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April 27, 2015

VIA eFILING

Rosemary Chiavetta, Secretary
Pennsylvania Public Utility Commission
Commonwealth Keystone Building
P.O. Box 3265
400 North Street
Harrisburg, PA 17105-3265

Re: Energy Efficiency and Conservation Program - Docket No. M-2014-2424864

Dear Secretary Chiavetta:

Enclosed please find **PECO Energy Company's Comments on the Commission's March 11, 2015 Tentative Implementation Order,** in the above-referenced docket.

As instructed, the Comments have been mailed electronically, in Word format, to Megan Good (megagood@pa.gov) and Kriss Brown (kribrown@pa.gov).

Please do not hesitate to contact me if you have any questions.

Very truly yours,

Michael S. Swerling

Enclosure

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Energy Efficiency and Conservation Program	:	**Docket No. M-2014-2424864**

PECO ENERGY COMPANY'S COMMENTS ON THE COMMISSION'S MARCH 11, 2015 TENTATIVE IMPLEMENTATION ORDER

INTRODUCTION

Pursuant to the March 11, 2015 Tentative Implementation Order ("Tentative Order") entered by the Pennsylvania Public Utility Commission (the "Commission") in the above-referenced docket, PECO Energy Company ("PECO" or the "Company") hereby submits comments on the Commission's proposals for a third phase ("Phase III") of Act 129's energy efficiency and conservation program ("EE&C Program"). The Company appreciates the significant efforts of the Commission and its staff to develop the Phase III proposal and commends the Commission on its continued inclusion of stakeholders in the EE&C Program development process. As discussed more fully below, PECO supports the continuation of the EE&C Program. Phase III is an opportunity to keep pace with the evolving market in Pennsylvania and take advantage of possibilities for more diverse and comprehensive energy saving initiatives and technologies to meet customer expectations.

EXECUTIVE SUMMARY

To that end, PECO carefully reviewed the market potential studies completed by the Statewide Evaluator ("SWE"), which formed the basis for the Commission's specific recommendations, and identified a number of areas to improve the SWE's findings. In addition, the Company conducted a thorough analysis of the cost and feasibility of those proposals using: (1) its own energy efficiency market potential study (the "PECO MPS"); (2) historical data from

the implementation of the Company's Phase I and Phase II EE&C plans; and (3) benchmark data from other utilities.

PECO's MPS was conducted on a territory-specific basis to evaluate the SWE MPS study used by the Commission to determine the reasonableness of the targets and carve-outs recommended by the Tentative Order. More specifically, the following process was used to assess the feasibility of achieving the Commission's proposals:

(1) Evaluate the Peak Demand Reduction Requirement. PECO investigated whether the peak demand reduction requirement was reasonably achievable and whether the acquisition cost assumed by the SWE was reasonable. Based on its analysis, the Company concluded that with a 10% budget allocation PECO could achieve demand reductions of 97.5 MW per year rather than the proposed 166 MW target.

(2) Evaluate the Low-Income Direct Install Requirement. Next, PECO investigated the potential for low-income savings, including a reasonable acquisition cost for direct install measure savings, and determined that it would require 7.8% of its budget to achieve the 2% direct install carve-out.

(3) Evaluate the Government, Educational and Non-Profit ("G/E/NP") Requirement. PECO then investigated the potential for G/E/NP savings and concluded that the necessary savings potential existed and the acquisition costs for G/E/NP savings would be similar to the acquisition costs that PECO is proposing for the overall portfolio.

(4) After Removing Needed Funds For Items (1) and (2), Determine Credible Overall Consumption Reduction Target. Based on the foregoing findings and the resulting budget funds available, PECO concluded that its five-year consumption reduction target would need to be

reduced from 2.08 million MWh to 1.43 million MWh in order to ensure compliance with the Tentative Order and to allow for more comprehensive programming initiatives.

I. BACKGROUND AND OUTLINE OF COMMENTS

Section 2806.1 of Act 129 of 2008 ("Act 129" or the "Act") required Pennsylvania's largest EDCs, including PECO, to adopt EE&C plans that would achieve consumption savings of at least 1% for their retail customers by May 31, 2011 and at least 3% by May 31, 2013. In addition, the Act required EDCs to achieve a peak demand savings over the 100 highest hours of demand of a minimum of 4.5% by May 31, 2013. Act 129 also required that the Commission evaluate the costs and benefits of the approved EE&C plans by November 30, 2013. If the benefits of the EE&C plans exceeded the costs, the Commission was to establish new, additional incremental consumption and peak demand reduction requirements.[1] In its August 2, 2012 Implementation Order for a second phase of Act 129, the Commission established additional consumption reduction, but not peak demand, targets for EDCs, to be achieved by May 31, 2016.[2]

PECO received approval of its initial Phase ("Phase I") EE&C plan on October 28, 2009 at Docket No. M-2009-2093215 (the "Phase I Plan"), and is currently administering its Phase II EE&C plan, which the Commission approved on February 28, 2013 at Docket No. M-2012-2333992 (as amended with Commission approval on May 9, 2013, the "Phase II Plan").

In this Tentative Order, the Commission put forth several proposed targets and carve-outs for Phase III based on market potential studies performed by the SWE. Those proposed directives include: (1) a 166 MW peak demand reduction target for PECO; (2) a 2.08 million

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1 *See* 66 Pa.C.S. §2806.1(c) and (d).

2 *See Energy Efficiency and Conservation Program* Implementation Order, Docket Nos. M-2012-2289411 and M-2008-2069887 (August 3, 2012) ("Phase II Implementation Order").

MWh five-year consumption reduction target for PECO; (3) a requirement that all EDCs obtain 5.5% of consumption reductions from the low-income sector of which no less than 2% shall come from directly installed measures; and (4) a requirement that all EDCs obtain 3.5% of consumption reductions from the G/E/NP sector.

As previously stated, based on its MPS, PECO has concluded that if the targets and carve-outs were finalized as recommended by the Tentative Order, the Company would have to significantly scale back its existing measures and place a major emphasis on low-cost, high volume measures such as lighting in order to achieve compliance. In contrast, however, the Company could achieve deeper and more comprehensive savings opportunities and most of the recommended targets and carve-outs if PECO's overall consumption and peak demand reduction targets were reduced.

In particular, PECO proposes that its five-year consumption reduction target be reduced from 2.08 million MWh (5.3% of PECO's 2010 forecast) to 1.43 million MWh and that its peak demand reduction target be reduced to 97.5 MW. As explained in the Comments that follow, these adjustments would provide sufficient funding to achieve: (1) a Phase III EE&C plan that provides deeper opportunities for savings than the Company's Phase II EE&C plan; (2) the 7.8% direct install budgetary spend requirement that PECO recommends in lieu of the Commission's proposed 2% carve-out for direct install low-income measures; and (3) the Commission's proposed 5.5% and 3.5% carve-outs for the low-income and G/E/NP sectors, respectively.

Section II of these Comments describes PECO's MPS and its findings regarding acquisition costs and reasonably achievable consumption reductions. Section III evaluates the SWE's MPS and identifies what PECO believes to be several key errors, omissions and unreasonable assumptions. Section IV discusses the feasibility of the targets and carve-outs

proposed in the Tentative Order in light of PECO's MPS, historical PECO data, and benchmark data from other utilities. Finally, Section V comments upon other important Tentative Order proposals regarding cost recovery, the use of competitive bidding for Conservation Service Provider ("CSP") contracts and annual reporting.

II. PECO'S MPS, ACQUISITION COST, AND REASONABLY ACHIEVABLE CONSUMPTION REDUCTIONS

A. Key Differences Between the PECO MPS and the SWE MPS

The PECO MPS is specific to the Company's service territory and provides a more reliable analysis of market potential and acquisition costs than the SWE's Pennsylvania-wide MPS for the following key reasons:

Consideration of PECO's Baseline Study. In addition to the SWE baseline study,[3] the PECO MPS utilizes PECO's baseline study. PECO's study provides a more accurate picture of the current baseline energy usage and equipment saturations specific to the Company's service territory and considers several areas not targeted by the SWE study (e.g. low-income, G/E/NP, residential new construction, and commercial new construction).

Use of More Appropriate Assumptions Regarding LEDs. As described in Section III.A, many of the SWE's assumptions regarding LEDs were based on dated information. The PECO MPS utilizes more appropriate initial costs per bulb for screw-in LEDs, accounts for more LED product classes by wattage categories and utilizes assumptions regarding PECO's market share of the overall LED residential lighting market more consistent with the latest forecasts by the

[3] A baseline study provides a comprehensive description of the current state of end use markets including baseline energy usage and equipment saturations of existing residential, commercial, and industrial sectors from which the potential for future energy savings is determined. This knowledge is fundamental when setting savings goals.

U.S. Department of Energy ("DOE")[4] and supported by recent primary research conducted by PECO's consultant, Navigant.

Consideration of Changes in Product Standards. As described in Section III.B, the SWE MPS did not incorporate several upcoming changes in product standards, including: (1) an Electric Motors Federal Standard update (compliance date of June 1, 2016); (2) an Automated Icemakers Federal Standard update (compliance date of January 28, 2018); (3) a Walk-in Coolers and Freezers Federal Standard update (compliance date of June 5, 2017); and (4) a Commercial Refrigeration Products Federal Standard update (compliance date of March 27, 2017).

Use of More Appropriate Measure Adoption Modeling. The SWE MPS assumes "base achievable" potential to be a percentage of economic potential. PECO's MPS utilizes a model of measure adoption, which allows the PECO MPS to capture non-linear effects including positive feedback that strongly influence technology adoption over time, as discussed in Section III.C.

Use of Accurate Transmission And Distribution ("T&D") Avoided Costs And Line Losses. As discussed in Section III.D, the SWE MPS did not discuss the development of or provide support for the T&D avoided costs and line losses values it utilized for PECO. The PECO MPS utilizes Company-specific values for T&D avoided costs and line losses.

Screens Low-Income Measures In a Manner Consistent With All Other Measures. As discussed in Section III.E, the SWE MPS screened out all non low-income measures with a TRC less than 1.0 (i.e., measures whose costs were greater than their benefits) as ineligible to determine the economic and achievable potential. However, the SWE treated low-income measures differently by only screening out those measures with a TRC less than 0.25. This has

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[4] U.S. Department of Energy, 2014 (US DOE 2014). *Energy Savings Forecast of Solid-State Lighting in General Illumination Applications*. Prepared for the U.S. Department of Energy by Navigant Consulting, Inc. August 2014. http://apps1.eere.energy.gov/buildings/publications/pdfs/ssl/energysavingsforecast14.pdf

the effect of inflating overall portfolio economic and achievable potential by overestimating low-income sector potential. Accordingly, PECO's MPS screens out all measures, including those designed for the low-income sector (though not including direct install), with a TRC less than 1.0.

B. Acquisition Costs

PECO's MPS, estimates a portfolio average acquisition cost of at least $250 per first year MWh saved, not including the estimated acquisition cost for savings from low-income direct install measures as described in Section IV.C. This figure is at the lower end of the range of PECO's MPS estimates and is reflective of a less comprehensive portfolio than could otherwise be achieved with a higher acquisition cost. PECO proposes to design and implement a Phase III portfolio with the most comprehensive mix of measures possible given the available budget and targets.

Based on the Company's analysis, PECO believes that the assumed energy efficiency ("EE") acquisition costs in the SWE MPS, which are the key driver of the targets, are too low, resulting in consumption reduction targets that are too high, based on analysis of historical data, comparison to other utilities and PECO's projections. It is unclear how the SWE developed its forecasts for PECO. Although the SWE did not provide the specific historical acquisition costs it used for PECO, it did provide its assumptions for the statewide average acquisition costs for PY1 through PY5 (see Table 1). Notably, the SWE MPS used those figures to extrapolate an assumed Phase III statewide average program acquisition cost of $184.4 per 1st-yr MWh saved, and a PECO acquisition cost of $184.7 per 1st-yr MWh saved. It is unclear if the SWE removed the costs and savings from demand response ("DR") programs and the conservation voltage reduction ("CVR") program as part of its analysis. PECO's MPS removed those costs and

savings because they are not EE programming and represent unrepeatable savings from the early years of Phase I.

Table 1. SWE MPS Statewide Annual Incremental Cost Assumptions ($ per 1st-yr MWh saved).

Sector	PY1	PY2	PY3	PY4	PY5
Residential	$114	$123	$149	$111	$161
Nonresidential	$172	$134	$140	$129	$169
Portfolio	**$126**	**$128**	**$144**	**$121**	**$164**

Source: SWE MPS Table 2-3, page 31.

PECO has already exceeded this cost for three out of six program years (PY3, PY5, and PY6 Q1-Q2) for the EE portion of its Phase I and Phase II portfolios (see Table 2 and Figure 1).

Table 2. PECO's EE Annual Incremental Acquisition Costs[a] ($ per 1st-Yr MWh saved).

Sector	PY1[a]	PY2[b]	PY3	PY4	PY5	PY6 Q1-Q3[C]
Residential	$78	$88	$222	$241	$110	$128
Nonresidential	$163	$260	$162	$155	$183	$302
Portfolio	**$87**	**$137**	**$188**	**$176**	**$188**	**$262**

Source: PECO PY1-PY5 Annual Reports and PY6 Q1-Q3 quarterly reports.
Notes
[a] PECO's DR and CVR savings and costs removed to show only EE acquisition costs.
[b] PY1 and PY2 savings were dominated by the low cost residential upstream lighting program and low-income CFL giveaways as other programs and measures were ramping up and are not representative of long term acquisition costs for a more comprehensive portfolio.
[c] PECO's PY6 Q1-Q3 gross reported savings were scaled using the PY5 realization rate of 1.17 to provide a conservative estimate of PY6 acquisition costs. This value could go up or down based on final PY6 annual verified savings and costs.

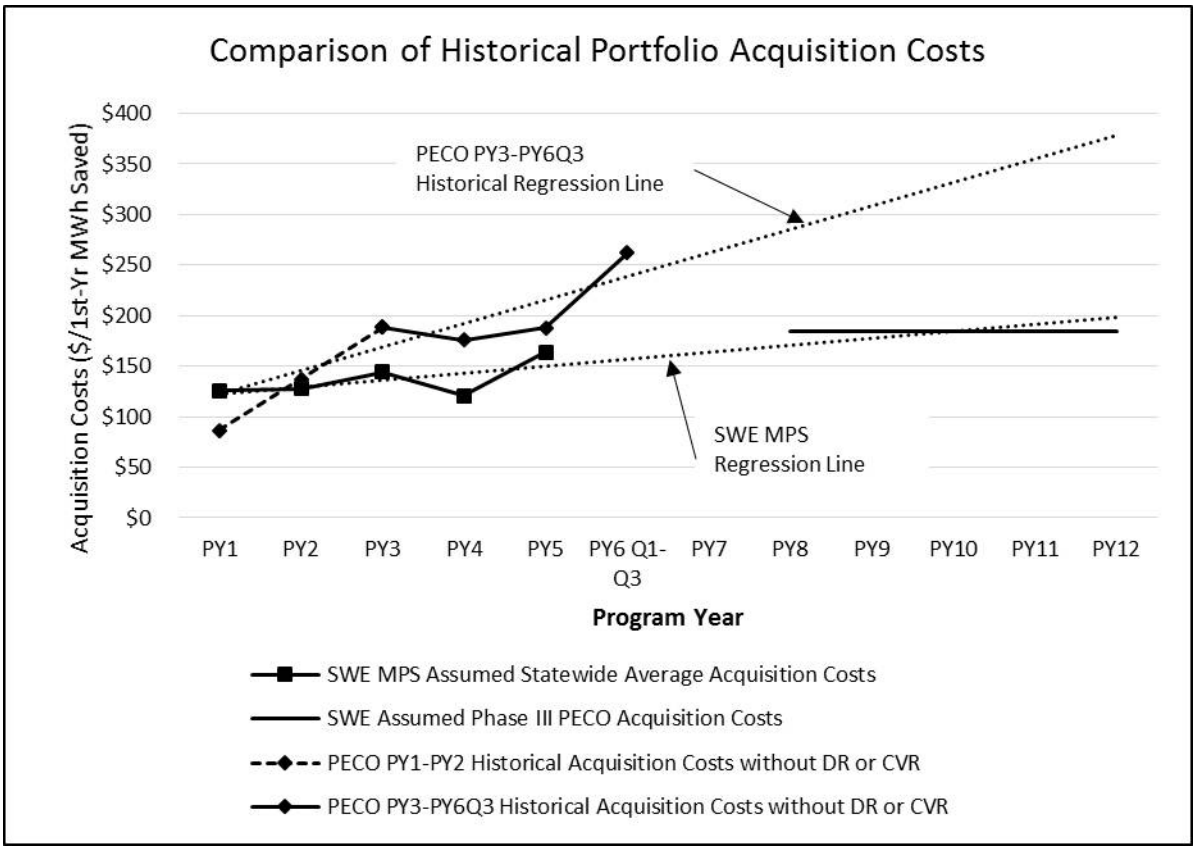


Figure 1. Acquisition Cost Comparison

Sources: SWE MPS Table 2-3, page 31. PECO PY1-PY5 Annual Reports and PY6 Q1-Q3 quarterly reports (PECO's DR and CVR savings and costs removed to show only EE acquisition costs).

Comparing a regression of appropriately adjusted, historical PECO acquisition costs versus the SWE MPS Phase III forecasted acquisition costs for PECO underscores the conclusion that the SWE estimate is too low.

Using a conservative regression analysis of PECO's historical acquisition costs by excluding PY1 and PY2 from the analysis, the PECO portfolio acquisition cost forecast is an average of $329 per 1st-yr MWh saved over Phase III, much higher than the $185 per 1st-yr MWh assumed by the SWE MPS (see Table 3).

Table 3. Projected Phase III Acquisition Costs.

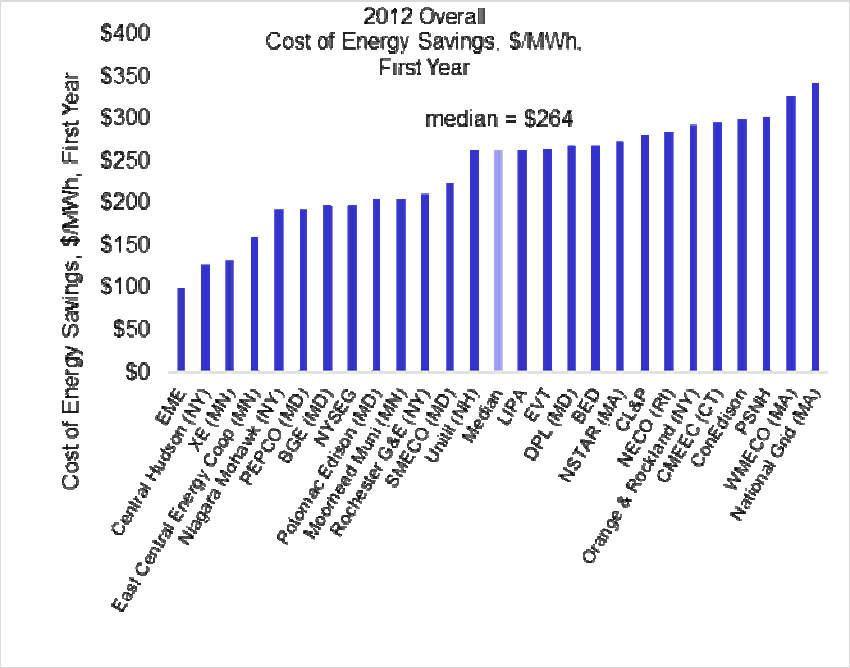
Program Year	Phase III Total / Average
SWE Projected Acquisition Costs ($ per 1st-yr MWh saved)[a]	$185
PECO Extrapolated Acquisition Costs ($ per 1st-yr MWh saved)[b]	$329
2012 Mid-Atlantic and Northeast Regional Median Acquisition Costs ($ per 1st-yr MWh saved)[c]	$264
PECO MPS Portfolio Acquisition Costs ($ per 1st-yr MWh saved)[d]	$268

Notes and Sources:
[a] SWE MPS Table ES-6, page xiii.
[b] Extrapolation of PECO Phase I and II historical acquisition costs. PY1 and PY2 excluded to be conservative. Inclusion of PY1 and PY2 in the linear regression increases average Phase III total acquisition costs to $357 per 1st-yr MWh saved.
[c] Navigant Consulting, 2014. Serves as a reasonable benchmark to Phase III acquisition costs.
[d] Acquisition costs developed from PECO's preliminary MPS for non-low-income direct install measures combined with PECO's forecasted acquisition costs for low-income direct install measures as described in Section IV.C of this document.

A review of other regional portfolio acquisition costs also suggests that the SWE MPS assumed acquisition costs are too low for a comprehensive portfolio as the Commission, EDCs and Pennsylvania stakeholders desire.[5] Indeed, a recent benchmarking study by Navigant[6] confirms that the SWE MPS assumptions for the years 2016 through 2020 are far below the 2011 and 2012 mid-Atlantic and northeast regional median acquisition costs of $220 and $264 per 1st-yr MWh saved, respectively. Figure 2 shows additional regional portfolio acquisition costs from 2012 benchmarked in the study. Note that only four of 26 utilities had 2012 portfolio acquisition costs at or below the SWE's assumed Phase III portfolio acquisition costs.

[5] Tentative Order, p. 49.

[6] Navigant Consulting, Inc. 2014. *Benchmarking 2011 and 2012 Demand Side Management Results for Efficiency Vermont and Burlington Electric Department - Standard Analysis*. Prepared for VT Public Service Department. July 17, 2014.



Source: Navigant Consulting, Inc. 2014.

Figure 2. 2012 Portfolio Acquisition Costs ($ per 1st-yr MWh saved)

A significant difference in acquisition costs can be seen by comparing programs such as Efficiency Maine, which focused on low cost lighting measures (resulting in costs of just over $100 per 1st-yr MWh saved), and Efficiency Vermont, which has promoted comprehensive portfolios (with acquisition costs close to the median of $264 per 1st-yr MWh saved).[7]

While historical acquisition costs provide a strong indicator that the SWE MPS assumptions are too low, there are limitations to using historical acquisition costs alone to extrapolate future costs. For that reason, PECO's MPS estimates acquisition costs using a bottom-up approach rather than a top-down approach. Using the PECO historical trends, the regional benchmarking data, and the PECO MPS results to triangulate the likely Phase III

[7] Note: for the subset of utilities achieving between 0.9% to 1.2% savings as a percent of annual sales, the median 2012 acquisition cost was $210 per 1st-yr MWh saved. Utilities in this sub-group included DPL (MD), Niagara Mohawk (NY), Central Hudson (NY), Potomac Edison (MD), and SMECO (MD).

acquisition costs is the best way to determine appropriate Phase III acquisition costs. Each of these data points can be found in Table 3, along with the SWE MPS assumptions.

The use of reasonable acquisition costs is essential to move the EE&C Program forward towards deeper, more comprehensive savings opportunities and away from a heavy emphasis on low cost, high volume measures such as lighting. PECO notes that the Commission has proposed that each EDC's energy efficiency portfolio contain at least one comprehensive program for the residential class and at least one comprehensive program for non-residential customer classes. In conjunction with the Tentative Order, Commissioner Pamela A. Witmer issued a Statement requesting stakeholders to comment on whether the Commission should be more prescriptive in its proposal regarding comprehensive programs.

PECO does not believe that the Commission needs to be more prescriptive in its proposal regarding comprehensive programs, but does believe that unreasonably low acquisition costs can serve as a barrier to the implementation of comprehensive programming. While it is appealing to establish low acquisition costs to drive up potential savings and EDC savings targets, the EE&C Program as a whole suffers because EDCs become dependent on "low hanging fruit" such as lighting programs to ensure compliance. An emphasis on low-cost, high volume programs comes at the expense of programs that support deeper, and likely more meaningful, opportunities for customer savings.

PECO supports the Commission's increasing focus on comprehensive programming and encourages the Commission to view "comprehensiveness" as a characteristic of the entire portfolio, rather than an individual program. Specifically, the portfolio as a whole should be comprehensive and offer energy savings opportunities (tailored to exploit all cost-effective electric end-uses) through a balanced mix of valuable initiatives. If EDC targets are based on

reasonable acquisition costs, EDCs will be able to work collaboratively with stakeholders to determine how comprehensive each EDC portfolio should be and what types of programs are appropriate.

C. Conclusions Regarding Reasonably Achievable Overall Consumption Reductions

PECO's MPS study results, combined with forecasted acquisition costs for the low-income direct install program as discussed in Section IV.C produce estimates of market potential of approximately 1.43 million MWh as shown in Table 4. PECO recommends these findings form the basis of PECO's Phase III EE targets rather than the SWE MPS in light of the limitations of the SWE MPS described above and in Section III. These adjustments assume a 10% DR spending allocation as used in setting the proposed targets; however, PECO's DR target should also be revised downward to reflect PECO's forecast DR acquisition costs as described in Section IV.B below.

Table 4. Adjusted Savings Potential Using PECO MPS General Acquisition Rate, PECO's Forecast Low-Income Direct Install Acquisition Rate, and 10.0% DR Spending Allocation.

Savings Component	EE Acquisition Cost ($ per 1st-yr MWh saved)	Annual Budget	Percent of Total Budget	Phase III Potential (MWh)
EE without low-income direct install savings	$250	$70,255,073	82.2%	1,405,101
EE low-income direct install savings only (2% of total EE savings)	$1164	$6,674,376	7.8%	28,670
Total EE	**$268**	**$76,929,449**	**90%**	**1,433,771**
DR		**$8,547,717**	**10%**	0
Total Portfolio		**$85,477,166**	100.0%	**1,433,771**

If the Commission sets the DR target at the proposed 166 MW rather than the reduced target as recommended by PECO, the DR spending allocation should be adjusted to 15.5% to reflect PECO's forecasted DR acquisition costs as described in Section IV.B below. PECO's estimates of market potential should be correspondingly reduced to 1.35 million MWh as shown

in Table 5, based on PECO's MPS study results, combined with forecasted acquisition costs for the low-income direct install program as discussed in Section IV.C, and PECO's recommended adjusted DR spending assumptions as discussed in Section IV.B.

Table 5. Adjusted Savings Potential Using PECO MPS General Acquisition Rate, PECO's Forecast Low-Income Direct Install Acquisition Rate, and 15.5% DR Spending Allocation.

Savings Component	EE Acquisition Cost ($ per 1st-yr MWh saved)	Annual Budget	Percent of Total Budget	Phase III Potential (MWh)
EE without low-income direct install savings	$250	$65,956,942	77.2%	1,319,139
EE low-income direct install savings only (2% of total EE savings)	$1,164	$6,266,976	7.3%	26,920
Total EE	**$268**	**$72,223,918**	**84.5%**	**1,346,059**
DR		**$13,253,248**	**15.5%**	0
Total Portfolio		**$85,477,166**	100.0%	**1,346,059**

PECO notes that if the acquisition cost estimates for an EDC's Phase III portfolio turn out to be lower than those used to set the Phase III targets, those targets, by definition, will be achieved at a lower cost. This, in turn, would produce a budget surplus in the last year of Phase III. If this occurs, EDCs would be permitted, as in Phase I and II, to continue spending their approved budgets until the end of Phase III, thereby garnering additional savings beyond the targets established by the Commission. Correspondingly, if the acquisition cost estimates for the EDC's Phase III portfolio turn out to be higher than those used to set the Phase III targets, the EDC will exceed its budget before reaching the target and risk significant penalties.

III. EVALUATION OF THE SWE'S MPS

A. LED Assumptions

The SWE MPS underestimates initial costs and overestimates adoption rates for LEDs. For example, the SWE MPS assumes an LED screw-in pre-incentive price of $7 per unit and a reflector lamp pre-incentive price of $13.60 per unit in 2016. In addition, by 2020, the SWE

MPS estimates price points of $4.00 per unit for screw-in LEDs and $7.00 per unit for reflector lamps.[8] However, one of the sources on which the SWE relies does not cite the source for its projections and all of its remaining sources utilize primary data from the same original report prepared for the U.S. DOE in 2013.[9]

According to research by Navigant, who collected and analyzed more recent regional data[10] using the methodology described in *Gerke* et al. 2014,[11] more appropriate 2016 estimates for the costs of screw-in LEDs and reflector lamps are $9.80 and $18.90, respectively. By 2020, Navigant estimates the cost of a screw-in LED to be $4.40 per unit and the cost of a reflector lamp to be $10.80. Importantly, Navigant's analysis accounts for more LED product classes by wattage categories than assumed in the SWE MPS, leading to a higher weighted average cost per unit. Navigant weighted the LED bulb prices by the saturations of their baseline halogen/incandescent bulbs. Further, Navigant's analysis of the SWE and PECO baseline studies shows that 65W baseline bulbs account for roughly 80% of the residential reflector submarket, resulting in a higher reflector LED weighted price than estimated by the SWE.

Also, the SWE's applied adoption rate factors are unreasonably optimistic. The SWE MPS assumes that 70% of all efficient screw-in bulb replacement installations will be LEDs in 2016, 83% in 2017, and 100% by 2020.[12] These projections are based on the same 2013 U.S.

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8 SWE MPS page 19.

9 U.S. DOE, 2013. *Solid-State Lighting Research and Development: Multi-Year Program Plan*. Prepared for the U.S. Department of Energy. April 2013.

10 Prices based on data collected using web-scraping techniques during Q4 of 2014 included lighting prices from the following retailers: Home Depot, Lowes, Target, Sears, Walmart, Amazon, and 1000bulbs.com.

11 Gerke, Brian F., Allison T. Ngo, Andrea L. Alstone, and Kibret S. Fisseha, 2014. *The evolving price of household LED lamps: Recent trends and historical comparisons for the US market*. Published by Ernest Orlando Lawrence Berkeley National Laboratory, report number: LBNL # 6854E, under Contract No. DE-AC02-05CH11231 with the U.S. Department of Energy. November, 2014.

12 SWE MPS page 20, Table 1-3: Assumed Annual Applicability of LED Bulbs.

DOE report even though more recent research is available. In fact, a 2014 U.S. DOE report[13] estimates that LEDs will account for only about 33% of the total residential market share of sales by 2020, and only 83% of sales by 2030.

In addition to the total residential market share estimates, the 2014 U.S. DOE report breaks out sales for residential general service, decorative and directional lighting submarkets. According to the DOE, LEDs are estimated to contribute 3% market share of lumen-hour sales for each of the residential general service, decorative and directional submarkets in 2015, rising to 47%, 31%, and 13% respectively by 2020, and approaching 100%, 94%, and 54% respectively in 2030. The SWE, in contrast, assumes 100% market share for all these categories by 2020 leading to overly aggressive program potential and targets.

In light of the more recent data available, PECO recommends the SWE MPS be revised to reflect less aggressive LED cost and market adoption assumptions consistent with the 2014 U.S. DOE report and PECO analysis.

B. Changing Commercial Standards

The SWE MPS also failed to account for changes in certain commercial standards whose recognition would lower the potential for savings. In particular, the SWE did not consider the following standard changes:[14]

- Electric Motors Federal Standard update (compliance date of June 1, 2016)
- Automated Icemakers Federal Standard update (compliance date of January 28, 2018)

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[13] U.S. Department of Energy, 2014 (US DOE 2014). *Energy Savings Forecast of Solid-State Lighting in General Illumination Applications*. Prepared for the U.S. Department of Energy by Navigant Consulting, Inc. August 2014. http://apps1.eere.energy.gov/buildings/publications/pdfs/ssl/energysavingsforecast14.pdf

[14] All standard information sourced from Department of Energy (DOE) Appliance and Equipment Standards Program. http://energy.gov/eere/buildings/standards-and-test-procedures

- Walk-in Coolers and Freezers Federal Standard update (compliance date of June 5, 2017)
- Commercial Refrigeration Products Federal Standard update (compliance date of March 27, 2017)

The SWE's failure to take into account the above standards, which would improve overall baseline efficiency, leads to an overstatement of savings potential for the commercial sector. PECO's MPS incorporates these standard changes, resulting in more realistic estimates of savings potential.

C. Modeling Program Participation

The SWE's approach to modeling program participation fails to capture the complexities of market technology in two ways. First, the SWE assumes that program participation increases over time at a fixed 10% growth rate. The justification for this assumption, however, is not well documented. Participation varies over time: early adopters are more difficult to reach due to low familiarity with the technology in the market, and late adopters are more difficult to reach because the market is near saturation.

Second, the SWE MPS assumes "base achievable" potential to be a percentage of economic potential. In contrast, the PECO MPS uses a modified Bass diffusion model[15,16] which allows individual measures to compete in the market based on cost-effectiveness relative to the baseline technology. Measure adoption moves toward the equilibrium market share, limited by awareness of each technology in the market, which is modeled explicitly. Because the payback time on a given technology changes over time, the equilibrium market share is recalculated at each time

[15] Bass, Frank. 1969. "A new product growth model for consumer durables". Management Science 15 (5): p215–227.

[16] See Sterman, John D. 2000. *Business Dynamics: Systems Thinking and Modeling for a Complex World*. Irwin McGraw-Hill. p. 332.

step. This approach allows the PECO MPS to capture non-linear effects including positive feedback that strongly influence technology adoption over time.

D. Values for Avoided T&D Costs and Line Loss Factors

The avoided T&D costs used by the SWE are not supported and do not reflect PECO's actual avoided T&D costs. According to the SWE MPS, "Each EDC provided the latest available electric generation avoided cost projections, while the SWE Team developed the T&D avoided cost projections used in this study."[17] There is no explanation for how these T&D avoided costs were developed. Moreover, the values used[18] differ from those that PECO provided to the SWE and which were based on a recent study conducted by Navigant. For example, the SWE used a line loss factor of 0.0799[19] versus the 0.074[20] used in PECO's MPS, which was recorded in PECO's historical regulatory filings, and which was provided to the SWE. PECO's MPS uses the correct line loss factors leading to a more reliable estimate of program potential.

E. Screening Low-Income Measures

The SWE MPS screened out all non-low-income measures with a TRC less than 1.0 as ineligible to determine the economic and achievable potential. However, the low-income measures were treated differently and only those measures with a TRC of less than 0.25 were screened out.[21] While the Commission allows EDCs to have program-specific TRC ratios less

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17 SWE MPS page 24.

18 SWE MPS Appendix B; Avoided Costs & General Modeling Assumptions, *Avoided Cost Assumptions* table, page B-6.

19 SWE MPS Appendix B; Avoided Costs & General Modeling Assumptions, *Other General Modeling Assumptions* table, page B-6.

20 Developed from PECO's 2012 published tariff weighted by rate classes.

21 *See* SWE MPS page 12, footnote 19.

than 1.0 in their EE&C portfolio, PECO does not believe it is appropriate to treat the low-income measures differently when determining program potential or when setting targets. By using a lower threshold for screening out low-income measures, the SWE MPS inflates the total portfolio economic and achievable potential by over estimating the low-income sector potential. The SWE MPS should be revised to use the same screening criteria for all measures regardless of whether they are in the low-income specific programs. Following best industry practices, PECO's MPS screens out all measures, including those designed for the low-income sector (though not including direct install), with a TRC less than 1.0.

IV. ANALYSIS OF THE COMMISSION'S PROPOSED TARGETS AND CARVE-OUTS

A. Request For Clarification Regarding Commission's Use Of Annual Incremental Saving To Develop Targets

The Tentative Order requires that reported savings for Phase III "take into account the useful life of measures" in recognition of the "savings decay" that occurs when a measure has a shorter useful life than the program phase.[22] However, the targets proposed in the Tentative Order are based on the sum of "Incremental Annual Savings" presented in the SWE MPS, which do not take into account savings decay.

The Addendum to the SWE MPS defines "Incremental Annual Savings" as follows:[23]

> **Incremental Annual Savings** – Incremental annual savings are those that occur in a given year due to participation in energy efficiency programs in that year. In the context of the EE MPS and this report addendum, Phase III program potential reflects the 5-year sum of incremental annual savings from June 1, 2016 through May 31, 2021.

Thus, the SWE MPS "Incremental Annual Savings" simply add up the first year measure savings from each program year to derive the total phase potential. Savings from measures with a

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22 *See* Tentative Order, p. 43.

23 *See Application of Market Potential Study Results to Phase III Goals – Addendum to 2015 SWE Market Potential Studies*, submitted by GDS Associates, Inc., *et al.*, February 23, 2015. (Addendum), at page 1.

lifetime less than the phase and decayed away before the end of the phase were not subtracted out from the program potential.

PECO believes the Commission intended to use the cumulative savings values presented in the SWE MPS when developing Phase III targets. Consistent with the Commission's directive in the Tentative Order, these cumulative savings values do account for savings decay due to measure lifetimes that are less than a program phase and decay away before the end of the phase. PECO's MPS and proposed EE savings targets account for measure decay due to measure lifetimes only. If the Commission chooses to use the SWE MPS to set targets rather than PECO's MPS, PECO recommends that the Commission use the SWE's cumulative savings values to properly account for savings decay.

In addition, to avoid accounting confusion, rather than requiring EDCs to claim annualized "first year" savings of installed measures where savings reported in early years of the phase are later deducted for measure decay (current practice), PECO recommends that the Commission instead require savings to be reported based on savings which will occur in the final year of the phase (e.g., PY12). For example, measure X is installed in PY8, has a lifetime of four years and saves 100 kWh/yr. Current practice requires that EDCs claim 100 kWh of savings in PY8, but deduct that same 100 kWh in PY12 as the measure life has expired, for a total savings from that measure of 0 kWh. If instead the EDCs were to claim annualized savings based on what will occur in PY12 only, they would report 0 kWh in PY8 and not have to deduct 100 kWh in PY12. This simplifies the tracking and reporting of savings, and avoids the confusion of claiming "first year" savings and having to account for measure decay.

B. Peak Demand Reduction Target

For the reasons described below, PECO recommends the DR target be reduced to 97.5 MW per year to better align with PECO's historical direct load control ("DLC") acquisition costs, adjusted to account for a lower DLC incentive while maintaining the assumed 10% budget allocation for DR.

Alternatively, if the Commission orders the DR target remain as proposed at 166 MW per year, the assumptions as to the budget allocation needed to achieve that target should be increased to 15.5% ($13,253,248 per year). Correspondingly, PECO's EE targets should be adjusted to account for a lower allocation of 84.5% ($72,223,918 per year) of PECO's maximum annual portfolio budget.

PECO requests the Commission clarify in the final order that it is proposing a single average annual peak demand reduction target. Compliance with the peak demand reduction target will be determined using a single measurement of the average annual peak reduction that is measured in the final year of Phase III, adjusted to account for program years which do not reach the required triggers as set forth by the Commission. Specifically, the Company understands the proposal to be for a single peak demand reduction target determined from the average annual reductions in program years 9, 10, 11 and 12, excluding any program years that do not encounter any triggered DR events. We believe this is consistent with the intent of the Commission as described on page 37 in the Tentative Order.

1. The assumptions in the SWE Demand Response Study ("SWE DRS") regarding participant response to incentives are unreasonable and underestimate acquisition costs.

The SWE DRS assumed that consumers would be paid a $40 incentive per cycling season.[24] In Phase I, PECO paid participants $120 per cycling season for each AC unit controlled. In Phase II, PECO adjusted the incentive down to $80 per cycling season, which triggered a 9% reduction in program participation. A further 50% drop in incentive to $40 per cycling season in Phase III, as proposed by the SWE, is likely to result in an even greater decline in participation than in Phase II. It appears that the SWE did not account for a further drop in program participation and the resulting increase in program administrative costs created by this reduction when calculating the estimate of acquisition costs for DR in Phase III.

While acquisition costs would be reduced if the incentive were lowered, additional labor and capital costs would be incurred to remove switches from program dropouts and to add new customers to replace the dropouts to achieve a similar MW reduction as the program previously achieved. The DR target should be based on acquisition costs which account for this expected loss in participants due to lowering incentives and the associated costs to add new participants. PECO's recommended acquisition costs incorporate this adjustment.

At a $40 incentive level for DLC, PECO risks a potentially substantial drop in participation, additional removal costs and customer dissatisfaction, all in return for lower acquisition costs for an existing program that has been proven to be cost effective at an $80 incentive level. PECO has over $7 million of equipment in the field and over 70,000 customers that are satisfied with the program as it currently operates. PECO, therefore, requests that the

[24] SWE DRS, page 59.

Commission consider the adoption of a $60 incentive level instead of the $40 proposed by the SWE MPS to mitigate these risks and unknowns.

2. PECO has a sizable existing infrastructure of direct load control switches representing a large customer base that it does not want to abandon in Phase III.

PECO spent in excess of $7 million installing its existing infrastructure of 81,368 load control switches, representing 69,922 residential DLC customers and 3,347 programmable thermostats representing 1,875 commercial customers. If the acquisition costs of utilizing this installed resource are underestimated, there is a risk of abandoning a successful, customer-satisfying residential and small commercial DLC program in Phase III. If the program were to be discontinued, PECO would face a loss of this existing infrastructure investment and incur potentially substantial costs for removal of switches upon customers' requests. For example, if just 20% of the customers were to request that the DLC hardware be removed from their homes and/or businesses PECO could incur an additional $2 million in removal costs.

3. Historic spending by PECO indicates the SWE's assumptions of acquisition costs for DR programs are too low, leading to demand savings targets that are too high and/or an assumed budget allocation required to meet the proposed target that is too low.

The SWE's assumed acquisition cost for the three DR programs -- Load Curtailment, Small Business DLC and Residential DLC – equals $64,257/MW-year.[25] The actual demand reduction and costs for the programs in PY4 and PY5 are a better starting basis for the calculation of acquisition cost, resulting in an estimate of $86,595/MW-year (see Table 6).

[25] SWE Demand Response Potential Study, p. 90.

Table 6. PECO Historical DR Acquisition Costs.[a]

Sector	PY4/5 Actual Annual Costs	PY4/5 Reported Gross Demand Savings (MW)	PY4/5 Actual Acquisition Cost ($/MW/yr)
Residential DLC[b]	$8,123,000[c]	71.1	$114,248
Commercial DLC[b]	$314,000	2.9	$108,276
DRA Program[d]	$7,791,000	113.4	$68,704
Total	**$16,228,000**	**187.4**	**$86,595**

Notes:

[a] Determined using PECO's DRA program costs from the PY4 Final Annual Report, and residential and commercial DLC program costs from the PY5 Final Annual Report as the best representations of likely future costs. PY5 Residential DLC program costs were adjusted upward to account for monthly PJM capacity payments which offset program costs as Phase III programs will not be allowed to participate in both PJM and Act 129.

[b] Source: Final Annual Report to the Pennsylvania Public Utility Commission For the Period June 2013 through May 2014 Program Year 5.

[c] Capacity payments of ~$100,000 per month for participation in PJM program has been added back to the cost of the residential DLC program.

[d] Source: Final Annual Report for the Pennsylvania Public Utility Commission For the Period June 2012 through May 2013 Program Year 4.

Based on actual costs realized to date from delivered DR programs, PECO could achieve the 166 MW goal in PY9 – PY12, but at a cost of $14,628,230 (see Table 7) per year, as compared with the Commission assumed amount of $8,547,717. This is roughly 17.1% of PECO's maximum annual portfolio budget.

Table 7. Residential and Commercial DLC ($80 incentive), plus DRA; required spending to achieve proposed DR target[a]

Sector	Annual Costs	Annual MW
Residential DLC	$7,811,566	68.4
Commercial DLC	$299,333	2.8
DRA Program	$6,517,330	94.9
Total	**$14,628,230**	**166.0[b]**

Source: Navigant analysis

Notes:

[a] Saving and costs for Residential and Commercial DLC programs are lower than shown in Table 6 to account for participant dropouts through PY6Q3.

[b] Demand Reduction target from PIII TO page 36.

Alternatively, assuming DR spending to be 10% of portfolio budget, or $8,547,717 per year, and continuing incentive and spending levels for PECO's current DLC programs, PECO could reasonably expect to achieve roughly 77.5 MW (see Table 8) rather than the proposed 166 MW.

Table 8. Residential and Commercial DLC ($80 incentive), plus DRA; achievable target with DR spending at 10% of budget

Sector	Annual Costs	Annual MW
Residential DLC	$7,811,566	68.4
Commercial DLC	$299,333	2.8
DRA Program	$436,817	6.4
Total	**$8,547,717**	**77.5**
Source: Navigant analysis		

Recognizing that PECO's current $80 incentive does not align with the SWE's assumptions for Phase III incentive targets, PECO could lower the incentive to $40 per cycling season. However, this presents several risks that are not accounted for in the SWE MPS. As noted above, PECO suggests that a $60 incentive is more appropriate to mitigate these risks. Moving to a $60 incentive in Phase III is likely to result in a similar drop in participation as the 9% observed when the incentive was cut from $120 to $80 per cycling season in Phase II. PECO assumes that a 10% drop in available switches could be expected from reducing the incentive.

If program spending was to mirror historic costs for the DLC and Demand Response Aggregator ("DRA") programs except for this reduction in incentive to DLC participants, PECO could attain the 166 MW goal in PY9 – PY12, but at a total cost of $13,253,248 per year (see Table 9), or 15.5% of PECO's maximum annual portfolio budget.

Table 9. Residential and Commercial DLC ($60 incentive), plus DRA; required spending to achieve proposed DR target

Sector	Annual Costs	Annual MW
Residential DLC	$6,021,470	61.5
Commercial DLC	$225,699	2.5
DRA Program	$7,006,079	102.0
Total	**$13,253,248**	**166.0[a]**
Source: Navigant analysis **Notes:** **[a] Demand Reduction target from Tentative Order page 36.**		

Alternatively, assuming PECO's DR spending to be 10%, or $8,547,717 per year, including a reduction in participant incentive payments to $60, PECO could reasonably achieve 97.5 MW assuming a 10% drop in DLC participation (see Table 10).

Table 10. Residential and Commercial DLC ($60 incentive), plus DRA; achievable target with DR spending at 10% of budget

Sector	Annual Costs	Annual MW
Residential DLC	$6,021,470	61.5
Commercial DLC	$225,699	2.5
DRA Program	$2,300,547	33.5
Total	**$8,547,717**	**97.5**
Source: Navigant analysis		

Lastly, if PECO were to discontinue its existing DLC programs and use only a DRA program to achieve the DR reduction target, PECO could attain the 166 MW goal in PY9 – PY12, but at a total cost of $11,404,815 per year (see Table 11), or 13.3% of PECO's maximum annual portfolio budget. These costs do not account for the previously discussed risks and costs of closing down PECO's existing DLC programs. Consequently, it is PECO's preference not to abandon its existing, cost effective DLC programs.

Table 11. DRA only; required spending to achieve proposed DR target

Sector	Annual Costs	Annual MW
Residential DLC	$0	0.0
Commercial DLC	$0	0.0
DRA Program	$11,404,815	166.0
Total	**$11,404,815**	**166.0**[a]
Source: Navigant analysis **[a] Demand Reduction target from PIII TO page 36.**		

If the Commission continues to estimate DR spending at 10% of PECO's maximum annual EE&C Plan budget ($8,547,717 per year), then PECO recommends its Phase III DR target be reduced to an average annual reduction of 97.5 MW (see Table 10) to better align with PECO's historical acquisition costs, adjusted for lower incentives ($60) in PECO's DLC program.

Alternatively, if the Commission is committed to keeping the proposed 166 MW per year target, PECO is prepared to achieve the savings; however, the assumptions for the required budget allocation to achieve that target should be increased to 15.5% ($13,253,248 per year) to better align with PECO's historical acquisition costs (see Table 9), adjusted for lower incentives

($60) in PECO's DLC program. Correspondingly, PECO's EE targets should be adjusted to account for a lower budget allocation of 84.5% ($72,223,918 per year) of PECO's maximum annual portfolio budget.

PECO notes that it has not completed a TRC analysis for any of the DR scenarios discussed above, which have varying budgets and customer incentives, and therefore does not know whether programs under each scenario would be cost effective. In addition, acquisition costs may very well be higher than those estimated by both PECO and the SWE because Act 129 programs will have to "compete" with PJM programs for customers in Phase III in light of the Tentative Order proposal that customers participating in PJM's Economic Load Response Program ("ELRP") will be ineligible to participate in Act 129 DR programs.[26] PECO is more confident that a 97.5 MW DR target at $8.5 million per year is achievable and cost-effective than a 166 MW DR target at $13.3 million per year. There is also more risk and uncertainty to achieving 166 MW as a result of increased competition with PJM DR programs.

C. Low-Income Carve-Outs

In the Tentative Order, the Commission proposes to require each EDC to provide a proportionate number of measures equivalent to the low-income sector's share of usage, obtain 5.5% of its overall consumption reduction target from the low-income sector, and obtain at least 2% of its overall consumption reduction target exclusively from direct-installed low-income measures.[27] The direct install requirement is intended to shift the focus of low-income programming to measures that will provide more of a whole-house and/or weatherization type of

[26] Tentative Order, p. 38.

[27] *See* Tentative Order, pp. 55-56.

program emphasis.[28] Additionally, Commissioner Witmer's Statement encouraged stakeholders to explain if the Commission's proposals were consistent with the policy goals and statutory requirements of Act 129 and in the public interest.

At the outset, the Company notes that the only Act 129 requirement related to the low-income sector calls for a proportionate number of measures equivalent to the low-income sector's share of usage, rather than a savings target for the low-income sector or savings requirement for certain types of low-income measures.[29] However, the Company fully supports a continued focus on consumption reduction from the low-income sector and believes the proposed proportionate number of measures and 5.5% target recommended in the Tentative Order are reasonable.

While PECO agrees with the intent of the Commission's direct install proposal, it opposes the 2% savings requirement because it lacks evidentiary support. For the reasons described below, PECO believes that any Phase III direct install requirement should be based on spending, not savings, and additional information should be gathered during Phase III regarding the costs and benefits of direct-installed low-income measures.

As the Commission acknowledges in the Tentative Order and confirmed by the SWE in a data request response from the April 8, 2015 Stakeholder Meeting,[30] the SWE did not determine the amount of cost-effective potential savings that could be derived exclusively from specific low-income direct install programs.[31] In addition, the EDC reporting required by the

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28 *See* Tentative Order, pp. 56-57.

29 *See* 66 Pa. C.S. § 2806.1(b)(1)(i)(G).

30 "*Act 129 SWE EE Potential Study 4/8/15 Data Request Response*," (SWE Response) released April 22, 2015 and posted on the SWE Page of the Commission's website.

31 Tentative Order, p. 55.

Commission regarding Act 129 programs to date does not separately capture the costs of and savings achieved by direct install measures. Therefore, no savings potential, cost or benefit information specific to direct install measures was used to develop the 2% target and, on that basis alone, the Commission should withdraw its proposal.

PECO's MPS did not specifically determine potential for low-income direct install savings, but the Company expects the acquisition costs for such savings to be quite high, which could have significant impacts on the overall program potential modeled by the SWE.[32] PECO's historical acquisition costs, escalated for inflation, were used to estimate low-income direct install budget requirements. These costs were considered separately when determining full program acquisition costs. PECO's PY6 acquisition costs for only the direct install components of LEEP through Q3 have been at $1,060/1^{st}$-yr MWh saved, which is close to the median value ($1,040/1^{st}$-yr MWh saved) found in recent comparison by Navigant, which reviewed direct install acquisition costs for the 2012 program year for 20 low-income programs[33] across the country.[34] Escalating this value for inflation yields an average for the Phase III low-income direct install programs of $1,164/1^{st}$-yr MWh saved, which provides a reasonable estimate of future acquisition costs for low-income direct install programs.

The SWE Response confirms that acquisition costs for low-income direct install programs is higher than that of other programs: "The SWE estimates that a full cost assumption for all low income specific measures and EDCs paying 100% of the full cost, would have a

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[32] In discussing the low-income assumptions, the SWE MPS states, "Any significant increases to these offerings might impact overall potential, likely with the effect of reducing program potential." SWE MPS, p. 62.

[33] PPL (PA) is included in the benchmarking at $1,100/MWh acquisition cost for the low-income program.

[34] Acquisition costs ranged from a low of $230/1st-yr MWh saved to a high of $5,000/1st-yr MWh saved. The mean acquisition cost was $1,330/1st-yr MWh saved and the median was $1,040/1st-yr MWh saved.

2.4%-4.6% increase on the total (all-sectors) portfolio acquisition costs across the EDCs."[35] The SWE acknowledges that this estimate does not capture the effects of the total installed cost of the measures which includes the additional CSP administrative and labor costs to install such measures. The effect of this is that the true cost of a direct install program would be greater than the SWE's estimated 2.4%-4.6% increase on portfolio acquisition costs, and, therefore, the portfolio potential is overestimated. PECO estimates an increase of portfolio acquisition costs of 7.3% using an acquisition cost of $1,164/1st-yr MWh saved to achieve 2% of EE savings from low-income direct install measures and $250/1st-yr MWh saved as the base acquisition cost for all other measure savings.

PECO shares the Commission's desire to provide low-income customers with meaningful opportunities for bill reduction through a diverse array of measures. PECO believes this can be accomplished through a spending requirement for low-income direct install measures instead of the savings requirement recommended in the Tentative Order. This spend requirement would allow EDCs to design and implement robust direct install programs without being exposed to the compliance risk of an unsupported savings carve-out. In addition, a requirement that EDCs report on their implementation of direct install measures will provide the Commission and interested parties with information to evaluate the costs and benefits of this type of measure. PECO notes that many direct install measures have non-electric benefits, such as natural gas or oil savings, that could be tracked to take a broader look at the impact of these measures.

For PECO, this spend requirement would be $6,674,376, or 7.8% of total annual budget (see Table 4 in Section II.C), based on an acquisition cost of $1,164/MWh and the budget required to achieve 2% of overall savings from low-income direct install programs only. The

[35] SWE Response, page 2.

direct install spend requirement assumes a budgetary allocation for DR spending at 10% and uses PECO's MPS acquisition cost findings. If these assumptions are changed, the low-income direct install spending carve out should be adjusted accordingly as it would directly impact total portfolio potential.

Alternatively, if PECO's DR target remains set at the proposed 166 MW per year, the spend requirement for the low-income direct install component would be $6,266,976, or 7.3% of total annual budget (see Table 5 in Section II.C). This represents the budget required to achieve 2% of overall savings from low-income direct install programs only using an acquisition cost of $1,164/MWh and PECO's MPS acquisition cost findings. It also assumes an adjusted EE target to account for a lower budget allocation of 84.5% ($72,223,918 per year) of PECO's maximum annual portfolio budget and a budgetary allocation for DR spending at 15.5% as described in Section IV.B.

As a comparison, if PECO's target remains at the 2.08 million MWh as proposed and the DR budgetary allocation assumption remains at 10%, PECO estimates the budget required to achieve 2% of overall savings from low-income direct install programs only would be $9.7 million, or 11.3% of the total annual budget (see Table 12). This assumes an acquisition cost for the low-income direct install programs only of $1,164/MWh. However, the result is that the remaining 98% of the savings target must be achieved at an acquisition cost of only $165/MWh. As shown in Section II.B, this would be an unreasonably low acquisition cost to achieve the savings target with a comprehensive portfolio and would put the EDCs at significant risk of reaching the budget cap prior to meeting the savings targets.

Table 12. Adjusted Acquisition Costs Using PECO's Forecast Low-Income Direct Install Acquisition Rate, and 10.0% DR Spending Allocation.

Savings Component	EE Acquisition Cost ($ per 1st-yr MWh saved)	Annual Budget	Percent of Total Budget	Phase III Potential (MWh)
EE without low-income direct install savings	$165	$67,242,394	78.7%	2,038,942
EE low-income direct install savings only (2% of total EE savings)	$1164	$9,687,055	11.3%	41,611
Total EE	**$185**	**$76,929,449**	**90%**	**2,080,553**
DR		**$8,547,717**	**10%**	0
Total Portfolio		**$85,477,166**	100.0%	**2,080,553**

D. Timing of Savings And Requirement To Achieve At Least 15% Of The Savings Target Each Year

The proposed Phase III schedule[36] and proposed savings targets assume savings will begin immediately as of the start of Phase III. Such an assumption does not adequately account for the significant shift in program design that is planned for Phase III and the resulting ramp up time that will be required. PECO therefore recommends the Phase III targets be adjusted to take into account a three to six month ramp up period.

The Commission also proposes that programs achieve 15% of the savings target[37] in each program year. This requires an aggressive ramp up for new programs and existing programs undergoing significant redesigns, and may not be realistic to achieve. This requirement hampers EDCs' ability to develop robust new construction and G/E/NP programs. To build strong programs in these markets may require significant up front spending in PY8 and PY9 which may not yield savings until later program years due to the nature of projects in these programs which may take more than two years from inception to completion.

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36 Tentative Order, pp. 74-75.

37 Tentative Order, p. 45.

PECO recommends removing the 15% per year requirement altogether. If the Commission chooses not to remove the requirement, PECO recommends either reducing it to a 10% requirement per year or, at a minimum, reducing the PY8 requirement to 10% to account for the reduced savings likely to occur in PY8 during the launch and ramp up period. These changes will allow EDCs to focus on building programs in the early years of Phase III which may not yield much savings until later years.

V. COMMENTS ON OTHER TENTATIVE ORDER PROPOSALS

A. PECO Opposes The Commission's Proposal To Require Competitive Bidding For All CSP Contracts Without Exception

Under the Commission's existing policy, which was utilized for the transition from Phase I to Phase II of the EE&C Program, EDCs were required to competitively bid CSP contracts for new programs or measures that were not implemented in Phase I and any new CSP service associated with a program or measure that was implemented in Phase I and retained in Phase II. If, however, a CSP was being retained for a Phase I program or measure that was continuing in Phase II, competitive bidding was not required. This policy was intended to avoid unreasonable costs and delays in implementing programs and measures that were retained from one EE&C phase to the next. In addition, the Commission believed that customers would be adequately protected by the Act 129 spending cap and Commission review of all CSP contracts.[38]

In the Tentative Order, the Commission states that it is "reconsidering the prior presumption of cost-savings" and proposes to require competitive bidding of CSP contracts without exception. In support of this change in policy, the Commission stated: "retention of Phase I CSPs and programs did not necessarily result in cost savings by EDCs in their efforts to

[38] *See* Tentative Order, pp. 95-96.

reach the consumption reduction targets of their respective Commission-approved EE&C Plans. In many cases, this practice led to an increase in costs and, in some cases, these costs exceeded the associated, Commission-approved Phase II EDC EE&C program budgets." [39]

It is difficult to directly respond to this finding when the Commission has not provided any concrete examples or specific details concerning the magnitude and frequency of the alleged CSP contract cost issues. In any event, PECO believes that EDCs should have reasonable flexibility on contracting procedures to meet program goals, including consumption and cost savings. Accordingly, PECO does not support a requirement for competitive bidding without exception because, as discussed below, mandatory bidding may be both unnecessary and unlikely to result in additional value for customers. The cost of a contract is only one of many relevant factors that should be evaluated when selecting a CSP to implement a program that is being continued from one EE&C Program phase to the next. By way of contrast, we note that the existing process for Phase II provides EDCs with appropriate discretion to consider all relevant factors, including whether to amend an existing contract or re-bid the work for the next phase. In either circumstance, the resulting contract is subject to Commission review and approval.

Mandatory competitive bidding is not necessary because the regulatory and business frameworks under which EDCs design and implement their EE&C plans demand ongoing consideration of contract cost. EDCs must design their EE&C plans to stay within the statutorily-imposed spending cap and present detailed budget information during their EE&C plan proceedings. If an EDC fails to meet required consumption or demand reduction targets for any reason, including high CSP contract costs or poor CSP performance, it faces potentially

[39] *See* Tentative Order, pp. 96-97.

substantial penalties under Act 129. Therefore, EDCs have every incentive to make prudent CSP selections because of the Act 129 penalty risk. Beyond the regulatory mandate to consider cost when implementing EE&C plans, PECO has rigorous business requirements that apply to the extension and amendment of contracts. Finally, and as mentioned earlier, the Commission has the opportunity to review and approve or disapprove all CSP contracts, regardless of the process used to obtain the contract.

Mandatory competitive bidding is also unlikely to add value for customers because: (1) it does not allow EDCs to recognize the value of past CSP performance; (2) the bidding process itself has costs and minimum time requirements that may make it difficult for all programs to be ready and "in market" on June 1, 2016; and (3) cost differentials in CSP bids are generally not very significant in light of the fact that program budget data is available to CSPs before they submit their bids.

During the transition from its Phase I Plan to its Phase II Plan, PECO experienced the value of retaining well-performing CSPs. These CSPs have an established working relationship with key PECO staff, familiarity and experience with PECO-specific business and IT processes, familiarity and experience with PECO's Act 129 programs and a high level of overall knowledge of Act 129 requirements and key Commission documents such as the Technical Reference Manual. Mandating competitive bidding of all contracts limits the ability of PECO and other EDCs to account for the value of past performance, which could ultimately impair and impede EE&C plan implementation. Even if, as the Commission believes, bidding all CSP contracts will reduce some contract costs, it will not necessarily create better results for customers. Indeed, using a competitive process for all CSP contracts will create some unavoidable costs and likely result in program implementation delays.

Finally, the Company expects that the contract cost savings, if any, resulting from rebidding contracts for retained programs and measures would not be material. When CSPs submit bids to implement particular EE&C plan programs and measures, they have access to the Commission-approved budget for the plan. This means that most bids are priced very close to the applicable budget, and the opportunity for significant "cost savings" is minimal.

B. PECO's Recommendations Regarding Cost Recovery

The Company supports most of the Commission's cost recovery proposals as reasonable and consistent with earlier phases of the EE&C Program. The Company agrees that recoverable EE&C costs include capital expenses, depreciation, operation and maintenance expenses, taxes and administrative costs. PECO also supports the Commission's proposal to continue to apply the Act 129 spending limitation to annual EDC spending on a plan, rather than to the entire multi-year plan. The Company further notes that the Commission correctly describes this provision as a "cap" and not a spending requirement. Finally, PECO agrees that EDCs should be permitted to spend their full Phase III budget, regardless of Phase II spending, and that once Phase III begins, EDCs should use Phase II funds solely to account for Phase II measures and finalize CSP and administrative fees.[40] The Company's additional comments and requests for clarification regarding cost recovery are below.

1. PECO would prefer to continue its existing reconciliation model, but would not oppose a change to annual reconciliation with symmetrical interest.

PECO's Phase II Plan costs and revenues will be reconciled at the end of the Phase II Plan on May 31, 2016, without interest on over or under collections. In the Tentative Order, the Commission proposes a standardized methodology pursuant to which Phase III Plan rates would

[40] Tentative Order, pp. 105-109.

be adjusted and reconciled annually to reflect over- or under collection balances, with interest at the legal rate of six percent.[41] PECO would prefer to continue its existing methodology because it has benefited customers through simplified cost recovery with a levelized rate over the term of Phase II. Nonetheless, the Company understands the Commission's desire for standardization and would not oppose a change to the annual reconciliation process, with symmetrical interest,[42] as proposed in the Tentative Order.

2. PECO supports the Commission's directive to identify rebate application deadlines in the Phase III EE&C Plans

In the Tentative Order, the Commission proposes that EDCs be required to develop rebate application deadlines within their Phase III EE&C Plans. EDCs are given the flexibility to determine what deadlines are appropriate, but the Commission strongly suggests 180 days as a maximum length of time.[43] PECO agrees with the Commission that such deadlines are important to allow for timely EE&C reporting and true-up at the end of a phase. PECO also agrees that EDCs are in the best position to determine an appropriate deadline for their programs, and believes the Commission's 180-day recommendation is a reasonable outer limit for the submission of a rebate application after a measure has been installed.

3. PECO supports the proposal to combine the Phase II and Phase III surcharges but requests clarification that interest would not apply to any Phase II reconciliation balances

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41 *See* Tentative Order, pp. 117-120.

42 Although the Commission has proposed the statutory interest rate of six percent in the Tentative Order, PECO notes that a market-based interest rate is being considered in an ongoing proceeding regarding certain automatic adjustment clauses. *See Proposed Rulemaking For Automatic Adjustment Clauses Related To Electric Default Service*, Docket No. L-2014-2421001. The Company believes that either rate could be appropriate for over and under recoveries of Phase III costs, as long as the rate is symmetrical (i.e., the same rate applies to both over and under recoveries).

43 Tentative Order, p. 113.

PECO supports the Commission's recommendation that the Phase II and Phase III surcharges be combined into a single surcharge and tariff with the implementation of Phase III.[44] In the Tentative Order, the Commission proposes the following process for the transition from Phase II cost recovery methodology to the methodology proposed for Phase III:

> In order to transition from the cost recovery methodology utilized during Phase II, ending May 31, 2016, to the cost recovery methodology to be utilized during Phase III, beginning on June 1, 2016, we propose that each EDC reconcile its total actual recoverable EE&C Plan expenditures incurred through March 31, 2016, with its actual EE&C Plan revenues received through March 31, 2016. The net over-recovered or under-recovered amount shall be reflected, ***with interest***, as a separate line item of the E-factor calculation of the Phase III rates to become effective June 1, 2016. (emphasis added).[45]

While the Company does not oppose the proposed reconciliation schedule, PECO requests that the Commission clarify that interest would not be applicable to the Phase II over and under recoveries to be recovered starting June 1, 2016.

C. PECO supports the move to biannual reports, but recommends the semi-annual report be due no later than January 15 of the program year

In the Tentative Order, the Commission proposes a semiannual reporting process which includes a report covering the first six months of the program year that must be submitted by December 31.[46] PECO supports the overall process proposed by the Commission, but recommends that the December 31 deadline be moved to January 15. This would be consistent with the current Q2 reporting deadline as used through Phase I and Phase II, and would provide sufficient time to prepare the mid-year report to include the full Q1-Q2 data. PECO has

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44 Tentative Order, p. 119.

45 Tentative Order, p. 119.

46 Tentative Order, p. 83-84.

historically needed the full 45 days after the end of a quarter to process all applications submitted at the end of the quarter and to develop the quarterly reports. The Company anticipates this will continue to be the case in Phase III.

VI. CONCLUSION

PECO appreciates the opportunity to comment on the Tentative Implementation Order and requests that the Commission consider and adopt the foregoing recommendations in developing the Final Implementation Order. PECO looks forward to continuing to work with the Commission and other stakeholders to move the EE&C Program forward and to enhance the customer experience by increasing programming diversity and opportunities for deeper savings.

Respectfully submitted,

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For PECO Energy Company