Dr. George is very familiar with the choice analysis work done in conjunction with PG&E's Smart Rate tariff, which informed the development of PECO's Plan, including what promotional strategies should be tested. That work is documented in *2009 Load Impact Evaluation for Pacific Gas and Electric Company's Residential SmartRate™—Peak Day Pricing and TOU Tariffs and SmartAC Program Volume 2: Ex Ante Load Impacts*. April 1, 2010. (Stephen George, Josh Bode, Mike Perry, and Andrew Goett). Prepared for Pacific Gas and Electric.
<http://www.fscgroup.com/news/volume-two.pdf> (Provided on the enclosed CD as Attachment OCA-I-13(a)).

- b. Dr. George is generally familiar with the ComEd pilot. However, this pilot was deemed to not be relevant to development of the promotional strategies in PECO's Plan, since it relies on opt-out enrollment, whereas PECO's Plan relies exclusively on opt-in enrollment.

Responsible Witness: Dr. Stephen S. George

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**Responses of PECO Energy Company
to the Interrogatories of the Office of Consumer Advocate, Set I**

OCA-I-24:

Direct Testimony of Dr. George, pages 17 to 24. Is it your position that the lessons learned from testing the two proposed rate designs will benefit third party suppliers who are competing to provide supply service to PECO Energy customers in the residential and commercial classes? If not, why not?

Response:

Yes, it will raise awareness among customers of other choices and products that EGSs can compete with. Additionally, the Company will produce a final, publicly available report that describes the results of the research, which could be a benefit to all interested stakeholders and third party suppliers.

Responsible Witness: Dr. Stephen S. George

**Petition of PECO Energy Company for Approval of its
Smart Meter Technology Procurement and Installation Plan**

**Petition for Approval of PECO Energy Company's
Initial Dynamic Pricing and Customer Acceptance Plan
Docket No. M-2009-2123944**

**Responses of PECO Energy Company
to the Interrogatories of the Office of Consumer Advocate, Set I**

OCA-I-25:

Direct Testimony of Dr. Faruqi, page 2. Is it your position that the lessons learned from testing the two proposed rate designs will benefit third party suppliers who are competing to provide supply service to PECO Energy customers in the residential and commercial classes? If not, why not?

Response:

Please see the response to OCA-I-24.

Responsible Witness: Dr. Ahmad Faruqi

**Petition of PECO Energy Company for Approval of its
Smart Meter Technology Procurement and Installation Plan**

**Petition for Approval of PECO Energy Company's
Initial Dynamic Pricing and Customer Acceptance Plan
Docket No. M-2009-2123944**

**Responses of PECO Energy Company
to the Interrogatories of the Office of Consumer Advocate, Set I**

OCA-I-31:

Direct Testimony of Dr. Faruqi.

- a. Please provide electronic, operational versions of all workpapers used to prepare Exhibits AF-1 through AF-21.
- b. Please confirm that if actual revenues of CPP and TOU participants do not match the actual procurement costs for those participants, and they are excluded from the E factor, the quantity related cost variance will shift to non-participating default service customers.

Response:

- a. Please see the zip file Attachment OCA-I-31 on the enclosed CD for the requested work papers.
- b. Yes, PECO can confirm that if actual revenues of CPP and TOU participants do not match the actual procurement costs for those participants, and they are excluded from the E factor, the quantity related cost variance will shift to non-participating default service customers.

Responsible Witness: Dr. Ahmad Faruqi

**Petition of PECO Energy Company for Approval of its
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**Petition for Approval of PECO Energy Company's
Initial Dynamic Pricing and Customer Acceptance Plan
Docket No. M-2009-2123944**

**Responses of PECO Energy Company
to the Interrogatories of the Office of Consumer Advocate, Set I**

OCA-I-32:

Direct Testimony of Dr. Faruqui, page 10.

- a. Please identify the PJM zone for which the 2012 capacity price is \$140 per MW-day, and the specific time period to which that price applies, e.g. June 2012 to May 2013.
- b. Please explain how PECO Energy can avoid paying this capacity price. If PECO Energy cannot avoid paying this price is it not an embedded cost rather than a 'marginal cost'?
- c. Is it Dr. Faruqui's position that \$140 per MW-day is a short run marginal cost or a long run marginal cost? If short run, please provide Dr. Faruqui's estimate of the long-run marginal cost with all supporting analyses.
- d. Please discuss the proposal to only test rates based on spreading capacity costs over 15 days with critical peak periods of 4 hours each, i.e. 15 by 4, in light of PJM's proposal to cap the quantity of limited demand response in the RPM market and to solicit demand response products for the summer and the year. (PJM notes that success of the current demand response may shift the period of peak demand from the current hours of 2 to 6 pm to a later window, such as 6 to 10 pm).

Response:

- a. June 2012 – May 2013. EMAAC zone.
- b. All load serving entities must pay the RPM price (in dollars per MW/day) as set by PJM. Please refer to the Company's response to OCA-I-4 regarding how the quantity of capacity that PECO purchases from PJM can be reduced.

- c. \$140 per MW-day is the 2012-13 capacity price for the EMAAC zone of PJM and was used to tie the rate directly to market costs. Other capacity prices were not considered in my analysis.
- d. PECO is not aware of any PJM proposal to shift the period of peak demand.

Responsible Witnesses: Dr. Ahmad Faruqui (response to (a), (c)). Frank J. Jiruska (response to (b), (d)).

**Petition of PECO Energy Company for Approval of its
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**Responses of PECO Energy Company
to the Interrogatories of the Office of Consumer Advocate, Set I**

OCA-I-36:

Direct Testimony of Mr. Patterer. Page 6 lines 1 to 7 and Direct Testimony of Dr. Faruqui, page 9 line 19 page 12 line 20. Please explain how the dynamic pricing rates will produce actual revenues exactly equal to actual procurement costs such that there is no need for an adjustment for over/under collection, i.e. the "E factor.

- a. Under its procurement of power for default service, does PECO Energy have a commitment to purchase specific quantities of energy and of capacity for the period covered by the solicitation? Please explain with supporting documentation.
- b. If the response to a. is yes, please explain how the dynamic pricing rates will produce actual revenues exactly equal to actual procurement costs such that there is no need for an adjustment for over/under collection, i.e. the "E factor. Please include an illustrative example. The dynamic rates are designed to recover the unit cost of electric energy and of capacity for the relevant pricing period. However it appears that their design assumes that PECO Energy does not have any commitments to purchase specific quantities of energy and of capacity for the pricing period.
- c. Please confirm that if PECO Energy has a quantity commitment for energy, or capacity, or both and the actual quantity of sales to CPP customers is less than the quantity reflected in the PECO Energy commitment, there will be difference between revenues and costs due to the quantity variance.
- d. Please confirm that if actual revenues of CPP and TOU participants do not match the actual procurement costs for those participants, and they are excluded from the E factor, the quantity related cost variance will shift to non-participating default service customers

Response:

- a. Please see the response to OSBA-I-8.
- b. Please refer to the response provided to OSBA-I-7.

- c. Please refer to the response provided to OSBA-I-7.
- d. Please refer to the response provided to OSBA-I-7.

Responsible Witness: William J. Patterer

**Petition of PECO Energy Company for Approval of its
Smart Meter Technology Procurement and Installation Plan**

**Petition for Approval of PECO Energy Company's
Initial Dynamic Pricing and Customer Acceptance Plan
Docket No. M-2009-2123944**

**Responses of PECO Energy Company
to the Interrogatories of the Office of Consumer Advocate, Set I**

OCA-I-37:

Direct Testimony of Mr. Patterer. Page 8 line 2 to page 9 line 5. PECO Energy is proposing a budget of \$11.6 million for pilots that may have "...fewer than 10,000" participants. This equates to about \$1,100 per participant.

- a. Please provide any analyses prepared by or for PECO Energy that this amount is consistent with the costs of similar pilots conducted by other utilities;
- b. Please provide any analyses prepared by or for PECO Energy of the anticipated amount per participant of deploying CPP or TOU on a system wide basis.

Response:

- a. PECO did not prepare, or have prepared, analyses regarding consistency with the costs of similar pilots conducted by other utilities.
- b. PECO did not prepare, or have prepared, analyses of the anticipated amount per participant of deploying CPP or TOU on a system wide basis.

Responsible Witness: William J. Patterer

**Petition of PECO Energy Company for Approval of its
Smart Meter Technology Procurement and Installation Plan**

**Petition for Approval of PECO Energy Company's
Initial Dynamic Pricing and Customer Acceptance Plan
Docket No. M-2009-2123944**

**Responses of PECO Energy Company
to the Interrogatories of the Office of Small Business Advocate, Set I**

OSBA-I-7:

Reference PECO Statement No. 4, page 7 lines 1 to 11:

- a. To the extent that PECO has determined how it intends to do so, please explain how the cost associated with dynamic pricing customers will be "removed" from the reconciliation of default service cost over- or under-recovery. In particular, please explain how the costs for energy block and spot market purchases will be assigned to dynamic pricing customers.
- b. Please provide a specific quantitative example, in MS Excel electronic format, for each Default Service Procurement Class (1 to 3) showing how the revenues and costs associated with dynamic pricing customers will be determined. Please include supporting workpapers in MS Excel electronic format.
- c. Please provide PECO's evaluation of the difference between the revenues and costs for dynamic pricing customers based on Dr. Faruqui's elasticity analysis, assuming participation of 10,000 customers. Please include supporting workpapers in MS Excel electronic format.
- d. Will PECO be at risk for the difference between dynamic pricing customers' revenues and costs? Please explain your response.

Response:

- a. Costs associated with dynamic pricing customers in Procurement Classes 1, 2 and 3 will be removed from the reconciliation of over/under recoveries through the following methodology applied to each procurement class:
 1. Total billed monthly generation revenues for dynamic pricing customers by procurement class will be obtained from PECO's billing system.
 2. The working capital portion of the billed monthly generation revenues for dynamic pricing customers will be removed from the total billed monthly generation revenues.

PECO's Response to OSBA-I-7 (cont.)

3. The administrative cost portion including Gross Receipts Tax (GRT) of the billed monthly generation revenues for dynamic pricing customers of the procurement class will be removed from the total billed monthly generation revenues.
 4. The balance of the billed monthly generation revenues for dynamic pricing customers will be the revenues for supply costs with GRT.
 5. The administrative costs and supply costs portions of the generation revenues determined above will be adjusted to exclude gross receipts tax. The resulting figures will be removed from each component of the calculation of over/under recoveries for the remaining default service customers of the procurement class.
- b. Please refer to Excel Attachment OSBA-1-7(b) on the enclosed CD.
 - c. Please refer to Excel Attachment OSBA-I-7(c) on the enclosed CD.
 - d. No, PECO will not be at risk for the difference between dynamic pricing customers' revenues and costs. Any difference will be recovered/credited to the non-participating customers in the over/under recovery calculation of their GSA.

Responsible Witness: William J. Patterer

Attachment OSBA-1-7 (b)

Example: Applies to Each Procurement Class 1, 2 and 3

Assumptions for Dynamic Pricing Customers in Procurement Class

Monthly number of Customers	10,000
Monthly Billed kWh Sales (assumes 1,000 kwh per cust)	10,000,000
Monthly Billed Revenues equal	\$ 1,000,000
Gross Receipts Tax Rate (GRT)	0.0608
Generation Rate including GRT, cents/kWh	
Supply Cost	9.94
Working Capital	0.04
Administrative Cost	<u>0.02</u>
Total	10.00

Step I. Monthly Component Calculation for Dynamic Pricing Customers

Total Billed Generation Revenues, for Dynamic Pricing Customers, for the Procurement Class		\$	1,000,000
Less Working Capital Revenues	10,000,000 kWh x	0.04 cents/kwh	<u>\$ (4,000)</u>
Revenues w/GRT less Working Capital		\$	996,000
Administrative Cost Revenues w/GRT	10,000,000 kWh x	0.02 cents/kwh	<u>\$ (2,000)</u>
Revenues for Supply Cost w/GRT		cents/kwh	\$ 994,000

Step II - Adjustment of Administrative Costs and Supply Costs for GRT

Net balance for each Component will be Removed from the Calculation of Over/Under Recoveries

Administrative Cost =	Revenues	\$	(2,000)	
	less GRT	\$	<u>122</u>	
		\$	<u>(1,878)</u>	Administrative Cost to be eliminated from Over/Under Recoveries
Supply Cost =	Revenues	\$	(994,000)	
	less GRT	\$	<u>60,435</u>	
		\$	<u>(933,565)</u>	Supply Cost to be eliminated from Over/Under Recoveries

Attachment OSBA-1-7(c)

Assumptions

Number of customers enrolled (assume 50% TOU/50% CPP)	10,000
Monthly billed kWh (assume 1,000 kWh per customer)	10,000,000
Monthly Billed revenues	\$1,000,000
Generation rate including GRT, cents/kWh	
Supply cost	9.94
Working capital	0.04
Administrative cost	0.02
Total	10.00

Calculation of Revenue/Cost differences between revenues and costs

Program	Number of Customers	Annual supply costs (less working capital and administrative costs)	Projected change in annual Bill ¹	Projected annual revenues based on assumed bill impacts
TOU	5000	\$5,964,000	-0.17%	\$ 5,954,060
CPP	5000	\$5,964,000	-1.33%	\$ 5,884,480
Total		\$11,928,000		\$ 11,838,540

Total potential revenue deficiency	\$89,460
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1. Projected change in Average Annual Bill based on PECO Exhibit AF-13 for residential customers. Total bill changes of .10% for TOU and .80% for CPP adjusted for generation only portion of the bill assuming generation comprises 60% of the total bill.

Matrix of Dynamic Pricing Options and Enabling Technologies being tested by Commonwealth Edison

		Enabling Technology Type					
		None	Removed	Enhanced Web (eWeb)	eWeb+ Basic IHD (BIHD)	eWeb+ Advanced IHD (AIHD)	eWeb+PCT /IHD (AIHD/PCT)
Flat Rate Type N = 1,650	Flat Rate Existing Meter No Education	Control F1 N=450					
	Flat Rate Existing Meter Education			Application F2 N=225			
	Flat Rate AMI Meter Basic AMI Education			Control F3 N=225			
	Flat Rate AMI Meter Education		Application F4 N=0	Application F5 N=225	Application F6 N=300	Application F7 N=225	
Energy Efficiency Rate Type N = 750	IBR Rate AMI Meter Education			Application E1 N=225	Application E2 N=300	Application E3 N=225	
Demand Response Rate Type N = 3,525	CPP/DA-RTP Rate AMI Meter Education			Application D1 N(a)=525 N(b)=225	Application D2 N=525	Application D3 N=525	Application D4 N=525
	RTR/DA-RTP Rate AMI Meter Education			Application D5 N=225	Application D6 N=525	Application D7 N=225	Application D8 N=225
Load Shifting Rate Type N = 2,625	DA-RTP Rate AMI Meter Education			Application L1 N(a)=225 N(b)=225	Application L2 N=525	Application L3 N=225	
	TOU Rate AMI Meter Education			Application L4 N=225	Application L5 N(a)=525 N(b)=225	Application L6 N(a)=225 N(b)=225	
N = 8,550		N = 450	N = 0	N = 2,550	N = 2,925	N = 1,875	N = 750
Primary Application		Not Used					

Source: Jensen, Val. *Using the Smart Grid to Advance Efficiency and Behavioral Change*. ACCEE Market Transformation Symposium. March 17, 2010.

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Petition of PECO Energy Company for :
Approval of its Smart Meter Technology : Docket No. M-2009-2123944
Procurement and Installation Plan - Petition :
for Approval of PECO Energy Company's :
Initial Dynamic Pricing and Customer :
Acceptance Plan :

DIRECT TESTIMONY OF

NANCY BROCKWAY

ON BEHALF OF THE
OFFICE OF THE CONSUMER ADVOCATE

REGARDING CONSUMER PROTECTION ISSUES

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December 23, 2010

- 1 **Q. Please state your name, your business affiliation, and your address.**
- 2 A. My name is Nancy Brockway. I am the principal of NBrockway & Associates, a firm
3 providing consulting services in the areas of energy and utilities. My address is 10 Allen
4 Street, Boston, MA 02131.
- 5 **Q. On whose behalf are you testifying in this proceeding?**
- 6 A. I am testifying on behalf of the Pennsylvania Office of the Consumer Advocate.
- 7 **Q. Please briefly describe your qualifications and experience.**
- 8 A. Since 1983, my professional focus has been the energy and utility industries, with
9 particular attention to the role of regulation in the protection of consumers and the
10 environment. I was a Commissioner appointed to the New Hampshire Public Utilities
11 Commission, serving from 1998 to 2003. Earlier, I was for several years a hearing
12 officer and advisor to the Maine Public Utilities Commission and then to the
13 Massachusetts Department of Public Utilities, where I served two years as General
14 Counsel of the commission. I was an expert witness on consumer and low-income utility
15 issues for seven years, with the National Consumer Law Center. Since leaving the New
16 Hampshire Commission, I have been a consultant on regulatory utility issues to
17 regulatory commissions, ratepayer advocates, low-income energy groups, and others. I
18 also spent several months serving as the Director of Multi-Utility Research and Analysis
19 with the National Regulatory Research Institute. While at NRRI, I researched and wrote
20 a key objective study of the impact of advanced metering structure and related pricing
21 options on residential consumers. I am invited frequently to speak at national forums on
22 smart grid issues, offering the consumer perspective. My resume is attached as Exhibit
23 NB-1.
- 24 **Q. Have you previously testified before this Commission?**
- 25 A. Yes. I have filed testimony in thirteen previous dockets before this Commission. Most
26 recently, I testified on the plans of the First Energy companies and of Allegheny Power
27 regarding smart metering technology procurement and installation.
- 28 **Q. Have you testified on utility matters before other commissions?**
- 29 A. Yes. I have filed testimony in over 50 proceedings. I have appeared before twenty state
30 or provincial regulatory commissions.

31

1 **Q. Have you testified on Smart Metering and Smart Grid issues?**

2 A. Yes. In addition to the two Pennsylvania dockets in which I testified on smart metering
3 and smart grid issues, I have filed testimony in eight other dockets.

4 **Q. What is the purpose of your testimony today?**

5 A. The purpose of my testimony is to address certain consumer protection issues that arise
6 with respect to the Initial Dynamic Pricing and Customer Acceptance Plan (Initial Plan)
7 of PECO Energy (PECO, the Company, or the utility), and to address the process by
8 which PECO will move forward and receive stakeholder input. Where necessary, I also
9 provide recommendations for inclusion in the PECO Initial Plan.

10 **Q. Please summarize your recommendations regarding PECO's initial dynamic pricing
11 plan.**

12 A. I recommend that the Commission condition approval of PECO Energy's Initial Plan on
13 the Company's inclusion in that Plan of the following four elements, the first three of
14 which address consumer protection issues:

15 1. Allow a customer who has selected a dynamic pricing option and is unable to
16 pay high peak or critical peak period bills in a timely fashion to enter into a payment
17 arrangement as an alternative to disconnection, regardless of whether that customer has
18 had or has defaulted on a previous payment agreement or payment arrangement.

19 2. Allow a customer who entered into a payment arrangement to handle such
20 high peak or critical peak period bills and later returns to a regular rate schedule to enter
21 into a payment agreement for arrearages incurred after returning to the regular rate
22 schedule.

23 3. Use the proposed "test and learn strategy" to develop detailed information
24 regarding the experience of certain types of vulnerable customers with the dynamic
25 pricing option, in order to determine if amendments to the plan and the pricing options
26 should be made going forward, by: (1) including detailed questions regarding such
27 experience and its impacts in post-event surveys, and (2) taking post-event surveys of all
28 customers who signed up for dynamic pricing despite advice that the rate offering may
29 not be suitable; and

30 4. Continue to seek the active input of the stakeholder group as the "test and
31 learn" process evolves.

1 **Q. What are PECO's objectives in its Initial Dynamic Pricing Plan?**

2 A. PECO describes the objectives of its Initial Dynamic Pricing Plan in its Exhibit 1, "PECO
3 Energy's Initial Dynamic Pricing and Customer Acceptance Plan," ("Initial Plan" or
4 "Plan"), at Section 1.1:

- 5 1. Comply with Act 129 Requirements;
- 6 2. Understand customer preferences for rate and technology options and
7 identify a combination of rates and technologies that will help them better manage their
8 energy costs;
- 9 3. Understand how to educate and communicate with customers about new
10 options; and
- 11 4. Identify combinations of rates, technologies, education and marketing
12 strategies that are effective.

13 **Q. How does PECO witness Dr. Stephen George further describe the purposes of the
14 Plan?**

15 A. Dr. George testifies that the Plan will "provide PECO with valuable insight into the best
16 strategies for broad scale deployment of these rates throughout its service territory."
17 PECO Statement 2 at 3. PECO is "focused on understanding customer acceptance of
18 dynamic rates." *Id.* at 7. Further, he states that "a primary focus of PECO's Dynamic
19 Pricing Plan is to better understand *how to effectively enroll customers* in voluntary
20 dynamic pricing programs and related program offerings, *especially those consumers*
21 *who will provide substantial demand reductions* during peak periods." *Id.* at 8 (emphasis
22 supplied). Providing different offers to different customer groups, Dr. George testifies,
23 "will allow PECO to understand *the effect on enrollment* of various features of a
24 marketing offer, various communications methods and channels, different educational
25 offerings, different rate options and different forms of enabling technology." *Id.*
26 (emphasis supplied).

27 **Q. Will PECO also obtain data on the load impacts of different rates and technology
28 options in its Initial Plan?**

29 A. Yes. As part of this research, according to Dr. George, PECO will also "examine and
30 understand the load impact of different rates and technology options." *Id.* at 7. But, Dr.
31 George stresses, the PECO approach is different from previous dynamic pricing pilots in

1 that they were "focused almost exclusively on estimating average dynamic rate impacts,"
2 whereas the PECO plan by contrast will concentrate on "understanding customer
3 preferences for such rates and how to effectively enroll customers in these programs." *Id.*

4 **Q. Does PECO express a desire to achieve customer enrollment and associated demand**
5 **reductions regardless of the impact of such reductions on the well-being of its**
6 **customers?**

7 A. No. PECO takes four key steps in the Plan to guard against achieving demand reductions
8 at the expense of its customers' well-being. First, the various offerings in the initial Plan
9 will not be marketed to (nor available to) customers taking service under the discounted
10 CAP rate for low-income customers. Initial Plan, at 18. According to PECO, CAP
11 customers who moved to the regular residential rate and then took service under the
12 dynamic pricing alternative would face significantly higher bills, even if they were able
13 to take advantage of demand response to lower the effect of the rates. *Id.* Second, PECO
14 plans to screen prospective customers of dynamic tariffs to help determine if they are
15 likely to see bill increases under the tariff, and to advise such customers that the rate may
16 not be suitable for them financially. PECO Statement 2, at 11. Third, PECO plans to
17 survey participants to understand the specific actions they took to lower demand in
18 response to peak prices, and whether they "experienced any discomfort or other
19 inconveniences when critical peak periods are called." PECO Statement 2, at 23.
20 Fourth, recognizing that consumers may perceive moving to dynamic pricing as a risky
21 decision, Statement 2 at 6, PECO expects to offer bill protection to customers who opt in
22 to the new tariffs, at least in the initial year of taking service under the rate. *Id.* at 17, 19.
23 The specific form of such bill protection had not been determined as of the filing. Initial
24 Plan at 32-33.

25 **Q. Aside from CAP customers, are there other customers who would likely experience**
26 **higher bills if they were to opt in to TOU or CPP pricing?**

27 A. Yes. Customers who have relatively low load factors and relatively little ability to shift
28 load off peak hours or critical peak periods, would likely see bill increases under the
29 TOU or CPP pricing offerings, respectively.

1 **Q. Why is it important to understand the impact of price-driven demand responses on**
2 **customer well-being?**

3 A. There are several practical reasons for understanding the impact of price-driven demand
4 responses on customers' well-being. Understanding the extent of participant
5 inconvenience or discomfort can help the Company make adjustments in targeting
6 customers and other aspects of implementation that increased the likely sustainability of
7 the responses - if customers cut back their usage to the point of discomfort or worse, they
8 will be less likely to repeat the demand responsive behavior over time. There are,
9 however, equally important societal reasons for understanding how customers fare when
10 they attempt to lower demand in response to high prices at peak times. If they should be
11 using the same level of electricity as before (or more) during the peak or critical peak
12 periods (for example because of health requirements), price-driven demand response
13 could cause them to suffer not only noticeable inconvenience, but in some cases damage
14 to health and well-being.

15 **Q. Is it the objective of smart metering and associated dynamic pricing options in**
16 **Pennsylvania to achieve demand reductions regardless of the impacts on consumers'**
17 **quality of life and access to electricity?**

18 A. No. The objective of dynamic pricing and other time-varying pricing is *not* to achieve
19 demand reductions regardless of the impacts on consumers' quality of life. According to
20 the preamble to Act 129, the "health, safety and prosperity" of Pennsylvania are
21 inherently dependent upon "the availability of adequate, reliable, affordable, efficient and
22 environmentally sustainable electric service...." Among the purposes of the policies
23 established under the Act is to ensure "affordable and available electric service to all
24 residents...." In other words, the purposes do not include requiring customers to pay
25 more for a lower quality of electric service. Nor do they include causing customers to
26 deny themselves other essentials of life in order to avoid unaffordable electric bills. The
27 policies undertaken to fulfill the goals of Act 129 must not achieve efficiency alone, but
28 also must ensure adequate, reliable, affordable, efficient and environmentally sustainable
29 electric service. Averting hardship and undue inconvenience caused by customers cutting
30 back too far in order to maintain affordable service is thus a core requirement for any
31 dynamic pricing instituted in fulfillment of Act 129.

1 **Q. Are the four steps PECO intends to take, to protect customers from cutting back**
2 **excessively under dynamic pricing in its Initial Plan, sufficient?**

3 A. The four steps PECO intends to take to protect customers from excessive demand
4 reductions should be augmented. Before implementing its Initial Plan, PECO should
5 include further provisions to ensure that customers do not cut back on their electric
6 demand at the expense of their health, safety and general welfare in order to lower their
7 bills under dynamic pricing tariffs.

8 **Q. What additional steps should PECO include in its Initial Plan to protect customers**
9 **from the risks of cutting back too much?**

10 A. I recommend that PECO's Plan include three additional components, designed to prevent
11 customers from receiving inadequate service in order to maintain affordable service. The
12 three additional consumer protection components I propose are as follows:

13 1. Allow a customer who has selected a dynamic pricing option and is unable to
14 pay high peak or critical peak period bills in a timely fashion to enter into a payment
15 arrangement as an alternative to disconnection, regardless of whether that customer has
16 had or has defaulted on a previous payment agreement or payment arrangement.

17 2. Allow a customer who entered into a payment arrangement in order to handle
18 such high peak or critical peak period bills and who later returns to a regular rate to enter
19 into a payment agreement for arrearages incurred after returning to the regular rate.

20 3. Use the proposed "test and learn strategy" to develop detailed information
21 regarding the experience of certain types of vulnerable customers with the dynamic
22 pricing option, in order to determine if amendments to the plan and the pricing options
23 should be made going forward, by including detailed questions regarding such experience
24 and its impacts in post-event surveys, taking post-event surveys of all customers who
25 signed up for dynamic pricing despite advice that the rate offering may not be suitable.
26

1 **Q. Please discuss the first of the three components you recommend be included in the**
2 **Initial Plan to protect the adequacy of affordable service [that is, allowing a**
3 **customer who has selected the TOU or CPP option to enter into a payment**
4 **arrangement as an alternative to disconnection, regardless of whether that customer**
5 **has defaulted on a previous payment agreement or payment arrangement].**

6 A. Under Section 1405 of Title 66 of the Pennsylvania Consolidated Statutes, absent a
7 change in the customers' income or a significant change in the customers' circumstances
8 (as defined by Section 1403), the commission shall not "establish or order a public utility
9 to establish" a second or subsequent payment agreement if a customer has defaulted on a
10 previous payment agreement. I am informed by counsel that this statute may be
11 interpreted to imply that a customer who has defaulted on a payment agreement under
12 existing rates may not be allowed to enter into a payment arrangement intended to
13 provide for payment of high peak or critical peak prices, once the customer has opted into
14 a TOU or dynamic pricing option. Mr. Jiruska, in response to OCA-1-2(d), stated that
15 the Company intends to apply the present limitations on additional payment arrangements
16 to customers who opt for TOU or CPP under the Initial Plan.

17 **Q. What are some possible consequences of prohibiting residential customers who opt**
18 **in to the TOU or CPP rates under the Initial Plan from making a payment**
19 **arrangement if they had a failed arrangement under the regular rate?**

20 A. A customer who opts for a TOU or dynamic pricing option in the hopes of finding a
21 pricing option that allows for affordable and adequate service, but who discovers that
22 high peak or critical peak prices are not affordable (at least not in the billing period in
23 question), could face disconnection.

24 **Q. Is it among the stated purposes of the Initial Plan to create conditions that will lead**
25 **to disconnection of customers who opt in to the rates?**

26 A. No. It is not the intention of the Initial Plan to create conditions where customers are
27 disconnected in order to enforce their adherence to the terms of the opt-in rates. The
28 primary objective of the Initial Plan is to learn how best to attract customers to the TOU
29 and dynamic rates. A primary purpose of the Initial Plan is "to better understand how to
30 cost-effectively enroll customers in voluntary time-varying rate programs." Response to
31 OCA-1-21. For this purpose, it is unnecessary to subject customers to the threat of

1 disconnection when the rate does not work for the customer on account of the way the
2 payment agreement law works in the situation of ongoing rates and accounts.

3 **Q. The Initial Plan may contain bill protection, at least for some customers. Initial**
4 **Plan at 12 and 17. Why would this provision of the Plan be insufficient to protect**
5 **customers from having to choose among three unsatisfactory options: unaffordably**
6 **high bills, using insufficient electricity for health or well-being, or dropping out of**
7 **the Initial Plan rate?**

8 A. PECO's plans regarding bill protection are not yet complete. As stated in response to
9 interrogatory OCA-1-9(a), "PECO has not yet worked out the details of a bill protection
10 offer." If PECO does go ahead and offer bill protection, it plans to provide the protection
11 only to a limited number of customers in order to test the effect of such an offer of
12 protection on acceptance rates. OCA-1-9(b). The budget assumes that of the 150,000 to
13 200,000 customers who will be invited to take service under the Initial Plan rates, Initial
14 Plan at 1, no more than 10,000 customers will be offered bill protection. OCA-1-9(c).
15 Further, PECO does not intend to offer bill protection to any customer beyond the first
16 year of participation in the Plan. OCA-1-9(b). In all other cases, customers who accept
17 the offer to enroll in TOU or CPP rates under the Initial Plan will be at risk of having to
18 choose among the three unsatisfactory options of paying unaffordably high bills, using
19 insufficient electricity for health or well-being, and dropping off the Initial Plan rate.

20 **Q. Please address the second condition you recommend, that if a customer returns to**
21 **regular residential rates from the Plan's TOU or CPP rates, and falls into arrears,**
22 **that the customer be allowed to enter into a payment agreement or payment**
23 **arrangement, even if that customer had a payment agreement for TOU and CPP**
24 **bills and was unable to keep that payment agreement.**

25 A. This situation is the flip side of the first situation discussed. Here, the point is to keep the
26 experience of the customer on the Initial Plan TOU or CPP rates separate from any
27 impact on their access to service under ordinary rates otherwise in effect.

28

1 **Q. Why do you say that the purpose of the Initial Plan is not to include conditions**
2 **where customers face disconnection for failure to pay high bills under the TOU or**
3 **CPP options, nor to affect their right to service after returning to ordinary service?**

4 A. As discussed above, the Company makes clear that the essential objective of this Initial
5 Plan is to test various offerings and promotional techniques, to see which ones are most
6 effective in enlisting customers to sign up for the TOU or CPP rate, and *thereby* to reduce
7 demand during peak or critical peak hours. Achieving load reductions in the next two or
8 three years to obtain the associated financial benefits for customers and the utility is not
9 *per se* an aim of the Initial Plan. Rather, the testing of offerings and promotional
10 techniques will enable the utility to develop its plans for broad-based deployment that is
11 most cost-effective and most attractive to customers who can and will provide price-
12 driven demand response. To achieve these ends, there is no need to threaten customers
13 with difficult barriers to maintaining service in the event they fall into arrears while
14 trying to manage the new costs and opportunities available under the Initial Plan tariffs.

15 **Q. Aside from benefits to participants, what benefits does the Company obtain when it**
16 **adopts a more liberal payment arrangement policy for participants in the Initial**
17 **Plan tariff options?**

18 A. A liberal policy of working with former participants on payment arrangements to handle
19 arrears accrued under the Initial Plan rates or upon return to non-demand-based rates will
20 enable customers to try the Initial Plan rates without fear of unnecessary disconnection.
21 In this way, adopting such a policy at least for the Initial Plan will help avoid customer
22 rejection of the rates going forward. Customers in the future, as dynamic tariffs become
23 more mainstream in the service territory, will not be reminded that some customers in the
24 Initial Plan phase got themselves in trouble with high peak or critical peak bills, and were
25 unable to work out arrangements to pay off the high bills. Nor will they face a situation
26 in which their experience under the Initial Plan rates diminishes their access to utility
27 service going forward.

28

1 **Q. Please discuss your third recommended consumer protection condition, that the**
2 **Initial Plan include using the proposed "test and learn strategy" to develop detailed**
3 **information regarding the experience of vulnerable customers with the dynamic**
4 **pricing option. First, does the Company propose to gather such information?**

5 A. Only in a limited way. In response to interrogatory OCA-1-18, the Company does not
6 have plans to measure the impacts of the tariffs on the health, safety and comfort of
7 participants. Rather, PECO will survey participants about their "satisfaction" with the
8 rates and other components of the offerings. Similarly, the Company indicated in
9 response to OCA-1-23 that it has not decided to what extent it will survey customers to
10 determine why customers did not accept an offer, nor whether it will survey customers
11 who enroll but subsequently drop out, to determine why they dropped out of the rate. In
12 response to interrogatory OCA-1-9, asking to what extent "Dr. George consider[s] it
13 important to conduct further research on the differential impacts [of TOU or CPP service]
14 on various subgroups of customers (e.g. elders, those needing medical equipment, low-
15 and moderate income customers not enrolled in CAP, socially/mentally/physically-
16 disabled customers and the like," the response said that such research would be
17 "informative." The response goes on to argue that doing so in a statistically rigorous way
18 would be costly, and indicates that PECO may perform some assessments of this issue if
19 data collected for other reasons happen to permit such analyses.

20 **Q. The Company's focus in the Initial Phase is testing alternative rates, technologies**
21 **and promotional approaches "to better understand how to cost-effectively enroll**
22 **customers in voluntary time-varying rate programs." Response to OCA-1-21.**
23 **Given this focus, why should the Company research the impacts of participation on**
24 **vulnerable customers?**

25 A. Eventually, the Company will be offering dynamic rates to all customers. It will need to
26 understand how vulnerable customers will fare under the rates. We know that some
27 customers will sign up for such rates in an effort to lower their bills, even if the incentives
28 of the rates could expose them to risks. For example, we know from the evaluations of
29 the experience of Pacific Gas & Electric with its SmartRatetm voluntary critical peak
30 pricing tariff that low-income rate customers signed up for CPP in disproportionately

1 high numbers.¹ The underlying purposes of dynamic and time-varying prices will be put
2 at risk if customers ultimately take up the rates, and experience inconvenience or worse.
3 The long-run goals of smart metering and time-varying rates will be advanced if the
4 Company can anticipate such post-acceptance issues and prepare to address them.

5 **Q. PECO proposes to exclude CAP customers from CPP participation, and proposes**
6 **that prospective participants be screened and receive information about the possible**
7 **financial results of the rates, given their usage profiles. PECO Statement 1,**
8 **Testimony of Mr. Jiruska, at p. 11. Will that not avert adverse experiences for**
9 **vulnerable customers during the Initial Plan?**

10 A. Not entirely. There are many low-income customers who do not take service under CAP
11 rates, and many more who do not qualify for the CAP rate but still face difficulties
12 paying for essential electricity service. There are also customers who are at risk for
13 reasons that go beyond the ability to pay. The proposed screening may identify
14 customers who would be structural "losers" given their load profiles. Some customers
15 may be dissuaded from participating based on this information. But not all at-risk
16 customers will be identified or dissuaded in this manner, especially where their load
17 pattern would otherwise not identify them as a structural "loser" under the Initial Plan
18 rates. It would be a missed opportunity if the Initial Plan did not take advantage of their
19 participation and learn about their specific experiences with the Initial Plan rates. Such
20 research would have to be done at some point to understand the applicability of such rates
21 broadly throughout the service territory. It makes sense to use the opportunities
22 presented by the Initial Plan experience to at least begin that process.

23 **Q. How do you propose that the Company address the impacts of its the TOU and CPP**
24 **rates on vulnerable customers?**

25 A. I propose that the Company include questions in its post-event surveys and its broader
26 Plan surveys that will elicit information about uncomfortable, inconvenient or otherwise
27 adverse experiences with the rates, and the possible relationship between those
28 experiences and possible vulnerabilities, such as advanced age, disability, elders, those

¹ Stephen S. George, et al. *2009 Load Impact Evaluation for Pacific Gas and Electric Company's SmartRate – Peak Day Pricing and TOU Tariffs and SmartAC Program, Volume 1, Ex Post Load Impacts*, at 5. Note that the 2008 evaluation of the PG&E CPP tariff, which found the same enrollment pattern for CARE customers, was provided in this docket as an attachment to OCA-1-12(1).

1 needing medical equipment, low-and moderate income customers not enrolled in CAP,
2 and socially/mentally/physically-disabled customers. I also propose that the Company
3 survey (a) customers who were dissuaded from taking TOU or CPP service, (b)
4 customers who were advised that such rates might pose risks but took service anyway,
5 and (c) customers who signed up for the rates but then dropped off the rates before the
6 end of the Initial Plan. Such customers can help provide insights into how customers see
7 the opportunities and risks, and how they respond to those perceptions.

8 **Q. If PECO invites customers to complain about inconveniences under the rates, for**
9 **example, will it not in effect invite customers to consider their experiences as**
10 **inconvenient?**

11 A. Not necessarily. Experts in survey work will be able to fashion questions that elicit
12 anecdotal information about adverse effects without skewing the survey towards a
13 negative impression of the experiences.

14 **Q. Without spending considerable resources, the Company will not be able to gather**
15 **statistically-valid data on causal relationships between the rates and adverse**
16 **experiences for identified vulnerable customers. Why then should it expand its**
17 **surveys?**

18 A. Statistical validity is not required in order to identify potential problem areas. As part of
19 the "test and learn" strategy, the Company can assess the information it receives through
20 surveys, to see if it should amend offerings during the Initial Plan in order to learn more
21 about the problem, or try various alternatives to prevent the repetition of the problem in
22 future iterations. The Company should be able to develop adjustments to the Initial Plan
23 to augment the information it will receive about the impacts of TOU and CPP rates on
24 vulnerable customers.

25 **Q. Do you propose further changes to the Initial Plan to strengthen its provisions**
26 **affecting consumer protections?**

27 A. At this time, I do not propose further consumer protection conditions for approval of the
28 Initial Plan. As the Plan is implemented, it may be that risks to consumers are identified
29 that were not considered in the drafting of the Initial Plan itself. The stakeholder process
30 and the "test and learn" strategy can help identify such issues, and develop appropriate
31 responses, as the Plan is implemented.

1 **Q. Please turn to your final recommendation regarding the Initial Plan, that PECO**
2 **continue to seek the active input of the stakeholder group as the "test and learn"**
3 **process evolves.**

4 A. PECO in its Initial Plan describes the stakeholder process as a part of its reporting
5 function. Initial Plan, at 43. The text of the Plan would limit the function of the
6 stakeholder process to keeping the stakeholders informed of its progress. *Id.* The Plan
7 as filed does not propose that the reports to stakeholders include the consideration of
8 upcoming plans. If PECO were to implement the Plan as written, the consultation
9 process would not provide stakeholders with experience in consumer issues a genuine
10 opportunity to raise issues, suggest alternatives, or otherwise affect the utility's choices
11 regarding this issue.

12 **Q. What do you recommend regarding the description of the stakeholder process in the**
13 **Initial Plan?**

14 A. I recommend that PECO clarify that it will continue to consult with the stakeholders in
15 the implementation of the Initial Plan, as it has in the preparation of its Initial Plan.

16 **Q. Does this conclude your testimony?**

17 A. Yes.

18

19 137420

BEFORE THE
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Petition of PECO Energy Company for :
Approval of its Smart Meter Technology : Docket No. M-2009-2123944
Procurement and Installation Plan - Petition :
for Approval of PECO Energy Company's :
Initial Dynamic Pricing and Customer :
Acceptance Plan :

EXHIBIT TO THE
DIRECT TESTIMONY OF

NANCY BROCKWAY

ON BEHALF OF THE
OFFICE OF THE CONSUMER ADVOCATE

REGARDING CONSUMER PROTECTION ISSUES

December 23, 2010

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Experience

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Director of Multi-Utility Research and Policy, NRRI, 2/08 – 10/08
Commissioner, New Hampshire Public Utilities Commission (1998-2003)
Utilities consultant and attorney, National Consumer Law Center (1991-1998)
General Counsel, Massachusetts Public Utilities Commission (1989-1991)
Staff Attorney, Assistant General Counsel, Massachusetts Commission (1986-1989)
Hearings Officer, Senior Staff Attorney, Maine Public Utilities Commission (1983-1986)
Executive Director, Maine Legal Services for the Elderly, Inc. (1981-1983)
Staff Attorney, Directing Attorney, Pine Tree Legal Assistance, Inc. (1979-1981)
Staff Attorney, UMass Student Legal Services (1977-1979)
Staff Attorney, Western Massachusetts Legal Assistance, Inc. (1976-1977)
Staff Attorney, Legal Aid Society of New York (1974-1976)

NARUC Committee Memberships and Public Service

NARUC Energy Resources and Environment Committee
NARUC Consumer Affairs Committee (Vice-Chair)
Consumer Affairs Committee, New England Conference of Public Utility
Commissioners (Chair)
Steering Committee, National Council on Competition in the Electric Industry
ISO-NE Advisory Committee
NEPOOL Review Board Advisory Committee
NARUC Ad Hoc Committee on Competition in the Electric Industry
NARUC Committee on Communications
FCC Joint Conference on Accounting
North American Numbering Council
NBANC Board of Directors

Other Public Service

Board Chair, PAYSAmerica, Inc., 2004-2008
Member, New Hampshire Site Evaluation Committee, 1998-2003
Independent Conservation & Load Management Expert, MA Energy Office, 1991-1993.
Member, Massachusetts Energy Facility Siting Board
Member, Massachusetts Board of Registration of Allied Mental Health and Human
Services Professional
Member, Energy and Transportation Task Force, President's Council on Sustainable
Development

Bar Memberships

Massachusetts

New York State and Maine (inactive)

Education

B.A. with honors, 1970, Smith College, Northampton, MA

J.D., 1973, Yale Law School, New Haven, CT

Coursework in statistics, Northeastern University, Boston, MA

NANCY BROCKWAY: TESTIMONIES				
Case name	Client Name	Topic	Jurisdiction & Docket No.	Date(s) Filed
In the Matter of: An investigation of natural gas retail competition programs	AARP Kentucky	Introduction of retail gas competition.	Kentucky PSC Case No. 2010-00146	6/21/10; 9/21/10
Alberta Smart Grid Inquiry	Office of the Utilities Consumer Advocate	Status of Smart Grid Developments in North America	Alberta Utilities Commission Application No. 1606102 Proceeding ID. 598	6/12/10 [report]
In the Matter of WMECO Smart Grid Pilot Program, filed per Section 85 of the Green Communities Act	Low Income Weatherization and Fuel Assistance Program Network, Massachusetts Energy Directors' Association	Smart Grid pilot design	Massachusetts DPU Docket No. 09-34	5/5/10
Nevada Power and Sierra Pacific Power Integrated Resource Plans	Attorney General, Bureau of Consumer Protection	AMI security, privacy and customer acceptance	Nevada PSC Docket Nos. 10-02009 10-03023	4/26/10
Application of Louisville Gas & Electric Co. for an Adjustment of its Electric and Gas Base Rates	AARP	Cost allocation and rate design	Kentucky Public Service Commission Case No. 2009-00549	4/22/10
In the Matter of NSPI Application to Approve Nova Scotia's Electricity Demand Side Management Plan for 2011	Consumer Advocate appointed by the Utilities and Review Board	DSM program design and evaluation	Nova Scotia UARB Docket No. P-884(3)	4/9/10

NANCY BROCKWAY: TESTIMONIES

In the Matter of the NSTAR Smart Grid Pilot Program, filed per Section 85 of the Green Communities Act	Low Income Weatherization and Fuel Assistance Program Network, Massachusetts Energy Directors' Association	Smart Grid pilot design	Massachusetts DPU Docket No. 09-33	11/6/09
Joint Petition of Metropolitan Edison Company, Pennsylvania Electric Company and Pennsylvania Power Company for Approval of Smart Meter Technology Procurement and Installation Plan	Pennsylvania Office of Consumer Advocate	Smart grid deployment; demand response and energy efficiency.	Pennsylvania PUC Docket No. M-2009-2123950	10/21/09
IMO Potomac Electric Company and Delmarva Power & Light Company Request for the Deployment of an Advanced Metering Infrastructure and Establishment of Regulatory Assets	Maryland Office of Public Advocate	Smart grid deployment; demand response and energy efficiency.	Maryland PSC Case No. 9207	10/20/09
Petition of West Penn Power Company d/b/a Allegheny Power for Expedited Approval of its Smart Meter Technology Procurement and Installation Plan	Pennsylvania Office of Consumer Advocate	Smart grid deployment; demand response and energy efficiency.	Pennsylvania PUC Docket No. M-2009-2123951	10/16/09
IMO BG&E Authorization to Deploy a Smart Grid Initiative and to Establish a Surcharge Mechanism for the Recovery of Cost.	Maryland Office of Public Advocate	Smart grid deployment; demand response and energy efficiency.	Maryland PSC Case No. 9208	10/13/09
IMO DTA of FortisAlberta, Phase I/II, 2010-2011	Utilities Consumer Advocate of Alberta	Smart grid deployment	Alberta Utilities Comm'n App. No. 1605170	10/9/09
IMO Unital and National Grid Smart Grid Plans per Section 85 of the Green Communities Act	Low Income Weatherization and Fuel Assistance Program Network, Massachusetts Energy Directors' Association	Smart Grid pilot design	Massachusetts Department of Public Utilities Docket Nos. 09-32 and 09-31	8/31/09

NANCY BROCKWAY: TESTIMONIES

Columbia Gas Rate Case	AARP	SFV rate design, miscellaneous fees, recovery of uncollectibles via rider	Kentucky PSC Case No. 2009-00141	7/29/09
Appalachian Power Company, etc. ENEC proceeding	Covenant House and West Virginia CAG	Impact of proposed rate increase on low-income customers and means to improve collection procedures.	West Virginia PSC Case No. 09-0177-E-GI	5/26/09
In Re Combined Application of South Carolina Electric and Gas	Friends of the Earth	Need for and cost of proposed Summer nuclear power plant; alternatives including energy efficiency and renewables.	South Carolina Public Service Commission, Docket No. 2008-196-E.	Direct: 10/17/08 Surrebuttal: 11/17/08
Nova Scotia Power, Inc.	NS UARB Consumer Advocate	Proposed general rate increase, rate design.	Nova Scotia Utility and Review Board, P-886	12/07
Pike County Commissioners v. PCL&P	Pennsylvania Office of the Consumer Advocate	Options to address rate shock in transition to uncapped competitive POLR rates	Pennsylvania Public Utilities Commission, Docket No. C-20065942	11/06 (hearing in January 07)
Nova Scotia Power, Inc.	NS UARB Consumer Advocate	Extra Large Industrial Interruptible Rates	Nova Scotia Utility and Review Board, P-883	8/06
UGI/Southern Union, Proposed Merger	Pennsylvania Office of the Consumer Advocate	Impacts of the Proposed Merger on Ratepayers and Rates, Risks and Benefits of Proposed Merger, Synergies, Reliability	Pennsylvania Public Utilities Commission, Docket Nos. A-120011F2000, etc.	5/06
SEMCO Energy Services Gas Cost Recovery Plan	PAYS America, Inc.	Relationship Between DSM and Gas Costs	Michigan Public Service Commission, Docket No. U-14718	5/06 (not admitted)
Re: Electric Service Reliability and Quality Standards	Delaware Public Service Commission	Application of Proposed Rules to Competitive Suppliers and Cooperatives	Delaware Public Service Board, Docket No. 50	1/06
Exelon/Public Service Electric & Gas, Joint Petitioners	New Jersey Division of the Ratepayer Advocate	Impacts of Proposed Merger on Service Quality, Reliability, and Gas Safety, and Options to Maintain Historic Standards.	New Jersey Board of Public Utilities, BPU Docket No. EM05020106 OAL Docket No. PUC-1874-05	11/05-12/05
Exelon/Public Service Electric & Gas, Joint Petitioners	New Jersey Division of the Ratepayer Advocate	Risks and Benefits of Proposed Merger of Exelon and PSE&G, Options for Assuring Benefits and Mitigating Risk	New Jersey Board of Public Utilities, BPU Docket No. EM05020106 OAL Docket No. PUC-1874-05	11/05-12/05
Nova Scotia Power, Inc.	NS UARB Consumer Advocate	Economic Development Rates	Nova Scotia Utility and Review Board, P-882	10/05
Nova Scotia Power, Inc.	NS UARB Consumer Advocate	Revenue Requirements, Cost Allocation, Rate Design, Demand Side Management, Economic Development Rates	Nova Scotia Utility and Review Board, P-882	10/05 – 11/05

NANCY BROCKWAY: TESTIMONIES

Bay State Gas Company	Local 273	Customer Service, Reliability, Low-Income Protections, Revenue Requirements	Massachusetts DTE, Docket No. 05-27	7/05
Nova Scotia Power, Inc.	Nova Scotia Utility and Review Board	Domestic Consumer Perspective on Proposed Rate Case Settlement Agreement	Nova Scotia Utility and Review Board, P-881	1/05
Cincinnati Bell Alternative Regulation	Communities United for Action	Universal Service and alternative regulation of telephone service	PUCO, Case No. 96-899-TP-ALT	12/97
UGI-Electric Utilities, Inc.	Pennsylvania OCC	Universal Service issues in electric restructuring plans; including efficiency funding	PA PUC, No. R-00973975	1997
West Penn Power Co.	"	"	PA PUC, No. R-00973981	1997
Duquesne Light Co.	"	"	PA PUC, No. R-00974101	1997
PECO, Inc.,	"	"	PA PUC, No. R-00973953	1997
PP&L	"	"	PA PUC, No. R-00973954	1997
Met Ed.	"	"	PA PUC, No. R-00974008	9/97
Penelec	"	"	PA PUC, No. R-00974009	9/97
In the Matter of the Electric Industry Restructuring Plan	New Hampshire Legal Services	Low-income rates and DSM, impacts of restructuring on low-income consumers	New Hampshire Public Utilities Commission, D.R. 96-150	Nov., Dec. 1996
Notice of Inquiry/ Rulemaking. Establishing the procedures to be followed in electric industry restructuring.	Mass. CAP Directors Association, Mass. Energy Directors Association, named Low-Income Intervenors	Electric industry restructuring	Massachusetts Department of Public Utilities, D.P.U. 96-100.	to 10/98
Telecon Universal Service Docket	Pennsylvania Office of Consumer Advocate	Rate rebalancing, universal service, telephone penetration.	Pennsylvania Public Utilities Commission Docket No. I-00940035	1996
In Re: Complaint of Kenneth D. Williams v. Houston Lighting and Power Co.	Named Low-Income Consumers	Customer service, rate design, demand-side management, revenue requirements	Texas Public Utilities Docket No. 12065	1994-5
Open Access Non-Discriminatory Transmission Services ... and Recovery of Stranded Costs	Direct Action for Rates and Equality, Providence, Rhode Island	Open transmission access in interstate commerce, and stranded costs recovery.	FERC, Nos. RM95-8-000, RM94-7-000.	1994-5

NANCY BROCKWAY: TESTIMONIES

Bath Water District, Proposed Increase in Rates	Maine Office of Public Advocate	Water district cost allocation, rate design, low-income water affordability	Maine Public Utilities Commission, Docket No. 94-034	12/94, 3/95
Application of Ohio Bell Telephone Co. for Approval of Alternative Form of Regulation	Legal Aid Society of Cleveland and Dayton	Definition of universal telecommunications service, proposal for Universal Service Access program (USA).	Public Utilities Commission of Ohio, Case No. 93-487-TP-ALT	5/4/94
Pennsylvania PUC vs. Bell Telephone of Pennsylvania	Pennsylvania Public Utility Law Project	Definition of "universal telecommunications service"	Pennsylvania PUC No. P-930715	filed 12/93
Joint Application for Approval of Demand-Side Management Programs, etc.	LG&E; Legal Aid Society of Louisville, other Joint Applicants	Cost-effective DSM programs for low-income customers; collaborative process to design DSM programs; cost allocation and cost recovery.	Kentucky PSC No. 93-150	11/8/93
Texas Utilities Electric Company	Texas Legal Services Center	Costs and benefits of DSM targeted to low-income customers	Texas PUC No. 11735	1993
Texas Utilities Electric Company	Texas Legal Services Center	Proposed Maintenance of Effort Rate for low-income customers	Texas PUC No. 11735	1993
Philadelphia Water Department	Philadelphia Public Advocate	Costs of Unrepaired System Leaks	Philadelphia Water Comm'r.	1992
New England Telephone	Rhode Island Legal Services	DNP for non-basic service	Rhode Island PUC, No. 1997	1991
Kentucky Power Co.	Kentucky Legal Services	Low Income Rate	Kentucky PSC No. 91-066	1991
Investigation into Modernization	Invited by Commission	Impact of modernization costs on low income telephone users	New York PSC	1991

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Petition of PECO Energy Company for :
Approval of its Smart Meter Technology : Docket No. M-2009-2123944
Procurement and Installation Plan - Petition :
for Approval of PECO Energy Company's :
Initial Dynamic Pricing and Customer :
Acceptance Plan :

DIRECT TESTIMONY

of

J. RICHARD HORNBY

On behalf of:

PENNSYLVANIA OFFICE OF CONSUMER ADVOCATE

DECEMBER 23, 2010

Synapse Energy Economics
22 Pearl Street
Cambridge, Massachusetts 02139

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1 I. INTRODUCTION AND SUMMARY

2
3 Q. PLEASE STATE YOUR NAME, EMPLOYER, AND PRESENT POSITION.

4 A. My name is J. Richard Hornby. I am a Senior Consultant at Synapse Energy Economics,
5 Inc., 22 Pearl Street, Cambridge, MA 02139.

6 Q. ON WHOSE BEHALF ARE YOU TESTIFYING IN THIS CASE?

7 A. I am testifying on behalf of the Pennsylvania Office of Consumer Advocate (OCA).

8 Q. PLEASE DESCRIBE SYNAPSE ENERGY ECONOMICS.

9 A. Synapse Energy Economics ("Synapse") is a research and consulting firm specializing in
10 energy and environmental issues. Its primary focus is on electricity resource planning and
11 regulation including computer modeling, service reliability, portfolio management,
12 financial and economic risks, transmission planning, renewable energy portfolio
13 standards, energy efficiency, and ratemaking. Synapse works for a wide range of clients
14 including attorneys general, offices of consumer advocates, public utility commissions,
15 and environmental groups, the U.S. Environmental Protection Agency, Department of
16 Energy (DOE), Department of Justice, Federal Trade Commission and the National
17 Association of Regulatory Utility Commissioners. Synapse has a professional staff of
18 twenty-two with extensive experience in the electricity and natural gas industries.

19 Q. PLEASE SUMMARIZE YOUR WORK EXPERIENCE AND EDUCATIONAL
20 BACKGROUND.

21 A. I am an energy regulatory consultant specializing in planning, market structure,
22 ratemaking, and gas supply/fuel procurement in the electric and gas industries. Over the
23 past twenty years, I have presented expert testimony and provided litigation support on
24 these issues in more than 100 proceedings in over thirty jurisdictions in the United States

1 and Canada. Over this period, my clients have included staff of public utility
2 commissions, state energy offices, consumer advocate offices and marketers.

3 Prior to joining Synapse in 2006, I was a Principal with CRA International and,
4 prior to that, Tabors Caramanis & Associates. From 1986 to 1998, I worked with the
5 Tellus Institute (formerly Energy Systems Research Group), initially as Manager of the
6 Natural Gas Program and subsequently as Director of their Energy Group. Prior to 1986,
7 I was Assistant Deputy Minister of Energy for the Province of Nova Scotia.

8 I have a Master of Science in Energy Technology and Policy from the
9 Massachusetts Institute of Technology (MIT) and a Bachelor of Industrial Engineering
10 from the Technical University of Nova Scotia, now merged with Dalhousie University. I
11 have attached my resume to this testimony as Exhibit__(JRH-1).

12 **Q. PLEASE SUMMARIZE YOUR EXPERIENCE WITH THE ECONOMICS OF,**
13 **AND RATEMAKING FOR, ENERGY EFFICIENCY AND DEMAND**
14 **RESPONSE, INCLUDING DEMAND RESPONSE ENABLED BY ADVANCED**
15 **METERING INFRASTRUCTURE (AMI).**

16 **A.** My experience with energy efficiency measures and policies began over thirty years ago
17 as a project engineer responsible for identifying and pursuing opportunities to reduce
18 energy use in a factory in Nova Scotia. Subsequently, in my graduate program at MIT, I
19 took several courses on energy technologies and policies and prepared a thesis analyzing
20 federal policies to promote investments in energy efficiency. After MIT, I spent several
21 years with the government in Nova Scotia, during which time I administered a provincial
22 program to promote energy conservation in the industrial sector and later included energy
23 conservation in all sectors as part of energy plans developed for the province.

1 Since 1986, as a regulatory consultant I have helped review and prepare numerous
2 integrated resource plans (IRPs) in the gas and electric industries, and testified regarding
3 cost allocation and rate design. During the past several years I have led projects to
4 estimate the avoided costs of electricity and natural gas in New England for a coalition of
5 efficiency program administrators. In addition I have reviewed the economics of demand
6 response, and of AMI proposals in New Jersey, Maine, Maryland, the District of
7 Columbia, Pennsylvania, Nevada and Texas. I have testified regarding the alignment of
8 utility financial incentives and rates with the pursuit of energy efficiency in proceedings
9 in North Carolina, South Carolina, Indiana and Minnesota.

10 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

11 A. PECO Energy Company (“PECO” or the “Company”) has requested approval of its
12 proposed Initial Dynamic Pricing and Customer Acceptance Plan (“Dynamic Pricing
13 Plan” or “Plan”). The OCA retained Synapse to review the reasonableness of the
14 Company’s request. The purpose of my testimony is to describe my analyses of the
15 Company proposal and present my conclusions and recommendations based upon that
16 review.

17 The OCA has retained two witnesses to address the Company’s requests from the
18 perspective of residential customers, Ms. Nancy Brockway and myself. Ms. Brockway
19 addresses consumer protection issues associated with the Dynamic Pricing Plan. My
20 testimony addresses the design of PECO’s proposed Plan as well as the Company’s
21 proposed recovery of the Plan’s costs via its Generation Supply Adjustment (GSA) cost
22 recovery mechanism. The fact that I do not address other aspects of the Company’s filing
23 should not be interpreted to mean I agree with those aspects.

1 Q. **WHAT DATA SOURCES DID YOU RELY UPON TO PREPARE YOUR**
2 **TESTIMONY AND EXHIBITS?**

3 A. I relied primarily on the Direct Testimony, exhibits, and workpapers of the Company
4 witnesses. I also relied upon Company responses to various data requests, some of which
5 I provide in Exhibit__(JRH-4).

6 Q. **PLEASE SUMMARIZE YOUR CONCLUSIONS AND RECOMMENDATIONS**
7 **REGARDING THE DESIGN OF THE PROPOSED PLAN.**

8 A. My analysis indicates that the Company’s proposed Plan will not provide the insight
9 needed to identify dynamic rates that can be successfully and effectively deployed on a
10 system-wide basis. The Company is over-emphasizing Critical Peak Pricing (“CPP”) in
11 comparison to Time-of-Use (“TOU”) and has not included other promising designs such
12 as Peak Time Rebate (PTR) in its Plan. In addition the Company did not consider PJM’s
13 proposed changes in demand response products when designing the proposed rates for
14 CPP and TOU.

15 Based upon the results of those analyses I recommend that the Commission require the
16 Company to:

- 17 o Revise its proposed offers and promotional materials to place equal emphasis on
18 CPP offers and TOU offers. Specifically the Company should, in consultation
19 with its stakeholders, develop the same number of combinations of TOU offers
20 and promotional materials as CPP offers and promotional materials, or justify
21 why it will not do so;

- 1 ○ Revise its proposed offers and promotional materials, to the extent allowed within
- 2 its budget, to test PTR offers and promotional materials and to test customized
- 3 information feedback provided via In-Home Displays (“IHDs”); and
- 4 ○ Analyze the implication of PJM’s proposed changes in Demand Response
- 5 products for the peak periods used in its rates for CPP and TOU, and propose
- 6 changes as appropriate.

7 **Q. PLEASE SUMMARIZE YOUR MAJOR CONCLUSIONS AND**
8 **RECOMMENDATIONS REGARDING THE COMPANY’S PROPOSAL FOR**
9 **COST RECOVERY.**

10 A. Based upon my analyses my conclusions are that the Company:

- 11 • Has not provided detailed descriptions of the method for calculating CPP and TOU
- 12 rates in its proposed riders for those rates;
- 13 • Has proposed to collect under-recoveries of generation supply costs incurred to serve
- 14 customers on CPP and TOU rates from remaining customers taking default service;
- 15 and
- 16 • Has proposed to allocate an unreasonable amount of Plan costs to customers taking
- 17 default service.

18 Based upon those conclusions I recommend that the Commission require the Company

19 to:

- 20 • Revise its proposed riders for CPP and TOU to include a detailed description of the
- 21 methodology for calculating the rates for those riders;

- 1 • Clarify, and if necessary justify compliance of its proposal for collecting under-
- 2 recoveries of the generation supply costs it incurs to serve CPP and TOU customers
- 3 with Commission Orders; and
- 4 • Allocate the costs of its Plan that are not direct incentives given to CPP and TOU
- 5 customers among all customers in the respective rate class.

6

7 **II. PROPOSED DYNAMIC PRICING AND**

8 **CUSTOMER ACCEPTANCE PLAN**

9

10 **Program Objectives and Design**

11 **Q. PLEASE SUMMARIZE THE OBJECTIVES OF THE PROPOSED PLAN.**

12 A. According to its lead witness, Mr. Frank Jiruska, PECO is proposing its Plan in order to

13 comply with Act 129, as well as to gain insight into the design and promotion of dynamic

14 rates in order to ensure the successful and effective deployment of those rates on a

15 system-wide basis.

16 **Q. ARE THE OBJECTIVES OF THE PROPOSED PLAN REASONABLE?**

17 A. Yes.

18 **Q. PLEASE SUMMARIZE THE DESIGN OF THE PROPOSED PLAN.**

19 A. The Company proposes to offer two new rate options under its Plan: CPP and TOU

20 Pricing. It proposes to offer these two new rate options to small and medium commercial

21 and industrial customers as well as residential customers who are not in the Customer

22 Assistance Program (“CAP”). It proposes to begin offering the new rates in the Fall of

23 2012.

24 The Company proposes to proactively test several different methods of offering

25 and promoting these rates using a “test and learn” approach. The Company has not

1 finalized all details of the different methods. The different “offers” consist of different
2 combinations of each new rate, an enabling technology and an education component. The
3 enabling technologies are either an IHD or a Programmable Controllable Thermostat
4 (“PCT”). The different methods of promotion consist of different combinations of
5 explicit financial incentives, bill protections and communication approaches.
6 Exhibit__(JRH-2) presents a summary of the combinations of offers and promotional
7 methods that the Company proposes to test in its residential rate classes.

8 The Company proposes to test customer acceptance of the different combinations
9 of offers and promotional methods on a total of 200,000 customers. It expects
10 approximately 5 per cent of these customers to enroll and participate, *i.e.*, approximately
11 10,000 participants. The Company proposes a budget of \$11.56 million for the Plan,
12 which equates to about \$1,100 per expected participant. PECO estimates that it will be
13 able to offset approximately \$5.5 million of that amount from its Federal stimulus grant.

14 **Q. IS THE COMPANY PROPOSING TO SOLICIT INPUT FROM**
15 **STAKEHOLDERS DURING ITS IMPLEMENTATION OF THE PLAN?**

16 A. Yes. The Company solicited input from stakeholders during the development of its Plan
17 and proposes to solicit input from stakeholders during its implementation of the Plan.
18 Consultation with stakeholders will be particularly important because many details of the
19 Plan are not finalized at this point, and because the Company expects to refine its
20 approach during the implementation phase based on its experience and the experience of
21 other utilities deploying similar pricing offers.

22

1 **Q. PLEASE COMMENT ON THE DESIGN OF THE PROPOSED PLAN.**

2 A. According to the Company a key objective of the Plan is to gain insight into the design
3 and promotion of dynamic rates in order to ensure a successful and effective deployment
4 on a system-wide basis. In order to achieve this objective the Company should be testing
5 offers and promotional methods that are realistic, i.e., ones that have a reasonable
6 expectation of being cost-effective if deployed on a system-wide basis and can appeal to
7 a broad group of customers.

8 Company witness Dr. George notes on page 7 of his Direct Testimony that the 17
9 pricing pilots implemented in the last decade "...have focused almost exclusively on
10 estimating average dynamic rate impacts and hardly at all on understanding customer
11 preferences for such rates and how to effectively enroll customers in these programs."
12 California provides an example of the problem that can result from a pilot that does not
13 test a realistic approach. California provided generous incentives to customers who
14 agreed to participate in its Statewide Pricing Pilot (SPP) of dynamic pricing and achieved
15 enrollments of approximately 20 percent in that pilot.¹ In contrast, Pacific Gas and
16 Electric (also in California) is now deploying dynamic pricing on a system-wide basis,
17 with less generous incentives, and achieving enrollment of less than 1 percent of its
18 customers in that tariff (Response to OCA-I-6 in Exhibit__(JRH-4)).

19 My analysis indicates that the proposed Plan will not achieve its objective of
20 identifying dynamic rates that can be successfully and effectively deployed on a system-
21 wide basis for two reasons. First, the Plan is over-emphasizing CPP in comparison to
22 TOU and other promising designs such as Peak Time Rebate (PTR). Second, the

¹ Company witnesses George and Faruqi played key roles in the SPP.

1 Company did not consider PJM's proposed changes in demand response products when
2 designing the proposed rates for CPP and TOU.

3 **Over-Emphasis on TOU**

4 **Q. PLEASE SUMMARIZE THE PLAN'S PRIMARY EMPHASIS ON CPP AS**
5 **COMPARED TO TOU.**

6 A. The Plan is not placing equal emphasis on testing CPP and testing TOU. Instead, the
7 Plan is placing most of its emphasis on testing CPP. As a result the two rates are not
8 being tested on a level playing field.

9 The extent to which the Plan is emphasizing CPP in comparison to TOU in the
10 residential class is illustrated in Exhibit__(JRH-2), which presents each combination of
11 offers and promotional methods that the Company is proposing for residential rate
12 classes. (Table 3-6 of PECO Exhibit 1 presents a summary of all combinations proposed
13 for all rate classes.) As shown in Exhibit__(JRH-2), the Company is proposing to test
14 eleven different combinations of CPP offers and promotional methods on residential rate
15 class R customers but it is proposing to test only two combinations of TOU offers and
16 promotional methods in that class. If the Company were placing equal emphasis on
17 testing CPP and testing TOU it would have the same number of combinations for each.

18 **Q. WHY IS THE PLAN'S OVER-EMPHASIS ON CPP UNREASONABLE?**

19 A. The Plan's over-emphasis on CPP is not reasonable because it will not be a fair test of the
20 two rates. This over-emphasis is of particular concern because, of the two rates, TOU has
21 the potential to be much more cost-effective from a Total Resource Cost (TRC)
22 perspective. PECO used the TRC test to measure the cost-effectiveness of the ratepayer
23 funded programs in its Energy Efficiency and Conservation (EEC) Plan filed July 1, 2009

1 in Docket No. M-2009-2093215. This test compares the total benefits from an initiative
2 to the total costs of the initiative. TOU has the potential to be much more cost-effective
3 than CPP from a TRC perspective because it has the potential to produce a much larger
4 aggregate reduction in peak demand.

5 TOU has the potential to produce a much larger aggregate reduction in peak
6 demand because many more customers are likely to enroll in TOU than in CPP.
7 Experience with system-wide deployment of TOU and CPP elsewhere indicates that
8 enrollment of residential customers in TOU has been as high as 40 percent² whereas
9 enrollment of residential customers in CPP has been less than 1 percent (Response to
10 OCA-I-6 in Exhibit __ (JRH-4)). The potential for much higher enrollment in TOU than
11 in CPP offsets the Company's estimates of lower reductions per participant group
12 resulting from TOU (4%) than from CPP (16%), as presented on page 16 of the direct
13 testimony of Company witness Faruqui. For example, if 40 percent of residential
14 customers participate in TOU, and reduce their peak demand by an average of 4 percent,
15 their aggregate reduction in demand will be 1.60 percent. In contrast, if 1 percent of
16 residential customers participate in CPP, and reduce their peak demand by an average of
17 16 percent, their aggregate reduction in demand will be 0.16 percent – ten times less.

18 **Q. COULD THE PLAN'S OVER-EMPHASIS ON CPP BE CONTRIBUTING TO ITS**
19 **HIGH COST?**

20 A. Yes. As noted earlier, the Company expects to target 200,000 customers and to enroll
21 10,000 of them as participants at a budget of \$11.56 million, which is about \$1,100 per
22 participant. PECO estimates that it will be able to offset approximately \$5.5 million of

² PECO Energy Efficiency and Conservation Plan, filed July 1, 2009, Docket No. M-2009-2093215, page 158.

1 the Plan's budget from its Federal stimulus grant. However, the gross cost of the offers
2 and promotional methods the Plan will test are a concern looking forward. The Company
3 has not given any indication that it expects to receive a further Federal grant to offset the
4 cost of deploying any of these pricing offers on a system-wide basis after the Plan
5 terminates.

6 In contrast, in its EEC Plan the Company proposed a Residential Super Peak TOU
7 under which it projected an enrollment of 27,000 participants at a cost of \$8.771 million.
8 That estimate translates into a program cost of about \$325 per participant. At that cost,
9 the Residential Super Peak TOU program was cost-effective with a TRC of 1.59 and a
10 levelized cost of saved capacity of \$32 per kW-year³. If the cost per participant of that
11 program were to be double or triple, as implied by the costs for the offers and
12 promotional methods proposed in the Plan, the program's TRC would be less than one
13 and it would not be cost-effective. Exhibit__(JRH-3) provides a comparison of the Plan's
14 budget and the Residential Super Peak TOU budget.

15 **Q. HAS THE COMPANY DEMONSTRATED THAT IT PLACED EQUAL**
16 **EMPHASIS ON IDENTIFYING APPROACHES TO PROMOTE CPP AND**
17 **APPROACHES TO PROMOTE TOU WHEN DEVELOPING THE PLAN'S**
18 **PROPOSED BUDGET?**

19 A. No. Company witness Dr. George is not familiar with the approaches that the Salt River
20 Project, a utility with one of the Country's highest levels of participation in TOU, has
21 used to promote that rate (Response to OCA-I-13 in Exhibit__(JRH-4)). Company

³ Ibid., pages 157 and 158.

1 witness Patterer has not examined the costs of other pricing pilots (Response to OCA-I-
2 37 in Exhibit__(JRH-4)).

3 **Q. IS IT IMPORTANT THAT THE COMPANY IDENTIFY PRICING OFFERS**
4 **THAT IT CAN DEPLOY SYSTEM WIDE AT RELATIVELY LOW COST?**

5 A. Yes. It is important that the Company identify pricing offers that it can deploy system
6 wide at relatively low cost in order for them to remain cost-effective over time. The value
7 of those pricing offers is driven primarily by the value of the capacity costs avoided by
8 the demand reductions they produce. The value of those avoided capacity costs may be
9 lower in the future than they are at present.

10 The Company has derived its CPP and TOU rates for peak periods from the PJM
11 market price for capacity in the EMAAC zone. Its rates for the year June 2012 – May
12 2013 are based on the EMAAC zone price for that year of \$140 per MW-day, which is
13 equivalent to \$51 per kw-year (Direct testimony of Dr. Faruqi, page 10, Response to
14 OCA-I-32 in Exhibit__(JRH-4)). The Company proposes to reset the CPP and TOU rates
15 annually to reflect the changes in the PJM market price for capacity in the EMAAC zone.
16 Various market fundamentals may combine to cause that market price to decline in the
17 future. Those market fundamentals include low load growth, increased utilization of
18 existing generation capacity due to reduction in transmission constraints and generation
19 capacity additions from renewable resources driven by Renewable Portfolio Standards
20 (RPS).

21

1 **Q. WHAT ACTION DO YOU RECOMMEND THE COMPANY BE REQUIRED TO**
2 **TAKE TO EQUALIZE ITS TREATMENT OF CPP AND TOU?**

3 A. I recommend that the Commission require the Company to revise its proposed offers and
4 promotional materials to place equal emphasis on CPP offers and TOU offers.
5 Specifically the Company should, in consultation with its stakeholders, develop the same
6 number of combinations of TPP offers and promotional materials as CPP offers and
7 promotional materials, or justify why it will not or is unable to do so.

8 **Expanding Range of Offers in Plan**

9 **Q. ARE THERE ADDITIONAL CHANGES TO THE PLAN THAT THE COMPANY**
10 **SHOULD CONSIDER?**

11 A. Yes. By reducing its emphasis on CPP, it is possible that the Company will free up funds
12 in the Plan budget that could be used to cover the cost of testing PTR offers and of testing
13 customized feedback via IHDs.

14 **Q. WHY SHOULD THE COMPANY RE-CONSIDER TESTING PTR OFFERS?**

15 A. The Company considered PTR during the development of its Plan but ultimately did not
16 include it. The Company should reconsider PTR because it has the potential to be more
17 successful and cost-effective than CPP. The primary advantage of PTR is that it can be
18 offered to all customers, including those on CAP rates. If the customer elects to reduce
19 demand during a critical peak, he or she receives the rebate. If the customer does not
20 elect to reduce demand, he or she is no worse off.

21

1 **Q. WHY SHOULD THE COMPANY CONSIDER TESTING CUSTOMIZED**
2 **FEEDBACK PROVIDED VIA IHDS?**

3 A. There is increasing interest in the potential for customized feedback to help customers
4 reduce their annual electricity use. If this potential can be achieved, it will provide
5 significant benefits to ratepayers in the form of bill savings and to society in the form of
6 reduced emissions. Customized feedback that helps customers identify specific actions
7 they can take to change their usage patterns and levels, including identifying various
8 programs under the EEC Plan for which they are eligible, will be more useful to
9 customers than simple statistics on their usage. Moreover, all customers have the
10 potential to participate in and benefit from such an offer.

11 The Plan already includes tests of customer acceptance of feedback regarding
12 electricity usage via IHDS. PECO plans to test this approach with participants on existing
13 rates as well as with participants on TOU and CPP pricing offers (PECO Exhibit 1, page
14 31). However, the Company does not describe the exact nature of the information it is
15 proposing to provide.

16 **Q. IS PECO'S SISTER COMPANY, COMMONWEALTH EDISON, TESTING THIS**
17 **RANGE OF OFFERS?**

18 A. Yes. Commonwealth Edison is testing 24 different offers, reflecting different
19 combinations of rates and enabling technologies. The rates being tested include CPP,
20 TOU, and PTR. The technologies being tested include IHDS and PCTs. Exhibit__(JRH-
21 5) presents the matrix of offers that Commonwealth Edison is testing.

22

1 **Q. WHAT ACTION DO YOU RECOMMEND THE COMPANY BE REQUIRED TO**
2 **TAKE TO EXPAND THE RANGE OF OFFERS IN THE PLAN?**

3 A. I recommend that the Commission require the Company to revise its proposed offers and
4 promotional materials, to the extent allowed within its budget and after consultation with
5 its stakeholders, in order to test PTR offers and promotional materials as well as
6 customized information feedback provided via IHD.

7

8 **PJM's Proposed Changes in Demand Response Products**

9 **Q. PLEASE SUMMARIZE THE BASIS UPON WHICH THE COMPANY HAS**
10 **DESIGNED ITS CPP AND TOU RATES FOR PEAK PERIODS.**

11 A. The Company has derived its CPP and TOU rates for peak periods from the PJM market
12 price for capacity in the EMAAC zone. The Company is proposing peak periods for CPP
13 and for TOU that are sub-sets of the peak period in the PJM market. For example, PJM
14 defines the peak period as the sixteen hours between 7 a.m. and 11 p.m. week days except
15 certain holidays, whereas the Company defines the critical peak for CPP as the 4 hours
16 between 2 p.m. and 6 p.m. on 15 summer week days and the peak for TOU as the 4 hours
17 between 2 p.m. and 6 p.m. on non-holiday weekdays.

18 **Q. PLEASE DESCRIBE PJM'S EXISTING DEMAND RESPONSE PRODUCT, ITS**
19 **PROPOSED CHANGES AND THE POTENTIAL IMPLICATION OF THOSE**
20 **PROPOSED CHANGES FOR THE COMPANY'S PROPOSED PLAN.**

21 A. PJM has traditionally paid utilities, and other providers, a fixed annual payment for
22 access to a pre-arranged maximum quantity of demand response during a total of sixty
23 hours per year. Under this approach PJM could call upon this demand response resource

1 no more than ten days each summer and no more than six hours on each of those days.
2 PECO has developed its CPP and TOU rates for peak periods consistent with this
3 traditional approach to demand response (Appendix A, Direct Testimony of Company
4 witness Dr. Faruqi).

5 Due to a dramatic increase in its reliance on demand response and shifts in the
6 hours when system peaks occur, PJM has concluded that its existing demand response
7 product is too limited. On December 2, 2010, PJM submitted a petition to the Federal
8 Energy Regulatory Commission (FERC) requesting approval to create two new
9 additional demand response products. The additional products are an Annual Demand
10 Resource and an Extended Summer Demand Resource. PJM proposes continuing the
11 existing demand response product and renaming it a Limited Demand Resource.

12 The Company did not take PJM's proposed changes into consideration when
13 developing its rates for CPP and TOU (Response OCA-I-32(d) in Exhibit__(JRH-4)).
14 The basic implication of PJM's proposed changes in Demand Response products for the
15 Company's proposed plan is that the peak period proposed for CPP may not cover all or
16 most hours in which the system peak will occur in the future. As a result, the Company
17 should evaluate the implications of those proposed changes in the choice of peak periods
18 for CPP and TOU.

19 **Q. WHAT ACTION DO YOU RECOMMEND THE COMPANY BE REQUIRED TO**
20 **TAKE TO ADDRESS PJM'S PROPOSED CHANGES IN DEMAND RESPONSE**
21 **PRODUCTS?**

22 A. I recommend that the Commission require the Company to analyze the implication of
23 PJM's proposed changes in Demand Response products for the peak periods used in its

1 rates for CPP and TOU, and after consultation with its stakeholders, propose changes as
2 appropriate.

4 III. PROPOSED COST RECOVERY

5
6 **Q. PLEASE SUMMARIZE THE COSTS ASSOCIATED WITH THE COMPANY'S**
7 **PLAN AND ITS PROPOSAL FOR RECOVERING THOSE COSTS.**

8 A. The Company will incur two basic categories of costs under its Plan. The first category
9 is generation supply costs for customers on the CPP and TOU rates. The Company
10 proposes to recover those costs by charging customers on CPP and TOU the generation
11 supply adjustment (GSA) applicable to their rate class, excluding the over/under recovery
12 component of that adjustment.

13 The second category of costs associated with the Plan is the set of costs to design
14 and implement the various pricing offers and promotional materials. The Company
15 proposes to collect all of those costs solely from customers on default service through the
16 generation supply adjustment (GSA).

17 **Q. PLEASE COMMENT ON THE COMPANY'S PROPOSAL FOR RECOVERING**
18 **GENERATION SUPPLY COSTS FROM CUSTOMERS ON ITS CPP AND TOU**
19 **RATES.**

20 A. There are two problems with the Company's proposal for recovering generation supply
21 costs from customers on CPP and TOU rates. First, the proposed riders for CPP and
22 TOU presented in Exhibit WJP-2 to the Direct Testimony of Company witness Patterer
23 do not describe the exact method through which the Company will set its CPP and TOU
24 rates to collect these generation supply costs. Mr. Patterer describes the general method

1 through which it will set these rates on pages 5 and 6 of his Direct Testimony, where he
2 makes a cross-reference to the detailed description provided in the Direct Testimony of
3 Company witness Faruqui. However, the proposed riders for CPP and TOU presented in
4 Exhibit WJP-2 simply state:

5 *The Energy and Capacity Charges will be calculated quarterly based on*
6 *data from the most recent Generation Supply Adjustment (GSA) for*
7 *procurement classes 1, 2 and 3 as well as the annual change in PJM*
8 *capacity market prices.*

9
10 Original Page No. 73A.

11 The second problem is the Company's proposal to collect any under-recovery of
12 generation supply costs incurred from serving customers on CPP and TOU from all
13 remaining customers on default service. The GSA is set quarterly to collect expected
14 costs from expected sales. If CPP and TOU rates are successful in encouraging
15 customers to change their usage patterns and / or reduce their use, actual sales and
16 revenues to customers on those rates will be different from expected sales. Under those
17 circumstances the amount the Company collected from CPP and TOU customers would
18 be less than the generation supply costs. In particular the Company will likely under-
19 recover generation supply costs.

20 The Company proposes to exclude the reconciliation component of the GSA
21 when it develops its rates for CPP and TOU. As a result, when the Company under-
22 recovers the generation supply costs from CPP and TOU customers, it will effectively
23 shift that under-recovery to the remaining customers on default service who are paying
24 the full GSA, including the reconciliation component. The Company has confirmed that it
25 intends to recover any under-recovery of generation supply costs for CPP and TOU
26 customers from the remaining customers on default service (response OSBA-I-7, OCA-I-

1 31 and OCA-I-36 in Exhibit __ (JRH-4)). The Company's proposal is not reasonable and
2 appears to be inconsistent with the Commission's position regarding this issue in its
3 Order in the PPL TOU proceeding (Docket No. R-2010-2122718, entered March 9, 2010,
4 pages 17 to 18). If the Company is indeed proposing to shift recovery of such shortfalls
5 from CPP and TOU customers to all remaining customers on default service it should not
6 be permitted to do so.

7 **Q. WHAT ACTION DO YOU RECOMMEND THE COMPANY BE REQUIRED TO**
8 **TAKE TO CORRECT THESE TWO PROBLEMS?**

9 A. I recommend that the Commission require the Company to revise its proposed riders for
10 CPP and TOU to include a detailed description of the methodology for calculating the
11 rates for those riders and to clarify, and if necessary, justify compliance of its proposal
12 for collecting under-recoveries of the generation supply costs it incurs to serve CPP and
13 TOU customers with Commission Orders.

14 **Q. PLEASE COMMENT ON THE COMPANY'S PROPOSAL FOR RECOVERING**
15 **ALL PLAN COSTS FROM CUSTOMERS ON DEFAULT SERVICE.**

16 A. The Company's proposal to recover all costs of its Plan from default service customers
17 through the GSA is not consistent with the principles of cost causation and is not
18 equitable. The Plan is primarily a test of CPP and TOU rates as opposed to a simple
19 offering of new rates to customers taking default service. As indicated in Exhibit __ (JRH-
20 3), \$2 million or 18% of the costs the Company will incur to implement the Plan are
21 incentives to customers who enroll in CPP and TOU. The remaining \$9.5 million are
22 costs associated with a pilot that will collect information that will benefit all customers in

1 each rate class, *i.e.*, customers on Default Service and customers on Competitive Energy
2 Service.

3 The allocation of 100% of the Plan's costs to default service customers is not
4 consistent with the principles of cost causation. Default Service customers did not and
5 will not cause the Company to incur these costs. The cause of these costs is the need to
6 comply with the Act 129 mandate of offering dynamic pricing.

7 The allocation of 100% of the Plan's costs to default service customers is also not
8 equitable. Company witnesses George and Faruqi each agree that all customers will
9 benefit from the information regarding dynamic pricing that the Plan will develop
10 (Responses to OCA-I-24 and OCA-I-25 in Exhibit__(JRH-4)). For example, customers
11 will have better information on which to base their assessment of the pricing offers of
12 Electric Generation Suppliers (EGSs) and EGSs will have better information regarding
13 which to design and promote their pricing offers.

14 **Q. WHAT ACTION DO YOU RECOMMEND THE COMPANY BE REQUIRED TO**
15 **TAKE WITH RESPECT TO COST RECOVERY FOR THE PLAN?**

16 A. I recommend that the Commission require the Company to allocate the costs of its Plan
17 that are not direct incentives given to CPP and TOU customers among all customers in
18 the respective rate class.

19 **Q. DOES THIS COMPLETE YOUR DIRECT TESTIMONY?**

20 A. Yes.

21
22 137415

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Petition of PECO Energy Company for :
Approval of its Smart Meter Technology : Docket No. M-2009-2123944
Procurement and Installation Plan - Petition :
for Approval of PECO Energy Company's :
Initial Dynamic Pricing and Customer :
Acceptance Plan :

EXHIBITS TO THE
DIRECT TESTIMONY
of
J. RICHARD HORNBY

On behalf of:

PENNSYLVANIA OFFICE OF CONSUMER ADVOCATE

DECEMBER 23, 2010

Synapse Energy Economics
22 Pearl Street
Cambridge, Massachusetts 02139

DIRECT TESTIMONY OF J. RICHARD HORNBY

LIST OF EXHIBITS

- Exhibit___(JRH-1) Resume of James Richard Hornby
- Exhibit___(JRH-2) Summary of PECO Proposed Initial Treatments for Residential Customers
- Exhibit___(JRH-3) Comparison of Proposed Budgets - PECO Energy Company. Residential Super Peak TOU in July 2009 EEC versus Initial Dynamic Pricing and Customer Acceptance Plan
- Exhibit___(JRH-4) PECO Energy Company Responses to Selected Data Requests
- Exhibit___(JRH-5) Matrix of Dynamic Pricing Options and Enabling Technologies being tested by Commonwealth Edison

J. RICHARD HORNBY

PROFESSIONAL SUMMARY

Thirty-five years of energy sector experience as a regulatory consultant, senior civil servant, and project engineer. Expert witness on a wide range of electric and gas industry planning and ratemaking issues in over 120 cases before state commissions and arbitration panels in 30 states and provinces.

EXPERIENCE

Synapse Energy Economics, Inc., Cambridge, MA, 2006 - present
Senior Consultant -- Responsible for economic analyses, project management, and business development. Primary areas of analyses and expert testimony are aligning utility incentives with energy efficiency, electricity resource planning and smart grid. Clients include staff of regulatory commissions, consumer advocates, and environmental groups.

CRA International/ Tabors Caramanis, Cambridge, MA, 1998- 2006¹
Principal. Responsible for economic analyses, project management and business development. Prepare and present advice, written reports and expert testimony on management and economic issues in electricity and natural gas markets, both wholesale and retail. Clients include regulators, utilities and marketers in the U.S., Canada and United Arab Emirates. Projects include expert testimony in energy contract price arbitration proceedings, management consulting to improve service quality and cost performance of electric distribution system, expert testimony on rates for unbundled utility services, procurement of electricity via aggregation, and development of a regulatory framework for a green-field natural gas retail market.

Tellus Institute, Boston, MA, USA, 1986-1998
Vice-President and Director of Energy Group (1997-1998). Directed energy consulting practice. Led analyses of utility restructuring/deregulation, pricing/ratemaking, economic viability, and environmental impacts. Prepared reports and presented expert testimony on policy issues, strategic plans, utility regulation, and ratemaking. Clients included federal and state energy and environmental agencies, public utility commissions, consumer advocates, environmental organizations and utilities.

Manager of Natural Gas Program (1986-1997). Developed and managed gas program covering a range of gas industry issues including restructuring, unbundled services, ratemaking, efficiency programs and supply planning.

Nova Scotia Department of Mines and Energy, Halifax, Nova Scotia, 1981-1986
Member, Canada-Nova Scotia Offshore Oil and Gas Board (1983-1986)
Member of federal-provincial board responsible for regulating petroleum industry exploration and development activity offshore Nova Scotia.

¹ CRA International acquired Tabors Caramanis and Associates in November 2004.

Assistant Deputy Minister of Energy (1983–1986)

Responsible for analysis and implementation of provincial energy policies and programs, as well as for Energy Division budget and staff. Directed preparation of comprehensive energy plan emphasizing energy efficiency and provincial resources. Senior advisor on implementation of fiscal, regulatory, and legislative regime to govern offshore gas.

Director of Energy Resources (1982-1983) Directed the analysis and implementation of policies to promote development of provincial coal, peat, gas and tidal power resources

Assistant to Deputy Minister. (1981-1982) Provided planning and management support.

Nova Scotia Research Foundation, Dartmouth, Canada, 1978–1981.

Consultant. Editor of Nova Scotia's first comprehensive energy plan. Administered government funded industrial energy conservation program.

Canadian Keyes Fibre, Hantsport, Canada, 1975-1977.

Project Engineer. Responsible for energy cost reduction and pollution control projects.

Imperial Group Limited, Bristol, England, 1973-1975.

Management Consultant. Provided industrial engineering consulting services.

EDUCATION

M.S., Technology and Policy (Energy), Massachusetts Institute of Technology, 1979

Thesis: "An Assessment of Government Policies to Promote Investments in Energy Conserving Technologies"

B.Eng. Industrial Engineering (with Distinction), Dalhousie University, Canada, 1973

SUMMARY OF PECO PROPOSED INITIAL TREATMENTS FOR RESIDENTIAL CUSTOMERS					
Residential Rate Class	Offers			Promotional Methods	Combination #
	Tariff	Technology	Education		
R	Existing	In Home Display (IHD)	none	none	1
	TOU	none	none	Sign-up incentive	2
		IHD	none	incentive	3
	CPP	none	none	none	4
		none	none	Sign-up incentive	5
		None	None	Incentive w/o 1 st year bill protection	6
		None	None	Incentive and alternative message	7
		None	None	Incentive & 1 st touch	8
		None	None	Incentive & 2 nd touch	9
		None	None	Incentive & 3 rd touch	10
		None	None	Other possibilities TBD later	11
		?	Enhanced education	?	12
		IHD	None	incentive	13
	Programmable Communicating Thermostat (PCT)	none	incentive	14	
R-H	CPP	none	none	Sign-up incentive	1
		PCT	none	incentive	2
R & Enrolled in Load Control Program	CPP	none	none	Sign-up incentive	1
CAP	existing	IHD	none	none	1
SOURCE	PECO Energy Company's Initial Dynamic Pricing and Customer Acceptance Plan. October 28, 2010. Table 3-6.				

Notes

1. In Home Display (IHD) estimated installed cost \$155 (OCA-I-17)
2. Programmable Communicating Thermostat (PCT) estimated installed cost \$485 (OCA-I-17)
3. Sign – up incentive is \$25 (PECO Energy Company's Initial Dynamic Pricing and Customer Acceptance Plan. October 28, 2010. Page 32)
4. Incentive consists of sign-up incentive plus first year bill protection (PECO Energy Company's Initial Dynamic Pricing and Customer Acceptance Plan. October 28, 2010. Page 32)

Comparison of Proposed Budgets - PECO Energy Company

Residential Super Peak TOU in July 2009 EEC versus Initial Dynamic Pricing and Customer Acceptance Plan

Cost Category	Residential Super Peak TOU (1)	Initial Dynamic Pricing and Customer Acceptance Plan (2, 3)
	(\$ 000)	(\$ 000)
Participant specific costs		
Incentives (3)	\$ 3,568	\$ 450
Equipment (3)	\$ 917	\$ 1,590
Sub-total	\$ 4,485	\$ 2,040
	51%	18%
Other Program Costs		
Plan Preparation & Development		\$ 1,285
Direct labour / PECO Oversight	\$ 358	\$ 1,050
Implementation (3)	\$ 1,592	\$ 2,450
Umbrella Costs	\$ 545	
Evaluation	\$ 374	\$ 750
Education	\$ -	
IT (3)	\$ 186	\$ 1,375
Promotion / Communication	\$ 1,231	\$ 2,610
Sub-total	\$ 4,286	\$ 9,520
	49%	82%
Total	\$ 8,771	\$ 11,560
Cumulative Participants	27,000	10,000
Cost per Participant		
Participant specific	\$ 166	\$ 204
Other Program	\$ 159	\$ 952
Total	\$ 325	\$ 1,156

Sources

- | | |
|---|---|
| 1 | PECO Energy Efficiency and Conservation Plan, July 1, 2009, pages 157 and 158 |
| 2 | Exhibit WJP-1B |
| 3 | Response OCA-I-38 |

PECO Energy Company Responses to Selected Data Requests

OCA-I-6

OCA-I-13

OCA-I-24

OCA-I-25

OCA-I-31

OCA-I-32

OCA-I-36

OCA-I-37

OSBA-I-7

**Petition of PECO Energy Company for Approval of its
Smart Meter Technology Procurement and Installation Plan**

**Petition for Approval of PECO Energy Company's
Initial Dynamic Pricing and Customer Acceptance Plan
Docket No. M-2009-2123944**

**Responses of PECO Energy Company
to the Interrogatories of the Office of Consumer Advocate, Set I**

OCA-I-6:

Direct Testimony of Dr. George, page 4 lines 11 to 16.

- a. What percentage of ComEd and Ameren Corporation residential customers are on RTP? Please provide the supporting source material.
- b. What percentage of Gulf Power residential customers are on CPP and TOU rates respectively? Please provide the supporting source material.
- c. What percentage of PG&E residential customers are on dynamic pricing? Please provide the supporting source material.

Response:

- a. Dr. George's testimony indicated that there are fewer than 10,000 customers enrolled in each of the ComEd and Ameren RTP tariff programs. Information obtained at a recent conference indicated that currently there are roughly 10,750 participants in the program, out of an eligible population of approximately 1 million. (See presentation by David Becker, which is provided on the enclosed CD as Attachment OCA-I-6(a)). Thus, the participation rate for Ameren is roughly 1%. A conversation with David Becker indicated that the ComEd program has roughly 10,000 enrolled customers. According to the US Energy Information Administration (EIA) 2009 data, (<http://www.eia.doe.gov/cneaf/electricity/page/eia861.html>), ComEd has roughly 3.4 million residential customers, so less than 1% of all residential ComEd customers are enrolled in RTP.
- b. PECO does not have any information on Gulf Power's pure TOU or CPP rates and is not aware that Gulf Power has such rates. Gulf Power's combination CPP/TOU rate has approximately 10,000 residential customers enrolled, or roughly 2.7% of the total customer base of 375,000 (based on EIA data).

- c. PG&E's SmartRate tariff has approximately 25,000 residential customers enrolled, out of a total of 4.6 million residential customers (EIA data). As such, less than 1% of all residential PG&E customers are enrolled in SmartRate. However, not all customers are currently eligible for SmartRate, since not all PG&E customers have received smart meters. PECO does not know the number of eligible customers at the time SmartRate was last marketed.

Responsible Witness: Dr. Stephen S. George

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**Responses of PECO Energy Company
to the Interrogatories of the Office of Consumer Advocate, Set I**

OCA-I-13:

Direct Testimony of Dr. George, page 11 lines 1 to 3.

- a. Salt River Project (SRP) in Arizona is said to have about 30% of its residential customers on TOU rates. Has Dr. George reviewed the promotional strategies and service offerings of SRP? If so please provide that review and explain how, if at all, it informed PECO Energy's petition. If he has not reviewed the SRP approach please explain why not.
- b. Commonwealth Edison (ComEd) in Illinois initiated a pilot in May to test a range of pricing offerings and promotional strategies. Has Dr. George reviewed the promotional strategies and service offerings of ComEd? If so please provide that review and explain how, if at all, it informed PECO Energy's petition. If he has not reviewed the ComEd approach please explain why not.

Response:

- a. Dr. George has not reviewed the promotional strategies and service offerings of SRP. Dr. George is not aware of any published studies on the marketing plans or effectiveness of that tariff. On the other hand, Dr. George is very familiar with the choice analysis work done in conjunction with PG&E's Smart Rate tariff, which informed the development of PECO's Plan, including what promotional strategies should be tested. That work is documented in *2009 Load Impact Evaluation for Pacific Gas and Electric Company's Residential SmartRate™—Peak Day Pricing and TOU Tariffs and SmartAC Program Volume 2: Ex Ante Load Impacts*. April 1, 2010. (Stephen George, Josh Bode, Mike Perry, and Andrew Goett). Prepared for Pacific Gas and Electric.
<http://www.fscgroup.com/news/volume-two.pdf> (Provided on the enclosed CD as Attachment OCA-I-13(a)).

- b. Dr. George is generally familiar with the ComEd pilot. However, this pilot was deemed to not be relevant to development of the promotional strategies in PECO's Plan, since it relies on opt-out enrollment, whereas PECO's Plan relies exclusively on opt-in enrollment.

Responsible Witness: Dr. Stephen S. George

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**Responses of PECO Energy Company
to the Interrogatories of the Office of Consumer Advocate, Set I**

OCA-I-24:

Direct Testimony of Dr. George, pages 17 to 24. Is it your position that the lessons learned from testing the two proposed rate designs will benefit third party suppliers who are competing to provide supply service to PECO Energy customers in the residential and commercial classes? If not, why not?

Response:

Yes, it will raise awareness among customers of other choices and products that EGSSs can compete with. Additionally, the Company will produce a final, publicly available report that describes the results of the research, which could be a benefit to all interested stakeholders and third party suppliers.

Responsible Witness: Dr. Stephen S. George

**Petition of PECO Energy Company for Approval of its
Smart Meter Technology Procurement and Installation Plan**

**Petition for Approval of PECO Energy Company's
Initial Dynamic Pricing and Customer Acceptance Plan
Docket No. M-2009-2123944**

**Responses of PECO Energy Company
to the Interrogatories of the Office of Consumer Advocate, Set I**

OCA-I-25:

Direct Testimony of Dr. Faruqi, page 2. Is it your position that the lessons learned from testing the two proposed rate designs will benefit third party suppliers who are competing to provide supply service to PECO Energy customers in the residential and commercial classes? If not, why not?

Response:

Please see the response to OCA-I-24.

Responsible Witness: Dr. Ahmad Faruqi

**Petition of PECO Energy Company for Approval of its
Smart Meter Technology Procurement and Installation Plan**

**Petition for Approval of PECO Energy Company's
Initial Dynamic Pricing and Customer Acceptance Plan
Docket No. M-2009-2123944**

**Responses of PECO Energy Company
to the Interrogatories of the Office of Consumer Advocate, Set I**

OCA-I-31:

Direct Testimony of Dr. Faruqui.

- a. Please provide electronic, operational versions of all workpapers used to prepare Exhibits AF-1 through AF-21.
- b. Please confirm that if actual revenues of CPP and TOU participants do not match the actual procurement costs for those participants, and they are excluded from the E factor, the quantity related cost variance will shift to non-participating default service customers.

Response:

- a. Please see the zip file Attachment OCA-I-31 on the enclosed CD for the requested work papers.
- b. Yes, PECO can confirm that if actual revenues of CPP and TOU participants do not match the actual procurement costs for those participants, and they are excluded from the E factor, the quantity related cost variance will shift to non-participating default service customers.

Responsible Witness: Dr. Ahmad Faruqui

**Petition of PECO Energy Company for Approval of its
Smart Meter Technology Procurement and Installation Plan**

**Petition for Approval of PECO Energy Company's
Initial Dynamic Pricing and Customer Acceptance Plan
Docket No. M-2009-2123944**

**Responses of PECO Energy Company
to the Interrogatories of the Office of Consumer Advocate, Set I**

OCA-I-32:

Direct Testimony of Dr. Faruqui, page 10.

- a. Please identify the PJM zone for which the 2012 capacity price is \$140 per MW-day, and the specific time period to which that price applies, e.g. June 2012 to May 2013.
- b. Please explain how PECO Energy can avoid paying this capacity price. If PECO Energy cannot avoid paying this price is it not an embedded cost rather than a 'marginal cost'?
- c. Is it Dr. Faruqui's position that \$140 per MW-day is a short run marginal cost or a long run marginal cost? If short run, please provide Dr. Faruqui's estimate of the long-run marginal cost with all supporting analyses.
- d. Please discuss the proposal to only test rates based on spreading capacity costs over 15 days with critical peak periods of 4 hours each, i.e. 15 by 4, in light of PJM's proposal to cap the quantity of limited demand response in the RPM market and to solicit demand response products for the summer and the year. (PJM notes that success of the current demand response may shift the period of peak demand from the current hours of 2 to 6 pm to a later window, such as 6 to 10 pm).

Response:

- a. June 2012 – May 2013. EMAAC zone.
- b. All load serving entities must pay the RPM price (in dollars per MW/day) as set by PJM. Please refer to the Company's response to OCA-I-4 regarding how the quantity of capacity that PECO purchases from PJM can be reduced.

- c. \$140 per MW-day is the 2012-13 capacity price for the EMAAC zone of PJM and was used to tie the rate directly to market costs. Other capacity prices were not considered in my analysis.
- d. PECO is not aware of any PJM proposal to shift the period of peak demand.

Responsible Witnesses: Dr. Ahmad Faruqui (response to (a), (c)), Frank J. Jiruska (response to (b), (d)).

**Petition of PECO Energy Company for Approval of its
Smart Meter Technology Procurement and Installation Plan**

**Petition for Approval of PECO Energy Company's
Initial Dynamic Pricing and Customer Acceptance Plan
Docket No. M-2009-2123944**

**Responses of PECO Energy Company
to the Interrogatories of the Office of Consumer Advocate, Set I**

OCA-I-36:

Direct Testimony of Mr. Patterer. Page 6 lines 1 to 7 and Direct Testimony of Dr. Faruqui, page 9 line 19 page 12 line 20. Please explain how the dynamic pricing rates will produce actual revenues exactly equal to actual procurement costs such that there is no need for an adjustment for over/under collection, i.e. the "E factor.

- a. Under its procurement of power for default service, does PECO Energy have a commitment to purchase specific quantities of energy and of capacity for the period covered by the solicitation? Please explain with supporting documentation.
- b. If the response to a. is yes, please explain how the dynamic pricing rates will produce actual revenues exactly equal to actual procurement costs such that there is no need for an adjustment for over/under collection, i.e. the "E factor. Please include an illustrative example. The dynamic rates are designed to recover the unit cost of electric energy and of capacity for the relevant pricing period. However it appears that their design assumes that PECO Energy does not have any commitments to purchase specific quantities of energy and of capacity for the pricing period.
- c. Please confirm that if PECO Energy has a quantity commitment for energy, or capacity, or both and the actual quantity of sales to CPP customers is less than the quantity reflected in the PECO Energy commitment, there will be difference between revenues and costs due to the quantity variance.
- d. Please confirm that if actual revenues of CPP and TOU participants do not match the actual procurement costs for those participants, and they are excluded from the E factor, the quantity related cost variance will shift to non-participating default service customers

Response:

- a. Please see the response to OSBA-I-8.
- b. Please refer to the response provided to OSBA-I-7.

- c. Please refer to the response provided to OSBA-I-7.
- d. Please refer to the response provided to OSBA-I-7.

Responsible Witness: William J. Patterer

**Petition of PECO Energy Company for Approval of its
Smart Meter Technology Procurement and Installation Plan**

**Petition for Approval of PECO Energy Company's
Initial Dynamic Pricing and Customer Acceptance Plan
Docket No. M-2009-2123944**

**Responses of PECO Energy Company
to the Interrogatories of the Office of Consumer Advocate, Set I**

OCA-I-37:

Direct Testimony of Mr. Patterer. Page 8 line 2 to page 9 line 5. PECO Energy is proposing a budget of \$11.6 million for pilots that may have "...fewer than 10,000" participants. This equates to about \$1,100 per participant.

- a. Please provide any analyses prepared by or for PECO Energy that this amount is consistent with the costs of similar pilots conducted by other utilities;
- b. Please provide any analyses prepared by or for PECO Energy of the anticipated amount per participant of deploying CPP or TOU on a system wide basis.

Response:

- a. PECO did not prepare, or have prepared, analyses regarding consistency with the costs of similar pilots conducted by other utilities.
- b. PECO did not prepare, or have prepared, analyses of the anticipated amount per participant of deploying CPP or TOU on a system wide basis.

Responsible Witness: William J. Patterer

**Petition of PECO Energy Company for Approval of its
Smart Meter Technology Procurement and Installation Plan**

**Petition for Approval of PECO Energy Company's
Initial Dynamic Pricing and Customer Acceptance Plan
Docket No. M-2009-2123944**

**Responses of PECO Energy Company
to the Interrogatories of the Office of Small Business Advocate, Set I**

OSBA-I-7:

Reference PECO Statement No. 4, page 7 lines 1 to 11:

- a. To the extent that PECO has determined how it intends to do so, please explain how the cost associated with dynamic pricing customers will be "removed" from the reconciliation of default service cost over- or under-recovery. In particular, please explain how the costs for energy block and spot market purchases will be assigned to dynamic pricing customers.
- b. Please provide a specific quantitative example, in MS Excel electronic format, for each Default Service Procurement Class (1 to 3) showing how the revenues and costs associated with dynamic pricing customers will be determined. Please include supporting workpapers in MS Excel electronic format.
- c. Please provide PECO's evaluation of the difference between the revenues and costs for dynamic pricing customers based on Dr. Faruqui's elasticity analysis, assuming participation of 10,000 customers. Please include supporting workpapers in MS Excel electronic format.
- d. Will PECO be at risk for the difference between dynamic pricing customers' revenues and costs? Please explain your response.

Response:

- a. Costs associated with dynamic pricing customers in Procurement Classes 1, 2 and 3 will be removed from the reconciliation of over/under recoveries through the following methodology applied to each procurement class:
 1. Total billed monthly generation revenues for dynamic pricing customers by procurement class will be obtained from PECO's billing system.
 2. The working capital portion of the billed monthly generation revenues for dynamic pricing customers will be removed from the total billed monthly generation revenues.

PECO's Response to OSBA-I-7 (cont.)

3. The administrative cost portion including Gross Receipts Tax (GRT) of the billed monthly generation revenues for dynamic pricing customers of the procurement class will be removed from the total billed monthly generation revenues.
 4. The balance of the billed monthly generation revenues for dynamic pricing customers will be the revenues for supply costs with GRT.
 5. The administrative costs and supply costs portions of the generation revenues determined above will be adjusted to exclude gross receipts tax. The resulting figures will be removed from each component of the calculation of over/under recoveries for the remaining default service customers of the procurement class.
- b. Please refer to Excel Attachment OSBA-1-7(b) on the enclosed CD.
 - c. Please refer to Excel Attachment OSBA-I-7(c) on the enclosed CD.
 - d. No, PECO will not be at risk for the difference between dynamic pricing customers' revenues and costs. Any difference will be recovered/credited to the non-participating customers in the over/under recovery calculation of their GSA.

Responsible Witness: William J. Patterer

Attachment OSBA-1-7 (b)

Example: Applies to Each Procurement Class 1, 2 and 3

Assumptions for Dynamic Pricing Customers in Procurement Class

Monthly number of Customers	10,000
Monthly Billed kWh Sales (assumes 1,000 kwh per cust)	10,000,000
Monthly Billed Revenues equal	\$ 1,000,000
Gross Receipts Tax Rate (GRT)	0.0608
Generation Rate including GRT, cents/kWh	
Supply Cost	9.94
Working Capital	0.04
Administrative Cost	<u>0.02</u>
Total	10.00

Step I, Monthly Component Calculation for Dynamic Pricing Customers

Total Billed Generation Revenues, for Dynamic Pricing Customers, for the Procurement Class			\$	1,000,000
Less Working Capital Revenues	10,000,000 kwh x	0.04 cents/kwh	\$	<u>(4,000)</u>
Revenues w/GRT less Working Capital			\$	996,000
Administrative Cost Revenues w/GRT	10,000,000 kwh x	0.02 cents/kwh	\$	<u>(2,000)</u>
Revenues for Supply Cost w/GRT		cents/kwh	\$	994,000

Step II - Adjustment of Administrative Costs and Supply Costs for GRT

Net balance for each Component will be Removed from the Calculation of Over/Under Recoveries

Administrative Cost =	Revenues	\$	(2,000)	
	less GRT	\$	<u>122</u>	
		\$	<u>(1,878)</u>	Administrative Cost to be eliminated from Over/Under Recoveries
Supply Cost =	Revenues	\$	(994,000)	
	less GRT	\$	<u>60,435</u>	
		\$	<u>(933,565)</u>	Supply Cost to be eliminated from Over/Under Recoveries

Attachment OSBA-1-7(c)

Assumptions

Number of customers enrolled (assume 50% TOU/50% CPP)	10,000
Monthly billed kWh (assume 1,000 kWh per customer)	10,000,000
Monthly Billed revenues	\$1,000,000
Generation rate including GRT, cents/kWh	
Supply cost	9.94
Working capital	0.04
Administrative cost	0.02
	<hr/>
Total	10.00

Calculation of Revenue/Cost differences between revenues and costs

Program	Number of Customers	Annual supply costs (less working capital and administrative costs)	Projected change in annual Bill ¹	Projected annual revenues based on assumed bill impacts
TOU	5000	\$5,964,000	-0.17%	\$ 5,954,060
CPP	5000	\$5,964,000	-1.33%	\$ 5,884,480
Total		\$11,928,000		\$ 11,838,540

Total potential revenue deficiency	\$89,460
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1. Projected change in Average Annual Bill based on PECO Exhibit AF-13 for residential customers. Total bill changes of .10% for TOU and .80% for CPP adjusted for generation only portion of the bill assuming generation comprises 60% of the total bill.

Matrix of Dynamic Pricing Options and Enabling Technologies being tested by Commonwealth Edison

		Enabling Technology Type					
		None	Removed	Enhanced Web (eWeb)	eWeb+ Basic IHD (BIHD)	eWeb+ Advanced IHD (AIHD)	eWeb+PCT /IHD (AIHD/PCT)
Flat Rate Type N = 1,650	Flat Rate Existing Meter No Education	Control F1 N=450					
	Flat Rate Existing Meter Education			Application F2 N=225			
	Flat Rate AMI Meter Basic AMI Education			Control F3 N=225			
	Flat Rate AMI Meter Education		Application F4 N=0	Application F5 N=225	Application F6 N=300	Application F7 N=225	
Energy Efficiency Rate Type N = 750	IBR Rate AMI Meter Education			Application E1 N=225	Application E2 N=300	Application E3 N=225	
Demand Response Rate Type N = 3,525	CPP/DA-RTP Rate AMI Meter Education			Application D1 N(a)=525 N(b)=225	Application D2 N=525	Application D3 N=525	Application D4 N=525
	PTR/DA-RTP Rate AMI Meter Education			Application D5 N=225	Application D6 N=525	Application D7 N=225	Application D8 N=225
Load Shifting Rate Type N = 2,625	DA-RTP Rate AMI Meter Education			Application L1 N(a)=225 N(b)=225	Application L2 N=525	Application L3 N=225	
	TOU Rate AMI Meter Education			Application L4 N=225	Application L5 N(a)=525 N(b)=225	Application L6 N(a)=225 N(b)=225	
N = 8,550		N = 450	N = 0	N = 2,550	N = 2,925	N = 1,875	N = 750
Primary Application		Not Used					

Source: Jensen, Val. *Using the Smart Grid to Advance Efficiency and Behavioral Change*. ACCEE Market Transformation Symposium. March 17, 2010.

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Petition of PECO Energy Company for	:	
Approval of its Smart Meter Technology	:	Docket No. M-2009-2123944
Procurement and Installation Plan - Petition	:	
for Approval of PECO Energy Company's	:	
Initial Dynamic Pricing and Customer	:	
Acceptance Plan	:	

DIRECT TESTIMONY OF

NANCY BROCKWAY

ON BEHALF OF THE
OFFICE OF THE CONSUMER ADVOCATE

REGARDING CONSUMER PROTECTION ISSUES

December 23, 2010

- 1 **Q. Please state your name, your business affiliation, and your address.**
- 2 A. My name is Nancy Brockway. I am the principal of NBrockway & Associates, a firm
3 providing consulting services in the areas of energy and utilities. My address is 10 Allen
4 Street, Boston, MA 02131.
- 5 **Q. On whose behalf are you testifying in this proceeding?**
- 6 A. I am testifying on behalf of the Pennsylvania Office of the Consumer Advocate.
- 7 **Q. Please briefly describe your qualifications and experience.**
- 8 A. Since 1983, my professional focus has been the energy and utility industries, with
9 particular attention to the role of regulation in the protection of consumers and the
10 environment. I was a Commissioner appointed to the New Hampshire Public Utilities
11 Commission, serving from 1998 to 2003. Earlier, I was for several years a hearing
12 officer and advisor to the Maine Public Utilities Commission and then to the
13 Massachusetts Department of Public Utilities, where I served two years as General
14 Counsel of the commission. I was an expert witness on consumer and low-income utility
15 issues for seven years, with the National Consumer Law Center. Since leaving the New
16 Hampshire Commission, I have been a consultant on regulatory utility issues to
17 regulatory commissions, ratepayer advocates, low-income energy groups, and others. I
18 also spent several months serving as the Director of Multi-Utility Research and Analysis
19 with the National Regulatory Research Institute. While at NRRI, I researched and wrote
20 a key objective study of the impact of advanced metering structure and related pricing
21 options on residential consumers. I am invited frequently to speak at national forums on
22 smart grid issues, offering the consumer perspective. My resume is attached as Exhibit
23 NB-1.
- 24 **Q. Have you previously testified before this Commission?**
- 25 A. Yes. I have filed testimony in thirteen previous dockets before this Commission. Most
26 recently, I testified on the plans of the First Energy companies and of Allegheny Power
27 regarding smart metering technology procurement and installation.
- 28 **Q. Have you testified on utility matters before other commissions?**
- 29 A. Yes. I have filed testimony in over 50 proceedings. I have appeared before twenty state
30 or provincial regulatory commissions.

31

1 **Q. Have you testified on Smart Metering and Smart Grid issues?**

2 A. Yes. In addition to the two Pennsylvania dockets in which I testified on smart metering
3 and smart grid issues, I have filed testimony in eight other dockets.

4 **Q. What is the purpose of your testimony today?**

5 A. The purpose of my testimony is to address certain consumer protection issues that arise
6 with respect to the Initial Dynamic Pricing and Customer Acceptance Plan (Initial Plan)
7 of PECO Energy (PECO, the Company, or the utility), and to address the process by
8 which PECO will move forward and receive stakeholder input. Where necessary, I also
9 provide recommendations for inclusion in the PECO Initial Plan.

10 **Q. Please summarize your recommendations regarding PECO's initial dynamic pricing
11 plan.**

12 A. I recommend that the Commission condition approval of PECO Energy's Initial Plan on
13 the Company's inclusion in that Plan of the following four elements, the first three of
14 which address consumer protection issues:

15 1. Allow a customer who has selected a dynamic pricing option and is unable to
16 pay high peak or critical peak period bills in a timely fashion to enter into a payment
17 arrangement as an alternative to disconnection, regardless of whether that customer has
18 had or has defaulted on a previous payment agreement or payment arrangement.

19 2. Allow a customer who entered into a payment arrangement to handle such
20 high peak or critical peak period bills and later returns to a regular rate schedule to enter
21 into a payment agreement for arrearages incurred after returning to the regular rate
22 schedule.

23 3. Use the proposed "test and learn strategy" to develop detailed information
24 regarding the experience of certain types of vulnerable customers with the dynamic
25 pricing option, in order to determine if amendments to the plan and the pricing options
26 should be made going forward, by: (1) including detailed questions regarding such
27 experience and its impacts in post-event surveys, and (2) taking post-event surveys of all
28 customers who signed up for dynamic pricing despite advice that the rate offering may
29 not be suitable; and

30 4. Continue to seek the active input of the stakeholder group as the "test and
31 learn" process evolves.

1 **Q. What are PECO's objectives in its Initial Dynamic Pricing Plan?**

2 A. PECO describes the objectives of its Initial Dynamic Pricing Plan in its Exhibit 1, "PECO
3 Energy's Initial Dynamic Pricing and Customer Acceptance Plan," ("Initial Plan" or
4 "Plan"), at Section 1.1:

- 5 1. Comply with Act 129 Requirements;
- 6 2. Understand customer preferences for rate and technology options and
7 identify a combination of rates and technologies that will help them better manage their
8 energy costs;
- 9 3. Understand how to educate and communicate with customers about new
10 options; and
- 11 4. Identify combinations of rates, technologies, education and marketing
12 strategies that are effective.

13 **Q. How does PECO witness Dr. Stephen George further describe the purposes of the
14 Plan?**

15 A. Dr. George testifies that the Plan will "provide PECO with valuable insight into the best
16 strategies for broad scale deployment of these rates throughout its service territory."
17 PECO Statement 2 at 3. PECO is "focused on understanding customer acceptance of
18 dynamic rates." *Id.* at 7. Further, he states that "a primary focus of PECO's Dynamic
19 Pricing Plan is to better understand *how to effectively enroll customers* in voluntary
20 dynamic pricing programs and related program offerings, *especially those consumers*
21 *who will provide substantial demand reductions* during peak periods." *Id.* at 8 (emphasis
22 supplied). Providing different offers to different customer groups, Dr. George testifies,
23 "will allow PECO to understand *the effect on enrollment* of various features of a
24 marketing offer, various communications methods and channels, different educational
25 offerings, different rate options and different forms of enabling technology." *Id.*
26 (emphasis supplied).

27 **Q. Will PECO also obtain data on the load impacts of different rates and technology
28 options in its Initial Plan?**

29 A. Yes. As part of this research, according to Dr. George, PECO will also "examine and
30 understand the load impact of different rates and technology options." *Id.* at 7. But, Dr.
31 George stresses, the PECO approach is different from previous dynamic pricing pilots in

1 that they were "focused almost exclusively on estimating average dynamic rate impacts,"
2 whereas the PECO plan by contrast will concentrate on "understanding customer
3 preferences for such rates and how to effectively enroll customers in these programs." *Id.*

4 **Q. Does PECO express a desire to achieve customer enrollment and associated demand**
5 **reductions regardless of the impact of such reductions on the well-being of its**
6 **customers?**

7 A. No. PECO takes four key steps in the Plan to guard against achieving demand reductions
8 at the expense of its customers' well-being. First, the various offerings in the initial Plan
9 will not be marketed to (nor available to) customers taking service under the discounted
10 CAP rate for low-income customers. Initial Plan, at 18. According to PECO, CAP
11 customers who moved to the regular residential rate and then took service under the
12 dynamic pricing alternative would face significantly higher bills, even if they were able
13 to take advantage of demand response to lower the effect of the rates. *Id.* Second, PECO
14 plans to screen prospective customers of dynamic tariffs to help determine if they are
15 likely to see bill increases under the tariff, and to advise such customers that the rate may
16 not be suitable for them financially. PECO Statement 2, at 11. Third, PECO plans to
17 survey participants to understand the specific actions they took to lower demand in
18 response to peak prices, and whether they "experienced any discomfort or other
19 inconveniences when critical peak periods are called." PECO Statement 2, at 23.
20 Fourth, recognizing that consumers may perceive moving to dynamic pricing as a risky
21 decision, Statement 2 at 6, PECO expects to offer bill protection to customers who opt in
22 to the new tariffs, at least in the initial year of taking service under the rate. *Id.* at 17, 19.
23 The specific form of such bill protection had not been determined as of the filing. Initial
24 Plan at 32-33.

25 **Q. Aside from CAP customers, are there other customers who would likely experience**
26 **higher bills if they were to opt in to TOU or CPP pricing?**

27 A. Yes. Customers who have relatively low load factors and relatively little ability to shift
28 load off peak hours or critical peak periods, would likely see bill increases under the
29 TOU or CPP pricing offerings, respectively.

30

1 **Q. Why is it important to understand the impact of price-driven demand responses on**
2 **customer well-being?**

3 A. There are several practical reasons for understanding the impact of price-driven demand
4 responses on customers' well-being. Understanding the extent of participant
5 inconvenience or discomfort can help the Company make adjustments in targeting
6 customers and other aspects of implementation that increased the likely sustainability of
7 the responses - if customers cut back their usage to the point of discomfort or worse, they
8 will be less likely to repeat the demand responsive behavior over time. There are,
9 however, equally important societal reasons for understanding how customers fare when
10 they attempt to lower demand in response to high prices at peak times. If they should be
11 using the same level of electricity as before (or more) during the peak or critical peak
12 periods (for example because of health requirements), price-driven demand response
13 could cause them to suffer not only noticeable inconvenience, but in some cases damage
14 to health and well-being.

15 **Q. Is it the objective of smart metering and associated dynamic pricing options in**
16 **Pennsylvania to achieve demand reductions regardless of the impacts on consumers'**
17 **quality of life and access to electricity?**

18 A. No. The objective of dynamic pricing and other time-varying pricing is *not* to achieve
19 demand reductions regardless of the impacts on consumers' quality of life. According to
20 the preamble to Act 129, the "health, safety and prosperity" of Pennsylvania are
21 inherently dependent upon "the availability of adequate, reliable, affordable, efficient and
22 environmentally sustainable electric service...." Among the purposes of the policies
23 established under the Act is to ensure "affordable and available electric service to all
24 residents...." In other words, the purposes do not include requiring customers to pay
25 more for a lower quality of electric service. Nor do they include causing customers to
26 deny themselves other essentials of life in order to avoid unaffordable electric bills. The
27 policies undertaken to fulfill the goals of Act 129 must not achieve efficiency alone, but
28 also must ensure adequate, reliable, affordable, efficient and environmentally sustainable
29 electric service. Averting hardship and undue inconvenience caused by customers cutting
30 back too far in order to maintain affordable service is thus a core requirement for any
31 dynamic pricing instituted in fulfillment of Act 129.

1 **Q. Are the four steps PECO intends to take, to protect customers from cutting back**
2 **excessively under dynamic pricing in its Initial Plan, sufficient?**

3 A. The four steps PECO intends to take to protect customers from excessive demand
4 reductions should be augmented. Before implementing its Initial Plan, PECO should
5 include further provisions to ensure that customers do not cut back on their electric
6 demand at the expense of their health, safety and general welfare in order to lower their
7 bills under dynamic pricing tariffs.

8 **Q. What additional steps should PECO include in its Initial Plan to protect customers**
9 **from the risks of cutting back too much?**

10 A. I recommend that PECO's Plan include three additional components, designed to prevent
11 customers from receiving inadequate service in order to maintain affordable service. The
12 three additional consumer protection components I propose are as follows:

13 1. Allow a customer who has selected a dynamic pricing option and is unable to
14 pay high peak or critical peak period bills in a timely fashion to enter into a payment
15 arrangement as an alternative to disconnection, regardless of whether that customer has
16 had or has defaulted on a previous payment agreement or payment arrangement.

17 2. Allow a customer who entered into a payment arrangement in order to handle
18 such high peak or critical peak period bills and who later returns to a regular rate to enter
19 into a payment agreement for arrearages incurred after returning to the regular rate.

20 3. Use the proposed "test and learn strategy" to develop detailed information
21 regarding the experience of certain types of vulnerable customers with the dynamic
22 pricing option, in order to determine if amendments to the plan and the pricing options
23 should be made going forward, by including detailed questions regarding such experience
24 and its impacts in post-event surveys, taking post-event surveys of all customers who
25 signed up for dynamic pricing despite advice that the rate offering may not be suitable.

26

1 **Q. Please discuss the first of the three components you recommend be included in the**
2 **Initial Plan to protect the adequacy of affordable service [that is, allowing a**
3 **customer who has selected the TOU or CPP option to enter into a payment**
4 **arrangement as an alternative to disconnection, regardless of whether that customer**
5 **has defaulted on a previous payment agreement or payment arrangement].**

6 A. Under Section 1405 of Title 66 of the Pennsylvania Consolidated Statutes, absent a
7 change in the customers' income or a significant change in the customers' circumstances
8 (as defined by Section 1403), the commission shall not "establish or order a public utility
9 to establish" a second or subsequent payment agreement if a customer has defaulted on a
10 previous payment agreement. I am informed by counsel that this statute may be
11 interpreted to imply that a customer who has defaulted on a payment agreement under
12 existing rates may not be allowed to enter into a payment arrangement intended to
13 provide for payment of high peak or critical peak prices, once the customer has opted into
14 a TOU or dynamic pricing option. Mr. Jiruska, in response to OCA-1-2(d), stated that
15 the Company intends to apply the present limitations on additional payment arrangements
16 to customers who opt for TOU or CPP under the Initial Plan.

17 **Q. What are some possible consequences of prohibiting residential customers who opt**
18 **in to the TOU or CPP rates under the Initial Plan from making a payment**
19 **arrangement if they had a failed arrangement under the regular rate?**

20 A. A customer who opts for a TOU or dynamic pricing option in the hopes of finding a
21 pricing option that allows for affordable and adequate service, but who discovers that
22 high peak or critical peak prices are not affordable (at least not in the billing period in
23 question), could face disconnection.

24 **Q. Is it among the stated purposes of the Initial Plan to create conditions that will lead**
25 **to disconnection of customers who opt in to the rates?**

26 A. No. It is not the intention of the Initial Plan to create conditions where customers are
27 disconnected in order to enforce their adherence to the terms of the opt-in rates. The
28 primary objective of the Initial Plan is to learn how best to attract customers to the TOU
29 and dynamic rates. A primary purpose of the Initial Plan is "to better understand how to
30 cost-effectively enroll customers in voluntary time-varying rate programs." Response to
31 OCA-1-21. For this purpose, it is unnecessary to subject customers to the threat of

1 disconnection when the rate does not work for the customer on account of the way the
2 payment agreement law works in the situation of ongoing rates and accounts.

3 **Q. The Initial Plan may contain bill protection, at least for some customers. Initial**
4 **Plan at 12 and 17. Why would this provision of the Plan be insufficient to protect**
5 **customers from having to choose among three unsatisfactory options: unaffordably**
6 **high bills, using insufficient electricity for health or well-being, or dropping out of**
7 **the Initial Plan rate?**

8 A. PECO's plans regarding bill protection are not yet complete. As stated in response to
9 interrogatory OCA-1-9(a), "PECO has not yet worked out the details of a bill protection
10 offer." If PECO does go ahead and offer bill protection, it plans to provide the protection
11 only to a limited number of customers in order to test the effect of such an offer of
12 protection on acceptance rates. OCA-1-9(b). The budget assumes that of the 150,000 to
13 200,000 customers who will be invited to take service under the Initial Plan rates, Initial
14 Plan at 1, no more than 10,000 customers will be offered bill protection. OCA-1-9(c).
15 Further, PECO does not intend to offer bill protection to any customer beyond the first
16 year of participation in the Plan. OCA-1-9(b). In all other cases, customers who accept
17 the offer to enroll in TOU or CPP rates under the Initial Plan will be at risk of having to
18 choose among the three unsatisfactory options of paying unaffordably high bills, using
19 insufficient electricity for health or well-being, and dropping off the Initial Plan rate.

20 **Q. Please address the second condition you recommend, that if a customer returns to**
21 **regular residential rates from the Plan's TOU or CPP rates, and falls into arrears,**
22 **that the customer be allowed to enter into a payment agreement or payment**
23 **arrangement, even if that customer had a payment agreement for TOU and CPP**
24 **bills and was unable to keep that payment agreement.**

25 A. This situation is the flip side of the first situation discussed. Here, the point is to keep the
26 experience of the customer on the Initial Plan TOU or CPP rates separate from any
27 impact on their access to service under ordinary rates otherwise in effect.

28

1 **Q. Why do you say that the purpose of the Initial Plan is not to include conditions**
2 **where customers face disconnection for failure to pay high bills under the TOU or**
3 **CPP options, nor to affect their right to service after returning to ordinary service?**

4 A. As discussed above, the Company makes clear that the essential objective of this Initial
5 Plan is to test various offerings and promotional techniques, to see which ones are most
6 effective in enlisting customers to sign up for the TOU or CPP rate, and *thereby* to reduce
7 demand during peak or critical peak hours. Achieving load reductions in the next two or
8 three years to obtain the associated financial benefits for customers and the utility is not
9 *per se* an aim of the Initial Plan. Rather, the testing of offerings and promotional
10 techniques will enable the utility to develop its plans for broad-based deployment that is
11 most cost-effective and most attractive to customers who can and will provide price-
12 driven demand response. To achieve these ends, there is no need to threaten customers
13 with difficult barriers to maintaining service in the event they fall into arrears while
14 trying to manage the new costs and opportunities available under the Initial Plan tariffs.

15 **Q. Aside from benefits to participants, what benefits does the Company obtain when it**
16 **adopts a more liberal payment arrangement policy for participants in the Initial**
17 **Plan tariff options?**

18 A. A liberal policy of working with former participants on payment arrangements to handle
19 arrears accrued under the Initial Plan rates or upon return to non-demand-based rates will
20 enable customers to try the Initial Plan rates without fear of unnecessary disconnection.
21 In this way, adopting such a policy at least for the Initial Plan will help avoid customer
22 rejection of the rates going forward. Customers in the future, as dynamic tariffs become
23 more mainstream in the service territory, will not be reminded that some customers in the
24 Initial Plan phase got themselves in trouble with high peak or critical peak bills, and were
25 unable to work out arrangements to pay off the high bills. Nor will they face a situation
26 in which their experience under the Initial Plan rates diminishes their access to utility
27 service going forward.

28

1 **Q. Please discuss your third recommended consumer protection condition, that the**
2 **Initial Plan include using the proposed "test and learn strategy" to develop detailed**
3 **information regarding the experience of vulnerable customers with the dynamic**
4 **pricing option. First, does the Company propose to gather such information?**

5 A. Only in a limited way. In response to interrogatory OCA-1-18, the Company does not
6 have plans to measure the impacts of the tariffs on the health, safety and comfort of
7 participants. Rather, PECO will survey participants about their "satisfaction" with the
8 rates and other components of the offerings. Similarly, the Company indicated in
9 response to OCA-1-23 that it has not decided to what extent it will survey customers to
10 determine why customers did not accept an offer, nor whether it will survey customers
11 who enroll but subsequently drop out, to determine why they dropped out of the rate. In
12 response to interrogatory OCA-1-9, asking to what extent "Dr. George consider[s] it
13 important to conduct further research on the differential impacts [of TOU or CPP service]
14 on various subgroups of customers (e.g. elders, those needing medical equipment, low-
15 and moderate income customers not enrolled in CAP, socially/mentally/physically-
16 disabled customers and the like," the response said that such research would be
17 "informative." The response goes on to argue that doing so in a statistically rigorous way
18 would be costly, and indicates that PECO may perform some assessments of this issue if
19 data collected for other reasons happen to permit such analyses.

20 **Q. The Company's focus in the Initial Phase is testing alternative rates, technologies**
21 **and promotional approaches "to better understand how to cost-effectively enroll**
22 **customers in voluntary time-varying rate programs." Response to OCA-1-21.**
23 **Given this focus, why should the Company research the impacts of participation on**
24 **vulnerable customers?**

25 A. Eventually, the Company will be offering dynamic rates to all customers. It will need to
26 understand how vulnerable customers will fare under the rates. We know that some
27 customers will sign up for such rates in an effort to lower their bills, even if the incentives
28 of the rates could expose them to risks. For example, we know from the evaluations of
29 the experience of Pacific Gas & Electric with its SmartRatetm voluntary critical peak
30 pricing tariff that low-income rate customers signed up for CPP in disproportionately

1 high numbers.¹ The underlying purposes of dynamic and time-varying prices will be put
2 at risk if customers ultimately take up the rates, and experience inconvenience or worse.
3 The long-run goals of smart metering and time-varying rates will be advanced if the
4 Company can anticipate such post-acceptance issues and prepare to address them.

5 **Q. PECO proposes to exclude CAP customers from CPP participation, and proposes**
6 **that prospective participants be screened and receive information about the possible**
7 **financial results of the rates, given their usage profiles. PECO Statement 1,**
8 **Testimony of Mr. Jiruska, at p. 11. Will that not avert adverse experiences for**
9 **vulnerable customers during the Initial Plan?**

10 A. Not entirely. There are many low-income customers who do not take service under CAP
11 rates, and many more who do not qualify for the CAP rate but still face difficulties
12 paying for essential electricity service. There are also customers who are at risk for
13 reasons that go beyond the ability to pay. The proposed screening may identify
14 customers who would be structural "losers" given their load profiles. Some customers
15 may be dissuaded from participating based on this information. But not all at-risk
16 customers will be identified or dissuaded in this manner, especially where their load
17 pattern would otherwise not identify them as a structural "loser" under the Initial Plan
18 rates. It would be a missed opportunity if the Initial Plan did not take advantage of their
19 participation and learn about their specific experiences with the Initial Plan rates. Such
20 research would have to be done at some point to understand the applicability of such rates
21 broadly throughout the service territory. It makes sense to use the opportunities
22 presented by the Initial Plan experience to at least begin that process.

23 **Q. How do you propose that the Company address the impacts of its the TOU and CPP**
24 **rates on vulnerable customers?**

25 A. I propose that the Company include questions in its post-event surveys and its broader
26 Plan surveys that will elicit information about uncomfortable, inconvenient or otherwise
27 adverse experiences with the rates, and the possible relationship between those
28 experiences and possible vulnerabilities, such as advanced age, disability, elders, those

¹ Stephen S. George, et al. *2009 Load Impact Evaluation for Pacific Gas and Electric Company's SmartRate -- Peak Day Pricing and TOU Tariffs and SmartAC Program, Volume 1, Ex Post Load Impacts*, at 5. Note that the 2008 evaluation of the PG&E CPP tariff, which found the same enrollment pattern for CARE customers, was provided in this docket as an attachment to OCA-1-12(1).

1 needing medical equipment, low-and moderate income customers not enrolled in CAP,
2 and socially/mentally/physically-disabled customers. I also propose that the Company
3 survey (a) customers who were dissuaded from taking TOU or CPP service, (b)
4 customers who were advised that such rates might pose risks but took service anyway,
5 and (c) customers who signed up for the rates but then dropped off the rates before the
6 end of the Initial Plan. Such customers can help provide insights into how customers see
7 the opportunities and risks, and how they respond to those perceptions.

8 **Q. If PECO invites customers to complain about inconveniences under the rates, for**
9 **example, will it not in effect invite customers to consider their experiences as**
10 **inconvenient?**

11 A. Not necessarily. Experts in survey work will be able to fashion questions that elicit
12 anecdotal information about adverse effects without skewing the survey towards a
13 negative impression of the experiences.

14 **Q. Without spending considerable resources, the Company will not be able to gather**
15 **statistically-valid data on causal relationships between the rates and adverse**
16 **experiences for identified vulnerable customers. Why then should it expand its**
17 **surveys?**

18 A. Statistical validity is not required in order to identify potential problem areas. As part of
19 the "test and learn" strategy, the Company can assess the information it receives through
20 surveys, to see if it should amend offerings during the Initial Plan in order to learn more
21 about the problem, or try various alternatives to prevent the repetition of the problem in
22 future iterations. The Company should be able to develop adjustments to the Initial Plan
23 to augment the information it will receive about the impacts of TOU and CPP rates on
24 vulnerable customers.

25 **Q. Do you propose further changes to the Initial Plan to strengthen its provisions**
26 **affecting consumer protections?**

27 A. At this time, I do not propose further consumer protection conditions for approval of the
28 Initial Plan. As the Plan is implemented, it may be that risks to consumers are identified
29 that were not considered in the drafting of the Initial Plan itself. The stakeholder process
30 and the "test and learn" strategy can help identify such issues, and develop appropriate
31 responses, as the Plan is implemented.

1 **Q. Please turn to your final recommendation regarding the Initial Plan, that PECO**
2 **continue to seek the active input of the stakeholder group as the "test and learn"**
3 **process evolves.**

4 A. PECO in its Initial Plan describes the stakeholder process as a part of its reporting
5 function. Initial Plan, at 43. The text of the Plan would limit the function of the
6 stakeholder process to keeping the stakeholders informed of its progress. *Id.* The Plan
7 as filed does not propose that the reports to stakeholders include the consideration of
8 upcoming plans. If PECO were to implement the Plan as written, the consultation
9 process would not provide stakeholders with experience in consumer issues a genuine
10 opportunity to raise issues, suggest alternatives, or otherwise affect the utility's choices
11 regarding this issue.

12 **Q. What do you recommend regarding the description of the stakeholder process in the**
13 **Initial Plan?**

14 A. I recommend that PECO clarify that it will continue to consult with the stakeholders in
15 the implementation of the Initial Plan, as it has in the preparation of its Initial Plan.

16 **Q. Does this conclude your testimony?**

17 A. Yes.

18

19 137420

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Petition of PECO Energy Company for :
Approval of its Smart Meter Technology : Docket No. M-2009-2123944
Procurement and Installation Plan - Petition :
for Approval of PECO Energy Company's :
Initial Dynamic Pricing and Customer :
Acceptance Plan :

EXHIBIT TO THE
DIRECT TESTIMONY OF

NANCY BROCKWAY

ON BEHALF OF THE
OFFICE OF THE CONSUMER ADVOCATE

REGARDING CONSUMER PROTECTION ISSUES

December 23, 2010

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Commissioner, New Hampshire Public Utilities Commission (1998-2003)
Utilities consultant and attorney, National Consumer Law Center (1991-1998)
General Counsel, Massachusetts Public Utilities Commission (1989-1991)
Staff Attorney, Assistant General Counsel, Massachusetts Commission (1986-1989)
Hearings Officer, Senior Staff Attorney, Maine Public Utilities Commission (1983-1986)
Executive Director, Maine Legal Services for the Elderly, Inc. (1981-1983)
Staff Attorney, Directing Attorney, Pine Tree Legal Assistance, Inc. (1979-1981)
Staff Attorney, UMass Student Legal Services (1977-1979)
Staff Attorney, Western Massachusetts Legal Assistance, Inc. (1976-1977)
Staff Attorney, Legal Aid Society of New York (1974-1976)

NARUC Committee Memberships and Public Service

NARUC Energy Resources and Environment Committee
NARUC Consumer Affairs Committee (Vice-Chair)
Consumer Affairs Committee, New England Conference of Public Utility
Commissioners (Chair)
Steering Committee, National Council on Competition in the Electric Industry
ISO-NE Advisory Committee
NEPOOL Review Board Advisory Committee
NARUC Ad Hoc Committee on Competition in the Electric Industry
NARUC Committee on Communications
FCC Joint Conference on Accounting
North American Numbering Council
NBANC Board of Directors

Other Public Service

Board Chair, PAYSAmerica, Inc., 2004-2008
Member, New Hampshire Site Evaluation Committee, 1998-2003
Independent Conservation & Load Management Expert, MA Energy Office, 1991-1993.
Member, Massachusetts Energy Facility Siting Board
Member, Massachusetts Board of Registration of Allied Mental Health and Human
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Member, Energy and Transportation Task Force, President's Council on Sustainable
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J.D., 1973, Yale Law School, New Haven, CT
Coursework in statistics, Northeastern University, Boston, MA

NANCY BROCKWAY: TESTIMONIES				
Case name	Client Name	Topic	Jurisdiction & Docket No.	Date(s) Filed
In the Matter of: An investigation of natural gas retail competition programs	AARP Kentucky	Introduction of retail gas competition.	Kentucky PSC Case No. 2010-00146	6/21/10; 9/21/10
Alberta Smart Grid Inquiry	Office of the Utilities Consumer Advocate	Status of Smart Grid Developments in North America	Alberta Utilities Commission Application No. 1606102 Proceeding ID. 598	6/12/10 [report]
In the Matter of WMECO Smart Grid Pilot Program, filed per Section 85 of the Green Communities Act	Low Income Weatherization and Fuel Assistance Program Network, Massachusetts Energy Directors' Association	Smart Grid pilot design	Massachusetts DPU Docket No. 09-34	5/5/10
Nevada Power and Sierra Pacific Power Integrated Resource Plans	Attorney General, Bureau of Consumer Protection	AMI security, privacy and customer acceptance	Nevada PSC Docket Nos. 10-02009 10-03023	4/26/10
Application of Louisville Gas & Electric Co. for an Adjustment of its Electric and Gas Base Rates	AARP	Cost allocation and rate design	Kentucky Public Service Commission Case No. 2009-00549	4/22/10
In the Matter of NSPI Application to Approve Nova Scotia's Electricity Demand Side Management Plan for 2011	Consumer Advocate appointed by the Utilities and Review Board	DSM program design and evaluation	Nova Scotia UARB Docket No. P-884(3)	4/9/10

NANCY BROCKWAY: TESTIMONIES

In the Matter of the NSTAR Smart Grid Pilot Program, filed per Section 85 of the Green Communities Act	Low Income Weatherization and Fuel Assistance Program Network, Massachusetts Energy Directors' Association	Smart Grid pilot design	Massachusetts DPU Docket No. 09-33	11/6/09
Joint Petition of Metropolitan Edison Company, Pennsylvania Electric Company and Pennsylvania Power Company for Approval of Smart Meter Technology Procurement and Installation Plan	Pennsylvania Office of Consumer Advocate	Smart grid deployment; demand response and energy efficiency.	Pennsylvania PUC Docket No. M-2009-2123950	10/21/09
IMO Potomac Electric Company and Delmarva Power & Light Company Request for the Deployment of an Advanced Metering Infrastructure and Establishment of Regulatory Assets	Maryland Office of Public Advocate	Smart grid deployment; demand response and energy efficiency.	Maryland PSC Case No. 9207	10/20/09
Petition of West Penn Power Company d/b/a Allegheny Power for Expedited Approval of its Smart Meter Technology Procurement and Installation Plan	Pennsylvania Office of Consumer Advocate	Smart grid deployment; demand response and energy efficiency.	Pennsylvania PUC Docket No. M-2009-2123951	10/16/09
IMO BG&E Authorization to Deploy a Smart Grid Initiative and to Establish a Surcharge Mechanism for the Recovery of Cost.	Maryland Office of Public Advocate	Smart grid deployment; demand response and energy efficiency.	Maryland PSC Case No. 9208	10/13/09
IMO DTA of FortisAlberta, Phase I/II, 2010-2011	Utilities Consumer Advocate of Alberta	Smart grid deployment	Alberta Utilities Comm'n App. No. 1605170	10/9/09
IMO Unutil and National Grid Smart Grid Plans per Section 85 of the Green Communities Act	Low Income Weatherization and Fuel Assistance Program Network, Massachusetts Energy Directors' Association	Smart Grid pilot design	Massachusetts Department of Public Utilities Docket Nos. 09-32 and 09-31	8/31/09

NANCY BROCKWAY: TESTIMONIES

Columbia Gas Rate Case	AARP	SFV rate design, miscellaneous fees, recovery of uncollectibles via rider	Kentucky PSC Case No. 2009-00141	7/29/09
Appalachian Power Company, etc. ENEC proceeding	Covenant House and West Virginia CAG	Impact of proposed rate increase on low-income customers and means to improve collection procedures.	West Virginia PSC Case No. 09-0177-E-GI	5/26/09
In Re Combined Application of South Carolina Electric and Gas	Friends of the Earth	Need for and cost of proposed Summer nuclear power plant; alternatives including energy efficiency and renewables.	South Carolina Public Service Commission, Docket No. 2008-196-E.	Direct: 10/17/08 Surrebuttal: 11/17/08
Nova Scotia Power, Inc.	NS UARB Consumer Advocate	Proposed general rate increase, rate design.	Nova Scotia Utility and Review Board, P-886	12/07
Pike County Commissioners v. PCL&P	Pennsylvania Office of the Consumer Advocate	Options to address rate shock in transition to uncapped competitive POLR rates	Pennsylvania Public Utilities Commission, Docket No. C-20065942	11/06 (hearing in January 07)
Nova Scotia Power, Inc.	NS UARB Consumer Advocate	Extra Large Industrial Interruptible Rates	Nova Scotia Utility and Review Board, P-883	8/06
UGI/Southern Union, Proposed Merger	Pennsylvania Office of the Consumer Advocate	Impacts of the Proposed Merger on Ratepayers and Rates, Risks and Benefits of Proposed Merger, Synergies, Reliability	Pennsylvania Public Utilities Commission, Docket Nos. A-120011F2000, etc.	5/06
SEMCO Energy Services Gas Cost Recovery Plan	PAYS America, Inc.	Relationship Between DSM and Gas Costs	Michigan Public Service Commission, Docket No. U-14718	5/06 (not admitted)
Re: Electric Service Reliability and Quality Standards	Delaware Public Service Commission	Application of Proposed Rules to Competitive Suppliers and Cooperatives	Delaware Public Service Board, Docket No. 50	1/06
Exelon/Public Service Electric & Gas, Joint Petitioners	New Jersey Division of the Ratepayer Advocate	Impacts of Proposed Merger on Service Quality, Reliability, and Gas Safety, and Options to Maintain Historic Standards.	New Jersey Board of Public Utilities, BPU Docket No. EM05020106 OAL Docket No. PUC-1874-05	11/05-12/05
Exelon/Public Service Electric & Gas, Joint Petitioners	New Jersey Division of the Ratepayer Advocate	Risks and Benefits of Proposed Merger of Exelon and PSE&G, Options for Assuring Benefits and Mitigating Risk	New Jersey Board of Public Utilities, BPU Docket No. EM05020106 OAL Docket No. PUC-1874-05	11/05-12/05
Nova Scotia Power, Inc.	NS UARB Consumer Advocate	Economic Development Rates	Nova Scotia Utility and Review Board, P-882	10/05
Nova Scotia Power, Inc.	NS UARB Consumer Advocate	Revenue Requirements, Cost Allocation, Rate Design, Demand Side Management, Economic Development Rates	Nova Scotia Utility and Review Board, P-882	10/05 – 11/05

NANCY BROCKWAY: TESTIMONIES

Bay State Gas Company	Local 273	Customer Service, Reliability, Low-Income Protections, Revenue Requirements	Massachusetts DTE, Docket No. 05-27	7/05
Nova Scotia Power, Inc.	Nova Scotia Utility and Review Board	Domestic Consumer Perspective on Proposed Rate Case Settlement Agreement	Nova Scotia Utility and Review Board, P-881	1/05
Cincinnati Bell Alternative Regulation	Communities United for Action	Universal Service and alternative regulation of telephone service	PUCO, Case No. 96-899-TP-ALT	12/97
UGI-Electric Utilities, Inc.	Pennsylvania OCC	Universal Service issues in electric restructuring plans; including efficiency funding	PA PUC, No. R-00973975	1997
West Penn Power Co.	"	"	PA PUC, No. R-00973981	1997
Duquesne Light Co.	"	"	PA PUC, No. R-00974101	1997
PECO, Inc.,	"	"	PA PUC, No. R-00973953	1997
PP&L	"	"	PA PUC, No. R-00973954	1997
Met Ed.	"	"	PA PUC, No. R-00974008	9/97
Penelec	"	"	PA PUC, No. R-00974009	9/97
In the Matter of the Electric Industry Restructuring Plan	New Hampshire Legal Services	Low-income rates and DSM, impacts of restructuring on low-income consumers	New Hampshire Public Utilities Commission, D.R. 96-150	Nov., Dec. 1996
Notice of Inquiry/ Rulemaking. Establishing the procedures to be followed in electric industry restructuring.	Mass. CAP Directors Association, Mass. Energy Directors Association, named Low-Income Intervenors	Electric industry restructuring	Massachusetts Department of Public Utilities, D.P.U. 96-100.	to 10/98
Telecon Universal Service Docket	Pennsylvania Office of Consumer Advocate	Rate rebalancing, universal service, telephone penetration.	Pennsylvania Public Utilities Commission Docket No. I-00940035	1996
In Re: Complaint of Kenneth D. Williams v. Houston Lighting and Power Co.	Named Low-Income Consumers	Customer service, rate design, demand-side management, revenue requirements	Texas Public Utilities Docket No. 12065	1994-5
Open Access Non-Discriminatory Transmission Services ... and Recovery of Stranded Costs	Direct Action for Rates and Equality, Providence, Rhode Island	Open transmission access in interstate commerce, and stranded costs recovery.	FERC, Nos. RM95-8-000, RM94-7-000.	1994-5

NANCY BROCKWAY: TESTIMONIES

Bath Water District, Proposed Increase in Rates	Maine Office of Public Advocate	Water district cost allocation, rate design, low-income water affordability	Maine Public Utilities Commission, Docket. No. 94-034	12/94, 3/95
Application of Ohio Bell Telephone Co. for Approval of Alternative Form of Regulation	Legal Aid Society of Cleveland and Dayton	Definition of universal telecommunications service, proposal for Universal Service Access program (USA).	Public Utilities Commission of Ohio, Case No. 93-487-TP-ALT	5/4/94
Pennsylvania PUC vs. Bell Telephone of Pennsylvania	Pennsylvania Public Utility Law Project	Definition of "universal telecommunications service"	Pennsylvania PUC No. P-930715	filed 12/93
Joint Application for Approval of Demand-Side Management Programs, etc.	LG&E; Legal Aid Society of Louisville, other Joint Applicants	Cost-effective DSM programs for low-income customers; collaborative process to design DSM programs; cost allocation and cost recovery.	Kentucky PSC No. 93-150	11/8/93
Texas Utilities Electric Company	Texas Legal Services Center	Costs and benefits of DSM targeted to low-income customers	Texas PUC No. 11735	1993
Texas Utilities Electric Company	Texas Legal Services Center	Proposed Maintenance of Effort Rate for low-income customers	Texas PUC No. 11735	1993
Philadelphia Water Department	Philadelphia Public Advocate	Costs of Unrepaired System Leaks	Philadelphia Water Comm'r.	1992
New England Telephone	Rhode Island Legal Services	DNP for non-basic service	Rhode Island PUC, No. 1997	1991
Kentucky Power Co.	Kentucky Legal Services	Low Income Rate	Kentucky PSC No. 91-066	1991
Investigation into Modernization	Invited by Commission	Impact of modernization costs on low income telephone users	New York PSC	1991

CERTIFICATE OF SERVICE

Petition of PECO Energy Company for :
Approval of its Smart Meter Technology : Docket No. M-2009-2123944
Procurement and Installation Plan - Petition :
for Approval of PECO Energy Company's :
Initial Dynamic Pricing and Customer :
Acceptance Plan :

I hereby certify that I have this day served a true copy of the foregoing document, Letter Admitting Testimony of the Office of Consumer Advocate into the record, upon parties of record in this proceeding in accordance with the requirements of 52 Pa. Code Section 1.54 (relating to service by a participant), in the manner and upon the persons listed below:

Dated this 7th day of February 2011.

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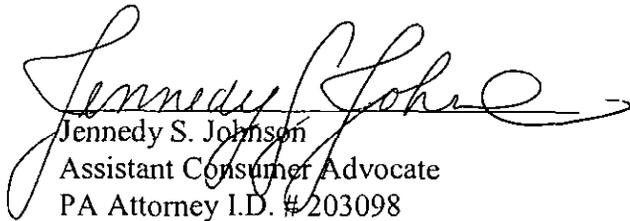
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