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

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

I. INTRODUCTION AND SUMMARY

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

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

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

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

Q. PLEASE DESCRIBE SYNAPSE ENERGY ECONOMICS.

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

Q. PLEASE SUMMARIZE YOUR WORK EXPERIENCE AND EDUCATIONAL BACKGROUND.

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

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

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

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

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

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

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

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

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

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

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

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

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

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

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

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

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

Q. PLEASE SUMMARIZE YOUR MAJOR CONCLUSIONS AND RECOMMENDATIONS REGARDING THE COMPANY'S PROPOSAL FOR COST RECOVERY.

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

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

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

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

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

II. PROPOSED DYNAMIC PRICING AND CUSTOMER ACCEPTANCE PLAN

Program Objectives and Design

Q. PLEASE SUMMARIZE THE OBJECTIVES OF THE PROPOSED PLAN.

A. According to its lead witness, Mr. Frank Jiruska, PECO is proposing its Plan in order to comply with Act 129, as well as to gain insight into the design and promotion of dynamic rates in order to ensure the successful and effective deployment of those rates on a system-wide basis.

Q. ARE THE OBJECTIVES OF THE PROPOSED PLAN REASONABLE?

A. Yes.

Q. PLEASE SUMMARIZE THE DESIGN OF THE PROPOSED PLAN.

A. The Company proposes to offer two new rate options under its Plan: CPP and TOU Pricing. It proposes to offer these two new rate options to small and medium commercial and industrial customers as well as residential customers who are not in the Customer Assistance Program ("CAP"). It proposes to begin offering the new rates in the Fall of 2012.

The Company proposes to proactively test several different methods of offering and promoting these rates using a "test and learn" approach. The Company has not

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

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

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

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

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

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

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

My analysis indicates that the proposed Plan will not achieve its objective of identifying dynamic rates that can be successfully and effectively deployed on a system-wide basis for two reasons. First, the Plan is over-emphasizing CPP in comparison to 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.

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

Over-Emphasis on TOU

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

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

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

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

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

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

TOU has the potential to produce a much larger aggregate reduction in peak demand because many more customers are likely to enroll in TOU than in CPP. Experience with system-wide deployment of TOU and CPP elsewhere indicates that enrollment of residential customers in TOU has been as high as 40 percent[2] whereas enrollment of residential customers in CPP has been less than 1 percent (Response to OCA-I-6 in Exhibit__(JRH-4)). The potential for much higher enrollment in TOU than in CPP offsets the Company's estimates of lower reductions per participant group resulting from TOU (4%) than from CPP (16%), as presented on page 16 of the direct testimony of Company witness Faruqui. For example, if 40 percent of residential customers participate in TOU, and reduce their peak demand by an average of 4 percent, their aggregate reduction in demand will be 1.60 percent. In contrast, if 1 percent of residential customers participate in CPP, and reduce their peak demand by an average of 16 percent, their aggregate reduction in demand will be 0.16 percent – ten times less.

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

A. Yes. As noted earlier, the Company expects to target 200,000 customers and to enroll 10,000 of them as participants at a budget of $11.56 million, which is about $1,100 per 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.

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

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

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

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

[3] Ibid., pages 157 and 158.

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

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

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

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

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

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

Expanding Range of Offers in Plan

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

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

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

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

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

A. There is increasing interest in the potential for customized feedback to help customers reduce their annual electricity use. If this potential can be achieved, it will provide significant benefits to ratepayers in the form of bill savings and to society in the form of reduced emissions. 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. Moreover, all customers have the potential to participate in and benefit from such an offer.

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

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

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

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

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

PJM's Proposed Changes in Demand Response Products

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

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

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

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

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

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

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

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

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

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

III. PROPOSED COST RECOVERY

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Q. DOES THIS COMPLETE YOUR DIRECT TESTIMONY?

A. Yes.

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EXHIBITS TO THE

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On behalf of:

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DECEMBER 23, 2010

Synapse Energy Economics
22 Pearl Street
Cambridge, Massachusetts 02139

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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- 2006[1]
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 (1983ï 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 (1983ï 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, 1978ï 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 1st year bill protection	6
		None	None	Incentive and alternative message	7
		None	None	Incentive & 1st touch	8
		None	None	Incentive & 2nd touch	9
		None	None	Incentive& 3rd 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

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

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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

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

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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. Faruqui, 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 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-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

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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	0.02
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**		$ (4,000)
Revenues w/GRT less Working Capital				$ 996,000
Administrative Cost Revenues w/GRT	10,000,000 **kwh** **x**	0.02 **cents/kwh**		$ (2,000)
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	$ 122	
		$ (1,878)	Administrative Cost to be eliminated from Over/Under Recoveries
Supply Cost =	Revenues	$ (994,000)	
	less GRT	$ 60,435	
		$ (933,565)	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

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.