TURN *et al*. Statement No. 1R

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Petition of PECO Energy Company for	**:**	
Approval of Its Default Service Program for	**:**	**P-2020-3019290**
the Period From June 1, 2021 Through	**:**	
May 31, 2025	**:**	

REBUTTAL TESTIMONY OF PHILIP A. BERTOCCI

On Behalf of
Tenant Union Representative Network
and
Action Alliance of Senior Citizens of Greater Philadelphia

July 9, 2020

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I. Introduction

Q. Have you testified previously in this proceeding?

A. Yes, I provided testimony on June 16, 2020 on behalf of Tenant Union Representative Network and Action Alliance of Senior Citizens of Greater Philadelphia ("TURN *et al*"). In that testimony I described my background and set forth my concerns regarding PECO's proposed CAP Shopping Plan and proposed modifications to CAP.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to respond to the Testimony of Travis Kavulla on behalf of the Electric Supplier Coalition, ESC Statement No. 1, and the Testimony of Harry Geller on behalf of the Coalition for Affordable Utility Services and Energy Efficiency in Pennsylvania, CAUSE-PA Statement No. 1. First, I address Mr. Kavulla's proposal to transition PECO out of the default service role. Next, I respond to Mr. Kavulla's testimony and Mr. Geller's testimony regarding PECO's proposed CAP Shopping Plan. Then, I respond to Mr. Kavulla's proposal for PECO to implement supplier-consolidated billing (SCB). Finally, I submit supporting comments regarding Mr. Geller's testimony on Time of Use (TOU) rates.

II. PECO MUST MAINTAIN THE DEFAULT SERVICE ROLE

Q. What is Mr. Kavulla's position regarding PECO's role as default service provider?

A. Mr. Kavulla submits that PECO should be required to convene a series of workshops and thereafter submit a report to the PUC summarizing alternatives to PECO's default service model. Alternatively, Mr. Kavulla suggests that the Commission's Office of Competitive Market

Oversight could lead a similar process.[1] In either case, Mr. Kavulla submits that the default service model should change and PECO should be transitioned out of its role as default service provider.

Q. Do you agree with Mr. Kavulla?

A. No, PECO should remain the default service provider in its service territory. Mr. Kavulla incorrectly categorizes PECO as "the first resort and dominant supplier in the market."[2] This is a mischaracterization because PECO is not a "supplier" as defined in the Electricity Generation Customer Choice and Competition Act ("Competition Act").[3] Furthermore, unlike EGSs, PECO does not compete to provide electricity to default service customers. The Commonwealth Court has specifically upheld the Commission's finding that PECO has no profit incentive when it comes to the provision of default service.[4] While it is correct that there are many PECO customers who choose not to contract with an EGS to provide them with electricity, the implication Mr. Kavulla draws is that somehow those customers are not "truly" receiving default service in the manner intended by the General Assembly.[5] Mr. Kavulla ignores that, despite market enhancement activities and broad public awareness of the availability of electricity from alternative suppliers, many customers make an *affirmative* decision not to shop with an EGS or, alternatively, have returned to default service due to bad experiences shopping with EGSs.

Although Mr. Kavulla provides his opinion about the intention of the law, he is not an attorney nor does he have a degree in law. Mr. Kavulla contends that the "original, intended

[1] ESC St. 1 at 14.
[2] ESC St. 1 at 11.
[3] See 66 Pa. C.S. § 2803 (definition of "electric generation supplier" or "electric supplier")
[4] See NRG v. Pa. PUC, 58 C.D. 2018 at 25-26 (Pa. Cmwlth. 2020), petition for allowance of appeal filed July 2, 2020.
[5] ESC St. 1 at 11.

purposes" of the Electricity Generation Customer Choice and Competition Act ("Competition Act") was "to permit retail customers to obtain access to a competitive generation market."[6] In so doing, Mr. Kavulla paraphrases one of twenty-one Declarations of Policy specifically set forth in the Competition Act, as though the other findings and declarations do not exist. Mr. Kavulla neglects to mention the significant emphasis the General Assembly placed on the cost-beneficial impacts of competition.[7] Indeed, contrary to Mr. Kavulla's views, the Commission has specifically recognized that "[t]he stated purpose of electric industry restructuring is ***to lower prices for consumers*** by fostering competition among suppliers."[8] At the same time, Mr. Kavulla acknowledges that "it is unclear whether, specifically, default service to residential customers would be lower or higher cost in the short, medium, or long term" if EGSs provide default service.[9] Given the extent to which EGS charges, state-wide, have failed to provide savings to residential customers, I believe it is clearer than Mr. Kavulla acknowledges: removing PECO from the default service role will result in higher electricity prices for residential and low income customers.

Because retail customers do, in fact, have access to a competitive generation market, it is incumbent upon the Commission to ensure that the cost-beneficial objectives of the Competition Act are fulfilled. PECO should remain the default service provider in order to ensure that customers have an option to take default service consisting of a prudent mix of contracts designed to ensure the least cost to customers over time. This is among the essential duties the Competition Act imposes on electric distribution companies, like PECO.[10]

[6] PECO-ESC-I-3.
[7] 66 Pa. C.S. §§2802(5), (6).
[8] Petition of NRG Energy, Inc. for Implementation of Electric Generation Supplier Consolidated Billing, P-2016-2579249, Opinion and Order at 54 (January 18, 2018).
[9] PECO-ESC-I-10.
[10] 66 Pa. C.S. 2807(e).

III. PECO'S PROPOSED CAP SHOPPING PLAN

Q. Does Mr. Kavulla's support PECO's proposed CAP Shopping Plan?

A. No. Mr. Kavulla takes issue with PECO's proposed CAP Shopping Plan, specifically contending that it is not "appropriate" to (1) require Electric Generation Suppliers ("EGSs") to commit to providing electricity at prices at or below PECO's Price to Compare ("PTC") to CAP customers, (2) require EGSs to post their CAP shopping rate on the PAPowerSwitch.com shopping website, and (3) only implement CAP shopping if at least five EGSs commit to participating.[11]

Q. Do you agree with Mr. Kavulla's contention that it is inappropriate to require EGSs to provide CAP customers prices at or below PECO's PTC?

A. No, I do not. As a matter of policy, the Commission has determined that the price restrictions PECO has proposed in its CAP Shopping Plan are, in fact, "appropriate." While Mr. Kavulla notes that the Commission's CAP Shopping Policy Statement has not been finalized, he disregards the Secretarial Letter issued January 23, 2020, which specifically instructs EDCs and all other stakeholders to review the Commission's recent actions on CAP shopping, including its proposed Policy Statement and its determination in the FirstEnergy EDCs DSP IV proceedings, when assessing CAP shopping.[12] Notably, in the FirstEnergy EDC's DSP IV proceedings, the Commission approved CAP shopping with price limitations, protecting CAP customers from prices above the PTC, as proposed by PECO in this proceeding.[13] Furthermore, the January 23,

[11] ESC St. 1 at 60.
[12] See *Investigation into Default Service and PJM Interconnection, LLC Settlement Reforms*, Docket No. M-2019-3007101, January 23, 2020 Secretarial Letter at 9.
[13] See *Consolidated Petitions of Metropolitan Edison Company, Pennsylvania Electric Company, Pennsylvania Power Company, and West Penn Power Company for Approval of a Default Service Program for the Period Beginning June 1, 2019 through May 31, 2021*, Final Order, Docket Nos. P-2017-2637855, -2637857, 2637858, -2637866 (order entered Feb. 28, 2019) at 42 (ordering paragraph 2).

2020 Secretarial Letter emphasized the need for CAP shopping proposals to address the "concerns" raised by commenters and the Commission in the February 28, 2019 Proposed Policy Statement on Electric Customer Assistance Program Participant Shopping ("Proposed Policy Statement").[14] Thus, in evaluating PECO's proposed CAP Shopping Plan, it would be *inappropriate* to disregard the Commission's core concern regarding the harms imposed on CAP customers and non-CAP customers resulting from EGS charges in excess of the applicable EDC's PTCs.[15]

Q. Is Mr. Kavulla correct that PECO's PTC is artificially low?

A. No. Mr. Kavulla contends that PECO's PTC is "artificially low in that it does not reflect any overhead costs associated with providing default service."[16] An identical claim was made by NRG Energy, Inc. (NRG) in PECO's most recent base rate proceeding. The ALJs in that proceeding rejected the claim.[17] NRG filed Exceptions, and the Commission likewise rejected the claim.[18] Finally, on appeal, the Commonwealth Court finally rejected the claim.[19]

Q. Is Mr. Kavulla correct that CAP customers will not be harmed if EGSs adjust their prices to charge CAP customers more than PECO's PTC?

A. No. Mr. Kavulla is incorrect in submitting that CAP customers will not be harmed since they can leave the CAP shopping program at any time.[20] CAP customers will necessarily be harmed if EGSs are allowed to charge more to CAP customers than PECO's PTC. Mr. Kavulla's

[14] *Electric Distribution Company Default Service Plans – Customer Assistance Program Shopping*, Docket No. M-2018-3006578, Order entered February 28, 2019 ("Proposed Policy Statement Order").
[15] Proposed Policy Statement Order at 5.
[16] ESC St. 1 at 60.
[17] Pa. PUC v. PECO, R-2018-3000164, Recommended Decision at 124-130 (October 9, 2018).
[18] Pa. PUC v. PECO, R-2018-3000164, Opinion and Order at 66-74 (December 20, 2018).
[19] See NRG v. Pa. PUC, 58 C.D. 2018 (Cmwlth. Ct. 2020).
[20] ESC St. 1 at 60.

position assumes that CAP customers will be able to anticipate the timing of any price changes by EGSs and cancel their contracts before they incur charges in excess of the PTC. Mr. Kavulla's position is unrealistic. Instead, the CAP customer will face challenges identifying when EGS charges exceed the PTC *even after* such charges have been incurred. As PECO has indicated, its billing system currently only allows "bill-ready" consolidated billing, meaning that the CAP customer's bill will not explicitly state the per kWh charge imposed by an EGS. The PUC has recognized that charging CAP customers amounts in excess of the PTC results in harm to CAP customers and all non-CAP customers who contribute to the cost of CAP. Under these circumstances, the only realistic way to ensure CAP customers and non-CAP customers who contribute to the cost of CAP are protected from excessive EGS charges is by prohibiting CAP customers from incurring those charges.

Q. Please describe Mr. Geller's proposal regarding PECO's CAP Shopping Plan

A. Mr. Geller states that PECO's proposed CAP Shopping Plan provides "no oversight of supplier pricing" and, because of the significant harm caused by charging CAP customers prices in excess of the PTC, PECO's proposed CAP Shopping Plan should be rejected.[21] Based on his extensive knowledge of the impacts of CAP shopping in other utility service territories, Mr. Geller also concludes that "it would be imprudent and cost ineffective for PECO to spend millions in ratepayer dollars to develop, deploy, and subsequently maintain its proposed CAP shopping plan."[22]

Q. Do you agree with Mr. Geller?

[21] CAUSE-PA St. 1 at 41-47.
[22] CAUSE-PA St. 1 at 50.

A. Yes. As I testified previously, PECO's proposed CAP Shopping Plan should not be implemented unless and until PECO develops a mechanism to provide ongoing monitoring of EGS pricing to ensure that EGS charges billed to CAP customers do not exceed PECO's PTC.[23] Mr. Geller's concern about the cost of implementing PECO's proposed CAP Shopping Plan is well-taken. While PECO might be able to redirect some resources to monitoring and enforcement if it discontinues the practice of providing notices to CAP customers of their inability to shop,[24] PECO's estimated costs to implement its CAP Shopping Plan would certainly increase if PECO is required to develop a mechanism to monitor and enforce EGS pricing restrictions. In light of Mr. Kavulla's testimony opposing PECO's threshold requirement that at least five EGSs submit pledges to participate in its CAP shopping plan, I agree with Mr. Geller that it would be imprudent for PECO to incur the cost of implementing CAP shopping.

Q. Please address Mr. Kavulla's testimony opposing a requirement that at least five EGSs commit to participating in PECO's CAP shopping plan.

A. Without supporting price limitations in PECO's proposed CAP Shopping Plan, Mr. Kavulla proposes that PECO incur the considerable expenditures to implement that plan even if no EGSs were to commit to participate.[25] Thus, Mr. Kavulla's testimony demonstrates a hesitancy on behalf of EGSs to give even a non-binding pledge to participate in PECO's proposed CAP shopping plan, making it even more reasonable that PECO should not go forward with that proposal and thereby avoid the cost of implementation. PECO should not incur costs to implement a CAP Shopping Plan in which EGSs are unwilling to commit to participate.

[23] TURN *et al*. St. 1 at 14.
[24] TURN *et al*. St. 1 at 14.
[25] ESC St. 1 at 61.

IV. SUPPLIER CONSOLIDATED BILLING

Q. Please respond to Mr. Kavulla's view that the Commission should require PECO to adopt supplier-consolidated billing (SCB)?

A. As the Commission is aware, one of the ESC members, NRG, petitioned the Commission to implement EGS SCB.[26] TURN *et al.*, opposed NRG's petition by written Comments, dated January 23, 2017 and Reply Comments, dated February 22, 2017. I attach and incorporate those Comments and Reply Comments as Exhibits A and B to my Rebuttal Testimony, respectively. As a general matter, I agree with those Comments and Reply Comments in that SCB risks creating significant customer confusion, undermines consumer protections and places low-income customers at risk of financial harm. Moreover, in rejecting NRG's petition, the Commission recognized that a fundamental and unresolved issue remains concerning the legality of SCB in Pennsylvania.[27] PECO should not be required to implement SCB as suggested by Mr. Kavulla.[28]

V. PECO'S TIME OF USE RATE PROPOSAL

Q. What aspects of Mr. Geller's testimony do you wish to address?

A. I will address Mr. Geller's stance on the exclusion of CAP customers from participating in PECO's Time of Use (TOU) rates. I will also address Mr. Geller's recommendation that PECO implement additional consumer protections for vulnerable customers, including all

[26] See Petition of NRG for Implementation of Electricity Generation Supplier Consolidated Billing, P-2016-2579249.
[27] Petition of NRG Energy, Inc. for Implementation of Electric Generation Supplier Consolidated Billing, P-2016-2579249, Opinion and Order at 60 (January 18, 2018).
[28] ESC St. 1 at 20.

confirmed low-income customers, and other vulnerable consumers who are unable to shift their consumption to off-peak hours so as to fully benefit from TOU rate options.

Q. **Please summarize the pertinent sections of Mr. Geller's testimony regarding PECO's proposal to implement residential TOU rates?**

A. Mr. Geller testified that TOU rates are not compatible with PECO's FCO design and that TOU rates are not generally compatible with any CAP design.[29] He notes that if CAP customers were allowed to participate in TOU rates, those who are unable to shift their usage during peak hours may face substantial levels of unaffordability, while the non-CAP residential customers who pay for the program will face increased costs.[30] Mr. Geller further testified that PECO's assessment in regards to the inability of low income households to reasonably shift their usage during off peak hours is also correct, as there are various factors that may prevent these households from doing so.[31] He states that customers who are at home during the day, or are reliant on electric-powered medical devices are at even greater risk for immediate and substantial health outcomes.[32] Lastly, Mr. Geller states that there is a need for PECO to implement additional consumer protections to protect all confirmed low-income customers and other vulnerable consumers.[33]

Q. Please summarize Mr. Geller's recommendations concerning the additional consumer protections that PECO should implement in its TOU rate proposal.

A. Mr. Geller recommends that PECO implement additional consumer protections in its TOU rate proposal for all vulnerable customers, including low-income non-CAP customers, or

[29] CAUSE-PA St. at 23.
[30] CAUSE-PA St. at 23.
[31] CAUSE-PA St. at 23.
[32] CAUSE-PA St. 1 at 23-24.
[33] CAUSE-PA St. 1 at 27.

those who are unable to meaningfully shift or reduce their electric load during TOU hours.[34] He further recommends that PECO implement additional consumer protections for all confirmed low-income customers, as well as those with known medical usage.[35] Finally, Mr. Geller recommends that PECO be required to closely track participant income and other critical metrics, and provide low-income and other vulnerable consumers with enhanced outreach and individualized referrals before accepting these customers into the TOU rate to ensure that vulnerable consumers are matched with the most appropriate bill assistance programs.[36]

Q. Do you agree with Mr. Geller that CAP customers should not be allowed to participate in TOU rates?

A. Yes, Mr. Geller's testimony is consistent with my concerns about the potential adverse impacts that may result from participation of CAP customers in TOU rates.[37] I agree that participation of CAP customers in TOU rates may lead to adverse impacts for CAP customers. As Mr. Geller states, there are CAP customers who may be unable to shift their usage during peak hours, which may result in unaffordable bills.[38] The resulting unaffordability for CAP customers could cause non-CAP residential customers to bear higher costs as they finance the CAP program through payment of rates. As such, all residential customers, including CAP customers, could face higher bills and costs if CAP customers were to participate in PECO's TOU proposal. Further, it is important to note that PECO itself has stated "the current CAP discount that low income customers receive far exceeds any potential savings that low income

[34] CAUSE-PA St. 1 at 24.
[35] CAUSE-PA St. 1 at 25.
[36] CAUSE-PA St. 1 at 26-27.
[37] CAUSE-PA St. 1 at 27, PECO St. 2 at 15-16, PECO St. 3 at 3.
[38] CAUSE-PA St. 1 at 23

customers could achieve under dynamic pricing rates."[39] As such, I agree with Mr. Geller that it is appropriate to exclude CAP customers from participation in PECO's TOU rates.

Q. Do you support Mr. Geller's recommendation that PECO implement additional consumer protections in its TOU rate proposal?

A. Yes. All confirmed low-income and vulnerable consumers should be provided further protections so that they are able to fully realize the benefits of the different affordability options as provided by the Company. While PECO CAP customers are afforded certain protections within the program, it is important to note that there are many low-income and otherwise vulnerable customers who may not be enrolled in PECO's CAP program. As such, I agree with Mr. Geller's suggestion that PECO provide further consumer protections for all confirmed low-income customers, as well as to other vulnerable customers who may be unable to shift usage, such as those with known medical usage.[40] Mr. Geller further reiterates the inability of many low income and other vulnerable households to reasonably shift usage to off peak hours for reasons including that such households often have very little discretionary energy usage and live in smaller spaces with less efficient cooling and heating spaces.[41] In a study cited to by Mr. Geller, the authors state that "[w]hether low-income customers benefit through reduced utility bills will depend on both their load profiles and their ability to shift loads."[42] As such, it is important for those customers to be provided adequate individualized information and education to ensure that they are able to avoid peak consumption in a way that would make TOU rates beneficial. The

[39] TURN to PECO I-12(e)(Attachment) at 23.
[40] CAUSE-PA St. 1 at 26.
[41] CAUSE-PA St. 1 at 23-24.
[42] *See* CAUSE-PA St. 1 at 23; *See also* John T. Colgan et al., *Guidance for Utilities Commissions on Time of Use Rates: A Shared Perspective from Consumer and Clean Energy Advocates*, at 19, Equity and Distributional Bill Impacts (July 15, 2017); *See also* TURN to PECO I-12(a)(Attachment) Lee V. White & Nicole Sintov, Health and Financial Impacts of Demand-Side Response Measures Differ Across Sociodemographic Groups, Nature & Energy Vol. 5 (Jan. 2020).

aim must be for PECO to assist low income and vulnerable customers in avoiding TOU rates that are not appropriate and affordable for their circumstances.

VI. CONCLUSION

Q. Does that conclude your testimony?

A. Yes.

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Petition of PECO Energy Company for	**:**	
Approval of Its Default Service Program for	**:**	**P-2020-3019290**
the Period From June 1, 2021 Through	**:**	
May 31, 2025	**:**	

VERIFICATION

I, Philip A. Bertocci, hereby state that the facts set forth above in my Rebuttal Testimony, TURN et al., Statement No. 1-R, are true and correct and that I expect to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa. C.S. §4904 (relating to unsworn falsification to authorities).

Philip A. Bertocci
Of Counsel
Community Legal Services

DATED: July 29, 2020

BEFORE THE PENNSYLVANIA
PUBLIC UTILITY COMMISSION

PETITION OF NRG ENERGY, INC.	**:**	**Docket No: P-2016-2579249**
FOR IMPLEMENTATION OF ELECTRIC	**:**	
GENERATION SUPPLIER	**:**	
CONSOLIDATED BILLING	**:**	

COMMENTS OF TENANT UNION REPRESENTATIVE NETWORK AND ACTION ALLIANCE OF SENIOR CITIZENS OF GREATER PHILADELPHIA

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I. INTRODUCTION

Tenant Union Representative Network and Action Alliance of Senior Citizens of Greater Philadelphia (collectively "TURN *et al.*"), through counsel Community Legal Services, Inc., hereby submit these Comments to the Petition of NRG Energy, Inc. for Implementation of Electric Generation Supplier Consolidated Billing ("Petition"). By Notice published in the Pennsylvania Bulletin on December 24, 2016, the Secretary permitted the submission of answers and comments by January 23, 2017, and reply comments by February 22, 2017.

TURN *et al.* strongly oppose NRG's Petition. Supplier Consolidated Billing (SCB) presents significant risks to customers. The Commission should reject NRG's Petition, which, if granted, would create customer confusion, undermine essential consumer protections required to be provided by electric distribution companies (EDCs) under the Public Utility Code, and place low-income utility customers at risk of financial harm. Contrary to NRG's Petition (which contends that "no material issues of fact are presented by this Petition"), TURN *et al.* submit that potential SCB presents significant issues of material fact.[1] To the extent the Commission desires to resolve NRG's Petition without an on-the-record proceeding, TURN *et al.* submit that the Commission should reject such petition as unsupported and contrary to public interest.

TURN *et al.* are particularly concerned amount the impact of SCB on economically vulnerable households, including the tenants and seniors who are members of TURN and Action Alliance. These customers require immediate access to EDCs, EDC-run utility assistance

[1] Although not addressed directly in these Comments, TURN *et al.* note that NRG includes in Appendix A to its Petition, its proposed resolutions to a plethora of SCB issues identified by the 2010 Electronic Data Exchange Working Group (EDEWEG) over a five-month period in 2010. Although these proposals may be satisfactory to NRG, there is no indication they would be satisfactory to the other participants in EDEWEG or other constituents who would potentially have an interest in that process were it to be undertaken today. Similarly, there is no indication that, given the electricity price spikes in 2014 and the subsequent regulatory actions taken by the Commission, the SCB issues identified in the 2010 EDEWEG report represent the full range of issues that SCB would need to address.

programs, the PUC, LIHEAP and other utility assistance to avoid loss of service. For these customers, SCB would represent a confusing barrier that may be insurmountable in the event of financial distress or a household emergency.

TURN *et al.* also find NRG's professed need for SCB to facilitate relationships with customers and provision of products and services implausible. To the contrary, NRG may use other means to establish relationships with customers, if desired. Furthermore, NRG has provided inadequate support for the proposition that Utility Consolidated Billing (UCB) prohibits NRG or any supplier from providing such products or services, if customers desire them.

For the reasons set forth more fully below, TURN *et al.* urge the Commission to deny NRG's Petition, as the implementation of SCB constitutes an unnecessary and confusing change that will negatively impact customers and erode essential consumer protections. NRG may take other steps to improve upon its relationship with customers without fundamentally restructuring how customers pay for electricity.

II. BACKGROUND

On December 8, 2016, NRG filed its Petition for Implementation of Electric Generation Supplier Consolidated Billing. NRG submits that all the relevant issues to its Petition are legal or policy in nature, and so no evidentiary hearings are necessary.[2] NRG proposes the Commission announce a goal of implementing SCB, provide policy guidance in response to NRG's description of the implementation issues with SCB identified by EDEWEG in 2010, direct EDEWEG to establish electronic data interchange (EDI) protocols to complete SCB, and address "various operational issues" outlined by NRG.[3] Nodding to the multitude of customer

[2] Id. at ¶69.
[3] Petition at ¶71.

service issues SCB presents, NRG suggests that changes to customer service regulations at Chapter 56 of Title 52 of the Pennsylvania Code will be necessary, and suggests that the Office of Competitive Market Oversight (OCMO) should convene a stakeholder group to address these issues and other issues associated with SCB.[4] Thereafter, NRG submits that the Commission should issue an implementation order, resolving all of the issues addressed by the stakeholder group, and directing the filing of compliance plans and take other rulemaking steps as are necessary to move forward with SCB.[5] Finally, NRG requests that the Commission enter an order implementing SCB by the second quarter of 2018.[6] TURN *et al.* oppose these proposals.

III. NRG's Petition Raises Substantial Issues of Fact, Which Cannot Be Resolved Via a Notice and Comment Proceeding.

TURN *et al.* disagree with NRG's statement that its Petition raises no factual issues requiring hearings. If the Commission decides to move forward with SCB, there are extensive factual issues requiring in-depth analysis and exploration in an on-the-record proceeding. Although NRG identifies several "operational issues" for the Commission's consideration and resolution,[7] it fails to address core factual concerns that its proposal implicates, regarding the extensive customer confusion, disruption and degradation of service quality, and customer harms that will flow from interjecting EGSs into the billing and complaint processes, traditionally handled by EDCs. NRG also fails to address the fact that implementing SCB will inevitably create additional costs to EGSs and EDCs (and by extension customers), from the duplication of customer service functions by EDCs and EGSs. NRG fails to address whether, given these additional costs, its SCB proposal would even be practical for some EGSs, who may not desire to

[4] Petition at ¶72.
[5] Petition at ¶73.
[6] Petition at ¶75.
[7] Petition at ¶37.

invest in these customer service obligations. Ultimately, because EDCs cannot, under Pennsylvania law, disregard the customer service functions required of them, including those functions relating to complaints filed with the Commission (66 Pa. C.S. § 1410) and obligations upon customer contact (66 Pa. C.S. § 1410.1), SCB necessarily generates increased costs to customers due to the need to maintain duplicative customer service functions at EDCs and EGSs.

A. SCB Would Result In Customer Confusion, Increasingly Placing Low-Income Customers at Risk of Loss of Service.

In a recent review of SCB conducted by the Connecticut Public Utilities Regulatory Authority (PURA), these core factual concerns regarding customer confusion were central to PURA's decision to recommend to the Connecticut General Assembly that further analysis be conducted regarding the complexities of moving forward with SCB.[8] PURA concluded that shifting billing responsibilities from EDCs to EGSs would "very likely increase customer confusion and decrease customer satisfaction."[9] TURN *et al.* submit that the same conclusion must be reached regarding NRG's proposal in Pennsylvania.

Customers in need of bill payment assistance, low-income program benefits, payment agreements, weatherization treatment, resolution of billing inquiries and disputes, restoration and discontinuance of service, and a host of other service-related needs must continue to turn to EDCs, who have ***statutory, not simply regulatory, service obligations*** to fulfill.[10] To have these customers directed first to the EGS, only to be redirected to EDCs is a waste of time, creating additional administrative expense, delaying resolution of customer service issues, and placing

[8] Decision in the Matter of PURA Review of the Billing of All Components of Electric Service by Electric Suppliers, Docket No. 13-08-15 (August 6, 2014) (PURA SCB Decision). Notably, Reliant Energy, a subsidiary of NRG, was a participant in PURA's proceeding according to page 5 of the service list. A copy of the PURA SCB Decision, and appended service list, is available at: http://www.dpuc.state.ct.us/dockcurr.nsf/8e6fc37a54110e3e852576190052b64d/4a2f8ff062aae30d85257d2c005be6fb/$FILE/FINAL130815%20Revised%20Draft.docx

[9] PURA SCB Decision, at 6.

[10] See, e.g., 66 Pa. C.S. § 2807(d).

customers in harm's way. TURN *et al.* submit that the low-income tenant and senior customers who are their members require immediate contact with EDC personnel in the event of a threatened or actual shut-off, and that these customers may lack the resources to make multiple contacts (e.g., limitation on the use of prepaid cell phone service) through which to seek resolution of these urgent needs. Interjecting EGSs as the de facto contact for all billing inquiries and complaints creates significant risk that customers will incur unnecessary and unwarranted service interruptions that would otherwise be avoided.

In addition, NRG incorrectly submits that "SCB will not impact customer eligibility for LIHEAP assistance."[11] As a practical matter, many customers are encouraged or assisted in applying for LIHEAP benefits through the customer service function performed by EDCs. More importantly, however, the LIHEAP program is structured to provide bill payment assistance through vendor agreements with utility companies, who provide vital information to Pennsylvania's Department of Human Services (DHS) in the administration of LIHEAP. SCB would create a significant prospect of confusion at DHS assistance offices since EGSs are not authorized to be LIHEAP vendors.[12] While NRG acknowledges the EDC will continue to be the LIHEAP vendor,[13] it fails to recognize the obvious impediment to directing a LIHEAP grant to an EDC when the billing entity is an EGS.[14] Just as eligibility for LIHEAP generally will be

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[11] Petition at Appendix A, p. 2.

[12] See 2017 LIHEAP State Plan § 601.3 ("Vendor – An agent or company that directly distributes home-heating energy or service in exchange for payment. The term does not include landlords, housing authorities, hotel managers or proprietors, rental agents, energy suppliers or generators, and other parties who are not direct distributors of home-heating energy or service.")

[13] Petition at Appendix A, p. 2. ("EDCs can continue receiving the grants and pass them through the EDI transaction.")

[14] See, e.g., Comments in Response to Staff Discussion Document on End-State Default Service Models, submitted by AARP, PULP and CLS, April 4, 2012, at 14 (available at http://www.puc.state.pa.us/electric/pdf/RetailMI/EnBanc032112_Comments-AARP.pdf) ("CAP customers are required to apply for LIHEAP and designate the entity administering CAP as the recipient of the LIHEAP grant. However, there would appear to be an inability for a CAP participant to designate LIHEAP directly to a vendor if the billing entity is an energy supplier or generator. Furthermore, the majority of low-income LIHEAP recipients, who are not on CAP, have the same inability to designate an EGS or supplier as the LIHEAP vendor.").

impacted by this confusion, the eligibility for LIHEAP Crisis benefits, which are paid within a 48 hour period, is likely to be delayed. Under SCB, customers seeking LIHEAP Crisis benefits will invariably call the EGS that bills them, only to be directed to the EDC to obtain a termination notice or credit denial statement necessary to qualify for Crisis. Again, the delay caused by SCB will present immediate health and safety risks for low-income customers.

NRG also proposes that low-income programs be administered by EDCs, with the amount of discounts communicated to EGSs for billing purposes. TURN *et al.* submit that EGSs cannot function in a billing role for CAP due to the role of the EDC in addressing affordability as a billing and payment matter, with the EDC having a statutory obligation to identify customers who are eligible for CAP. 66 Pa. C.S. § 1410.1(2). Moreover, NRG appears to fail to take into account the future enrollment of new customers, and new CAP arrearages, in an EDC CAP program, and how these arrearages would be addressed (or not) under SCB. In fact, NRG's "Enrollment/Drop Block Mechanism," set forth in paragraph 37(e) of its Petition, if operationalized, would preempt future CAP enrollment entirely, holding a customer who is indebted to an EGS hostage until he or she is capable of repaying unaffordable bills, rather than enrolling the customer in CAP and providing arrearage forgiveness.

Ultimately, one of the main products NRG appears interested in providing is prepaid electric service,[15] which TURN *et al.* opposes. TURN *et al.* oppose prepaid electric service, whether provided by an EDC or an EGS, for the reasons set forth in their December 15, 2016 Comments regarding PECO Energy Company's Pilot Plan for Advance Payments Program and Petition for Temporary Waiver of Portions of the Commission's Regulations with Respect to that Plan, Docket No. P-2016-2573023 (TURN Prepaid Comments). As set forth therein, prepaid service eliminates statutory rights to pre-termination notification, eliminates protection from

[15] Petition at ¶49.

winter termination for eligible customers, eliminates participants' rights to forego payment for disputed charges and preserve service during the pendency of the dispute process, and does not guarantee compliance with medical certification requirements.[16] TURN *et al.* respectfully submit that prepaid service provided by EGSs presents an even greater risk than EDC prepaid service, due to the Commonwealth Court's interpretation of the Choice Act as precluding the PUC from regulating EGS rates,[17] and that low-income customers will face additional service disruptions as a result of products EGSs may desire to market with SCB.[18]

B. EGSs Desires to Improve Customer Relations and Offer New Products Do Not Support Implementation of SCB.

NRG submits that EGSs should be afforded the opportunity to bill customers directly for goods and services, astoundingly comparing the purchase of vital electric service at a customer's home to the purchase of light bulbs at a store.[19] The comparison is strikingly inappropriate, given the extensive and justified regulation of the relationship between customers and utilities, including the utility's duty to serve, which does not apply to a neighborhood hardware store, nor to an EGS.[20] Regardless, NRG's submission that it requires SCB as an essential means to develop meaningful customer relationships, and offer certain products and services, lacks merit.

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[16] TURN Prepaid Comments at 7-17.
[17] Coalition for Affordable Utility Service and Energy Efficiency in PA, *et al.* v. Pa. PUC, 120 A.3d 1087, at 1101 (Pa. Cmwlth. 2015) ("the PUC may not review EGS rates to determine whether the rates are 'just and reasonable.'")
[18] PECO's Pilot Plan has been referred to the Office of Administrative Law Judge and will now be subject to an on-the-record proceeding to determine whether the Pilot Plan will proceed.
[19] Petition at ¶ 23, 27.
[20] See, e.g., Borough of Ambridge v. P.S.C., 165 A.47, 48 (PA. Super. 1933) ("Those engaged in a public calling have always been under the extraordinary duty to serve all comers, while those in a private business may always refuse to sell if they please. So great a distinction as this constitutes a difference in kind of legal control rather than merely one of degree."); *see also*, New York & Queens Gas Co. v. McCall, 245 U.S. 345, 351 (1917) ("Corporations which devote their property to a public use may not pick and choose, serving only the portions of the territory covered by their franchises which it is presently profitable for them to serve and restricting the development of the remaining portions by leaving their inhabitants in discomfort without the service which they alone can render.")

NRG complains that SCB is necessary for EGSs to "build trust" with customers,[21] "create and maintain an ongoing relationship with [EGS] customers,"[22] and suggests that EGSs cannot "establish themselves as legitimate, reliable businesses capable of offering customers a value proposition beyond price,"[23] if SCB is not implemented. NRG fails to consider that EGSs, like EDCs, have a variety of tools at their disposal to create relationships with customers beyond the billing relationship. NRG provides no evidence that EGSs are prohibited from establishing and maintaining customer relationships through direct mail, electronic mail, telephone contacts, newsletters, customer surveys, or any of the variety of voluntary activities undertaken routinely by businesses seeking to establish relationships with new customers in every corner of Pennsylvania. In fact, NRG recognizes that corporate citizenship is one driver of customer satisfaction,[24] but does not provide any information on how UCB hinders EGS efforts to become good corporate citizens. As Connecticut's PURA correctly observed:

> The Authority disagrees with SCB supporters who imply that the only way to address Supplier concerns with UCB is by offering SCB for the following reasons....Suppliers always have the opportunity to interface with their customers and market their products and services through numerous means. Suppliers could improve customer education and communication from the time the customer begins purchasing Service.[25]

Similarly, the Commission should not find any merit in NRG's claims that SCB is necessary for it to market new and innovative products and services.[26] First and foremost, as a threshold matter, it must be observed that the primary legislative purposes of the Electricity Generation Customer Choice and Competition Act (Choice Act), are to permit competitive forces to effectively control *the cost* of generating electricity,[27] for the benefit of all classes of

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[21] Petition at ¶44.
[22] Petition at ¶48.
[23] Petition at ¶46.
[24] Petition at 23, n.78.
[25] PURA SCB Decision at 6.
[26] Petition at ¶ 48.
[27] 66 Pa. C.S. § 2802(5).

customers,[28] while ensuring such service (essential to the health and well-being of residents) remains available to all customers on reasonable terms and conditions,[29] and maintaining, at a minimum, the "protections, policies and services that now assist customers who are low-income to afford electric service."[30] The Choice Act was not intended simply to foster the provision of prepaid electricity at great consumer risk or to market so-called value-added products by EGSs, regardless of their impact on customer bills. Rather, the Choice Act's primary purpose is to enable all customers to benefit from lower costs, while securing essential consumer protections.

Ultimately, NRG fails to credibly demonstrate that UCB is responsible for EGSs purported inability to market new and innovative products and services. As Connecticut's PURA observed:

> If the products, pricing and services are limited by the current UCB, the Supplier has the option to bill its customers directly under a dual billing option. This dual billing option is a tool for Suppliers to perform customized billing and rate structures. Potential customers could weigh the service under a single UCB bill versus those billed under the dual billing option.[31]

At a minimum, in order for NRG to demonstrate that UCB is the cause of its woes, NRG should produce some evidence that EGSs have fared better at marketing these supposed innovative products and services in electric service territories where dual billing is in place. NRG not only fails to mention any such evidence, but also fails to even make a claim that UCB, compared to dual billing, has disadvantaged EGSs.

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[28] 66 Pa. C.S. § 2802(6).
[29] 66 Pa. C.S. § 2802(9).
[30] 66 Pa. C.S. § 2802(10)
[31] PURA SCB Decision at 6.

C. The Commission Should Find That NRG Failed to Identify Any Legitimate Upside to Customers of Implementing SCB.

NRG flatly submits there is a "lack of any legitimate downsides" to SCB.[32] As set forth herein, NRG's claim is simply incorrect. In fact, given the significant likelihood of extensive customer confusion, disruption and degradation of service quality, and customer harms that will flow from interjecting EGSs into the billing and complaint processes, traditionally handled by EDCs, TURN *et al.* submits that the Commission should conclude that SCB presents *no legitimate upside* for customers.

Such a finding would be consistent with the conclusions reached by Connecticut's PURA, upon review of substantially the same claims NRG makes in its Petition. As PURA concluded:

> The billing of all electric services by a multitude of Suppliers at this time does not seem practical. The reasons are numerous. First, and foremost, there does not appear to be real benefits to ratepayers. If the desired result is to offer ratepayers the convenience of a single electric bill, the UCB is the most administratively and perhaps cost efficient way to provide this benefit. Second, while there is interest among some Suppliers who participated in this proceeding to provide SCB, the lack of Supplier participation in this proceeding seems to infer that to many, especially smaller companies, the interest in SCB is also lacking. Requiring the EDCs to make the necessary and potentially costly changes to their respective customer information systems and other processes to accommodate SCB for a small number of interested Suppliers would not be practical. Third, the billing components of electric service consist of numerous charges, the vast majority of which are for services provided or administered by the EDCs. These EDC charges are very complex with some having annual or semi-annual reconciliation mechanisms. Fourth, while the costs are unknown, it appears likely that enabling the EDCs to transfer the necessary billing information and for the Suppliers to obtain the necessary resources to successfully assume the billing responsibility could be costly to the EDCs and Suppliers and ultimately, to ratepayers. Fifth, other options exist for Suppliers to achieve the same or similar desired result. Finally, given the responsibilities that the EDCs have for billing aspects, such as meter installation and reading, bill inserts, and implementing rate

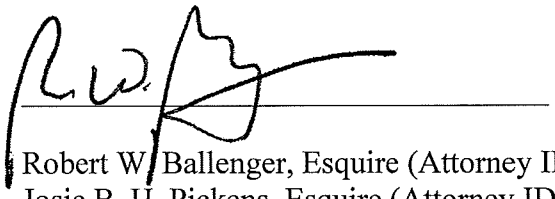
[32] Petition at ¶63.

changes, transferring the billing responsibilities to entities that have no responsibilities in these matters seems ill advised.[33]

II. CONCLUSION

For the reasons set forth in these Comments, TURN *et al.* urge the Commission to reject NRG's Petition in its entirety. In the alternative, TURN *et al.* submit that there are significant factual disputes concerning the merits, or lack thereof, of SCB, and that NRG's Petition should be referred to the Office of Administrative Law Judge in order to commence an on-the-record proceeding.

Respectfully Submitted,



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Dated: January 23. 2017

[33] PURA SCB Decision at 7.

BEFORE THE PENNSYLVANIA
PUBLIC UTILITY COMMISSION

PETITION OF NRG ENERGY, INC.	**:**	**Docket No: P-2016-2579249**
FOR IMPLEMENTATION OF ELECTRIC	**:**	
GENERATION SUPPLIER	**:**	
CONSOLIDATED BILLING	**:**	

REPLY COMMENTS OF TENANT UNION REPRESENTATIVE NETWORK AND ACTION ALLIANCE OF SENIOR CITIZENS OF GREATER PHILADELPHIA

Community Legal Services, Inc.

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I. INTRODUCTION

Tenant Union Representative Network and Action Alliance of Senior Citizens of Greater Philadelphia (collectively "TURN *et al.*") submit these Reply Comments in further opposition to NRG Energy, Inc.'s Petition of NRG Energy, Inc. for Implementation of Electric Generation Supplier Consolidated Billing ("Petition"). As TURN *et al*. maintained in Comments submitted on January 23, 2017, the Commission should reject NRG's Petition, and expend no further time or resources considering Supplier Consolidated Billing (SCB). In the alternative, as demonstrated almost universally in the parties' comments to NRG's Petition, significant factual questions have been raised regarding NRG's Petition, and the legality of SCB has also been called into question by multiple commenting parties. If the Commission decides not to reject NRG's Petition outright, TURN *et al*. maintain that the Commission must refer this matter to the Office of Administrative Law Judge for consideration in an on-the-record proceeding.

II. SIGNIFICANT FACTUAL DISPUTE EXISTS ABOUT SCB

As indicated in filed Comments, TURN *et al*. disagree with NRG's submission that there are no facts in dispute related to SCB.[1] Other commenters raise a significant number of factual issues, in addition to those raised by TURN *et al*. In addition to the issues raised by TURN *et al*., the Commission should give careful consideration to the observations of participants that NRG's assertions about the competitive market in Pennsylvania are incorrect and/or misleading. As an example, the Office of Consumer Advocate (OCA) counters NRG's incorrect characterization of Pennsylvania's retail electricity market as stagnant. To the contrary, OCA

[1] TURN *et al*. Comments, at 4.

points out that impressive growth in the Pennsylvania competitive market following the 2014 Polar Vortex has been observed by the Commission's Chairman. Given this fact, OCA concludes: "There is no support for the argument that the number of customers switching suppliers has not increased."[2]

As another example, NRG contends that SCB is necessary in order for it to forge relationships with customers.[3] TURN *et al*. submitted that NRG's position lacked merit, and failed to consider the myriad tools available to EGSs to establish customer relationships.[4] Startlingly, PECO's comments reveal that NRG's affiliates operating in the PECO service territory are not even taking full advantage of those tools made readily available to them through PECO's billing format, as approved by the Commission's Office of Competitive Market Oversight (OCMO).[5] PECO also submits that NRG's contention that Utility Consolidated Billing (UCB) does not provide an avenue for customized EGS bill messaging is flatly untrue.[6]

Based on the Comments of OCA, it appears, on the one hand, that NRG's Petition mischaracterizes how the competitive market in Pennsylvania is functioning. On the other hand, based on the Comments of PECO, NRG's Petition similarly disregards and misstates the tools available to it and other EGSs to forge relationships with customers. Perhaps most importantly however, TURN *et al*., observe that no party providing comments specifically endorsed NRG's foundational assertion that its Petition contained no contestable issues of material fact.[7] Indeed, even those comments submitted by Direct Energy, RESA and WGL Energy, all of whom support

[2] Comments and Answer of OCA, at 12, 15 ("Pennsylvania's retail market continues to grow and in the OCA's view, there has been no showing of necessity to implement [SCB]."). See also, Petition to Intervene of Duquesne Light, at 14-15 (taking issue with NRG's characterization of Pennsylvania's competitive market, and concluding that market is "dynamic, vibrant and growing again at a modest pace.").
[3] Petition, ¶9.
[4] See Comments of TURN *et al*., at 8-9.
[5] Comments and Answer of PECO Energy Company, at 11-12.
[6] Id at 12. See also Answer of Met-Ed, *et al*., at 15 (disputing NRG's assertion that joint bills give prominence to EDC, as opposed to EGS, logos and noting that a negative assessment of joint billing is premature.).
[7] Petition, ¶¶ 16, 69.

SCB to some extent, fail to specifically join with NRG in asserting that no material facts are raised by its petition. Accordingly, although NRG may wish the facts were actually as set forth in its Petition, they most certainly are not. NRG's Petition cannot be viewed favorably on the basis of what it mistakenly purports to be "facts."

III. RESA AND EGS COMMENTS IN SUPPORT OF NRG'S PETITION SHOULD NOT BE GIVEN SIGNIFICANT WEIGHT BY THE COMMISSION.

Comments by RESA, Direct Energy and WGL Energy, voicing support for SCB, rely upon fundamental mischaracterizations of the Electricity Generation Customer Choice and Competition Act (Choice Act), mistaken inferences and/or flawed analogies to other non-electricity products and services. TURN *et al*. believe these comments should not be given significant weight by the Commission, which should reject NRG's Petition for the reasons set forth in TURN *et al*.'s Comments.

RESA contends that SCB is "an important and necessary evolution of the retail electricity marketplace which will allow EGSs to begin to deliver on the original promises of technological and services-related innovation that were an integral part" of the Choice Act.[8] RESA fails to identify the source of its belief that the Choice Act was intended to achieve "technological or services-related innovation," and cites to no section of the Choice Act for this proposition. In fact, the Choice Act's Statement of Policy includes no language which could reasonably be read to support RESA's view of the Choice Act's purposes.[9] As TURN *et al*. previously commented:

> First and foremost, as a threshold matter, it must be observed that the primary legislative purposes of the Electricity Generation Customer Choice and Competition Act (Choice

[8] RESA Comments, at 1.

[9] Although RESA may point to 66 Pa. C.S. §2802(3), it is clear that this section (citing advances in electric generation technology as one factor which supports making direct access to competitive generation available to retail customers) applies to advances in the *generation* of electricity, not in the products made available to consumers. The Choice Act does not contain the word "innovate" or "innovation."

> Act), are to permit competitive forces to effectively control *the cost* of generating electricity, for the benefit of all classes of customers, while ensuring such service (essential to the health and well-being of residents) remains available to all customers on reasonable terms and conditions, and maintaining, at a minimum, the "protections, policies and services that now assist customers who are low-income to afford electric service." The Choice Act was not intended simply to foster the provision of prepaid electricity at great consumer risk or to market so-called value-added products by EGSs, regardless of their impact on customer bills. Rather, the Choice Act's primary purpose is to enable all customers to benefit from lower costs, while securing essential consumer protections.[10]

RESA's comments are predicated on a fundamentally unsupportable reading of the Choice Act, and should be disregarded.[11]

RESA, Direct Energy and WGL Energy share common views that SCB would assist them in forming better relationships with customers, and easing their ability to provide value-added or customized products, and facilitating their communications with customers.[12] Their position appears to rely on an inference that the market in Pennsylvania exists to serve EGSs, to make it easy for them to establish relationships and sell their products, rather than to serve customers, providing them with the choice of suppliers on favorable cost terms. In opposition to these mistaken beliefs, TURN *et al*. agree with the majority of other commenting parties that SCB is not necessary in order for an EGS to form a relationship with customers. Like NRG, RESA, Direct Energy and WGL Energy provide no evidence that EGSs are prohibited from establishing and maintaining customer relationships through direct mail, electronic mail, telephone contacts, newsletters, customer surveys, or any of the variety of voluntary activities

[10] TURN *et al*. Comments, at 9-10 (citations omitted).
[11] See also Answer of Met-Ed, *et al*., at 2 (observing that NRG is "out of step" with the primary focus of legislative intent in the Choice Act – price competition).
[12] RESA Comments at 4-7; Direct Energy Comments at 3-4; WGL Energy Comments at 3-4.

undertaken routinely by businesses seeking to establish relationships with new customers in every corner of Pennsylvania.[13]

Finally, RESA and WGL Energy analogize to other services, products, and even online retail powerhouse Amazon, to try to convince the Commission that SCB is the right next step for Pennsylvania's electric utility market to take. TURN *et al*. firmly disagree and find these analogies seriously flawed. The low-income Philadelphia tenants and seniors who are members of TURN and Action Alliance rely upon the basic consumer protections required to be available to them under the Public Utility Code, as core features of their relationship with EDCs. These customers do not establish a relationship with their electric utility in order to do holiday shopping on Amazon, book an overnight stay in New Orleans via AirBnB, or to book an Uber ride across town to take in a concert. Some even lack adequate resources to afford prepaid cell phones.

The relationship between low income customers, members of TURN *et al*., and their EDC is one of necessity, rooted in the electric utility company's duty to serve. Their ability to shop for EGS supply, while relying upon the EDC to fulfill its statutory and regulatory customer service responsibilities, must not be eroded simply to provide EGSs with easier access to market non-essential products and services. No innovation or technological advancement obviates the necessity of maintaining the customer relationship with EDCs, for the health, safety and well-being of low-income Philadelphia electric customers represented by TURN *et al*.[14] The Commission should completely disregard RESA's and WGL Energy's irrelevant statements

[13] The Energy Association of Pennsylvania agrees: "NRG and all EGSs already have the ability to directly bill for products or services offered and have various means available to build the desired 'long-term relationship' with customers." See EAP Comments at 13 (concluding NRG lacks standing, fails to demonstrate harm, presents no case or controversy, and so its petition must be dismissed).

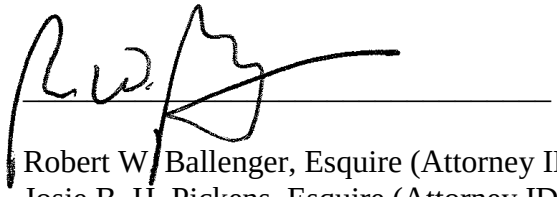
[14] Notably, industrial users echo concerns about the need to preserve the direct customer-utility relationship: "The industrials' Members prefer to deal directly with the EDC for all distribution-related matters. They need to have direct access to the EDC for core functions related to connectivity and basic service reliability." MEIUG *et al*. Comments at 3.

concerning advancements in other industries, which have no bearing on life-essential utility service provided through a relationship of necessity which SCB would fundamentally, and in some cases possibly fatally, disturb.

IV. CONCLUSION

For the reasons set forth in these Reply Comments, and after review of the comments submitted by other parties, TURN *et al.* continue to urge the Commission to reject NRG's Petition in its entirety. In the alternative, TURN *et al.* maintain that significant factual disputes concerning the merits, or lack thereof, of SCB require this matter to be referred to the Office of Administrative Law Judge in order to commence an on-the-record proceeding.

Respectfully Submitted,



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Dated: February 22. 2017

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Petition of PECO Energy Company for	**:**	
Approval of Its Default Service Program for	**:**	**P-2020-3019290**
the Period From June 1, 2021 Through	**:**	
May 31, 2025	**:**	

TURN *et al*. Statement No. 1-R – Exhibit C

Response of PECO Energy Company to
TURN *et al*.'s Interrogatories Set I (TURN-I-12(e)(Attachment))

Pennsylvania Public Utility Commission
v.
PECO Energy Company

Petition of PECO Energy Company for Approval of
Default Service Program

Docket No. P-2020-3019290

Response of PECO Energy Company
To Interrogatories of the
Tenant Union Representative Network
TURN Set I
Response Date: 05/18/2020

TURN-I-12

Reference Q&A 21 of PECO St. 2 (Bisti). Is PECO aware of any third-party analyses of the impact of TOU rates on low income customers? If so, please provide copies of those analyses.

RESPONSE:

Please refer to Attachments TURN-I-12(a) thru TURN-I-12(d).

Please also refer to Attachment TURN-I-12(e), specifically Q&A 29 on Page 20 and associated Exhibit AF-20 on Page 38.

Responsible Witness: Joseph A. Bisti

PECO ENERGY COMPANY
STATEMENT NO. 3

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

PETITION OF PECO ENERGY COMPANY
FOR APPROVAL OF ITS
SMART METER TECHNOLOGY PROCUREMENT AND
INSTALLATION PLAN

DOCKET NO. M-2009-2123944

DIRECT TESTIMONY
SUPPORTING PECO'S PETITION FOR APPROVAL OF
ITS INITIAL DYNAMIC PRICING AND CUSTOMER
ACCEPTANCE PLAN

WITNESS: DR. AHMAD FARUQUI

SUBJECT: METHODOLOGY USED TO
DERIVE DYNAMIC PRICING
RATE DESIGNS

DATED: OCTOBER 28, 2010

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DIRECT TESTIMONY
OF
DR. AHMAD FARUQUI

I. INTRODUCTION AND PURPOSE OF TESTIMONY

1. Q. Please state your full name, title and business address.

A. My name is Dr. Ahmad Faruqui. I am a Principal with The Brattle Group, a consulting firm with offices in the United States and Europe. My business address is 353 Sacramento Street, Suite 1140, San Francisco, California 94111.

2. Q. Please describe your qualifications.

A. I have three decades of research and consulting experience in the design and evaluation of demand-side programs and have authored or co-authored over 100 papers and edited or co-edited four books on the topic. This year I assisted the Federal Energy Regulatory Commission ("FERC") in developing the National Action Plan for Demand Response. Last year, I assisted FERC in conducting a state-by-state assessment of the potential for demand response and dynamic pricing programs. I also wrote a whitepaper for the Edison Electric Institute on quantifying the benefits of dynamic pricing. During the past few years, I have worked for several utilities, Independent System Operators/Regional Transmission Organizations and state/provincial commissions in assessing the benefits of dynamic pricing by designing pilot programs and conducting cost-benefit analyses. I hold a doctoral degree in economics from The University of California at Davis.

3. Q. What is the purpose of your direct testimony?

A. The purpose of my testimony is to describe the methodology that was used to derive the dynamic pricing rate designs that are being recommended for deployment in PECO Energy Company's ("PECO's") Initial Dynamic Pricing and Customer Acceptance Plan ("Plan"). There is a wide range of dynamic pricing rate designs which could be offered by PECO, and each option brings with it a unique set of advantages and disadvantages. Carefully selected and well designed rates can satisfy a broad range of objectives and provide customers with significant incentives to participate and benefit. In my testimony, I will lay out that rate selection and design process.

4. Q. What are the basic conclusions of your testimony?

A. I conclude that there are two types of dynamic pricing rates that PECO should offer to customers in its Plan. The first, called a critical peak pricing ("CPP") rate, provides customers with an opportunity to lower their electricity bill by reducing usage during a limited number of hours on "event" days when peak demand reductions are most valuable from a power system perspective. The second rate is a simple Time-of-Use ("TOU") rate, designed to encourage permanent load shifting away from high priced hours during every weekday.

5. Q. How is your testimony organized?

A. The remainder of my testimony is organized into five sections. The first section describes the rate screening and selection process. The second section provides detail on how the recommended rates were designed. The third section includes projections of how, on average, participating customers will change their usage profiles in response to the new rates. The fourth section provides a detailed look at how customer bills will be affected when customers enroll in the new rates. Finally, the fifth section provides a summary of my basic conclusions and recommendations.

6. Q. Have you prepared exhibits to accompany your testimony?

A. Yes. I have provided a series of exhibits to graphically illustrate key aspects of my testimony. They are included as PECO Exhibits AF-1 through AF-21.

II. EVALUATING DYNAMIC PRICING RATE OPTIONS

7. Q. What were the steps you took in arriving at the recommended dynamic pricing rate options?

A. The first step was to identify the universe of possible rate options for consideration. Then, criteria were established for evaluating these options against the objectives of the Plan. Each rate option was subjectively screened against these criteria based on existing research and my own judgment and experience developing these rates for other utilities across North America. Based on this initial screening, prototypes of the more attractive rate options were developed and presented at a series of stakeholder

meetings. Stakeholder feedback was incorporated into the analysis, and the rate prototypes were refined to arrive at the final recommendations.

8. Q. Which dynamic pricing rate designs were considered in your analysis?

A. My analysis began by considering a broad spectrum of time-varying rates, ranging from a TOU rate to what is called a critical-peak real-time pricing ("CP-RTP") rate structure (which couples hourly price variation with strong price signals during event periods). Descriptions of each rate type are provided in PECO Exhibit AF-1. These rates have many distinguishing features, such as the type of price signal they provide (higher peak price versus rebate payment for load curtailment), the granularity of the pricing periods (two periods, three periods, or hourly), and the frequency of the pricing periods (every weekday versus during a limited number of days in the summer).

9. Q. What criteria did you use to evaluate these rate designs?

A. Five key criteria were established to determine whether the rates were consistent with PECO's corporate goals and in the best interest of its customers. These criteria are as follows:

1. Simplicity and ease of understanding: Will customers be able to quickly understand the rate? Is it actionable?;

2. Customer value proposition: Does the rate provide customers with a significant bill savings opportunity?;

3. Retail-wholesale market connection: Does the rate tie the structure directly to the wholesale market; are rates developed consistently with how the Company is procuring power through its approved default service plan?;

4. Incentive to reduce peak demand: Is the rate expected to produce significant reductions in peak demand?; and

5. Incentive for permanent load shifting: Will the rate encourage customers to permanently shift load from higher cost hours to lower cost hours?

10. Q. What conclusions did you reach based on your evaluation of the array of time varying-rates?

A. Each rate design was subjectively evaluated against the five criteria. The evaluation used a score of "high," "medium," or "low" to represent how well the rates met each of the criteria. The foundation for the scores was an intuitive understanding of each rate design based on my experience designing and evaluating these rates for utilities in the Northeast and across North America and is supported by published research on the topic. PECO Exhibit AF-2 summarizes the results of the evaluation of the most attractive rate options.

My evaluation identified four rate designs that initially appeared to do the best job of meeting PECO's objectives for the Plan. These are CPP, CPP-TOU, peak time rebates ("PTR"), and CP-RTP. The CPP rate would provide a strong demand response signal and, therefore create significant bill savings opportunities for customers. The CPP-TOU provides a similar demand response signal and also

includes a TOU component that would incentivize permanent load shifting and further bill reduction opportunities. The CP-RTP also provides similar opportunities for bill reduction. Finally, the PTR is an attractive alternative in the sense that it cannot lead to bill increases relative to the existing rate.

Further examination of these rate options led to a preliminary conclusion that both CPP and CPP-TOU be included in the Plan as the best candidates for testing customer response and acceptance. While the CP-RTP would provide the most granularity by offering hourly prices, hourly price variation likely entails too much uncertainty and risk for residential and smaller commercial customers who have been enrolled in flat rates for decades.

An analysis of the PTR suggested that, while it serves as a form of bill protection, the design inherently includes a number of implementation challenges that stem from the need to estimate an individual baseline usage level for every participant in order to calculate the participant's rebate amount. All baseline estimation methods are only an approximation and would ultimately result in some level of free-riding (when customers are paid rebates in the absence of any change in behavior), and this would have to be funded by non-participants. CPP and CPP-TOU rates do not present these issues.

11. Q. Have your recommendations changed due to stakeholder input?

A. Yes. The rates were presented at a series of stakeholder meetings to solicit feedback on the rate designs, particularly with respect to the perceived attractiveness of the rate

structures to customers. Some stakeholders felt that there were significant customer acceptance barriers if only dynamic rate structures with a critical peak pricing ("CPP") component were offered. They further suggested that just offering a TOU would be a good first step into dynamic pricing because the simplicity of the TOU rate is more attractive. To address the concerns of the stakeholders and maintain a program design that evaluates both moderate and strong price signals, we decided to replace the original CPP-TOU option with a TOU structure. The resultant offering has the benefit of providing a load shifting incentive in the TOU rate and a demand response incentive in the CPP rate. Including both a CPP and a TOU in the Plan design allows for a beneficial comparison of which design is more attractive to customers. For example, do customers like the simplicity of the TOU or will they be more receptive to the potential for greater bill savings on the CPP? These questions will be answered through the Plan's implementation.

12. Q. What rate or rates will be offered to commercial and industrial customers?

A. Small and medium commercial and industrial customers ("S/MC&I") will be offered the CPP rate only.[1] PECO anticipates that a relatively small number of these customers will be available for testing dynamic rates because the population that will receive smart meters is relatively small to begin with and many of these customers are likely to shop (i.e., not take default service from PECO). As such, the number of

[1] As explained in the direct testimony of Frank Jiruska (PECO Statement No. 1), pursuant to PECO's approved Default Service Plan, large commercial and industrial customers (those with demand greater than 500 kW) will already be offered a dynamic rate structure starting January 1, 2011, namely, hourly pricing. *See Petition of PECO Energy Company for Approval Of Its Default Service Program And Rate Mitigation Plan*, Docket No. P-2008-2062739 (Order entered June 2, 2009).

options that can be tested among S/MC&I customers is quite limited. Mr. Jiruska further explains PECO's reasoning for selecting the CPP rate in his testimony.

III. DESIGNING DYNAMIC PRICING RATES

13. Q. What are the basic steps you used to develop the CPP and TOU rates?

A. First, I relied on PECO system data to determine the definitions of seasons and peak periods that would optimize the impacts of the rates. Then, using best practices in rate design that I have developed and observed working with utilities around North America, I established prices for each period of the rate. The rates are designed to be cost-based and revenue neutral for each customer class. I designed a CPP and TOU rate for the residential class and only a CPP rate for the small commercial (less than 100 kW of demand) and medium commercial (between 100 kW and 500 kW of demand) customer classes.

14. Q. How did you determine the summer season for the rates?

A. For the purpose of designing dynamic pricing rates, the summer season should include the months when system load and energy prices are highest. Because the critical events (e.g. highest price periods) will occur in these summer months, it is important to communicate to customers the need to reduce usage during these months, which, in turn, would lead to lower system load and lower energy prices during those times. PECO's existing tariff already includes a seasonal component, with the summer months defined as June through September. After examining recent hourly PECO system loads and locational marginal prices ("LMPs"), I concluded that

this current definition reasonably captures the months with the highest load and LMPs. *See* PECO Exhibits AF-3 and AF-4. Therefore, the same four-month summer definition was maintained in the CPP design and, as a consequence; the critical event days can only be called during the summer months. The TOU rate, on the other hand, is designed on a year-round basis. This design increases understanding and simplicity for the customer.

15. Q. How did you determine the timing of the peak period for each rate?

A. System load and energy prices were also used to determine the most effective peak period for the rates. In each summer month, the hours between 2 pm and 6 pm tend to have the highest system loads. Similarly, the LMPs appear to be higher during these four hours of the day, although with more variation. *See* PECO Exhibits AF-5 and AF-6. Given these observations, the peak period was defined as 2 pm to 6 pm on non-holiday summer weekdays. This peak period applies during the critical peak event days of the CPP as well as the peak periods of the TOU. While likely to coincide with the highest demand and highest priced hours on the system, a four hour peak period is still sufficiently short to provide customers with the capability of shifting load to lower-priced (off-peak) hours.

16. Q. How did you set the prices for each rate class?

A. In developing the prices for each rate class, I observed several important principles in dynamic pricing rate design. For example, I designed each rate to be revenue neutral. Revenue neutrality means that, in the absence of any change in customer behavior,

PECO's revenues would be unaffected by the new rate (relative to revenues that would have been generated under the existing rate). For both rates, the off-peak prices were calculated algebraically to provide a discount from the existing rate that offsets the higher peak period price and ensures revenue neutrality.

I also designed the rates to be cost-based. For both rate designs, the peak (or critical peak) period prices reflect the marginal cost of capacity during those hours. The 2012 capacity price is $140 per MW-day, which translates into roughly $51 per kW-year. For the CPP rate, this cost was spread out over the 60 critical peak hours of the year, leading to a marginal capacity cost of 85 cents per kWh. This cost was allocated to the critical peak hours only, since it is the peak load that drives the need for new capacity. To attain the critical peak rate, this capacity cost was added to the energy portion of the existing generation charge, a transparent calculation that is relatively easy to explain to customers.

The calculation of the TOU rate depends on both the forward prices and the cost of capacity. First, a temporary, revenue neutral TOU rate was created to match the ratio found in the forward prices. At this point, the rate was made revenue neutral relative to the existing generation charge, less the capacity portion. Then, similar to the CPP rate, the capacity cost was spread evenly over all 1,044 peak hours, creating a marginal capacity cost of 5 cents per kWh, which was added to the peak rate. The off-peak rate was adjusted to offset the peak price increase and maintain revenue neutrality relative to the entire generation charge. Using this methodology, the expected energy and capacity costs are reflected in the peak price.

Finally, the seasonal factors were considered. Each rate applies year-round, but the critical events of the CPP can only occur during the summer season, when the highest system load hours are likely to occur. The year-round discount embodied in each rate provides an added benefit to the residential heating customers, who tend to have higher loads in the winter months. The calculations are described in detail in Appendix A to my testimony.

17. Q. Do the prices in your illustrative rate designs reflect the cost of PECO's direct purchases?

A. Yes. I have developed the rates such that they are directly based on PECO's forward purchases of energy and capacity. The peak-to-off-peak price differential of the TOU rate is derived from PECO's forward market purchases. For both rate designs, the peak price also reflects the cost of generating capacity in the 2012 PJM capacity auction. Using a methodology such as the one I have described, PECO could regularly update the rate design as their procurement costs change in order to maintain a direct link to market prices. See Appendix A to my testimony for a detailed example.

18. Q. Please describe the final CPP and TOU rates you developed.

A. First, it should be noted that my calculations are intended only to provide an illustrative picture of how the rates might look when deployed. While the methodological approach would remain unchanged in practice, the underlying costs

are likely to change with the dynamics of the market and, therefore, the absolute prices will likely be different during the Plan's rollout.

The CPP rate features a higher-than-average critical peak price during the four-hour peak period on event days (to be called 15 days per summer[2]) and a discounted off-peak rate for the other hours of the year. The critical peak price is 100.9 cents per kilowatt-hour for the residential class. The off-peak rate, which customers see in the remaining 8,700 hours of the year, is 15.6 cents per kilowatt-hour, a non-trivial discount from an assumed default rate of 16.5 cents/kWh. During the non-summer months, the customers on this rate see only the off-peak discount. The residential CPP rate is illustrated in PECO Exhibits AF-7 and AF-8. The non-residential CPP rates are very similar, but with slightly different off-peak discounts due to differences in the class load shapes.

The TOU rate is composed of a moderate peak rate of $0.241 per kWh during 1,044 hours of the year with a small off-peak discount during the other hours. The ratio of the all-in peak rate to the all-in off-peak rate is 1.56, which reflects the ratio found in the forward prices as well as the additional capacity cost during peak hours, as discussed above. The year-round off-peak price provides an additional financial benefit to the residential heating customers who tend to consume more electricity during the winter months. An illustration of the TOU rate is provided in PECO Exhibits AF-9.

[2] PECO will call event days utilizing a similar algorithm that will be used to call the 100 highest hours to comply with Act 129's load reduction requirements.

IV. SIMULATING CUSTOMER RESPONSE TO DYNAMIC PRICING RATES

19. Q. Is there evidence that customers change electricity usage behavior when enrolled in rates such as those that you have developed for PECO?

A. Yes. Once PECO's customers are enrolled in the new dynamic pricing rates, they will likely change their pattern of electricity consumption because the rates will provide a strong incentive to curtail usage during peak hours and shift some or all of that usage to lower-priced off-peak hours. This behavior has been observed in experimental pricing pilots conducted across the U.S. and internationally. I have designed, evaluated, or surveyed 17 such pricing pilots conducted on three continents over the past decade. These pilots included more than 20,000 customers and tested 70 different combinations of dynamic pricing rates and enabling technologies. The results of each pilot showed that customers are responsive to time-varying rates.

Participants in these pilots described a number of ways in which they changed their usage patterns in response to the dynamic pricing rates. Residential customers said they delayed using certain appliances until after the event period had concluded or changed their behavior based on general awareness of inefficient practices, (e.g., leaving lights on in unoccupied rooms). C&I customers said they installed more efficient equipment, made industrial processes more energy efficient, and, in some cases, even modified hours of operation.[3]

20. Q. Have you estimated customer response to the CPP and TOU rates?

[3] Compiled from several reports on end-of-pilot customer surveys conducted during the California Statewide Pricing Pilot.

A. Yes. I have developed projections of changes in electricity usage behavior for the average residential customer on the CPP and TOU rates as well as the average small commercial and medium commercial customer on the CPP rate.

21. Q. Please describe your process for predicting customer response.

A. To simulate customer response to each of PECO's dynamic pricing rate designs, I relied on the Price Impact Simulation Model ("PRISM"). The PRISM software captures the actual responses of thousands of customers on dynamic pricing rates during several recent pricing experiments across North America and formed the basis for the FERC assessment noted in my response to Question 2. The responses from these experiments are tailored specifically to PECO's system characteristics and dynamic pricing rate designs to produce likely estimates of load shape impacts for the average PECO residential, small commercial and medium commercial customer.

PRISM simulates two distinct impacts on customer usage patterns. The first is called the "substitution effect," which captures a customer's decision to shift usage from higher priced peak periods to lower priced off-peak periods. The second impact is called the "daily effect" and captures the overall change in usage (i.e. conservation or load building) that is induced by differences in the average daily price of the new rate relative to the existing rate. The magnitude of these impacts depends on the structure of the dynamic pricing rate that is being tested, as well as a number of factors that influence the relative price responsiveness of a utility's customers (such as weather, central air conditioning ("CAC") saturation, or presence of enabling technologies).

For example, higher peak-to-off-peak price differentials produce greater reductions in peak demand.

The elasticities used to estimate customer response in PECO's service territory are from recent dynamic pricing pilots. For residential customers, elasticity estimates are from Baltimore Gas and Electric Company ("BGE"). BGE and PECO have roughly comparable CAC saturations, similarly urban service territories, geographic locations east of the Rockies (indicating higher summer humidity than the Western U.S.), and similarities in the rate designs being evaluated. Due to these similarities, the elasticities from BGE's pilot serve as the basis for simulating PECO residential customer response. For S/MC&I customers, elasticities from the California Statewide Pricing Pilot ("SPP") were used. The SPP was conducted over multiple years and tested the price responsiveness of S/MC&I customers similar in size to PECO's small commercial and medium commercial classes. Generally, S/MC&I customers are found to be less responsive than residential customers in terms of the percent of load that is shifted or curtailed, but these classes have still exhibited significant levels of price responsiveness.

PECO Exhibit AF-10 illustrates the PRISM modeling framework, starting first with the basic model inputs and then identifying how these influence the drivers of the model results, which are a function of the substitution and daily effects.

22. Q. What are the results of your simulations of changes in usage during event periods?

A. The PRISM simulations suggest that the CPP and TOU rates will provide sufficient incentives to induce consumption changes among PECO's customers. For both rates, significant reductions in critical peak demand are expected. The simulations predict that the residential class will reduce critical peak demand by 16 percent under the CPP rate and 4 percent under the TOU rate. The S/MC&I classes will have peak reductions in the 9 percent to 10 percent range. The results for each class are illustrated in PECO Exhibit AF-11.

23. Q. What are the results of your simulations of changes in usage during non-event peak periods?

A. Recall that during non-event peak hours, the CPP rate consists of the discounted off-peak rate while the TOU rate maintains the moderate peak price. Given these designs, the TOU rate is expected to produce permanent load shifting away from all peak hours of the year, not just on event days. The PRISM simulations suggest that the residential class will shift 4% of its peak period load away from non-critical peak hours when enrolled in the TOU rate. On the CPP rate, all three classes are expected to increase non-event peak load slightly (roughly 0.2%) due to the off-peak discount. These results are shown in PECO Exhibit AF-12.

V. UNDERSTANDING CUSTOMER BILL IMPACTS

24. Q. Have you estimated the impacts of these dynamic pricing rates on customer electricity bills?

A. Yes. I have simulated bill impacts for the average residential, small commercial and medium commercial customers on both an annual and a seasonal basis. Additionally, I have estimated the distribution of bill impacts across a representative sample of PECO's customers in each of these classes.

To calculate each customer's expected bill change, I use their historical hourly usage data (as provided to me by PECO) and calculated their bills using the existing rate and the new rate. A comparison of these two calculations provides an estimate of the bill change due only to the change in the rate structure. I then calculated the customer's bill using the dynamic pricing rate and an hourly load profile that has been modified to reflect the expected change in usage behavior that was produced using the PRISM simulations.

25. Q. How will annual bills change for the average customer?

A. In the absence of any change in behavior, the class average customer's bill will remain unchanged. This is because the dynamic pricing rates are designed to be revenue neutral. However, after accounting for the projected level of customer response to the new rates, I would expect the average customer's annual electricity bill to decrease. For the residential customers, the CPP and TOU rates are expected to lead to class average annual bill reductions of roughly 0.8% and 0.1%, respectively

with likely bill savings up to 4%. Due to a usage pattern with higher consumption during the discounted winter months and off-peak hours, the residential heating customers are expected to see even greater annual decreases. For the average residential customer and the residential heating customer, the CPP rate provides a greater opportunity for bill savings. The bill impacts are similar for the small commercial and medium commercial classes on the CPP rate. These results are shown in PECO Exhibit AF-13.

26. Q. Will these bill impacts vary on a seasonal basis?

A. Yes. Since critical days occur in the summer, the CPP bill impacts are not spread evenly throughout the year. Thus, the expected bill impact is an increase in the four summer months and a decrease in the eight non-summer months (averaging out to the annual bill reductions shown previously). The average 4-month summer bill increase on the CPP rate should be around 7% for the residential class, balanced out by a bill decrease of 6% during the eight non-summer months. For the small commercial and medium commercial classes, the summer bill increase could be as high as 11%, again balanced out by bill decreases during the non-summer months. Due to the year-round nature of the TOU rate, the bill impacts are close to zero for the average residential customer in both seasons. Seasonal bill impacts for each class are illustrated in PECO Exhibit AF-14.

27. Q. Should all customers expect to see bill impacts similar to those of the average customer?

A. No. Analyzing the bill impacts for the average customer only tells part of the story. Load profiles vary significantly across customers. Some customers tend to be "peaky," with more load during the peak hours of the day, while other customers tend to have flatter load shapes. These different types of load shapes are illustrated in PECO Exhibit AF-15.

28. Q. What will be the range of possible bill impacts across PECO's customers?

A. The bill impact of a dynamic pricing rate is partly driven by the customer's load profile. Under dynamic pricing rates such as the CPP or TOU, customers with higher-than-average load in the peak hours ("peaky" customers) will tend to experience bill increases, while customers with flatter load shapes will tend to experience bill decreases. In order to understand the range of potential bill impacts for these types of customers, I simulated bill impacts for a representative sample of PECO's customers using the CPP and TOU rates. Before customers respond to the rate, the most extreme bill impacts are as large as a six percent increase or decrease. Roughly half of customers experience bill savings and the other half experience a bill increase. These results are shown in PECO Exhibit AF-16. After residential customers respond to the rate, roughly 63 percent would experience bill savings on the CPP rate and 61% on the TOU rate, as shown in PECO Exhibit AF-17.

Residential Heating customers will be even better off. Due to the load shape of these customers, even before any customer response, 73% of customers would experience bill savings on the TOU rate and 91% would experience bill savings on the CPP rate. After customer response, these numbers would increase with 85% of customers

experiencing savings on the TOU and 97% of customers experiencing savings on the CPP.

A similar analysis was conducted for both small commercial and medium commercial customers. Because there is significantly more diversity in load shapes within these two customer classes, the potential range of bill impacts is larger. This is particularly true for the small commercial class, in which some of the smallest customers also have the peakiest load shapes. The results of the small commercial and medium commercial bill impacts analysis are presented in PECO Exhibit AF-18 and AF-19, respectively. After accounting for customer price response, roughly 51 percent of the small commercial customers and 61 percent of the medium commercial customers would experience bill savings.

29. Q. Is there evidence that low income customers can respond to dynamic pricing rates?

A. Yes. Recent studies in California, Connecticut, Maryland, and Washington, D.C. have found that low income customers do respond to dynamic pricing rates. In fact, in some cases the Connecticut and Maryland pilots found that the average low-income customer's response was the same as that of the average residential customer. The low income response as compared to the average response from these studies is shown in PECO Exhibit AF-20.[4]

[4] Note that, in some cases, the "average" customer in the pilot is a combination of low income customers and the remaining sample of participants, because data are not available at the level of granularity necessary to separate the two classes.

30. Q. How would the rates that you have designed affect the bills of residential customers enrolled in PECO's Customer Assistance Program ("CAP")?

A. Analysis shows that the current CAP discount that low income customers receive far exceeds any potential savings that low income customers could achieve under dynamic pricing rates. CAP E customers (those who qualify for the smallest discount) would experience average bill increases of 24% and 26% with the CPP and TOU rates, respectively, even after shifting their load. These results are shown in PECO Exhibit AF-21. In light of this analysis, and as discussed by Mr. Jiruska, PECO has decided that CAP customers will not be eligible for the Plan's dynamic rates. PECO will, however, provide a random sampling of CAP customers with in-home displays ("IHDs") and related educational materials in order to evaluate the effect of near real time information feedback on their energy usage.

VI. CONCLUSION

31. Q. What are your final recommendations for PECO regarding the rates that should be included in its Plan?

A. Through a combination of stakeholder input, expert judgment, and quantitative evaluation, I have concluded that the CPP and TOU are the appropriate dynamic pricing rates for PECO to offer in its Plan. An informed simulation of customer response to these rate designs confirms that they will provide bill savings opportunities for customers. Further, they are likely to produce significant reductions in peak demand, which would provide benefits to default service customers through

the prices obtained in default service procurements. As proven through recent pricing pilots, these rates are fairly simple for customers to understand (with some education) and for the utility to implement. And, by providing a time-varying price signal that is tied directly to system costs, the rates would provide a strong link to the wholesale electricity markets.

32. Q. Does this conclude your testimony?

A. Yes, it does.

APPENDIX A

Developing the TOU & CPP Rates

I. TOU Rate for the Residential Class

There are four steps in developing a cost-based TOU rate that reflects future expectations of energy and capacity procurement costs.

First, "shape" the forward prices using historical LMPs. The "peak" and "off-peak" period definitions in the forward prices do not correspond to those periods as defined in the TOU rate. For example, the forward peak period is from 7 am to 11 pm on non-holiday weekdays and the TOU peak period is from 2 pm to 6 pm on non-holiday weekdays. To account for this difference, the forward prices are "shaped" using historical LMPs:

1. Calculate the average 5x16 forward price ($58.28/MWh)
2. Using historical LMPs,[1] calculate the relationship of the average LMP during the TOU peak period to the average LMP during the 5x16 period (a ratio of 1.11-to-1)
3. Scale up the average 5x16 forward price using the factor developed in step 2 (resulting in an adjusted forward "peak" price of $64.48/MWh)
4. Repeat this scaling process to also establish an adjusted off-peak forward price, using the average forward price for the non-5x16 hours and the associated LMPs (resulting in an adjusted "off-peak" forward price of ($45.32/MWh)

Second, calculate the ratio of the shaped peak and off-peak forward prices. The result is a peak-to-off-peak price ratio in the adjusted forward prices of 1.42-to-1.

Third, use this ratio to create the peak and off-peak prices of the TOU rate. At this stage, the revenue neutrality calculation is based on an assumed existing rate of 10 cents/kWh less the 0.58 cent capacity portion of this rate, or 9.42 cents/kWh.[2] The TOU prices are calculated using two constraints: (1) the TOU rate is revenue neutral to a 9.42 cents/kWh flat generation charge and (2) the peak to off-peak ratio of the TOU is the same as that calculated in the adjusted forward prices (1.42). There is a unique solution to this problem, and the resulting generation rates are:

Peak: $0.127 per kWh
Off-Peak: $0.090 per kWh

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[1] We are currently using LMPs for the period between April 2008 and March 2009. Using other years of LMPs would not significantly change the analysis.

[2] To calculate the capacity portion of the 10 cent assumed existing rate, we divide $51.03 kW-year by the 8760 hours of the year, which equals 0.58 cents.

Fourth, add the capacity adder to the peak price and adjust accordingly. The peak price must also reflect a capacity cost of $51.03 kW-year.[3] This is allocated evenly to the 1,044 peak hours of the TOU, resulting in peak price increase of roughly 5 cents per kWh. The off-peak rate is adjusted downward to offset the peak price increase and maintain revenue neutrality. Now, the revenue neutrality calculation is based off of the assumed existing rate of 10 cents/kWh, which includes both energy and capacity. The result is the following generation rates:

Peak: $0.176 per kWh
Off-Peak: $0.089 per kWh

With non-generation costs included, the all-in rates are:

Peak: $0.241 per kWh
Off-Peak: $0.154 per kWh

II. CPP Rate for the Residential, Small C&I, and Medium C&I Classes

The CPP rate development is a relatively simple two-step process.

First, calculate the critical peak price. Given 15 critical peak days with a 4 hour critical peak period, there are 60 critical peak hours per year. As with the TOU rate, the capacity cost of $51.03/kW-year is allocated across these 60 critical peak hours, creating a capacity adder of roughly 85.1 cents. Again, we assume a 10 cent existing generation charge, which includes a 0.58 cent capacity cost. To calculate the critical peak rate, we add the capacity adder to the existing rate less the capacity cost, equaling $0.945/kWh. .

Second, solve the off-peak price for revenue neutrality. In order to maintain revenue neutrality, the off-peak price is slightly different for each class due to differences in class load shapes. The assumed existing rate used in the revenue neutrality calculation is 10 cents/kWh. In this case, the generation-only off-peak rates are as follows:

Residential Class – Off-Peak: $0.091 per kWh
Small C&I Class – Off-Peak: $0.092 per kWh
Medium C&I Class – Off-Peak: $0.092 per kWh

With non-generation costs included, the all-in rates are:

Residential Class – Critical Peak: $1.009 per kWh
Residential Class – Off-Peak: $0.156 per kWh

[3] The average PJM capacity auction outcome for year 2012.

Small C&I Class – Critical Peak: $0.971 per kWh
Small C&I Class – Off-Peak: $0.118 per kWh

Medium C&I Class – Critical Peak: $0.967 per kWh
Medium C&I Class – Off-Peak: $0.114 per kWh

AHMAD FARUQUI EXHIBITS

PECO Exhibit AF-1:
Rate Options Initially Considered

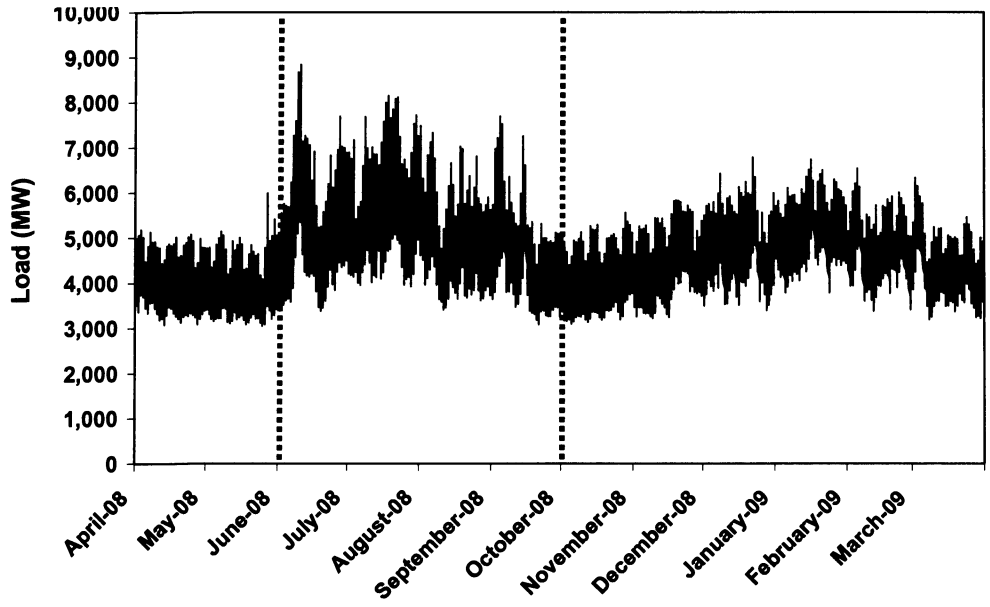
Rate	Description
Time-of-Use (TOU)	Charges a higher price during all weekday peak hours and a discounted price during off-peak and weekend hours
Super Peak TOU	Similar to the TOU except that the peak price is offered during a much smaller number of hours of the year, leading to a stronger price signal
Inclining Block Rate (IBR)	Customer usage is divided into tiers and usage is charged at higher rates in the higher tiers; meant to encourage conservation
Critical Peak Pricing (CPP)	Customers are charged a higher price during the peak period on a limited number of event days (often 15 or less); the rate is discounted during the remaining hours
Variable Peak Pricing (VPP)	Critical Peak Pricing rate with added variability
CPP-TOU Combination	A TOU rate in which a moderate peak price applies during most peak hours of the year, but a higher peak price applies on limited event days
Peak Time Rebate (PTR)	The existing flat rate combined with a rebate for each unit of reduced demand below a pre-determined baseline estimate during peak times on event days
Real Time Pricing (RTP)	A rate with hourly variation that follows Locational Marginal Pricing (LMPs), but with capacity costs allocated equally across all hours of the year
Critical Peak RTP (CP-RTP)	A rate with hourly variation based on LMPs and with a capacity cost adder focused only during event hours, creating a strong price signal at these times

PECO Exhibit AF-2:
Results of Rate Evaluation

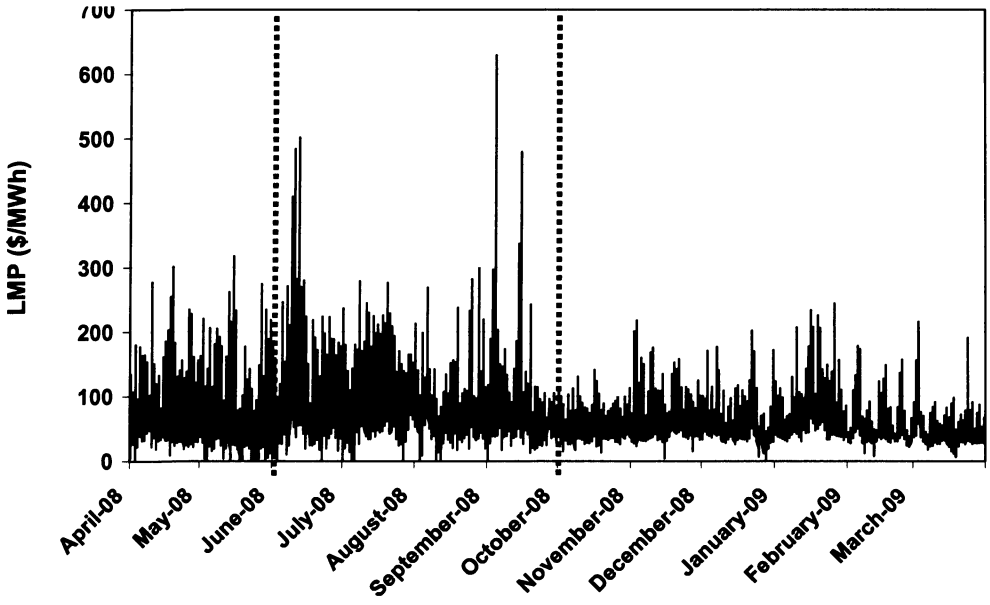
	Simplicity	Value Proposition	Retail-Wholesale Connection	Peak Reduction	Load Shifting	Description
TOU	H	L	M	M	H	**Provides strong incentive for permanent load shifting**
CPP	M	H	M	H	L	**Simple, focused rate for targeted reductions during top load hours**
CPP/ TOU	M	H	H	H	M	**Provides combined incentive of load shifting and demand response**
PTR	M	M	L	H	L	**Residential rate produces no immediate "losers"; potentially most applicable for low income residential customers**
RTP	L	L-H	H	L	M	**Conveys variability in hourly LMP which provides some load shifting value**
CP RTP	L	L-H	H	H	M	**Provides additional curtailment incentive beyond LMP during top load hours**

L = Low, M = Moderate, H = High

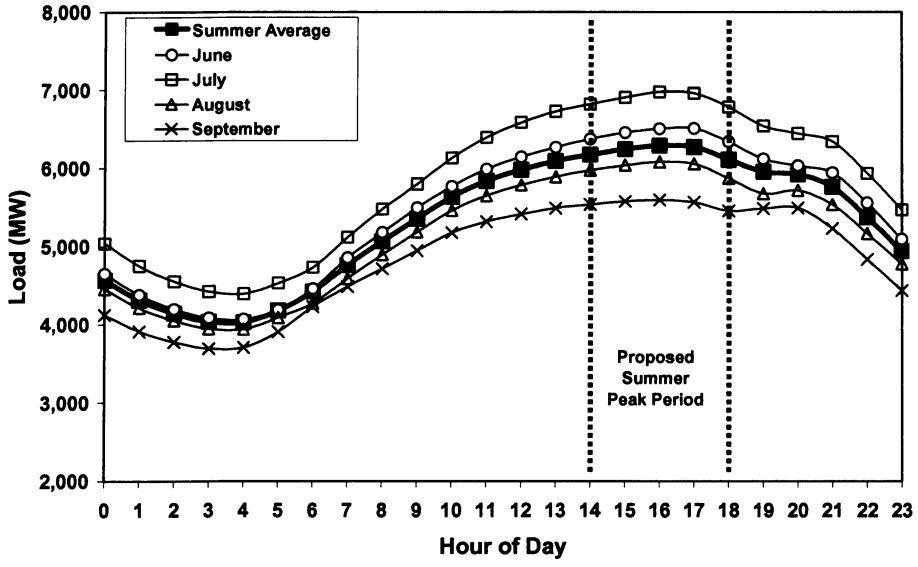
PECO Exhibit AF-3:
PECO System Load (April 2008 – March 2009)



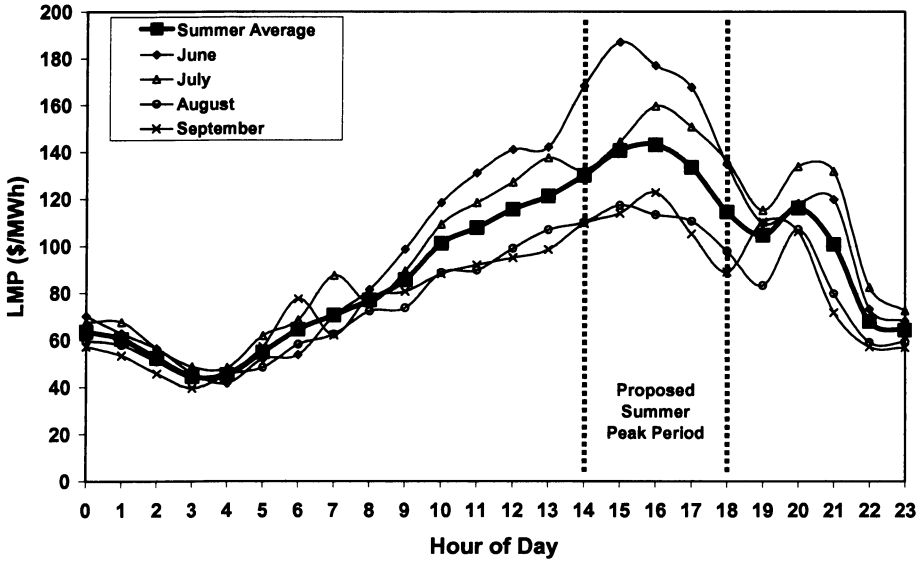
PECO Exhibit AF-4:
PECO Locational Marginal Price (April 2008 – March 2009)



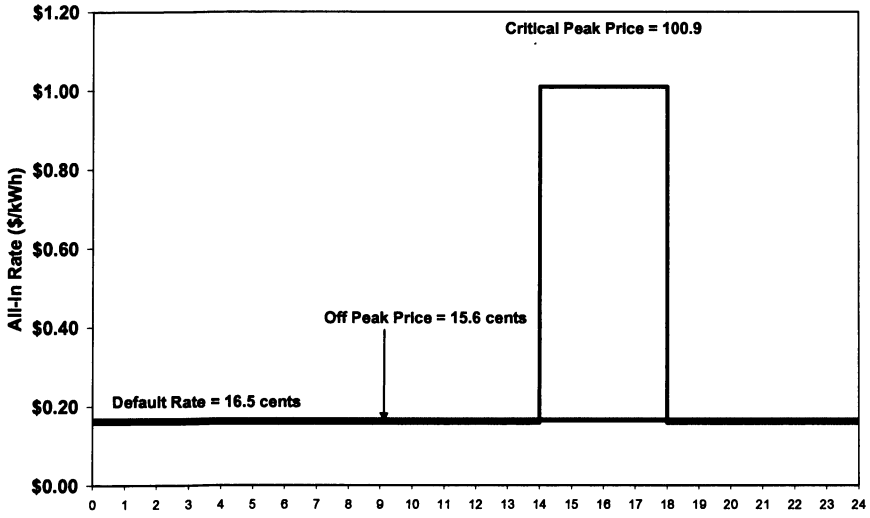
PECO Exhibit AF-5:
PECO 2008 Summer Average Hourly System Load



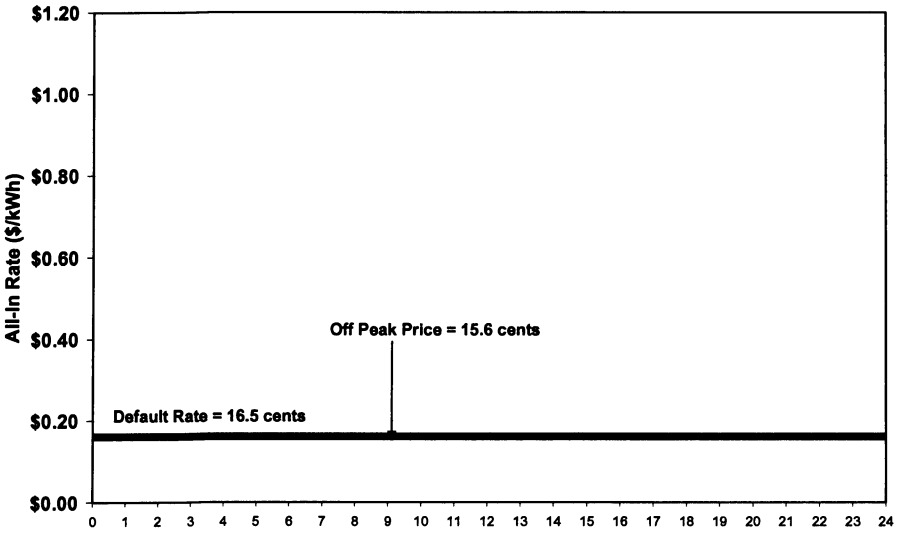
PECO Exhibit AF-6:
PECO 2008 Summer Average Hourly System LMP



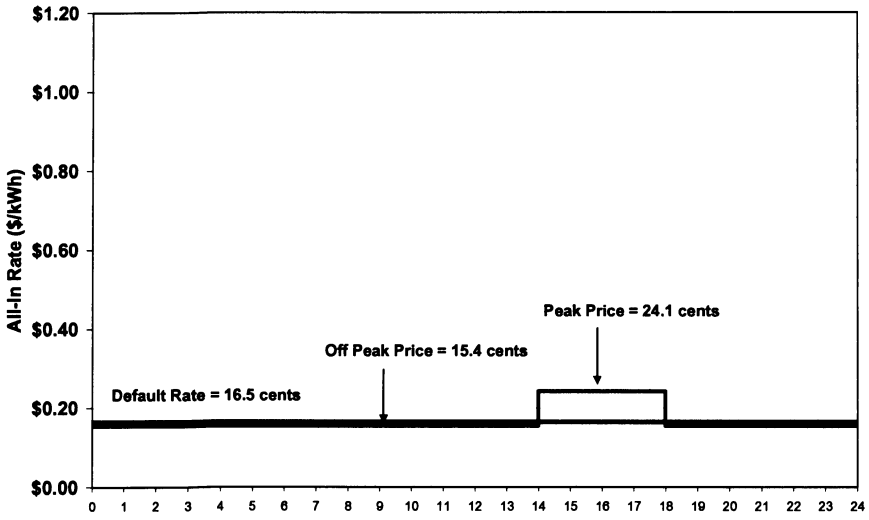
PECO Exhibit AF-7:
Illustrative CPP Rate for Residential Class – Summer (All-In Rates)



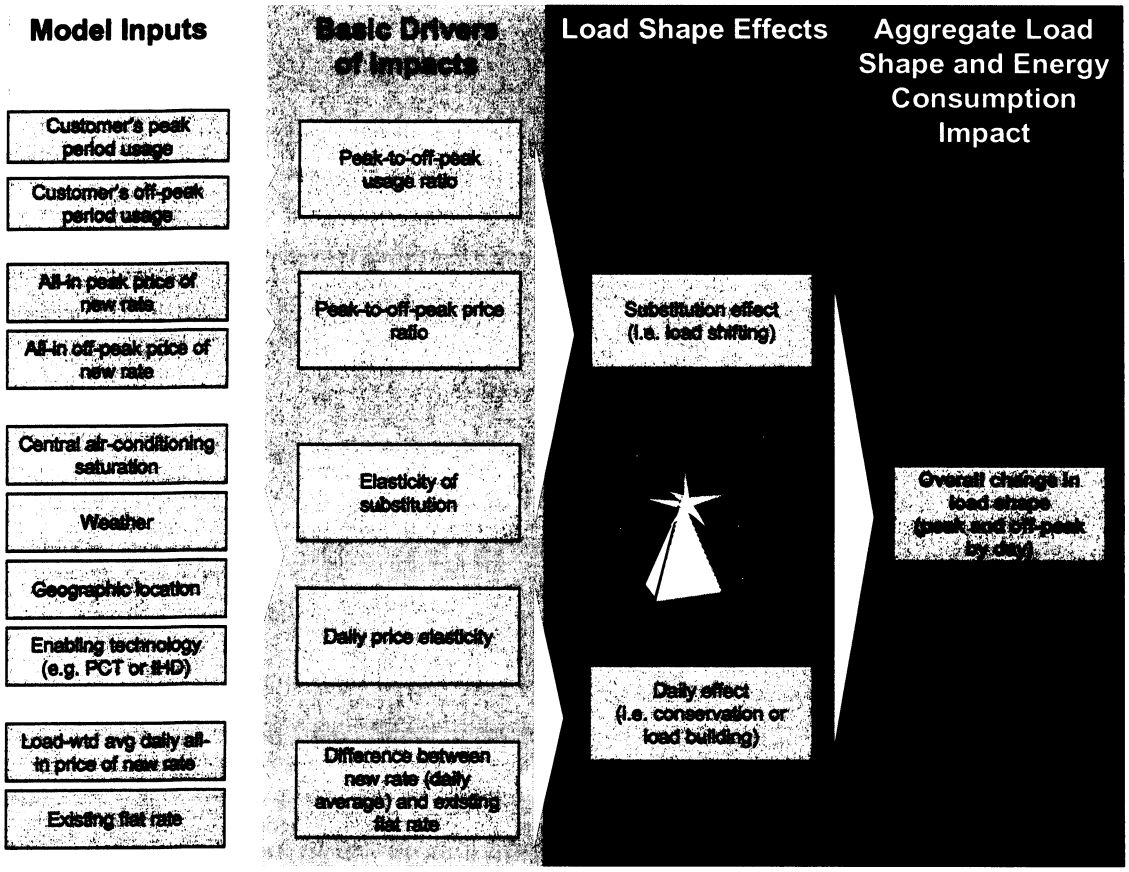
PECO Exhibit AF-8:
Illustrative CPP Rate for Residential Class – Non-Summer (All-In Rates)



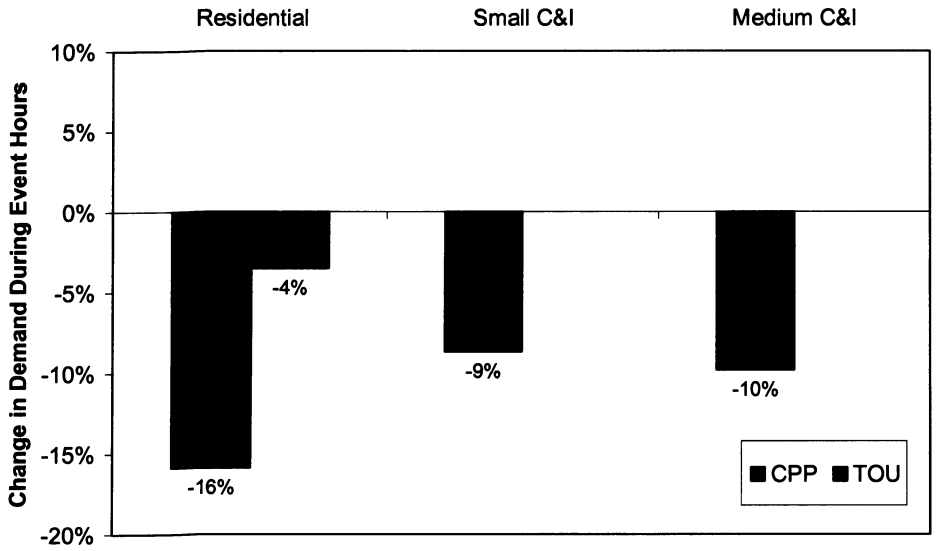
PECO Exhibit AF-9:
Illustrative TOU Rate for Residential Class – Year-Round (All-In Rates)



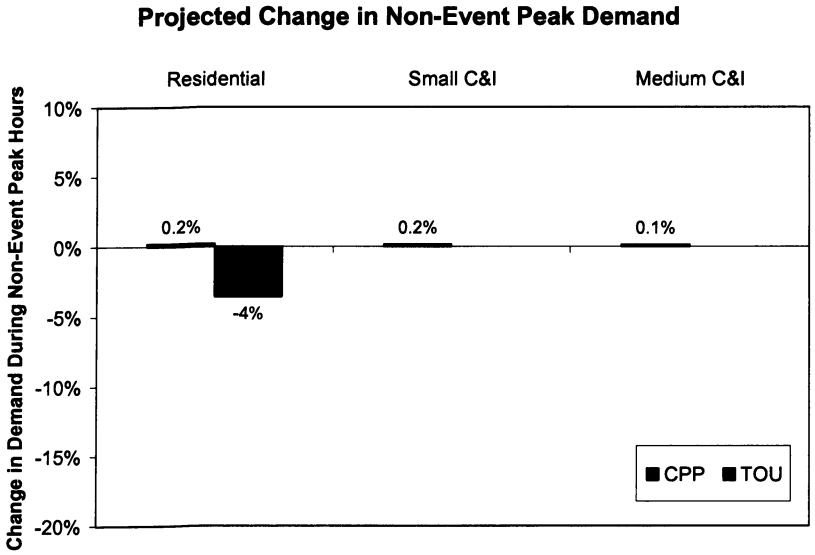
PECO Exhibit AF-10:
The PRISM Model



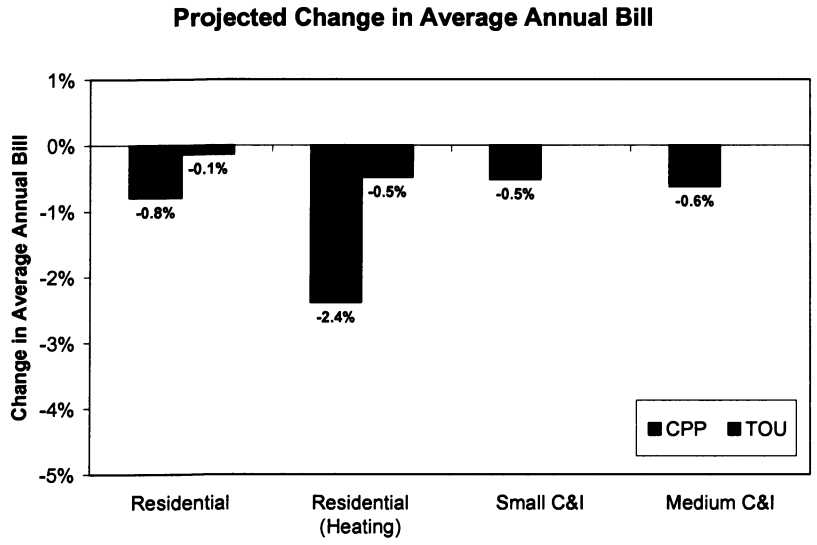
PECO Exhibit AF-11:
Projected Change in Critical Peak Demand



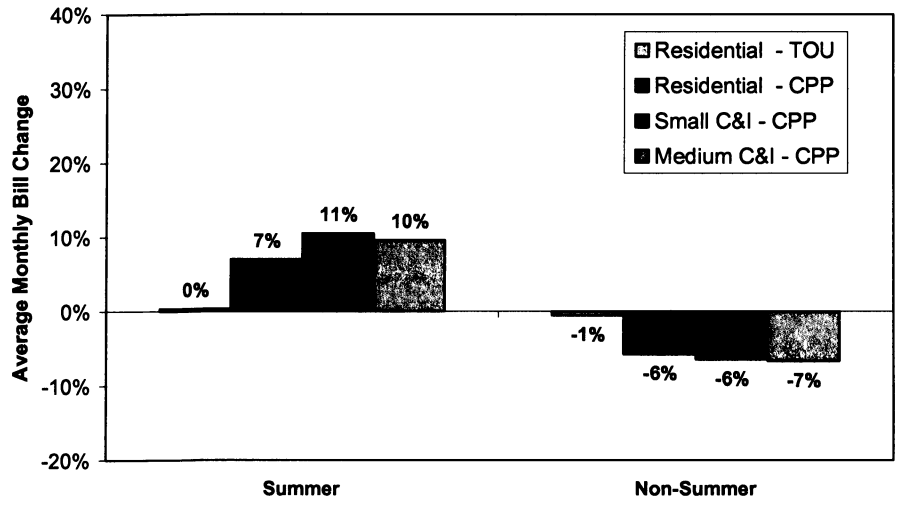
PECO Exhibit AF-12:
Projected Change in Non-Event Peak Demand



PECO Exhibit AF-13:
Projected Change in Average Annual Bill

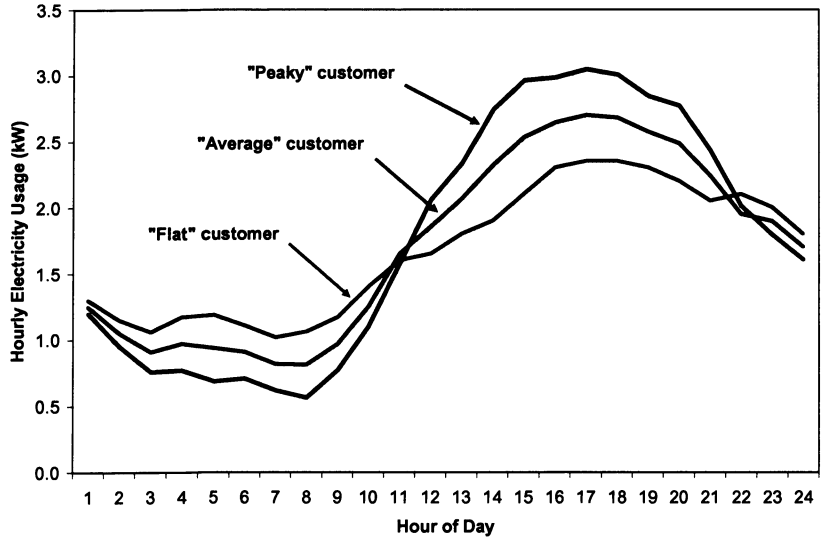


PECO Exhibit AF-14:
Average Seasonal Bill Impacts After Customer Response

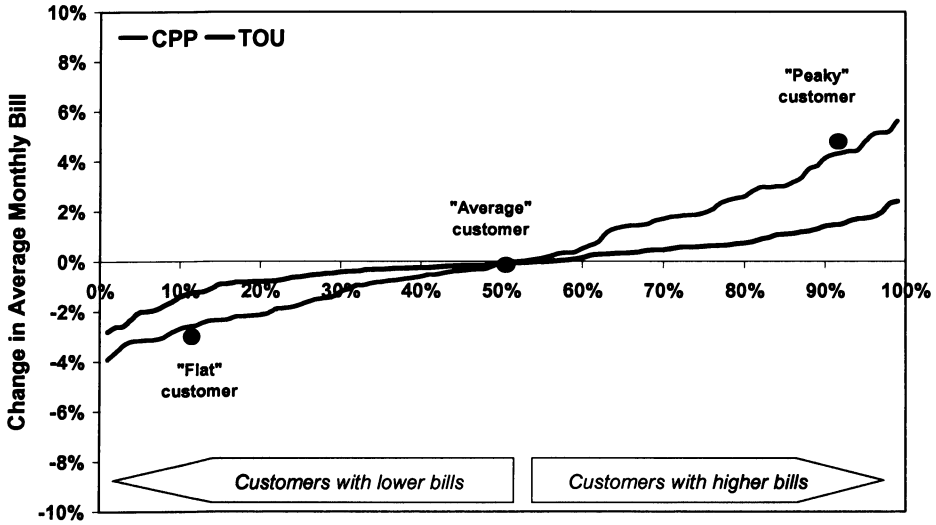


*Summer months include June through September; non-summer months include October through May

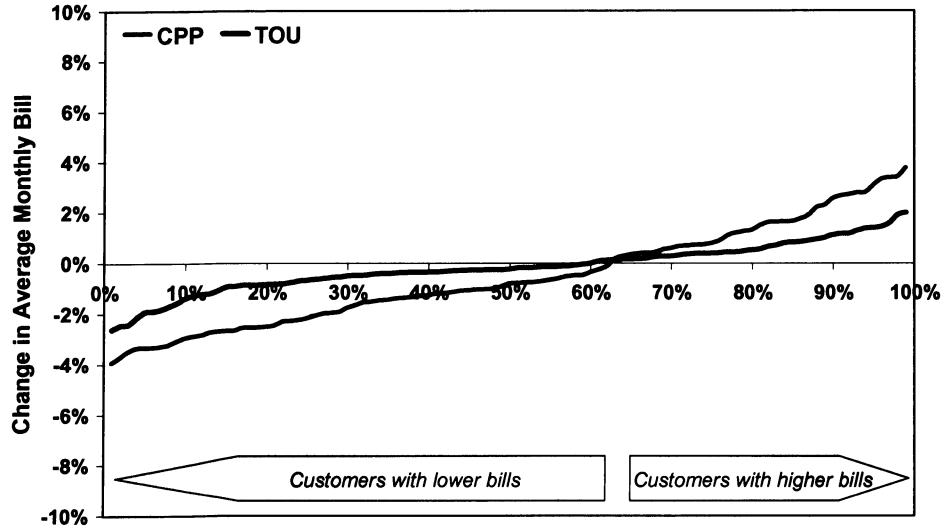
PECO Exhibit AF-15:
Illustrations of Average, Flat, and Peaky Load Profiles



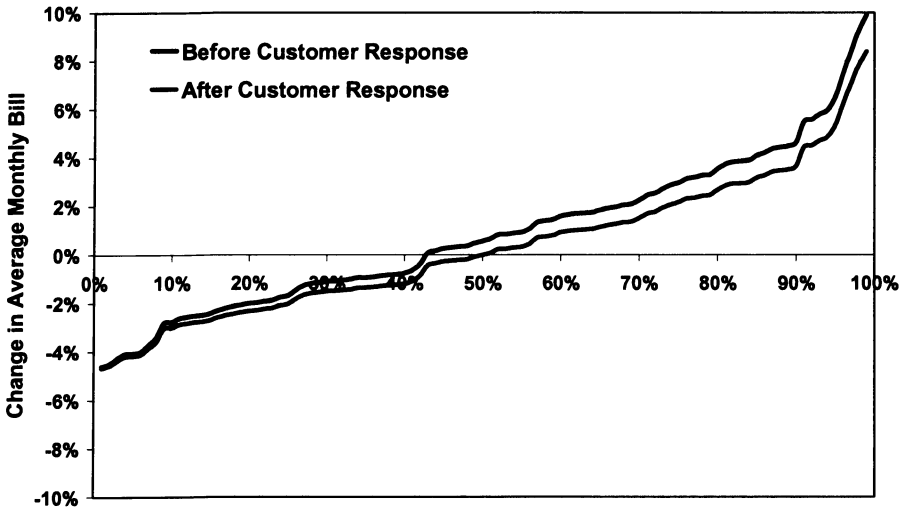
PECO Exhibit AF-16:
Distribution of Dynamic Pricing Bill Impacts (Residential CPP and TOU Before Customer Response)



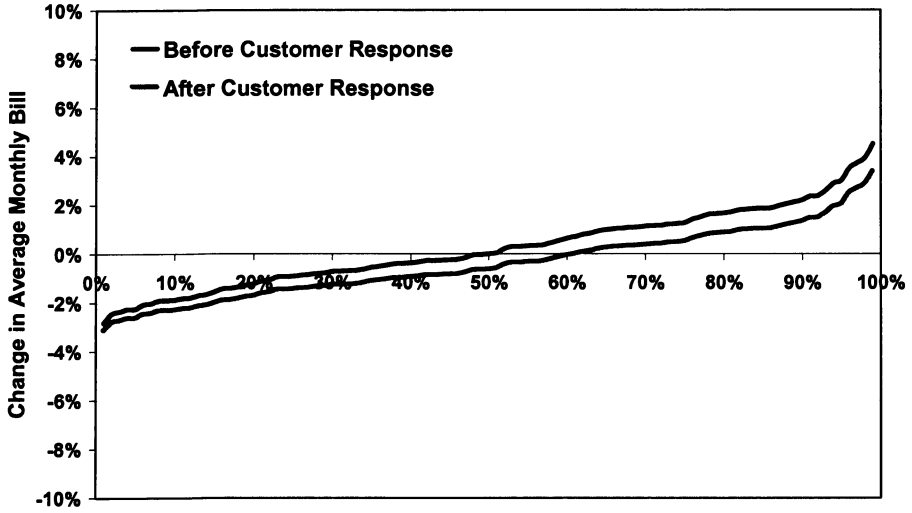
PECO Exhibit AF-17:
Distribution of Dynamic Pricing Bill Impacts (Residential CPP and TOU After Customer Response)



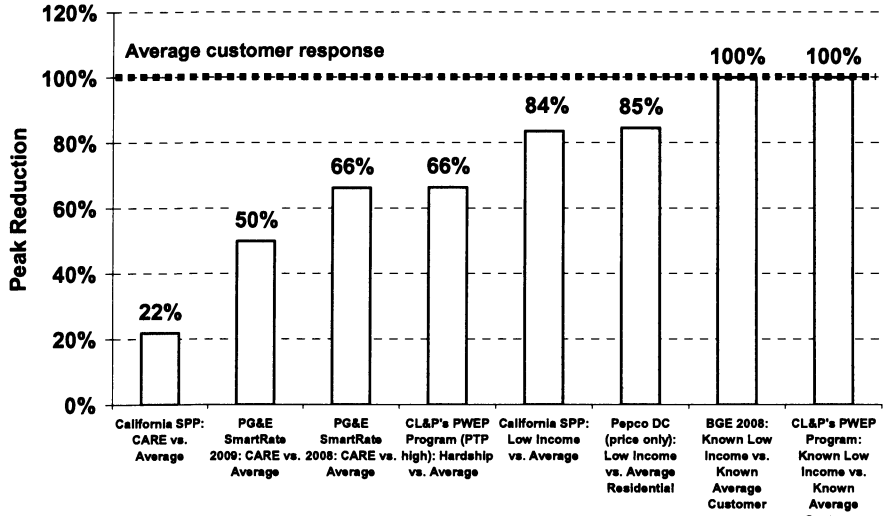
PECO Exhibit AF-18:
Distribution of Dynamic Pricing Bill Impacts (Small C&I on CPP Rate Before and After Customer Response)



PECO Exhibit AF-19:
Distribution of Dynamic Pricing Bill Impacts (Medium C&I on CPP Rate Before and After Customer Response)



PECO Exhibit AF-20:
Low Income Customer Responsiveness Relative to Average Customer



Note: For the PepcoDC pilot, the average residential response excludes low income customers that qualify for the RAD program

PECO Exhibit AF-21:
Distribution of Bill Impacts: (CAP E Low Income Customers on CPP and TOU After Customer Response)