BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Petition of PPL Electric Utilities Corporation	:	
Corporation for Approval of an	:	Docket No. M-2012-2334388
Energy Efficiency and Conservation Plan	:	

MAIN BRIEF
OF THE
OFFICE OF CONSUMER ADVOCATE

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I. INTRODUCTION

On November 14, 2008, Act 129 of 2008 (Act 129) became effective. Act 129 contained a requirement for the Pennsylvania Public Utility Commission (Commission) to implement an Energy Efficiency and Conservation Program for Electric Distribution Companies (EDCs) with more than 100,000 customers. See 66 Pa.C.S. § 2806.1 *et seq*. The seven largest EDCs – PECO Energy Company (PECO), PPL Electric Utilities, Inc. (PPL), the FirstEnergy Companies (Metropolitan Edison Company, Pennsylvania Electric Company, Pennsylvania Power Company, West Penn Power Company), and Duquesne Light Company – filed their Phase I EE&C Plans in the summer of 2009. These Phase I Plans expire on May 31, 2013.

On August 3, 2012, the Commission entered its Phase II Implementation Order, tentatively adopting EDC-specific targets for reducing energy consumption for the next EE&C Program term (June 1, 2013-May 31, 2016). Energy Efficiency and Conservation Program, Docket Nos. M-2012-2289411 and M-2008-2069887 (Order entered August 3, 2012) (Phase II Implementation Order). As part of that Order, each EDC was given an EDC-specific Phase II consumption reduction target. PPL's Phase II target was set at 2.1% of its expected sales for the June 1, 2009 through May 31, 2010 period.[1] Phase II Implementation Order at 24. The Commission also directed that: (1) 10% of overall consumption reductions come from the Government/Institutional/Non-Profit sector; (2) a plan's portfolio of measures include a proportionate number of low-income measures; and (3) EDCs obtain a minimum of 4.5% of their consumption reductions from the low-income sector. Id. at 45-57. As in Phase I, the total resource cost (TRC) test will be used to evaluate each EDC's Plan. Id. at 78-83.

[1] As was its right under the Phase II Implementation Order, PPL filed a Petition for Evidentiary Hearing regarding the Company's Phase II consumption reduction targets. See Docket No. P-2012-2320369. Direct and rebuttal testimony, evidentiary hearings, and briefing occurred and the record was certified to the Commission on November 1, 2012.

Act 129 caps annual spending on the Plan at 2% of the EDC's total revenues for calendar year 2006. 66 Pa.C.S. § 2806.1(g); see, generally, Phase II Implementation Order at 100-119. The Act provides for the full and current recovery of the Plan costs through an automatic adjustment rider, but prohibits the recovery of lost revenue by the EDC. 66 Pa.C.S. §2806.1(b)(1)(H). The costs incurred are to be allocated to the classes that directly benefit from the measures implemented, unless a system-wide benefit can be shown.

II. PROCEDURAL HISTORY

The Phase II Implementation Order details the Plan approval process for this proceeding. According to the Order, the EDCs were to file their proposed plans by November 1, 2012, and the Commission was to publish the plans in the *Pennsylvania Bulletin* within 20 days of filing.[2] An answer along with comments and recommendations was to be filed within 20 days of publication. The plans were to be referred to the Office of Administrative Law Judge (OALJ) and be scheduled for hearings to be completed no later than the 65th day after the plans were filed. The Commission is to approve or reject all or part of the plan at a Public Meeting within 120 days of the EDC's filing. Phase II Implementation Order at 61-62.

PPL's Plan was filed on November 15th and the Commission Order is due in this matter by March 14, 2013. On December 3, 2012, UGI Distribution Companies (UGI) filed a Petition to Intervene in this proceeding. On December 5, 2012, the Office of Small Business Advocate (OSBA) filed a Notice of Intervention and CAUSE-PA filed a Petition to Intervene. On December 6, 2012, the Office of Consumer Advocate (OCA) filed a Notice of Intervention. Also on December 6, 2012, Citizens for Pennsylvania's Future (PennFuture), Wal-Mart Stores East, LP and Sam's East, Inc. (Wal-Mart), the Commission on Economic Opportunity (CEO),

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2 Due to Hurricane Sandy, the Commission issued a Secretarial Letter extending the Plan submission filing date to November 15, 2012 and the Commission Order date to March 15, 2012. PPL filed its Plan on November 15th.

and the PPL Industrial Customer Alliance (PPLICA) filed Petitions to Intervene. On December 10, 2012, the Sustainable Energy Fund (SEF) filed a Petition to Intervene in this case. ALJ Dennis J. Buckley granted all of the above-mentioned Petitions to Intervene.

On December 10, 2012, ALJ Buckley held a prehearing conference attended by the following parties: PPL, the OCA, the OSBA, PennFuture, UGI, Wal-Mart, SEF, CAUSE-PA, and CEO. At that conference, a procedural schedule was established. On December 19, 2012, Comverge, Inc. filed a Petition to Intervene, which was granted.

In accordance with the procedural schedule, the OCA submitted its Comments on December 21, 2012,[3] and the Direct Testimony of Geoffrey C. Crandall[4] on December 28, 2012. Direct testimony was also submitted by UGI, SEF, CEO, and CAUSE-PA.[5] Rebuttal testimony was filed on January 11, 2013, by PPL and CAUSE-PA. An evidentiary hearing was scheduled for January 16, 2013, at which time the OCA, by stipulation, entered the testimony of Mr.

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3 The following parties also submitted comments on December 21, 2012: PennFuture, Comverge, and PPLICA. CAUSE-PA and UGI filed letters in lieu of Comments.

4 Mr. Crandall is a principal and Vice President of MSB Energy Associates of Middleton, WI. Mr. Crandall specializes in residential and low-income issues and the impact of energy efficiency and utility restructuring on customers. He has over 35 years of experience in utility regulatory issues, including energy efficiency, conservation and load management resources program design and implementation, resource planning, restructuring, mergers, fuel, purchase power, gas cost recovery, planning analysis and related issues. His experience includes over 15 years of service on the Staff of Michigan Public Service Commission as an analyst in the Electric Division (Rates and Tariffs), as the Technical Assistant to the Chief of Staff, Supervisor of the Energy Conservation Section and as the Division Director of the Industrial, Commercial and Institutional Division, with the responsibility for the energy efficiency and conservation program design, funding and implementation of Department of Energy and utility-funded programs and initiatives throughout Michigan. Mr. Crandall has provided expert testimony before more than a dozen public utility regulatory bodies throughout the United States, including this Commission, and before the United States Congress on several occasions.

5 On January 14, 2013, Comverge filed a Petition for Admission Nunc Pro Tunc of Direct Testimony. PPL objected, and oral arguments on this issue were heard by ALJ Buckley on January 16, 2012, prior to the start of the evidentiary hearing. ALJ Buckley denied Comverge's Petition to admit its direct testimony into the evidentiary record.

Crandall into the record as OCA Statement No. 1. The OCA submits this Main Brief in accordance with the schedule established by the Commission.

The OCA generally supports the Company's Plan and commends PPL on the collaborative process that it employed in arriving at its Plan. There are, however, aspects of the Plan which the OCA submits should be further examined and parts of the Plan which need further clarification or explanation. The OCA's position is detailed below.

III. DESCRIPTION OF PPL'S PLAN

On November 15, 2012, in compliance with the requirements of Act 129 and the Commission's Phase II Implementation Order, PPL filed its Petition and EE&C Plan with the Commission. The Phase II Plan is designed to reduce total energy consumption between June 1, 2013 and May 31, 2016 by 2.1% of PPL's sales for the June 1, 2009 through May 31, 2010 period. Petition at 3-4. To achieve this goal, the Company proposes a Plan consisting of thirteen energy efficiency programs, seven of which are components of its Phase I Plan and six of which are new programs. Petition at 9-10. Specifically, the Company has proposed to continue the following programs: (1) Appliance Recycling, (2) Residential Retail Program, (3) Residential Energy-Efficiency Behavior and Education, (4) Low-income WRAP Program, (5) E-Power Wise Program, (6) Prescriptive Equipment Small C&I, Large C&I and GNI Program, and (7) Custom Incentive Small C&I, Large C&I and GNI. Id. The Company proposes the following new programs: (1) Residential Home Comfort Program, (2) Student and Parent Energy-Efficiency Education Program, (3) Low-income Energy-Efficiency Behavior and Education Program, (4) Master Metered Low-income Multifamily Housing Program, (4) Continuous Energy Improvement Program and (5) School Benchmarking Program. Id.

PPL's portfolio of programs is designed to provide customer benefits, while also meeting the energy saving goals set forth in the Act within the designated expenditure cap of two percent (2%) of 2006 annual revenues, which is approximately $61.5 million for each year of the three-year plan. The total program spending cap is $184.5 million. PPL Exhibit No. 1 at 171. PPL anticipates a total cost of $186.7 million, which includes $2.2 million for Statewide Evaluator costs not subject to the cost cap.[6] Plan at 177, Table X. These costs are broken down by class as follows: Residential (including low-income) - $76.5 million; Small Commercial and Industrial (SC&I) - $43.3 million; Large Commercial and Industrial (LC&I) - $38.2 million; and Governmental/Educational/Non-Profit - $28.7 million. PPL Electric Exhibit No.1 at 176.

PPL intends to recover its costs through an Act 129 Compliance Rider (ACR) that will be imposed under Section 1307 and will be both reconcilable and non-bypassable. PPL Electric Exhibit No. 1 at 178-180. A separate recovery charge will be established for each customer class, corresponding to the costs of the programs that target that class, and will include the costs of the EE&C Plan and the Statewide Evaluator (SWE). Id. at 178. For residential customers, the recovery charge will be a levelized cents per kWh component added to the distribution charge. Id. For small commercial and industrial customers, the recovery charge will be a levelized cents per kWh charge that will be a separate line item on the customer's bill. Id. For large commercial and industrial customers, the recovery charge will be a levelized dollar per kW charge that will be a separate line item on the customer's bill, where the demand kW is the customer's PJM Interconnection, LLC Peak Load Contribution. Id. The ACR rates for each class are projected to be as follows:

[6] PPL's Statewide Evaluator costs are approximately $3 million. A portion of this cost is included in the $184.5 million spending cap. The remaining Statewide Evaluator costs of $2.2 million were added to the spending cap to bring the Plan's total cost to $186.7 million. See Plan at 177, Table X, 178.

Class	Projected Rate*
Residential	$0.00209/kWh
Small C&I	$0.00220/kWh
Large C&I	$0.52069/kW

*Source: PPL St. No. 3R at 3.

PPL proposes to annually reconcile the revenues recovered from each class with the adjusted budget amounts of that class. PPL Electric Exhibit No. 1 at 178. PPL also proposes to make "mid-course" corrections to its cost recovery mechanism to reflect major changes to any of its EE&C programs. PPL Exhibit No.1 at 179. At the end of the three-year plan, PPL will reconcile total revenues collected to its total actual costs for the three-year Plan. Id. Phase II costs will be tracked and reconciled separately from Phase I costs and revenues. Id.

IV. LEGAL STANDARDS

A number of standards are considered by the Commission in determining whether the EDC's EE&C Plan should be approved. 66 Pa.C.S. § 2806.1(a). Most of these standards deal with the evaluation and modification of the Plan and were previously implemented as part of Phase I. See 66 Pa.C.S. §§ 2806.1(a)(2) (monitoring and verifying data collection), 2806.1(a)(4) (evaluating how Plans will meet or achieve consumption reduction goals), 2806.1(a)(6) (amending and modifying Plans), 2806.1(a)(7). Other, more general standards, must also be achieved as part of each EDC's Plan. For example, Act 129 states that each Plan must include a variety of energy efficiency and conservation measures and that such measures must be provided equitably to all classes of customers. 66 Pa.C.S. § 2806.1(a)(5). Further, cost recovery must be structured in such a manner to ensure that approved measures are financed by the same customer class that will receive the direct benefits of those measures. Id. at § 2806.1(a)(11).

Act 129 also specifically requires each EDC to demonstrate, *inter alia*, that its Plan is both cost-effective using the TRC test and provides a diverse cross-section of alternatives for customers of all rate classes. See 66 Pa.C.S. § 2806.1(b)(1)(i)(I). In the Act, a TRC test is defined as:

> [A] standard test that is met if, over the effective life of each plan not to exceed 15 years, the net present value of the avoided monetary cost of supplying electricity is greater than the net present value of the monetary cost of energy efficiency conservation measures.

66 Pa.C.S. § 2806.1(m). The TRC will continue to be used to evaluate each EDC's Phase II Plan. Phase II Implementation Order at 78-81. The revised TRC test for the Phase II Plans was adopted by the Commission at its August 30, 2013 Public Meeting. 2012 PA Total Resource Cost (TRC) Test, Docket No. M-2012-2300653 (Order entered August 30, 2012).

Finally, as was discussed above, in its Phase II Implementation Order, the Commission directed that each company's plan be developed to include a series of specific carve-outs. The carve-outs are as follows: (1) 10% of overall consumption reductions must come from the Government/Institutional/Non-Profit sector; (2) a plan's portfolio of measures must include a proportionate number of low-income measures, and (3) EDCs must obtain a minimum of 4.5% of their consumption reductions from the low-income sector. Phase II Implementation Order at 45-57.

The OCA submits that, in addition to reviewing the Company's proposed Plan for its potential to achieve the 2.1% consumption reduction target, PPL's Plan must also be reviewed to ensure that it is designed to meet all of aforementioned goals and targets in a cost-effective manner.

V. SUMMARY OF ARGUMENT

The OCA generally supports the Company's Plan and commends PPL on the collaborative process that it employed in arriving at its Plan. The OCA and its expert, Geoffrey C. Crandall, have reviewed the filing and submit that many aspects of the Plan meet the requirements of the Phase II Implementation Order. There are, however, aspects of the Plan which the OCA submits should be further examined. The following is a summary of the OCA's conclusions and recommendations:

Overall Plan Assessment and Compliance with the Requirements of Act 129 and the Phase II Implementation Order:

- The EE&C Plan is reasonably designed to meet the requirements for energy efficiency and demand reduction set forth in Act 129 in the time period specified for compliance and within the budget limitations specified in the Act.
- The Plan is designed to provide a variety of programs to all customer classes and provides the measures equitably to all customer classes as specified in Section 2806.0(a)(1)(5).
- The EE&C Plan is designed to meet the requirements of the Phase II Implementation Order for savings within the government/non-profit sector.
- The Plan is designed to meet the requirements of the Phase II Implementation Order for providing programs and savings for low-income customers, but PPL should obtain more of the required savings from direct participation in the low income programs.
- The EE&C Plan as a whole has a positive benefit/cost ratio of 1.73 based on the Total Resource Cost Test as set forth by the Commission making the Plan a cost-effective means of achieving the requirements of the Act and the Phase II Implementation Order.
- The Plan proposed by PPL should be generally approved, subject to certain modifications detailed below.

Program Design:

- PPL should review the limited participation of low income customers in the Low Income Programs, and seek to shift low income participation from the general residential programs to the low income programs where appropriate.

- PPL should operate the residential behavior and education programs without interruption between Phase I and Phase II, and continue the report cards over a long enough period to allow the messaging to be ingrained.

- PPL should modify its proposed EE&C Plan to remove electric heat pump water heaters from the eligible measures available in the Low Income WRAP program for qualified customers residing in housing that already has natural gas service.

- PPL should improve the realization rate of the energy efficiency kits.

- PPL should remove incentives for the standard T-8 systems and EISA compliant incandescent bulbs.

- PPL should work with the stakeholder group to develop a comprehensive data center energy efficiency program with a target date of starting a program by September 2013.

- PPL's Master Metered Low Income Multifamily Housing Program should be modified to include LED lighting among the measures covered by this program. Furthermore, PPL should provide a description of the educational techniques it will use to educate building owners and tenants.

Cost Recovery:

- PPL should assign 1% of the cost of the Appliance Recycling and Residential Retail Programs to the Small C&I sector, or $57,600 and $257,600, respectively, since Small C&I customers are permitted to participate in these programs.

- PPL should incorporate its reconciliation process as described in Exhibit GCC-9 into the formal approval of the Plan.

On-Going Stakeholder Process:

- The Company's commitment for an on-going stakeholder process should include quarterly meetings and should be formalized as part of the Commission Order.

These issues will be further discussed below.

VI. ARGUMENT

A. Procedural/Evidentiary Issues

Not Applicable.

B. Act 129 Conservation Requirements

1. Overall Conservation Requirements

As noted above, the Phase II Implementation Order adopted EDC-specific targets for reducing energy consumption for the next EE&C program term. With respect to PPL, the Phase II target was set at 2.1% of its expected sales for the June 1, 2009 through May 31, 2010 period. Phase II Implementation Order at 24. This reduction target equates to 821,072 MWh. PPL Electric Exhibit No. 1 at 6. PPL's proposed Plan is designed to achieve a reduction of 841,957 MWh/year by May 31, 2016, which exceeds the requirement. Id., Table 5a.

2. Requirements for a Variety of Programs Equitably Distributed

The Act requires that the plan include a variety of measures and that the measures be provided equitably to all customer classes. 66 Pa.C.S. § 2806.1(a)(5). The Company's Plan contains thirteen different programs distributed across all of its customer classes. PPL Electric Exhibit No. 1 at 1. PPL has provided at least two energy efficiency programs for each class. Id., Table 4. In the OCA's view, PPL's proposed Plan satisfies the Act's requirement of offering a variety of programs equitably distributed amongst the classes.

3. 10% Government/Non-Profit Requirement

In its Phase II Implementation Order, the Commission required that EDCs obtain at least 10% of their consumption reduction from the Government/Non-profit sector. Phase II Implementation Order at 45. For PPL, this requirement equates to a reduction of 82,107 MWh. PPL Exhibit No. 1 at 193. PPL estimates that its Plan will exceed its target by achieving a reduction of 92,835 MWh from its Government/Non-profit sector. Id. The OCA submits that the Company's Plan meets the specific requirements for the Government/Non-profit sector.

4. Low Income Program Requirements

In the Phase II Implementation Order, the Commission also required that EDCs' Phase II Plans contain a proportionate number of low income measures and that EDCs obtain a minimum of 4.5% of their consumption reductions from the low income sector. Phase II Implementation Order at 45-57. In response to this requirement, PPL proposed the following low income programs: (1) Low-Income WRAP, (2) Low-Income Energy-Efficiency Behavior and Education, and (3) E-Power Wise Program. PPL Electric Exhibit No. 1 at 68-87. PPL anticipates an energy savings of 22,091 MWh/year from its low income programs. Id. at 192. The Company anticipates achieving an additional 49,192 MWh in energy savings from low income customers participating in the other non-low income residential programs. Id.

Although the OCA acknowledges that the Company may count low income customer participation in the general residential programs towards its reduction target of 4.5% from the low income sector, the OCA recommends that the Company do more to attract low income customers to its low income programs. The OCA does not believe it is in the best interest of low income customers to reduce their energy consumption through general residential programs when low income programs are available. As explained by OCA Witness Geoffrey Crandall:

> By participating in the general residential programs, low income customers will pay more than if they reduced consumption through the Low Income Programs. They will pay more because PPL's income-qualified programs have no participation cost, while the standard residential programs provide incentives covering part of the cost.

OCA St. No. 1 at 13.

Some low income customers may choose not to participate in the low income programs due to lack of information or perceived barriers. The OCA questions the propriety of having a low income customer participate in the general residential program rather than the low income program when there are greater benefits for the customer in the low income program. Witness Geoffrey Crandall suggested some of the barriers that should be addressed:

> PPL suggested that some of these customers do not consider themselves to be low income even though they met the requirements. It is also possible that they do not participate because they don't know the Low Income Program exists or because they perceive a stigma associated with the phrase "low income."

Id. at 13-14.

Witness Geoffrey Crandall recommended that PPL attempt to remove such barriers by increasing the marketing of the low income programs, by informing all participants in the general residential programs about the low income programs, and by renaming the programs "income-qualified" rather than "low income." OCA St. No. 1 at 14. PPL should explore these recommendations in order to shift low income customer participation from the general residential programs to the low income programs where customers can receive benefits more appropriate to their circumstances.

5. Whole House Measure Requirement

The Phase II Implementation Order required EDCs to include at least one comprehensive measure for residential and small commercial rate classes in their EE&C Plans. Phase II Implementation Order at 20. The Phase II Implementation Order did not include reduction targets for these comprehensive measure programs. Id. at 20. In its Plan, PPL proposes to add the Residential Home Comfort Program. PPL Electric Exhibit No. 1 at 49. This program is designed to offer comprehensive measures for new and existing homes by providing incentives to builders to use energy-efficient measures in new homes, and by offering incentives for audits and weatherization for existing homes. Id. at 49. For the Small C&I sector, PPL's Plan includes the Prescriptive Energy Efficiency Program. Id. at 88. The Prescriptive Energy Efficiency Program offers free audits and provides rebates and incentives for specific energy-efficiency measures and services. Id. at 88. The OCA submits that PPL has complied with the requirement to include at least one comprehensive measure for residential and small commercial rate classes in their EE&C Plan.

6. Issues Relating to Individual Conservation Programs

OCA witness Crandall reviewed PPL's proposed Plan and identified the following concerns:

a. Residential

i. Behavior and Education Programs

PPL's proposed Plan continues the existing Residential Energy-Efficiency Behavior & Education Program with slight modifications and introduces a new Residential Behavior & Education Program for low income customers. PPL Electric Exhibit 1, Table 4. These programs target high-use customers and low income customers, respectively, to receive report cards comparing them to similar customers and providing them with energy tips. The objective of these programs is to motivate participants to reduce their energy use. PPL reports that the expected measure life in these programs is only one year. Id. at 87. OCA witness Crandall testified that the measure life in these programs could be extended if these programs lasted over a long enough time for the behavior to become ingrained. OCA St. No. 1 at 10. Mr. Crandall recommends that PPL's current behavior modification program continue without interruption between Phase I and Phase II and continuously over a long enough time to allow the messaging to become ingrained. Id. at 28.

Mr. Crandall also testified that energy savings from these programs could persist if these programs provided customers with energy saving tips based on hardware improvements and links to other PPL energy efficiency programs. OCA St. No. 1 at 10. In rebuttal, PPL witness Mary Elizabeth Thompson Grassi testified that PPL does intend to include internet addresses to the Company's other programs in the paper report cards and links to the Company's other programs in the emailed report cards. PPL St. No. 1R at 19. Accordingly, the OCA submits that PPL should be directed to include the commitment that its report cards contain the information needed to aid its customers in modifying their behaviors to reduce their energy usage in its revised Plan.

ii. Low Income WRAP

The OCA has concerns with PPL's plan to offer to pay the entire cost of electric heat pump water heaters for low income customers, if the customer resides in a home served by natural gas. The OCA submits that it may not be in the best interest of low income customers to install heat pump water heaters rather than natural gas water heaters when natural gas service is serving the home, as it will likely cost more over time to operate a heat pump water heater. PPL witness Grassi addressed the OCA's concern in her rebuttal testimony, stating, "If the customer prefers to replace their electric water heater with a non-electric water heater (gas, oil, propane), then PPL Electric believes that should be the customer/landlord's choice and if the incentives are available, those incentives should come from the gas distribution company, or oil supplier, a propane supplier, or another community organization." PPL Statement No. 1R at 24.

The OCA submits, however, that PPL is ignoring the realities of a low income customer and the incentive being offered by PPL. Because PPL's WRAP program will install heat pump water heaters for free to eligible customers, a low income customer will likely accept a heat pump water heater even if the home is able to accommodate a natural gas water heater, and even if the natural gas water heater would be in the customer's long term economic interest. As Mr. Crandall explained:

> An offer by PPL to pay the entire cost of the heat pump water heater for low income customers will be most favorably viewed by the participating customer, virtually ensuring that the heat pump water heater will be installed even if the lifetime operating costs (which will be paid by the low income customer) of the heat pump water heater were higher.
>
> In the instance of housing that currently has natural gas service in the residence, the bigger policy question is "What is in the best long term interest of the customer?" In cases where low-income customers do not have reasonable access to natural gas or other fuels, including a heat pump water heater will clearly save energy compared to the typical electric resistance water heater. To include this measure as a no-cost option for qualified low-income customers (who have gas service) would allow PPL, for all intents and purposes, to decide for the customer how the water would be heated in their home, due to high first cost hurdles and a low-income customer's lack of access to capital. This would allow PPL to retain water heating load at the low-income customer's home, even if it results in higher operating costs compared to natural gas to the customer who is already strapped for lack of income. While a heat pump water heater saves low income customers money for operating the water heater relative to a standard electric resistance water heater, it would be expected to cost them more than it would to operate an efficient natural gas water heater.

OCA Statement No. 1 at 20-21.

Given the vulnerable financial state of low income customers, the on-going operating costs of the equipment being offered to these customers should be a factor when designing low income programs. The OCA submits that PPL should modify its proposed Plan to remove electric heat pump water heaters from the eligible measures available in the Low Income WRAP Program for qualified customers residing in housing that already has natural gas service.

iii. E-Power Wise Program

When reviewing the E-Power Wise Program, Mr. Crandall found that PPL's Plan did not include the installation rates for the energy efficiency kits. Mr. Crandall recommended that PPL work with the stakeholder group to improve the installation rate of the energy efficiency kits. OCA St. No. 1 at 18. PPL witness Grassi, however, provided the installation rates in her rebuttal testimony. Ms. Grassi provided as follows:

> In Program Year 3, PPL Electric's independent evaluator determined the installation rates for measures were 70% to 96%. The installation rates for low flow aerators and showerheads varied from 70% to 81%, which also is fairly high. With regards to lighting, the installation rate for CFL's was 94% to 96%, which is very high. In fact, it is greater than the average installation rate specified by the Commission in its Technical Reference Manual (TRM) (84%) which indicates that PPL's Electric program is very effective at encouraging customers to install the CFLs (and LED nightlights).

PPL St. No. 1R at 7-8.

Based on the information provided by Ms. Grassi, the OCA is satisfied that the installation rates of the energy efficiency kits are sufficient and do not need to be further addressed in the revised Plan.

b. Commercial

i. Master Metered Multi-family Housing Program

OCA witness Crandall found PPL's Master Metered Multi-family Housing program to be well-designed. Mr. Crandall, however, did find elements of the program that could be improved. Particularly, Mr. Crandall found that this program did not include LED lighting as an eligible measure beyond LED exit signs. Mr. Crandall recommended in his testimony that PPL include additional highly efficient LED lighting technology to this program's measure list. OCA St. No. 1 at 15-16. In response to Mr. Crandall's recommendation, PPL witness Grassi testified that PPL is amendable to approving the installation of some LED lighting in common areas or outside lighting which would have long hours of use. PPL St. No. 1 at 36. The OCA requests that PPL include these additional LED lighting features in its revised Plan.

Mr. Crandall also testified that the program as described in the Plan was vague regarding the education component for building owners and tenants. OCA St. No. 1 at 16. Mr. Crandall explained his concern as follows:

> Much, if not all of the description of this program states how PPL will be working with property owners to provide the audit, encouraging them to acquire energy efficient hardware, cross promoting these efforts with other PPL programs and services, etc. What is lacking is an explanation and description of how PPL and its CSP intend to "educate building owners and tenants on energy efficiency." PPL has failed to demonstrate what information and educational techniques, approaches and strategies it will employ to educate building owners and tenants. This is particularly complex, difficult and important with respect to how PPL intends educate, encourage and motivate tenants who reside in master metered premises.

Id. at 16.

PPL witness Ms. Grassi responded to Mr. Crandall's concern in rebuttal testimony and explained that the Master Metered Multi-family program will be operated by a CSP, and that the CSPs bidding to operate this program will submit a proposed education plan to be used in this program. Based on this information, the OCA recommends that PPL share the education program with the stakeholder group once PPL has selected the educational plan that will be used in this program.

ii. Targeting Data Centers

OCA witness Crandall observed that PPL's portfolio of programs for Commercial and Industrial customers did not include a comprehensive data center energy efficiency program. According to Mr. Crandall, data centers have become essential for the daily operations of businesses, schools, and government due to the increased reliance on digital information. OCA St. No. 1 at 6. Mr. Crandall testified that data centers are prime candidates for energy efficiency programs, and explained as follows:

> In a report to Congress, the U.S. Department of Energy (DOE) stated that the energy used by the nation's servers and data centers is significant and that the energy use of the nation's servers more than doubled between 2000 and 2006. U.S. DOE indicated that energy use for servers was forecasted to double again between 2006 and 2011. The U.S. DOE expected consumption of more than 100 billion kWh/year in 2011 costing approximately $7.4 billion annually in electricity costs. The U.S. DOE indicated that data centers space can consume up to 100 and 200 times as much electricity per square foot as standard office space. With such large power consumption, these customers are prime targets for energy efficiency design measures that could reduce electricity use and save money. This is a high-growth sector driven be increased reliance on cell phones, digital data, and enhanced communication systems.

Id.

Under its existing Custom Incentive Program and its new Prescriptive Equipment Program, PPL offers rebates and incentives that are available to data centers. PPL St. No. 1R at 38. These programs, however, do not directly target data centers. Id. Based on Mr. Crandall's testimony, the OCA is concerned that PPL may be missing an opportunity for significant energy savings by not including a program that is specifically designed for and marketed towards data centers. Accordingly, the OCA recommends that PPL include a comprehensive data center energy efficiency program in its revised Plan.

iii. Lighting Incentives

OCA witness Crandall raised concern about certain lighting incentives included in PPL's Commercial and Industrial programs. In these programs, PPL provides rebates for standard T-8 lighting. Mr. Crandall explained why this incentive is problematic as follows:

> I am concerned about the proposed inclusion of several measures in PPL's Plan. PPL is proposing to offer rebates on standard T-8 lamps and fixtures. Since standard T-8 technology is expected to replace the outdated T-12 lamps and fixtures, a rebate should not be available for the standard efficiency T-8 technology, but instead should be applied to the high performance T-8 and T-5 technologies. In my experience working in the Illinois Collaborative for the past several years, I am aware that the Commonwealth Edison Lighting program promotes energy efficiency improvements typically by requiring T-8 lamps to be either high performance or reduced wattage in order to qualify for their incentive. In terms of providing rebates on bulbs, PPL should encourage customers to purchase the most efficient bulbs available.

OCA St. No. 1 at 17.

Mr. Crandall also expressed concern with the possibility that PPL will provide incentives for Energy Independence and Security Act (EISA) compliant incandescent lighting. Mr. Crandall testified that EISA compliant incandescent bulbs are less efficient than CFL and LED bulbs, and that if PPL offers incentives for these bulbs, PPL will be encouraging customers to use less efficient bulbs. OCA St. No. 1 at 17. The OCA recommends that PPL not provide an incentive for either standard T-8 lighting or fixtures, or for EISA compliant incandescent bulbs.

c. Industrial

(See issues discussed under Commercial above.)

7. Proposals for Improvement of EDC Plan

a. Residential

i. Behavior and Education Programs

Consistent with the issue raised in Section VI.B.6.a.i. above, regarding the Company's behavior and education programs, the OCA recommends that PPL operate the residential program without interruption between Phase I and Phase II, and both the residential and low income programs continuously over a long enough period to allow the messaging to become ingrained.

ii. Low Income WRAP

Consistent with the issue raised in Section VI.B.6.a.ii. above, regarding the installation of electric heat pump water heaters, the OCA recommends that PPL modify its proposed EE&C Plan to remove electric heat pump water heaters from the eligible measures available in the Low Income WRAP program for qualified customers residing in housing that already has natural gas service.

b. Commercial

i. Master Metered Multi-family Housing Program

Consistent with the issue raised in Section VI.B.6.b.i. above, regarding the Master Metered Multi-family Housing program, the OCA recommends that PPL include additional high efficient LED lighting technology to this program's measure list in its Revised Plan, and that PPL share the educational techniques and strategies that it will use to educate building owners and tenants once PPL has selected an education plan.

ii. <u>Targeting Data Centers</u>

Consistent with the issue raised in Section VI.B.6.b.ii. above, regarding targeting data centers among the Commercial and Industrial sectors, the OCA recommends that PPL include a comprehensive data center energy efficiency program in its revised Plan.

iii. <u>Lighting Incentives</u>

Consistent with the issue raised in Section VI.B.6.b.iii. above, regarding lighting incentives the OCA recommends that PPL not provide an incentive for either standard T-8 lighting or fixtures, or for EISA compliant incandescent bulbs.

c. <u>Industrial</u>

(See proposals for improvement under Commercial above)

C. <u>Cost Issues</u>

1. <u>Plan Cost Issues</u>

Not Applicable.

2. <u>Cost Effectiveness/Cost-Benefit Issues</u>

Not Applicable.

3. <u>Cost Allocation Issues</u>

Section 2806.1(a)(11) of Act 129 requires that EE&C measures be financed by the customer class that receives the direct benefit from the programs. <u>See</u> 66 Pa.C.S § 2806.1(a)(11). In compliance with this directive, PPL calculated the EE&C costs for each of the customer classes separately. PPL Electric Exhibit No. 1 at 21. The OCA, however, has identified a concern about subsidies between rate classes.

All costs of the Residential Appliance Recycling Program and Residential Retail Program are allocated to the residential class. PPL Electric Exhibit No. 1 at 27, Table 5a. Yet, these programs are available to all classes and the Plan anticipates that commercial customers will participate to some degree in the programs. Id. at 34, 40. The Plan does not address this cross-subsidization. As Mr. Crandall explained:

> First, I could find no reference in PPL's EE&C Plan or testimony that commits them to reconciling and reversing cross subsides. PPL indicates (Plan, page 179) that at the end of the three-year plan it "will reconcile total revenues collected to its total budget for the three-year Plan," but this does not address reconciling and reversing cross subsidies. The Commission's approval of the EE&C Plan would approve the proposed cost allocation, including the residential sector subsidies of the other customer sectors that are eligible to participate in the residential programs.
>
> Second, even if the reconciliation approach PPL described in its response in Exhibit GCC-9 was implemented, it would not be performed until the conclusion of Phase II. Residential ratepayers would be subsidizing non-residential customers for more than three years before the actual costs were determined and the rates were adjusted.

OCA St. No. 1 at 24-25.

> Mr. Crandall recommended the following:
>
> [T]hat PPL allocate 1% of the costs of the Appliance Recycling and Residential Retail Programs to the Small C&I sector, or $57,600 and $257,600, respectively. This allocates planned costs consistently with the expectations for participation of non-residential customers in residential programs. It also brings it into alignment with PPL's treatment of residential customers participating in the Small C&I Prescriptive Equipment Program in that both Residential and Small C&I customers would be allocated costs in proportion to their expected participation. [He] also recommend[s] that the Commission incorporate PPL's reconciliation process as described in Exhibit GCC-9 into the formal approval of PPL's EE&C Plan. The reconciliation process is important to removing residual subsidies, but is currently not included in PPL's EE&C Plan.

OCA St. 1 at 25.

Accordingly, the OCA recommends that the Commission direct PPL to allocate 1% of the cost of the Appliance Recycling and Residential Retail Programs to the Small C&I

sector, or $57,600 and $257,600, respectively, to account for the participation of Small C&I customers in these programs. In addition, the OCA recommends that the Commission incorporate PPL's reconciliation process as described in OCA Exhibit GCC-9 into the formal approval of PPL's EE&C Plan.

4. Cost Recovery Issues

Not Applicable.

D. CSP Issues

Not Applicable.

E. Implementation and Evaluation Issues

1. Implementation Issues

Not Applicable.

2. QA Issues

Not Applicable.

3. Monitoring and Reporting Issues

Not Applicable.

4. Evaluation Issues

Not Applicable.

F. Other Issues

1. The Stakeholder Process

As directed in the Commission Order approving PPL's Phase I EE&C Plan, the Company had an active stakeholder process during Phase I, holding a minimum of two stakeholder meetings a year. In its Phase II Plan, PPL committed to an ongoing stakeholder process. PPL's Plan states that the Company "intends to meet with stakeholders as needed, but not less than twice annually until May 31, 2016." PPL Electric Exhibit No. 1 at 13. The OCA submits that the Plan, its implementation and any necessary adjustments will benefit greatly from the continuation of stakeholder meetings. The OCA recommends that the Commission reflect this commitment in its Order.

The OCA recommends, however, that the Commission direct PPL to hold stakeholder meetings at least quarterly, rather than twice annually. In his Direct Testimony, Mr. Crandall testified to the hallmarks of a sound stakeholder process and the value of such a process, as follows:

> I believe that a sound stakeholder process should meet at least quarterly. At least one week in advance, PPL should provide the collaborative group with meeting agendas, pre-meeting documents and materials that will be covered during the meetings. Having those materials in advance will afford the participants the opportunity to review the pre-meeting materials and be prepared to participate and contribute during the meetings. This group's objective would be to improve program delivery, offer ideas to enhance customer acceptance and marketing strategies, and to provide feedback and advice to help sort out evolving implementation and coordination strategies. The collaborative group could add value by informing PPL implementers of current market conditions, new developments e.g. new federal, state or local laws, product delivery and manufacturing problems, reacting to program oversubscription problems, becoming aware of backlog problems with related programs, etc. The collaborative group should be kept informed of implementation, budget, cost recovery, and other activities to assess whether any mid-course corrections are needed. Recommendations resulting from the collaborative group would be advisory in nature and non-binding on PPL. However, an active collaborative provides considerable assistance to PPL program managers and implementers.

OCA St. 1 at 4.

The Company also acknowledged the value of the stakeholder process. As PPL witness Mary Elizabeth Thompson Grassi stated, "The Company found the process to be both informative and productive and, based upon the feedback received, the stakeholders agree." PPL St. No. 1R at 6.

The OCA commends PPL in its stakeholder process in Phase I. Given the significant role the stakeholder process has played in designing and implementing the Plan, the OCA urges that the Commission reflect the Company's commitment to hold stakeholder meetings in its Order, and the OCA recommends that stakeholder meetings be held quarterly.

VII. CONCLUSION

The OCA submits that PPL's Plan is generally designed to meet the requirements of the Act and does so in a cost-effective and balanced manner. Additionally, the Plan as a whole passes the TRC test. While the OCA generally supports the Plan, the OCA respectfully requests that the Commission approve PPL's EE&C Plan subject to the recommendations set forth in this Main Brief.

Respectfully Submitted,

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January 28, 2013

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CERTIFICATE OF SERVICE

Petition of PPL Electric Utilities Corporation	:
For Approval of its Act 129 Phase II	: Docket No. M-2012-2334388
Energy Efficiency and Conservation Plan	:

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

Dated this 28th day of January 2013.

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