

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 :

SURREBUTTAL TESTIMONY

of

J. RICHARD HORNBY

On behalf of:

PENNSYLVANIA OFFICE OF CONSUMER ADVOCATE

JANUARY 19, 2010

Synapse Energy Economics
22 Pearl Street
Cambridge, Massachusetts 02139

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. ARE YOU THE SAME J. RICHARD HORNBY WHO FILED DIRECT**
7 **TESTIMONY IN THIS PROCEEDING?**

8 A. Yes.

9 **Q. WHAT IS THE PURPOSE OF YOUR SURREBUTTAL TESTIMONY?**

10 A. My surrebuttal testimony responds to certain of the points in the rebuttal testimonies of
11 Company witnesses George, Faruqui and Jiruska regarding the design of the Company's
12 proposed Initial Dynamic Pricing and Customer Acceptance Plan ("Plan"). I also
13 respond to certain points in the rebuttal testimony of Office of Small Business Advocate
14 (OSBA) witness Knecht regarding recovery of the costs of that Plan. The fact that I do
15 not address every point in the rebuttal testimonies of those witnesses should not be
16 interpreted to mean I agree with those points.

17

18

1 **Q. PLEASE COMMENT ON DR. GEORGE’S REBUTTAL REGARDING YOUR**
2 **CONCERN THAT THE COMPANY IS NOT PLACING EQUAL EMPHASIS ON**
3 **CPP AND TOU.**

4 A. Dr. George begins on page 3 by stating that the Company is testing customer preference
5 for TOU as a rate design versus CPP as a rate design by offering each rate design to
6 random groups of customers using the same promotional method, i.e., same sign-up
7 incentive, and no offers of either technology or education. These two tests are listed as
8 combinations 2 and 5 in Exhibit__(JRH-2). I agree with this point.

9 On page 4, Dr. George states that a number of the proposed “test cells” are
10 designed to investigate customer preference for particular elements other than rate design.
11 These other particular elements are promotional methods, technology offers and
12 educational offers. Dr. George’s explanation for why the Company is proposing to test
13 essentially all of these various elements solely in conjunction with CPP do not stand up to
14 scrutiny².

15 Dr. George asserts there is little reason to believe that customer preference for a
16 particular promotional method, technology offer or educational offer will be materially
17 different when offered in conjunction with CPP rates than when offered in conjunction
18 with TOU rates. Dr. George provides no evidence supporting this position. The Office of
19 Consumer Advocate has submitted an Interrogatory to the Company asking for the basis
20 for their position (OCA Set II-2) and has not received an answer, to date. Given the
21 differences between the design of CPP rates and of TOU rates, it is not obvious that a
22 particular promotional method, technology offer or educational offer will have essentially

² The Company is proposing to test an IHD offer with TOU.

1 the same incremental impact on customer enrollment in TOU as it does on customer
2 enrollment in CPP, or vice versa.

3 Dr. George also states on page 4 that the Company proposes to test these other
4 elements in conjunction with CPP rather than TOU because CPP "...is more appealing in
5 terms of a demand response resource" and "...average impacts per customer will be
6 higher under the CPP." Those statements reveal the Company's expectation of greater
7 results from CPP as compared to TOU, as does the Company's response to OCA-I-11
8 that "...PECO believes the CPP tariff has more potential to reduce peak demand than
9 does TOU...so most of the initial testing will be focused on that rate." The Company's
10 response to OCA-I-11 is provided in Exhibit__(JRH-6). Dr. George's expectation that
11 CPP has more potential than TOU is inconsistent with his statement on page 5 of his
12 Rebuttal that "...I do not know which rate is likely to be most cost-effective for PECO
13 and its customers. Indeed, a primary purpose of the Plan is to determine which rate
14 option has the potential to be more cost-effective based on enrollment and impacts under
15 alternative marketing methods and technology strategies."

16 **Q. PLEASE COMMENT ON DR. GEORGE'S REBUTTAL REGARDING THE**
17 **POTENTIAL FOR PARTICIPATION IN TOU RATES TO BE HIGHER THAN**
18 **PARTICIPATION IN CPP RATES.**

19 A. On page 6, Dr. George states that "Mr. Hornby generally argues that TOU will be more
20 cost-effective because it will have much higher enrollment than CPP" (emphasis added).
21 He then presents a discussion of TOU enrollment rates at two Arizona utilities and CPP
22 enrollment rates at PG&E and concludes that he is not aware of any empirical evidence

1 that utilities cannot achieve enrollment rates for CPP approximately as high as for TOU if
2 given equal amounts of time.

3 First, Dr. George has not presented my position accurately. My actual position as
4 stated on page 10 of my Direct Testimony is:

5 TOU has the potential to be much more cost-effective than CPP from a
6 TRC perspective because it has the potential to produce a much larger
7 aggregate reduction in peak demand. TOU has the potential to produce a
8 much larger aggregate reduction in peak demand because many more
9 customers are likely to enroll in TOU than in CPP. (emphasis added).

10
11 Like Dr. George, I do not know which rate will be most cost-effective for PECO and its
12 customers, if I did I would be presenting the supporting evidence and proposing that the
13 Commission not approve the proposed Plan. Instead, I agree with Dr. George that the
14 primary purpose of the Plan is to determine which rate option has the potential to be more
15 cost-effective based on enrollment and impacts under alternative marketing methods and
16 technology strategies. I disagree with Dr. George, however, on how the alternative
17 marketing methods and technology strategies should be tested. I believe they should be
18 tested equally on both TOU rates and CPP rates; he believes they only need to be tested
19 on CPP rates and that their incremental impacts on enrollment in CPP can be assumed to
20 apply equally to enrollment in TOU rates.

21 Second, Dr. George's two page response to my one, high-level sentence regarding
22 the experience of other jurisdictions with TOU is incomplete.

- 23 • Dr. George states that my reliance on the enrollment rates in TOU of as high as
24 40% at Arizona Public Service (APS) and Salt River Project (SRP), which I drew
25 from PECO's Energy Efficiency and Conservation Plan, are misplaced because
26 they are inaccurate. According to his research current enrollments are 51% and

1 28% respectively. I think PECO would be extremely happy to achieve TOU
2 enrollment rates anywhere near 28%, let alone 51%.

- 3 • Dr. George states it is not reasonable to compare enrollments in TOU with
4 enrollments in CPP because utilities have been offering TOU rates for several
5 decades whereas utilities such as PG&E have only been offering CPP for two
6 years. Dr. George does not mention that Gulf Power’s experience with a
7 combined TOU/ CPP rate dates back several years, that two utilities have been
8 offering real time pricing in Illinois since approximately 2006 and that Electricite
9 de France has been offering a TOU/ CPP rate design since 1996³.
- 10 • Dr. George states “... the estimate of 1% for PG&E is not a valid measure of
11 customer enrollment.” However, Dr. George fails to mention that PECO provided
12 that enrollment rate in response to OCA-I-6⁴ and that my Direct Testimony does
13 not identify PG&E explicitly.
- 14 • Dr. George notes that my Direct Testimony mentions a 20% CPP/TOU
15 enrollment rate in the California Statewide Pricing Pilot. However, my reference
16 to that enrollment rate explains that it was achieved in a pilot through very
17 generous financial incentives. PG&E is not offering those same generous
18 incentives to promote enrollment in CPP as a full-scale rate option.

19

³ Faruqui, Ahmad and Sergici, Sanem. *Household response to dynamic pricing of electricity: a survey of 15 experiments*. Journal of Regulatory Economics. (2010) 38:193-225.

⁴ Exhibit____(JRH-4), pages 2 and 3.

1 **Q. PLEASE COMMENT ON DR. GEORGE’S REBUTTAL REGARDING YOUR**
2 **CONCLUSION THAT CUSTOMIZED FEEDBACK IS A PROMISING DESIGN**
3 **FEATURE THAT THE COMPANY SHOULD CONSIDER.**

4 A. Dr. George does not dispute my conclusion that customized feedback is a promising
5 design feature. Instead he opposes including a test of customized feedback in the
6 Company Plan on the grounds that such feedback can be provided without smart meters
7 and that such a test cannot be accommodated within the budget for the Plan. His
8 response, presented on pages 9 to 11 of his Rebuttal testimony, refers to one of several
9 responses I provided to PECO regarding customized feedback. Those responses, PECO
10 Set I-8-11 are provided in Exhibit___(JRH-7).

11 Dr. George states that customized feedback could be provided without smart
12 meters while the purpose of the Plan is to “...determine the effect of information
13 feedback driven off of smart meters and the incremental effect of feedback on price
14 response” (Rebuttal, page 10). His position is not a reason to fail to include a test of
15 customized feedback in the Plan. First, the Company is not testing customized feedback
16 without smart meters. Second, the studies listed in response to PECO Set I-11, indicate
17 that customized feedback tends to generate high savings per household. Third,
18 Commonwealth Edison is testing various types of feedback in its pilot (see response to
19 PECO Set I-16).

20 Additionally, although he asserts that including a test of customized feedback
21 could result in a significant increase in complexity and cost, he does not quantify that
22 incremental complexity or cost.

1 **Dr. Faruqui**

2 **Q. PLEASE SUMMARIZE YOUR DIRECT TESTIMONY REGARDING**
3 **INCLUDING A TEST OF PEAK TIME REBATES (PTR) AND DR. FARUQUI'S**
4 **RESPONSE IN HIS REBUTTAL.**

5 A. My Direct Testimony concludes that PTR is a promising rate design which is not
6 included in the Company's proposed Plan and recommends that the Company include
7 such a test to the extent allowed within its budget. In his Rebuttal, Dr. Faruqui opposes
8 any test of PTR for five reasons – estimation of baselines, additional IT costs to calculate
9 baselines, failure to eliminate intra-class subsidies, misperception of customer
10 preferences and inconsistency with Commission criteria for dynamic pricing.

11 **Q. PLEASE COMMENT ON DR. FARUQUI'S REASONS FOR OPPOSING A TEST**
12 **OF PTR IN THIS PROCEEDING.**

13 A. Dr. Faruqui's reasons justify further careful consideration of PTR rather than outright
14 rejection of any test of PTR.

15 I agree that PTR does not eliminate the intra-class subsidies associated with the
16 recovery of capacity costs. However, that fact in and of itself does not justify rejection of
17 PTR in favor of TOU and CPP since elimination of intra-class subsidies is neither the
18 sole nor the primary goal of the rates being tested. In his Direct Testimony Dr. Faruqui
19 lists the five criteria he used to evaluate the candidate rate designs and elimination of
20 intra-class subsidies is not one of the five criteria. Moreover, TOU and CPP only
21 eliminate intra-class subsidies for the subset of customers who elect to take service under
22 those rates.

1 I agree that PTR requires the establishment of participant baselines. Again, this is
2 not a reason for rejection, instead it is a reason for further careful consideration. There is
3 ample evidence from other tests of PTR that this can be, and has been, done. For
4 example reports on tests of PTR in Maryland, Connecticut and the District of Columbia
5 do not identify estimating and applying baselines as being a particular problem.

6 Further, it is not obvious that PTR would cause material additional IT costs if
7 offered on a system-wide basis. Dr. Faruqui's assumption of additional IT costs
8 presumes a method of calculating individual baselines that requires frequent and
9 extensive re-calculations. However, since we do not know what baseline methodology
10 would ultimately be selected we cannot know what additional IT costs might result.
11 Moreover, Dr. Faruqui has not provided an estimate of the incremental IT costs associated
12 with implementing PTR on a full scale basis for the baseline methodology he expects,
13 therefore we do not know if they, too, would represent a material increment to the IT
14 costs associated with the Company's Smart Meter Implementation Plan (SMIP) for a
15 Meter Data Management System and major changes to its existing billing system

16 Dr. Faruqui implies that the results of one pilot, in Connecticut, indicate that
17 residential customers will always prefer CPP over PTR. That is not the case. Different
18 pilots have yielded different results. For example, participants in the DC pilot preferred
19 PTR and achieved greater bill savings on PTR than on CPP. That result is documented in
20 my response to PECO Set I-5 (attached in Exhibit ___(JRH-8)).

21 Finally, Dr. Faruqui states that PTR does not meet the Commission's criteria for
22 dynamic pricing. We have asked the Company to provide a citation to those criteria
23 (OCA Set II-4, the Company has not, to date, provided a response). Regardless of the

1 exact content of those criteria, I am not aware of any Commission criteria that prohibit
2 PECO from including a test of PTR in addition to its tests of CPP and TOU.

3
4 **Mr. Jiruska**

5 **Q. PLEASE SUMMARIZE YOUR DIRECT TESTIMONY REGARDING THE**
6 **IMPLICATIONS OF PJM'S PROPOSED CHANGES IN DEMAND RESPONSE**
7 **PRODUCTS AND MR. JIRUSKA'S RESPONSE IN HIS REBUTTAL.**

8 A. My Direct Testimony concludes that the Company had not considered PJM's proposed
9 changes in demand response products when designing its proposed rates for CPP and
10 TOU and that it should do so. In his Rebuttal, on page 3, Mr. Jiruska indicates that if
11 FERC approves changes affecting PECO's peak periods for the period 2014 and beyond
12 in response to PJM's request, PECO will make adjustments to its CPP and TOU rates in
13 consultation with stakeholders.

14 **Q. PLEASE COMMENT ON MR. JIRUSKA'S REBUTTAL REGARDING YOUR**
15 **RECOMMENDATION THAT THE COMPANY ANALYZE THE IMPLICATION**
16 **OF PJM'S PROPOSED CHANGES IN DEMAND RESPONSE PRODUCTS.**

17 A. Mr. Jiruska's rebuttal does not address my primary point. The Company should be
18 testing CPP rates and TOU rates, and methods of promoting enrollment in those rates,
19 based upon the conditions that are likely to apply when they are rolled-out on a full-scale
20 basis.

1 **Q. DID MR. JIRUSKA OR ANY OF THE OTHER COMPANY REBUTTAL**
2 **WITNESSES RESPOND TO YOUR POINT THAT THE VALUE OF ITS**
3 **PRICING OFFERS MAY BE LOWER IN THE FUTURE THAN AT PRESENT?**

4 A. No. My Direct Testimony on page 12 states that it is important that the Company identify
5 pricing offers that it can deploy system-wide at relatively low cost in order for them to
6 remain cost-effective over time and that the value of those pricing offers, which is driven
7 primarily by the value of capacity costs, may be lower in the future than they are at
8 present. I responded to a PECO Interrogatory regarding the basis for my statement
9 (PECO Set I-15). The Company witnesses did not address this point in their Rebuttal
10 Testimonies.

11 **III. PROPOSED COST RECOVERY**
12

13 **Q. PLEASE BEGIN BY SUMMARIZING YOUR POSITION REGARDING**
14 **RECOVERY OF PLAN COSTS AND MR. KNECHT’S RESPONSE TO THAT**
15 **POSITION IN HIS REBUTTAL.**

16 A. My Direct Testimony concludes that the Company is proposing to allocate an
17 unreasonable amount of Plan costs to customers taking default service and recommends
18 that that PECO should recover these costs from all customers in the rate classes for which
19 the rates are being tested, i.e. customers taking default service and customers purchasing
20 from electric generation suppliers (“EGSs”). Mr. Knecht opposes recovering any Plan
21 costs from customers purchasing from EGSs, who he refers to as “shopping customers.”
22

1 **Q. DO YOU AGREE WITH MR. KNECHT THAT SHOPPING CUSTOMERS**
2 **RECEIVE NO BENEFIT FROM THE PLAN?**

3 A. Mr. Knecht disputes my position, and that of Company witnesses George and Faruqui,
4 that all customers in the rate classes will benefit from the Plan. Shopping customers will
5 benefit as much as customers taking default service from the lessons to be learned
6 regarding the design of CPP and TOU rates as well as regarding customer preferences for
7 particular promotional methods, technology offers and educational offers. EGS' who
8 provide service to shopping customers in these rate classes will draw upon the results of
9 the Plan to design competitive CPP and TOU rates and offers to attract and retain
10 shopping customers. Moreover, EGS will be able to take advantage of changes that the
11 Company makes in its data processing and billing systems in order to support CPP and
12 TOU rates. Finally, there is no prohibition in the Plan that would preclude a shopping
13 customer from returning to default service (in accordance with their contractual
14 commitments with the EGS) and taking service under the CPP to TOU rates if they so
15 choose.

16 **Q. DO YOU AGREE WITH MR. KNECHT'S POSITION THAT COMMON COSTS**
17 **ASSOCIATED WITH TOU RATES SHOULD NOT BE ALLOCATED TO**
18 **CUSTOMERS WHO ARE NOT ELIGIBLE FOR TOU RATES?**

19 A. Yes. If PECO can identify common costs of its Plan that are solely attributable to
20 supporting TOU rates, I agree that those costs should not be allocated to small and
21 medium commercial and industrial customers who are not eligible for TOU rates.

22

1 **Q. DO YOU AGREE WITH MR. KNECHT'S POSITION THAT THE PLAN'S**
2 **COMMON COSTS ARE COMPARABLE TO THE COMMON COSTS IN THE**
3 **COMPANY'S SMART METER TECHNOLOGY AND IMPLEMENTATION**
4 **PLAN ("SMIP") AND THUS SHOULD BE ALLOCATED BASED ON NUMBER**
5 **OF CUSTOMERS?**

6 A. No. The goal of the Plan is to test rates that will provide customers more accurate price
7 signals, encourage them to reduce peak demand and use energy more efficiently. Thus,
8 the Plan's common costs are comparable to the common costs associated with the
9 Company's Energy Efficiency and Conservation plan rather than its SMIP.

10 **Q. DOES THIS CONCLUDE YOUR SURREBUTTAL TESTIMONY?**

11 A. Yes.

12

13

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EXHIBITS TO THE
SURREBUTTAL TESTIMONY

of

J. RICHARD HORNBY

On behalf of:

PENNSYLVANIA OFFICE OF CONSUMER ADVOCATE

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

OCA-I-11:

Direct Testimony of Dr. George, page 10 lines 5 to 9, page 19 lines 1 to 10 and Exhibit 1 pages 27 to 33. According to Exhibit 1 page 32 the Company is proposing to test customer enrollment response to the CPP rate offer with, and without, a sign-up incentive. However, on page 33 the Company states that it proposes to impute customer enrollment response to the TOU rate offer without a sign-up incentive. Given the emphasis Dr. George places on testing offerings directly, please provide the rationale for PECO's proposal to not test customer enrollment response to the TOU rate offer without a sign-up incentive.

Response:

Testing all marketing features for all target populations for all rate options would significantly expand the number of test cells. PECO believes the CPP tariff has more potential to reduce peak demand than does the TOU rate because of the larger price signals in the CPP rate, so most of the initial testing will be focused on that rate, including testing the enrollment impact of a sign up incentive. However, in keeping with the test and learn philosophy of the Plan, new combinations of marketing/rate/technology options will be developed based on first year results. Depending on the outcome of the initial tests, PECO may decide to test the impact of a sign-up incentive on TOU enrollment in the second year.

Responsible Witness: Dr. Stephen S. George

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Responses of the Office of Consumer Advocate
to the PECO Interrogatories Set I

8. Re: OCA Statement No. 1, Page 14, lines 3-4. Please describe in detail all categories of information that are encompassed in what Mr. Hornby considers to be "customized feedback."

RESPONSE:

Some researchers have described feedback using six categories that Electric Power Research Institute (EPRI) has proposed for purposes of standardizing research and comparisons in this area.¹ The six categories are Standard Billing, Enhanced Billing, Estimated Feedback, Daily/Weekly Feedback, Real-time Feedback and Real-Time Plus.

While all categories other than Standard Billing provide more detailed feedback than Standard Billing, three of the categories provide varying degrees of what Mr. Hornby considers to be customized feedback according to their descriptions in the EPRI report. Those three categories are Enhanced Billing, Estimated Feedback and Real-Time Plus. The types of customized feedback they provide ranges from the general to the specific according to the category of feedback as follows:

- comparisons of total energy use to similar homes,
- disaggregation of energy consumption by end-use (e.g. lighting, air conditioning, refrigeration) imputed from average usage patterns,
- disaggregation of energy consumption by end-use estimated from the customer's appliance information,
- disaggregation of energy consumption by end-use based on actual measurement, and
- suggested actions the customer can take to reduce energy use and costs.

¹ Neenan, B. et al. *Residential Electricity Use Feedback: A Research Synthesis and Economic Framework*. Electric Power Research Institute (EPRI). Palo Alto, CA. Document 1016844. February 2009. Available at: <http://www.opower.com/LinkClick.aspx?fileticket=MFQLSk4GQD4%3d&tabid=76>.

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9. Re: OCA Statement No. 1, page 14, lines 3-10: Does Mr. Hornby have an estimate of the cost of providing customers "customized feedback" (as he defines the term)?

RESPONSE:

Because of the limited experience and scale of these programs to date, Mr. Hornby considers current estimates of providing customized feedback to be order of magnitude only. In addition, Ms. Nancy Brockway, EPRI and ACEEE have all highlighted the lack of data regarding long-term persistence of savings from feedback programs.

With those caveats, Mr. Hornby's understanding is that current costs are estimated to be in the range of \$0.03 to \$0.04/kWh of saved electricity. See Ehrhardt-Martinez, Karen et al. *Advanced Metering Initiatives and Residential Feedback Programs: A Meta-Review for Household Electricity-Saving Opportunities*. ACEEE. June 2010, pages 77-78. Available at: http://www.energie2007.fr/images/upload/aceee_etude_juin_2010_advanced_metering_initiative_s.pdf.

The real question is the amount by which the benefits of savings achieved through customized feedback will exceed its costs and whether ratepayers will receive greater net benefits from customized feedback programs than from CPP or TOU pricing.

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Responses of the Office of Consumer Advocate
to the PECO Interrogatories Set I

10. Re: OCA Statement No. 1, Page 14, lines 6-7. Please describe in detail all of the changes in customer behavior that are encompassed in what Mr. Hornby considers to be "specific actions" that customers "can take to change their usage patterns and levels." Please provide such descriptions separately for residential customers and small and medium commercial and industrial customers.

RESPONSE:

Mr. Hornby's exact testimony regarding the value of customized feedback at page 14, lines 6-7 is as follows:

Customized feedback that helps customers identify specific actions they can take to change their usage patterns and levels, including identifying various programs under the EEC Plan for which they are eligible, will be more useful to customers than simple statistics on their usage.

The specific actions that individual PECO Energy customers can take to change their electricity usage pattern and level will vary by customer within the residential and small and medium commercial and industrial rate classes. Helping individual participants identify those specific actions is, or should be, one of the goals of the pilot and is beyond the scope of Mr. Hornby's engagement. In general, the feedback should help customers identify their most expensive end-uses and identify actions they can take to reduce those costs including reducing usage through operational changes, replacing appliances and shifting usage to less expensive periods.

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11. Re: OCA Statement No. 1, Page 14, lines 6-7. Please provide all studies, analyses, reports, empirical data, as well as all facts from any source (and identify such source and, if contained in a document, provide a copy of such document) that formed the basis for Mr. Hornby's contention that "Customized feedback . . . will be more useful to customers than simple statistics on their usage."

RESPONSE:

Mr. Hornby's contention that "Customized feedback . . . will be more useful to customers than simple statistics on their usage" is based primarily upon an ACEEE review of average household electricity savings from various types of feedback.

- Ehrhardt-Martinez, Karen et al. *Advanced Metering Initiatives and Residential Feedback Programs: A Meta-Review for Household Electricity-Saving Opportunities*. ACEEE. June 2010. Available at:
http://www.energie2007.fr/images/upload/aceee_etude_juin_2010_advanced_metering_initiatives.pdf.

It is also based upon Mr. Hornby's direct experience, his conversations with Mr. Blair Hamilton, Policy Director of Vermont Energy Investment Corporation (VEIC), and his review of other studies, articles, and presentations listed below (which are readily available online):

- Friedrich, Katherine et al. *Visible and Concrete Savings: Case Studies of Effective Behavioral Approaches to Improving Customer Energy Efficiency*. American Council for an Energy-Efficient Economy (ACEEE). October 2010. Available at:
http://cleanefficientenergy.org/sites/default/files/Behavioral%20approaches%20to%20EE_0.pdf
- *Cape Light Compact Residential Smart Metering Monitoring Report*. PA Consulting Group. March 31, 2010. Available at:
<http://www.capelightcompact.org/library/2010/08/3.31.10-Residential-Smart-Home-Energy-Monitoring-Final-Evaluation-Report.pdf>.
- Jensen, Val. *Using the Smart Grid to Advance Efficiency and Behavioral Change*. ACEEE Market Transformation Symposium. March 17, 2010. Available at:
http://www.aceee.org/files/pdf/conferences/mt/2010/N1_Val_Jensen.pdf.

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Responses of the Office of Consumer Advocate
to the PECO Interrogatories Set I

Response to Question 11 Continued:

- Allcott, Hunt. *Social Norms and Energy Conservation*. Massachusetts Institute of Technology. February 25, 2010. Available at:
<http://web.mit.edu/allcott/www/Allcott%202009%20-%20Social%20Norms%20and%20Energy%20Conservation.pdf>.
- Carroll, Ed et al. *Residential Energy Use Behavior Change Pilot*. Franklin Energy. April 2009. Available at:
<http://www.opower.com/LinkClick.aspx?fileticket=cLLj7p8LwGU%3D&tabid=76>.
- Neenan, B. et al. *Residential Electricity Use Feedback: A Research Synthesis and Economic Framework*. Electric Power Research Institute (EPRI). Palo Alto, CA. Document 1016844. February 2009. Available at:
<http://www.opower.com/LinkClick.aspx?fileticket=MFQLSk4GQD4%3d&tabid=76>.

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Responses of the Office of Consumer Advocate
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5. Re: OCA Statement No. 1, Page 13, lines 16-17. Identify all of the facts that formed the basis for Mr. Hornby's contention that "PTR . . . has the potential to be more successful and cost-effective than CPP." To the extent that such facts are set forth in or derived from any documents, identify such documents and provide copies thereof.

RESPONSE:

Mr. Hornby's contention that "PTR . . . has the potential to be more successful and cost-effective than CPP" is based upon two major facts.

First, various pilots that have tested both PTR and CPP have demonstrated that participants have reduced their usage in response to each rate, albeit somewhat less in response to PTR than to CPP. However, the possibility of slightly lower reductions per participant in response to PTR has the potential to be offset by the potential for far more participants in PTR pricing than CPP pricing since all customers could be placed on PTR from the outset. Reports on the results of these pilots are provided in Attachment PECO-I-5 and are summarized below.

- Results of PEPCO PowerCentsDC Program. Bill impact savings of PTR price group, referred to as Critical Peak Rebate (CPR) was 5% versus CPP price group at 2%. Most focus group attendees strongly preferred PTR for its simplicity and no-risk aspects. One conclusion was "CPR prices were most popular."
- BGE Smart Energy Pricing (SEP) Pilot (MD) and CL&P Plan-it Wise Energy Program (CT). In both pilots reductions, per participant, in response to PTR were slightly less than but in the same range as reductions per participant in response to CPP.
- Results of five pricing pilots reported by Dr. George in testimony in Maine show reductions per participant in response to PTR in the same range as reductions per participant in response to CPP.

Second, Dr. Faruqui indicates three reasons for dismissing PTR in favor of CPP – need to establish individual baseline usage, connection between retail and wholesale rates and value proposition. For the reasons discussed below, none of these three reasons stands up to scrutiny.

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 Program
Docket No. M-2009-2123944

Responses of the Office of Consumer Advocate
to the PECO Interrogatories Set I

Response to Question 5 Continued:

- Need to establish individual baseline usage: On page 6 of his testimony Dr. Faruqui states that PTR requires a baseline to be established for every participant, and that all baseline estimation methods are approximations. However PECO Energy will be able to measure individual usage and set baselines exactly using its smart meters. Moreover, numerous pilots have tested PTR despite the need for a baseline.
- Connection between retail and wholesale rates: Dr. Faruqui's evaluation of potential rates in Exhibit AF-2 indicates that PTR has a lower connection to wholesale rates than CPP but provides no explanation. This has not been identified as a problem in other pilots or proceedings.
- Value proposition: Dr. Faruqui's evaluation of potential rates in Exhibit AF-2 indicates that PTR has a lower value proposition than CPP. As noted above, the possibility of slightly lower reductions per participant in response to PTR has the potential to be offset by the potential for far more participants in PTR pricing than CPP pricing since all customers could be placed on PTR from the outset.

Responses to Interrogatories of PECO Energy Company

to

The Office of Consumer Advocate

Docket No. M-2009-2123944

Attachment PECO – I – 5

PowerCentsDC™ Program Final Report, September 2010, Executive Summary

The Impact of Dynamic Pricing on Low Income Customers, IEE whitepaper (Updated)
September 2010, pages 14 – 19

Stephen George Rebuttal Restimony, Appendix A, Docket No. 2007-215, November 9, 2007,
pages 8 and 9