Pennsylvania Power Company

Energy Efficiency & Conservation Plan

(For the Period June 1, 2013 through May 31, 2016)

Proposed Minor EE&C Plan Changes dated November 22, 2013

(Approved December 18, 2013 via Secretarial Letter)

Docket No. M-2012-2334395

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1. OVERVIEW OF PLAN

On October 15, 2008, then Governor Rendell signed Act 129 of 2008[1] ("Act 129"), 66 Pa. C.S. §2806.1 et seq. ("Act 129") into law. Act 129 became effective on November 14, 2008 and imposed new requirements on Pennsylvania's Electric Distribution Companies ("EDCs") in the areas of Energy Efficiency and Conservation ("EE&C"), smart meters, procurement and alternative energy sources. Among other things, Act 129 created an EE&C Program.[2] Act 129 required an EDC with at least 100,000 customers to adopt and implement a plan, approved by the Commission, to reduce energy demand and consumption within its service territory during the period June 1, 2010 through May 31, 2013 ("Phase I"). Pursuant to Act 129, the Commission is also charged with the responsibility to evaluate whether it is cost beneficial to continue the EE&C program beyond Phase I.[3] The Commission must adopt, under Act 129, additional incremental reductions in consumption if the benefits of the EE&C program exceed its costs.[4] The Commission concluded in its August 3, 2012 Implementation Order at Docket Nos. M-2012-2289411 and M-2008-2069887 ("2012 Implementation Order"), that further energy efficiency programs would be cost effective and established Phase II of the EE&C program, requiring EDCs to adopt and implement cost effective plans to reduce energy consumption throughout the Commonwealth, consistent with its Order for the period June 1, 2013 through May 31, 2016 ("Phase II Period").

FirstEnergy Corp. ("FirstEnergy"), through its Efficiency Plan development team ("EE&C Team"), has coordinated energy efficiency and conservation ("EE&C") development efforts across its four Pennsylvania operating companies: Metropolitan Edison Company ("Met-Ed"), Pennsylvania Electric Company ("Penelec") Pennsylvania Power Company ("Penn Power" or "Company") and West Penn Power Company ("West Penn") (collectively "Companies" or "PA Companies"), in an effort to meet goals, achieve cost efficiencies and offer a consistent set of EE&C programs to the customers served by these four companies. In accordance with Act 129 and the Commission's 2012 Implementation Order, Penn Power has developed this Energy Efficiency and Conservation Plan ("Phase II Plan") for the Phase II Period. Based upon assumptions set forth in the 2012 Implementation Order, it is designed to achieve the Phase II EE&C targets.

1.1. Summary description of plan, plan objectives, and overall strategy to achieve energy efficiency and conservation goals.

Objectives:

When developing the Phase II Plan, the EE&C Team set forth the following objectives:

[1] Act 129 of 2008 became effective on November 14, 2008, and imposed new requirements on Pennsylvania's electric distribution companies ("EDCs") in the areas of energy efficiency and conservation, smart meters, procurement and alternative energy sources. Act 129 requires an EDC with at least 100,000 customers to adopt and implement a plan, approved by the Commission, to reduce energy demand and consumption within its service territory. 66 Pa.C.S. §§ 2806.1 and 2806.2.

[2] 66 Pa.C.S. §§ 2806.1 and 2806.2.
[3] 66 Pa.C.S. § 2806.1(c)(3).
[4] *Id.*

- Develop a plan that meets all requirements as established in Act 129 and the Commission's 2012 Implementation Order, including achieving a target of 95,502 MWhs of savings during the Phase II Period.
- Develop programs that provide the opportunity for the most savings at the least cost to customers.
- Include at least one program for each customer segment.

Description of the Plan and Strategy for Success:

Keeping in mind these objectives, the Phase II Plan is generally an extension of the successful programs and measures included in the Company's Phase I EE&C Plan approved by the Commission ("Existing Plan"), with the addition of new measures and a reorganization of some existing programs and measures. The Phase II Plan is very comprehensive and includes 130 EE&C measures. See Tables 8, 10, 12, and 14 in Section 3 for more detail about these measures.

The Phase II Plan was developed based on experience gained since the Existing Plan went into effect, factoring in performance to date of not only the Company's programs, but also those of the affiliate and non-affiliate utilities, and taking under advisement feedback and suggestions received from the Company's energy efficiency consultants, vendors, contractors, and interested stakeholders.

The program designs presented in this Plan cover each of the four market segments: residential (which includes low income), small commercial and industrial, large commercial and industrial, and government (which include federal, state, and local government or municipalities/school districts/institutions of higher learning and non-profit entities). The Phase II Plan leverages the existing programs and includes a mix of expanded and new services that take maximum advantage of opportunities, volume cost efficiencies and a variety of delivery channels that are anticipated to result in significant levels of customer participation. Below is a table that details how the Company's programs proposed in this Phase II Plan align with the programs in the Existing Plan:

Table 1: Existing & New Programs

Existing Program	Phase II Program
Residential Programs	
Residential Appliance Turn-In Program	Appliance Turn-In Program
Behavioral Modification & Education Program	Home Performance Program
Residential Home Energy Audits & Outreach Program	
Whole Building Program	
Residential Multifamily Building Program	
Residential New Construction	
Residential Energy Efficient Products Program	Energy Efficient Products Program
Residential Energy Efficient HVAC Program	
Residential Low-Income Programs	
Low-Income Residential (WARM) Program	Low Income Program
Multi-Family-Tenants	
Small Commercial & Industrial Programs	
C&I Equipment Program - Small	C&I Energy Efficient Equipment Program - Small
Industrial Motors and Variable Speed Drives	
Multifamily Building Program	C&I Energy Efficient Buildings Program - Small
Large Commercial & Industrial Programs	
C&I Equipment Program - Large	C&I Energy Efficient Equipment Program - Large
Industrial Motors and Variable Speed Drives	
C&I Performance Contracting	C&I Energy Efficient Buildings Program - Large
Government Programs	
Governmental & Institutional Programs	Governmental & Institutional Program
Multi-Family-Tenants	

Residential Sector Programs – Residential programs were designed with a progression from general to specific. Home energy kits and audits are expected to serve as a "portal" (but not a requirement) for the other programs, because they serve a dual purpose of providing customers with energy efficiency information regarding other services upon which they can act, as well as provide basic energy savings measures. The programs then address first-cost barriers, and tap a variety of delivery channels and vendors. To address the higher first cost of energy efficient appliances and products, rebates are provided. The programs will incorporate monitoring protocols into the implementation process as much as possible so that the evaluation, measurement and verification ("EM&V") activities for each program are manageable.

Low Income Customer Sector Programs – Within the residential sector is a special category of Low Income Customer Sector Programs. The low income customer programs outlined in this Plan will serve a dual purpose of contributing to Act 129 goal attainment and minimizing the percentage of household income that is devoted to energy costs. Basic, enhanced and comprehensive measures and education will be offered in the low income portfolio to give households more control over their energy spending. Maximum effort will be made to capture cost effective electric energy savings as part of the delivery of the Company's existing Low Income Usage Reduction Program ("LIURP"), by tapping the considerable expertise and existing infrastructure of LIURP contractors (Community Based Organizations ("CBOs") and private contractors). If it is determined that capacity has been reached for these organizations to meet the increased demand and achieve the goals, the Company will enhance the delivery system with additional contractors.

In the low income sector, the existing LIURP program has offered comprehensive energy efficiency services to eligible Pennsylvania households for years. The approach being taken in this area of the Plan is to enhance and accelerate the deployment of services to LIURP-eligible households by providing additional measures and services to achieve more savings in each visit or through additional home treatments.

The Company will also provide energy efficient measures and educational materials on behavioral changes that can be made to reduce electricity costs to low income customers. Additional programs (e.g., appliance recycling and energy efficient products) will also increase availability of subsidized energy efficiency services that, where applicable, will also be offered.

Residential programs include:

- Appliance Turn-In Program
- Energy Efficient Products Program
- Home Performance Program
- Low Income Program

Small and Large Commercial and Industrial Sector Programs – Small and large commercial businesses and industrial customers are also addressed by offering targeted information on ways to save energy followed by a choice of prescriptive rebates on selected measures, or a performance (calculated based on energy savings) rebate. Custom equipment can be addressed through calculated rebates based upon the estimated amount of energy savings associated with the project.

Small Commercial and Industrial programs include:

- C&I Energy Efficient Equipment Program - Small
- C&I Energy Efficient Buildings Program - Small

Large Commercial and Industrial programs include:

- C&I Energy Efficient Equipment Program - Large
- C&I Energy Efficient Buildings Program - Large

Governmental Sector Programs –The Plan has program services for three groups -- federal government facilities, local government facilities, schools and facilities operated by non-profit organizations -- all within the Company's service territory. While all non-residential buildings are eligible for the prescriptive and custom energy efficiency programs offered under the Commercial and Industrial sectors, special efforts are targeted for the Government Sector in recognition of its unique decision-making and financing processes for making capital improvements to facilities. To get projects completed, the programs will leverage existing Company Area Manager relationships and employ experienced vendors who specialize in working with governmental accounts.

Government programs include:

- Governmental & Institutional Program

Table 2 below describes each of the programs that are included in the Phase II Plan. More detailed descriptions of the programs are provided in Section 3 of this Plan.

Table 2: Program Summary Descriptions

Program	Program Description
Residential Programs	
Appliance Turn-In Program	This program provides rebates to consumers for turning in a working refrigerator, freezer, or room air-conditioner.
Home Performance Program	This program provides energy efficiency education and awareness along with measures and incentives for customers to conserve energy in their homes.
Energy Efficient Products Program	This program provides rebates to consumers and financial incentives and support to retailers and manufacturers that sell energy efficient products, such as HVAC equipment, appliances, lighting, home electronics and other products.
Residential Low-Income Programs	
Low Income Program	This program provides basic to comprehensive whole house measures, through direct mail or direct installation, and educates customers about their home's energy use and ways to save energy to low-income households.
Small Commercial & Industrial Programs	
C&I Energy Efficient Equipment Program - Small	This program provides financial incentives (prescriptive & performance) and support to customers directly, or through trade allies, for purchasing and installing energy efficient equipment and products.
C&I Energy Efficient Buildings Program - Small	This program provides financial incentives and support to customers for implementing building shell or system improvements. Other delivery mechanisms include incentives towards audits and kits and audits with direct installation of measures targeted at small business.
Large Commercial & Industrial Programs	
C&I Energy Efficient Equipment Program - Large	This program provides financial incentives (prescriptive & performance) and support to customers directly, or through trade allies, for purchasing and installing energy efficient equipment and products.
C&I Energy Efficient Buildings Program - Large	This program provides financial incentives and support to customers for implementing building shell or system improvements. Other delivery mechanisms include incentives towards audits.
Government Programs	
Governmental & Institutional Program	This program provides financial incentives and support to Governmental & Institutional customers for the installation of energy efficient equipment and products.

Table 3 below provides the Program Delivery Channels that are proposed for the programs included in the Phase II Plan. As programs are implemented, the Company will consider additional delivery channels to support each program meeting its projections. Additional delivery channels may be pursued throughout implementation of the programs during Phase II.

Table 3: Program Delivery Channels

Program	Sub Program	Delivery Channel (X = Existing/Proposed, P = Potential)					
		Customer Rebate	POS Rebate	Mid/Up-Stream	Contractor Incentives	Direct Mail	Direct Installs
Residential Programs							
Appliance Turn-In Program	Appliance Turn-In	X					X
Home Performance Program	Audits	X			P		X
	Kits					X	
	New Homes				X		X
	Behavioral					X	
Energy Efficient Products Program	HVAC & Water Heating	X			P		
	Appliances	X	P	P			
	Consumer Electronics	P	P	X			
	Lighting	X	X	X			
Low-Income Program	Human Services				P	X	X
	Home performance for LI	X			P	X	X
Small Commercial & Industrial Programs							
C&I Energy Efficient Equipment Program-Small	HVAC & Water Heating	X			P		
	Appliances - Small	X	P	P			
	Food Service	X					
	Lighting	X		P	P		P
	Custom Equipment	X			P		
Energy Efficient Buildings Program-Small	New Buildings				X		
	C&I Audits	X					P
	Custom Buildings	X					
	Kits					X	
Large Commercial & Industrial Programs							
C&I Energy Efficient Equipment Program-Large	HVAC - Large	X			P		
	Lighting - Large	X		P	P		
	Custom Equipment - Large	X			P		
Energy Efficient Buildings Program-Large	C&I Audits - Large	X					
	Custom Buildings - Large	X					
Government Programs							
Governmental & Institutional Program	Government	X		P	P		

The Phase II Plan continues the use of incentive level ranges developed during the Phase I process and incorporated into the Existing Plan. Under this approach, the Company has the ability to adjust rebate levels within the range as market conditions warrant, provided that these adjustments do not increase program costs beyond approved budgets and the Company discusses potential changes with interested stakeholders. Based on these ranges, the Company can reduce incentives for the programs proving to be effective and avoid overpaying for any measures. Conversely, if it is determined that an incentive is not sufficient, the Company can increase these incentives without missing potential opportunities while waiting for resolution through the regulatory process. This allows the Company to quickly react to changing market conditions which best supports its efforts to achieve its energy savings goals.

Appendix D-4 lists the planned incentive level ranges associated with each of the programs included in the Phase II Plan. More detail is provided in the individual program descriptions in Section 3. It should be noted that for some measures, there will be limits as to the number of units that will be rebated to any one customer or through any one program in order to stay within the budgetary and spending limitations. In addition, all commercial and industrial rebates require pre-approval by the Company to enable process management and verification of existing equipment.

The total proposed cost of the Phase II Plan is $20 million as reported in Table 3 in Appendix E. These costs will be recovered through the Company's Rider S, which is summarized in Section 1.8 and is subject to approval by the Commission as part of this Plan. The successful implementation of this Plan is projected to generate Total Discounted Lifetime Benefits of approximately $30 million, as shown in Table 1 located in Appendix E which results in a score on the Total Resource Cost ("TRC") test of 1.4.[5]

FirstEnergy has developed a successful strategy for achieving EE&C targets throughout its footprint. This strategy includes the use of outsourced vendors with expertise in program management, program marketing and program tracking and reporting. This network of contractors reports to a core team within the FirstEnergy Energy Efficiency group, which oversees the implementation, tracking and evaluation of programs and measures throughout the period the various EE&C plans are in effect. Programs are monitored for performance against projections and, if needed, adjustments are made to improve performance, including a shift of emphasis from lesser performing programs to those with more success. Rebate levels are routinely reviewed and assessed against market conditions, with modifications to rebate levels made if deemed appropriate after discussing the matter with FirstEnergy's energy efficiency consultants, contractors, vendors and stakeholders. This strategy was put in place during Phase I of Act 129 and has proven to be successful. The Company intends to continue this practice throughout Phase II.

1.1.1 ***Summary of Proposed Minor Changes (filed November 22, 2013, Approved December 18, 2013)***

Penn Power filed its Phase II EE&C Plan on November 13, 2012. Subsequent to the filing, the parties filed with the Commission a Joint Petition for Full Settlement of Non-Reserved Issues ("Settlement") on January 28, 2013. On March 14, 2013, the Commission entered an Opinion and Order, approving the Settlement and generally approving each of the Companies' respective EE&C Plans, with minor exceptions.

One of the provisions of the Settlement provided that:

> The Companies will revise its Low Income Programs to target increased energy savings by at least 10% over the plan targets as currently proposed for low income programs. To the extent that additional funding is required to support the targeted increase in energy savings, the Companies will shift up to $1 million in funds currently included in the general residential programs to specific low income programs, with the understanding that within 60 days of the Companies' EE&C plans being approved, the Companies will meet with Signatory Parties who are interested in low income programs to discuss the results of its evaluation to increase the energy savings achieved through the dedicated low income programs and any requirement that additional funds should be allocated to its low income programs. … [Settlement, para. 7].

[5] *See* Section 8.0 for a discussion on the TRC test.

Penn Power gained significant experience in the implementation of its Phase I and Phase II EE&C Plans. In order to comply with the condition of the Settlement mentioned above, the Company, in collaboration with interested parties, identified additional opportunities to achieve additional energy savings through its direct low income programs. To pursue the additional opportunities, Penn Power proposes to increase the budget for the Residential Low Income Program by $126,253 and use these funds to (i) serve additional lower cost water heat and baseload homes; (ii) add additional low cost measures; (iii) increase energy efficiency kits targeted to low energy-use homes, and (iv) target low income customers for the installation of heat pump water heaters. Penn Power also proposes to provide customized Energy Usage Reports to identified low income customers. The Company projects that these changes will generate approximately 472 MWh in savings.

To support the increase in budget for the Residential Low Income Program, Penn Power proposes to decrease the budgets for the Residential Home Performance Program ("RHP") and the Residential Energy Efficient Products Program ("EEP") by $119,081 and $21,552, respectively. These budget reductions are accommodated through a reduction in administration and incentive costs of these programs, based upon updated forecasts, and through a slight reduction in the general residential Energy Efficiency Kit and Energy Usage Report measures. These changes are expected to reduce energy savings through the RHP and EEP programs by approximately 375 and 0 MWh, respectively, with such reductions being completely offset by the increase in savings generated through the proposed modifications to the low income programs.

Penn Power also proposes to add a custom measure to its Government & Institutional Program, with no change to the program projections or budget. This measure is currently available under the Company's Commercial/Industrial small and large sector programs, and encourages customers to retrofit or install more efficient specialized processes, equipment and applications. Adding this measure to the Government & Institutional Program will not only provide additional opportunities for government/educational/non-profit sector customers to participate in the Company's program, but will also add program implementation flexibility that supports the Company in meeting its program projections.

These changes will best position Penn Power to increase the energy savings expected to be achieved through its direct low income programs as contemplated in the Settlement, and should support Penn Power in its attempt to achieve its Commission-adopted goal of 4.5% reduction from the low income sector and 10% reduction from the government/educational/non-profit sector.

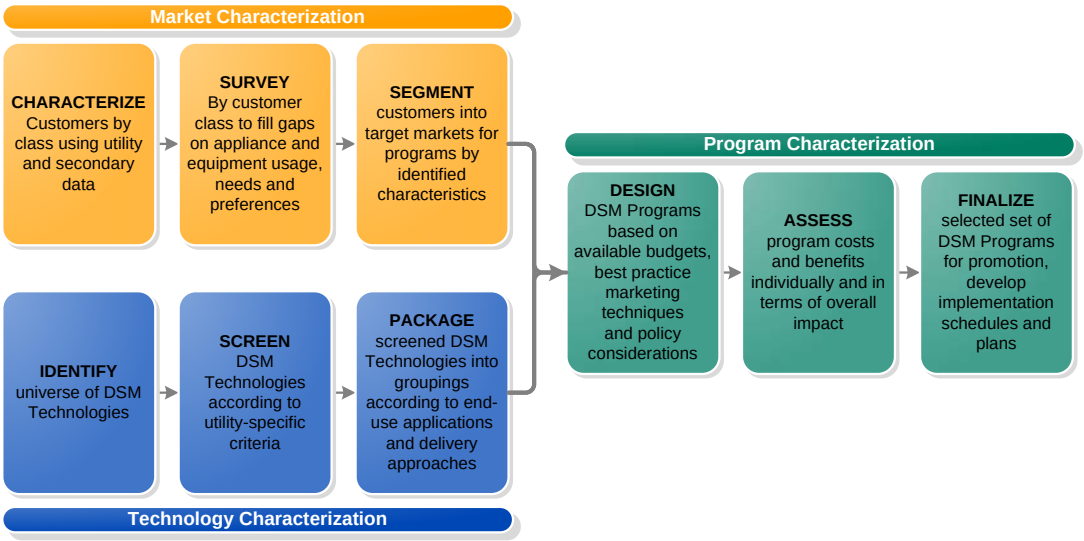
The impact of these minor changes are illustrated in revised Table 14, and Appendices C, D-2, D-3, D-4 and E of the Company's Phase II EE&C Plan. These budget changes have a negligible impact on the cost-effectiveness of the programs as illustrated in Appendix E, Tables 1 and 7, and will have no effect on the remainder of the Company's Phase II EE&C Plan or the residential rate as currently reflected in the Company's Rider EEC-C.

1.2. Summary description of process used to develop the EE&C plan and key assumptions used in preparing the plan.

Process

Figure 1, below illustrates the process undertaken by the EE&C Team to develop the Phase II Plan:

Figure 1: FirstEnergy EE&C Plan Development Process



When developing the Phase II Plan, the EE&C Team, adopted the assumptions made by the Commission in its 2012 Implementation Order regarding acquisition costs, which drove many of the modeling assumptions utilized in the development of this Plan. The EE&C Team, which is familiar with the EE&C plans of all FirstEnergy utilities located throughout the FirstEnergy footprint, compared each of the programs and measures included in the Company's Existing Plan to those that may potentially be offered through the Phase II Plan. To the extent Existing Plan measures showed potential, these measures were mapped to the Company's Phase II Plan program offerings. As a result, some of the measures offered under the Existing Plan, were renamed and/or reorganized to be more consistent with the programs being offered either by other PA Companies or by other FirstEnergy utilities in other states, thus creating economies of scale and avoiding customer confusion with program offerings. Potential measures were identified through peer review and benchmarking of other utilities and affiliates, input from stakeholders, consultants and vendors, and review of the Pennsylvania Technical Reference Manual ("TRM") and Market Potential Study. All measures, both current and future, were assessed based on (i) experience gained since the Existing Plan was approved and implemented; (ii) participation results and costs from programs and measures offered in the Company's Existing Plan; (iii) information related to the participation results and costs of potential measures being offered by the other PA Companies, other FirstEnergy affiliates and other utilities both within and outside of Pennsylvania; (iv) input from the Company's energy efficiency consultant and Existing Plan

program evaluator, ADM Associates, Inc.; and (v) the Commission's assumptions surrounding acquisition costs (collectively, "Assessment Input"). Based on this Assessment Input, the EE&C Team developed participation level estimates and corresponding program and measure savings estimates. Program costs were then assigned to each selected measure, which were balanced against the Company's 2% spending cap.[6]

The EE&C Team used an iterative process to refine and complete the modeling that included reviewing the projected results for each program and measure with its energy efficiency consultants and implementation team. This review included assessing the reasonableness of the projected results based on potential in the market, potential customer participation, estimated costs and projected savings. Estimated program participation values were informed by program implementation experience through the Existing Plan, the implementation of affiliate programs in other jurisdictions, the experiences of the Company's energy efficiency consultants with other utility programs throughout the country and the market potential study. Potential program savings were predominantly based upon the values included in the 2013 draft update of the Pennsylvania TRM, actual program results to date, individual customer project results, and values in other states' TRMs that were established to support energy efficiency programs in those jurisdictions.

The Company's approach balances key sources of information regarding program and industry experience as follows:

- Program experience and anticipated energy savings, captured through implementation of the current portfolio of programs, similar programs in other jurisdictions and the market potential study; and
- Industry experience provided by the Company's energy efficiency consultants, stakeholders and Conservation Service Providers

Assumptions and Potential Risks

The Phase II Plan adopts the 2012 Implementation Order assumptions on what constitutes a sufficient acquisition cost for the reductions that have been mandated. The overall Commission assumption on acquisition costs dictates available budget for incentives, administrative costs, and includes the sub-assumptions that differences in EDC retail rates, realization rates or urban versus rural EDC service territories will not be material factors in achieving the goals.[7] The Plan incorporates these assumptions into its estimates of program participants, program budgets and other factors necessary for Plan design.

There are both portfolio based and program/measure specific assumptions that must be made when modeling the programs included in this Plan. To support the modeling effort, the

[6] *Energy Efficiency and Conservation Programs*, Docket Nos. M-2012-2289411 and M-2008-2069887 (Implementation Order entered August 2, 2012) ("2012 Implementation Order").

[7] The Company does not agree with these assumptions and it, along with the other PA Companies, has challenged the Commission's determination of the Company's targets that were based on the same. [See generally, Petition of

Company relied on the incentives and costs of various program elements based on the Company's experience with like programs. Program modeling was augmented with a significant amount of input from the Company's consultant based on industry experience. Customer participation levels and other program/measure specific assumptions are set forth in Appendices D-1 & D-2.

For purposes of cost effectiveness testing, the EE&C Team assumed a discount rate based on the Company's most recently authorized overall post-tax weighted average cost of capital ("WACC"). Avoided cost data is based on the methodology prescribed by the Commission in the Total Resource Cost ("TRC") Order[8] which relies on PJM forecasted wholesale energy prices, PJM capacity prices and NYMEX Gas futures. Values not known were escalated in the future using the Bureau of Labor Statistics' Electric Power Generation Transmission Distribution (GTD) sector price index, which for purposes of this Plan was approximately 2.0%.

Savings values were based upon the values included in the proposed Pennsylvania 2013 TRM.

The Phase II Plan is also based on an assumption that the Commission will approve the Plan in time for its launch on June 1, 2013. It further assumes that the Commission has in place a process, to which it adheres, that affords the Company the ability to make mid-stream adjustments in a timely manner.

The above assumptions, which are based on currently known conditions, yield results that provide the Company with the opportunity to meet the Phase II energy reduction goals established in the 2012 Implementation Order. However, there are certain conditions that may change during the Phase II Period, which could have a material impact on actual results:

- Current economic conditions indicate a cautious recovery of Pennsylvania's economic base. This causes concern that business and government accounts may not support the pace of investment estimated in the Plan, and slow the pace of mass market penetration;
- New or redesigned programs proposed herein will not have a historical basis for participation rates and other factors included in the model. This may cause installation rates to be lower than modeled, particularly in the early years;
- New proposed programs may not provide adequate incentives to achieve targeted participants' penetration rates and energy/demand savings, especially given the current state of the economy;
- The Company's rates may not induce customer interest in pursuing energy efficiency projects and the Company may not be able to provide a greater incentive, given the spending caps to which it must adhere;

Metropolitan Edison Company, Pennsylvania Electric Company, Pennsylvania Power Company and West Penn Power Company For an Evidentiary Hearing on the Energy Efficiency Benchmarks Established for the Period June 1, 2013 through May 31, 2016, Docket Nos. P-2012-2320450, P-2012-2320468, P-2012-2320480, and P-2012-2320484 (Order entered September 18, 2011).].

[8] *2012 PA Total Resource Cost (TRC) Test, 2009 PA Total Resource Cost Test*, Docket Nos. M-2012-2300653 and M-2009-2108601 (Order entered August 30, 2012) ("2013 TRC Test Order").

- Annual updates to the TRM or evaluation results may reduce the savings projections for the programs and measures;
- Acquisition costs associated with the Phase II Plan may exceed the estimates assumed for the Company and restrict the Company's ability to implement certain programs and measures or adjust incentives for certain programs and measures; and
- Timely Commission approval of this Plan is critical, not only to provide the Company with the opportunity to comply with the Commission's Implementation Order, but also to avoid the loss of momentum gained through the Existing Plan.

The above assumptions and risks have been factored into the Phase II Plan to the degree known. Nevertheless, because of these and other uncertainties, the Commission must have in place a process that affords the Company the ability to seek modifications to its Phase II EE&C targets should conditions make it necessary to do so.

Based upon conditions as they exist today, the Company's Phase II Plan is designed in a manner that will provide the Company with the opportunity to achieve the goals established under Act 129 and the Commission's 2012 Implementation Order for energy savings by 2016, and within the spending caps as required under Act 129 and as prescribed by the Commission. While the Phase II Plan is the Company's best effort at designing a plan that meets the Phase II energy reduction goals, the Company believes that this Phase II Plan is based on a less than prudent amount of risk that the goals will be achieved, given the method by which the Company's Phase II goals were established.[9] The Company will do its utmost to support the success of the Phase II Plan as it moves through the program years, including ongoing evaluations of whether Phase II Plan modifications are necessary, but it retains reservations that a sufficient safety margin exists toward achieving the currently mandated goals, should any of the assumptions made in the 2012 Implementation Order be found to be incorrect.

[9] The Company, along with the other PA Companies, filed a challenge to the goals as established in the 2012 Implementation Order. [See generally, Petition of Metropolitan Edison Company, Pennsylvania Electric Company, Pennsylvania Power Company and West Penn Power Company For an Evidentiary Hearing on the Energy Efficiency Benchmarks Established for the Period June 1, 2013 through May 31, 2016, Docket Nos. P-2012-2320450, P-2012-2320468, P-2012-2320480, and P-2012-2320484 (Order entered September 18, 2011).]. As the Company argued in that case, the acquistiion costs assumed when establishing the Phase II targets were too low, thus resulting in targets that were too high. This, when coupled with the uncertainties and other risks outlined above creates risk that, without an opportunity to reconsider the goals should circumstances change, the Company may not be able to achieve its Phase II energy savings goals, thus perhaps subjecting it to penalties.

1.3. Summary tables of portfolio savings goals, budget and cost-effectiveness.

The Company's three year goal is shown in Table 4 below[10]:

Table 4: Energy Savings Targets per Act 129

EDC	Act 129 Mandated Consumption Reduction (Three-Year)
Penn Power	95,502

This target is to be achieved for the expenditure level noted below in Table 5, which represents the annual spending cap established by Act 129.

Table 5: Spending Caps per Act 129

EDC	Total Annual Revenues as of December 31, 2006	Total Act 129 Allowable Plan Costs (Three-Year)
Penn Power	$332,989,436	$19,979,366

Tables 1-3 located in Appendix E detail the portfolio savings goals, budget and cost-effectiveness.

1.4. Summary of program implementation schedule over three- year plan period.

The proposed time line for Phase II Plan implementation is set forth below. The Company anticipates that the Company will leverage the existing program implementation processes that have been developed for the PA Companies to the extent possible to support timely program transition and implementation. The Company will use one or more CSP(s) to transition and implement the various programs identified in its Phase II Plan. These CSP(s) will be responsible for the transition and start-up of new programs and measures, which will include at a minimum the identification of appropriate staffing skills and levels and the hiring of the same, and the development of website(s), promotional strategies, and processes ensuring quality and other controls supporting successful program transition and implementation. The CSP(s)' transition and start-up phase will include communication and coordination with Company personnel so as to (i) present seamless processes for customers or allies that wish to participate in the Existing and/or Phase II programs; (ii) maximize

[10] In addition to the tables required by the Commission (which are designated as "PUC Tables"), the Company developed additional tables which have been included as additional support.

process efficiency and controls; and (iii) leverage Company relationships and communications with customers.

The Company will contractually obligate the CSP(s) to design a transition and start-up phase that will be performed in an organized and efficient manner and that strives to maintain and strengthen constructive relationships with Company program management, customers, trade allies, contractors and other energy program partners when possible. The start-up period must be completed within ninety (90) days of the awarding of the contract and will contractually obligate the contractor to strive to maintain and strengthen constructive relationships with the Company program management staff, customers, trade allies, contractors and other energy program partners.

The transition and start-up period will include a Program Set-Up Period, which will commence immediately following approval of this Phase II Plan. This set up/start up plan will outline a process to develop the systems and procedures needed to operate the energy efficiency programs for the Company. The transition and Start-up Plan will include, at a minimum:

- An organization chart and description of management roles and responsibilities;
- A description of programs and dates of program launch milestones;
- A description of an implementation and operational plan for use by any subcontractor;
- A plan to facilitate or support program tracking and reporting;
- A determination of the required information transfers between the CSP(s), the Company and the Company's other energy efficiency or tracking system contractors;
- A plan for creating, installing and testing necessary data collection systems for program operation and evaluation;
- The establishment of a toll-free number and the processes needed for the Company to transfer calls it receives related to the programs;
- The development of the detailed processes for managing rebate/incentive applications, rebate/incentive payment processes, reporting procedures, data collection and data recording processes, internal billing and related documentation to be sent to the Company for processing;
- The Identification of potential CSP(s) and the development of processes for transactions between the two, including electronic payments between the Company and the CSP(s);
- A marketing, promotion and communication plan, which includes a website strategy;
- The creation of a check processing system (if deemed appropriate); and
- A summary of any other program specific preparations needed before the programs are launched.

During program transition and set-up, the CSP(s) will meet with the Company, its consultant, and tracking system contractors as necessary and appropriate in order to properly integrate the applicable program into the Company's overall comprehensive Phase II Plan.

To the extent possible, the Company anticipates a seamless transition of programs and measures from the Existing Plan to the Phase II Plan, noting that a) Phase I transactions will be managed to conclusion concurrent with the introduction of Phase II programs and b) any installations completed prior to May 31, 2013 may be included in Company documentation supporting compliance with Phase I targets. The Company's implementation strategy for this Phase II Plan will rely on the use of CSP(s), partners, trade allies, community-based organizations, and other entities engaged in energy-efficiency to promote, communicate, deliver, and support the effective transition and deployment of the new programs and measures and suspension of programs and measures not being carried over to Phase II.

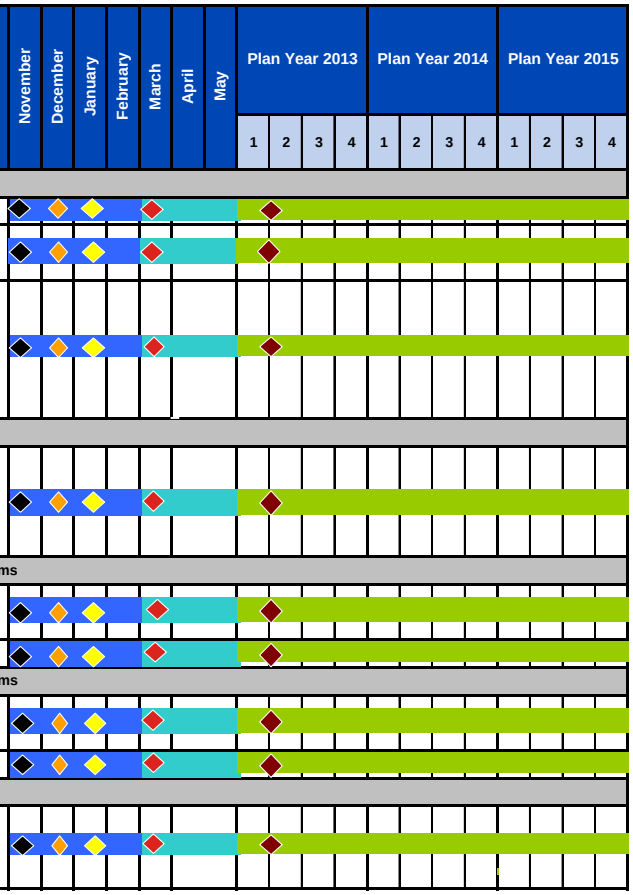
Consistent with the 2012 Implementation Order, the Company will not begin offering incentives and rebates to customers upon Commission approval of the Phase II Plan and will initiate controls to ensure that the rebates apply to only those measures installed and commercially operable after May 31, 2013. Program measures installed and commercially operable on or before May 31, 2013, as well as CSP or administrative fees related to Phase I, are considered Phase I expenses and will be tracked and reported accordingly. Program measures installed and commercially operable after May 31, 2013, as well as CSP or administrative fees related to Phase II, are considered Phase II expenses and will also be tracked and reported accordingly. Recovery of Phase II costs allowed to be incurred during Phase I will be deferred until Phase II cost recovery rates become effective. Phase II costs will be accounted for separately from Phase I cost. Details surrounding cost recovery are set forth in Section 1.8.

The timeline listed below anticipates Commission approval by March 14, 2012:

The Company's goal is to maintain the momentum created through programs included in the Existing Plan and to leverage in the Phase II Plan the synergies created through implementation of those programs. The Plan assumes approval in a time frame that allows the Company to seamlessly transition from the Existing Plan to the Phase II Plan. The Company will continue to use outside vendors to deliver services in support of many of its programs, with some vendors operating as turnkey program delivery contractors, and others providing specific functions across multiple programs. The Company's Supply Chain group will be involved with external entities by utilizing bids for new programs and services at minimum and/or negotiating contract extensions and awards for existing programs and services where appropriate. Assuming timely approval, the Company intends to complete the contracting process in a manner that allows it to generally run many of the existing programs as they currently do under the Existing Plan, given that many of the programs and measures included in this Phase II Plan are simply a combination of the programs and measures already included in the Existing Plan, plus additional measures. New programs will be implemented upon completion of the contracting process.

Figure 2: Gantt Chart of Program Schedule Summary

Existing Program Name	New Program Name
Residential Programs	
Appliance Turn-In Program	Appliance Turn-In Program
Energy Efficient Products Program	Energy Efficient Products Program
Energy Efficient HVAC Program	
Home Performance Program (WP)	Home Performance Program
Home Energy Audits & Outreach Program (ME/PE/PP)	
Whole Building Program (ME/PE/PP)	
Multi-Family-Tenants (ME/PE/PP)	
New Construction (ME/PE/PP)	
Residential Low-Income Programs	
WARM Program (ME/PE/PP)	Low Income Program
Multi-Family-Tenants (ME/PE/PP)	
Low Income Energy Efficiency (LIEEP) Program (WP)	
Joint Utility Usage Management Program - Weatherization (WP)	
Small Commercial & Industrial Programs	
C&I Equipment Program - Small	C&I Energy Efficient Equipment Program - Small
Industrial Motors and Variable Speed Drives (ME/PE/PP)	
Energy Audit & Technology Assessment Program (ME/PE/PP)	C&I Energy Efficient Buildings Program - Small
Large Commercial & Industrial Programs	
C&I Equipment Program - Large	C&I Energy Efficient Equipment Program - Large
Industrial Motors and Variable Speed Drives (ME/PE/PP)	
C&I Performance Contracting (ME/PE/PP)	C&I Energy Efficient Buildings Program - Large
Government Programs	
Governmental & Institutional Programs (WP)	Governmental & Institutional Program
Governmental Programs (ME/PE/PP)	
Multi-Family-Tenants (ME/PE/PP)	



Key
Continuation of Existing Program
Continuation of Existing & Set-Up Activities of New Programs
New Programs Implementation per PUC Approval
File Plan
Issue RFPs
Preliminary Award RFPs
Anticipated New Program Measures & Budgets Approval
All Program Changes Implemented & Launched

1.5. Summary description of the EDC implementation strategy to acquire at least 25% of its consumption reduction target in each program year.

This Phase II Plan is designed to achieve savings throughout the Phase II Period. As indicated in Table 2 located in Appendix E, it is expected that the Plan will achieve at least 25% of the consumption reduction targets each Plan Year. In addition, the design of the Phase II Plan and programs, along with the inclusion of incentive ranges rather than fixed incentive levels, provides the Company with the flexibility to react quickly to changing conditions to support meeting this requirement should conditions warrant.

1.6. Summary description of the EDC implementation strategy to manage EE&C portfolios and engage customers and trade allies.

As already discussed, the Company intends to utilize outsourced vendors who will in turn develop a network of trade allies as deemed appropriate for the applicable program. The Company intends to secure CSPs and implementation vendors during the first quarter of 2013 for the Phase II programs so as to enable a timely program transition and implementation of the new programs and measures once the Phase II Plan is approved. No contract with a CSP will be binding until after Commission approval of both the contract and the related program.

The Company will oversee a range of contractors and vendors in the delivery of the programs. Low income residential programs will be served by a mix of Community Based Organizations and private vendors under contract with the Company. The Company will continue to meet with community based organizations regarding its Low Income Program on a quarterly basis and will provide written materials distributed for such meetings if requested. The Company will cross market all low income programs offered by the Company to confirmed low income customers, and refer these customers to other federal and state agency sponsored low income programs for which the customer qualifies.

The Company will seek a vendor or group of vendors to deliver services to existing residential homes and small commercial customers. Non-residential audits will most likely be performed by a mix of private auditing firms and specialized engineering firms that have the expertise to identify opportunities for specific industries. The Company will also leverage its relationships with various parties through the stakeholder process, seeking input from the various parties on how better to reach customers and trade allies alike. The Company will hold four stakeholder meetings, and additional ad hoc meetings, via telephone conference, upon stakeholder request.

The Company will engage stakeholders on the enhancement of the implementation of the plan as follow:

- Within 60 days of the approval of the Company's EE&C Plan, the Company will meet in a collaborative with interested stakeholders to discuss recommendations for the reallocation of the residential program dollars to other residential programs.

- Within 90 days of approval of this plan, the Company will contact major natural gas distributors in its service territory to identify opportunities to coordinate the Company's programs that provide whole home retrofits with like programs provided by the natural gas distributors, and will report the results of such meeting(s) at a subsequent stakeholder meeting. The Company will require its vendors who implement low income programs to use reasonable efforts to coordinate implementation with natural gas distributors located within the Company's service territory.
- The Company will develop a dedicated marketing plan to target low income participation in residential program. Within 90 days, the Company will meet with low income advocates and review education and marketing materials for all low income and general residential programs seeking suggested improvements.

1.7. Summary description of EDC's data management, quality assurance and evaluation processes; include how EE&C plan, portfolios, and programs will be updated and refined based on evaluation results.

The Company already has in place many quality control processes and procedures that it currently utilizes to manage the quality of its programs being offered through the Existing Plan. It is committed to designing and implementing robust processes, organizations and systems that achieve the energy savings and demand reduction goals established in Act 129 and, where appropriate, will continue to utilize those processes already in place. The Company's Phase II Plan intends to continue the existing two-fold approach to ensure the quality of its EE&C programs during implementation which:

- Develops processes to clearly detail the steps to meet EE&C goals while complying with applicable requirements; and,
- Devises and implements control points at various stages of these processes to establish and maintain quality.

Section 6 of this report presents detailed plans regarding the data management quality assurance and evaluation processes for the Phase II Plan. Each program description included in Section 3 provides a brief description of the planned evaluation monitoring and verification steps intended for each program. Further, the Company is committed to working with the Statewide Evaluation Contractor ("SWE") to support its efforts at evaluating the programs. The Company will conduct process evaluations at the six to twelve month mark as a way to gauge progress toward the achievement of goals and identify issues requiring mid-course correction. All programs will benefit from periodic feedback from stakeholders and vendor-conducted customer satisfaction surveys. In addition to making interim adjustments to programs as suggested by these feedback activities, the Company will propose any major changes it feels are required in its annual reporting to the Commission, or propose a plan change using the Commission's standard procedures for rescission and amendment of

Commission orders or the expedited review process outlined in the Commission's Tentative Order on Act 129 Energy Efficiency and Conservation Program Phase II June 10, 2011 in Docket No. M-2008-2069887 and refined in the Commission's 2012 Implementation Order.

1.8. Summary description of cost recovery mechanism.

The Company's proposed Energy Efficiency and Conservation Charge Phase II Rider ("Phase II EE&C Rider") tariff is included in Appendix F. The Phase II EE&C Rider rates are expressed as a price per kilowatt-hour ("kWh") and/or a price per kilowatt ("kW") basis, and will be billed on the same basis. The Phase II EE&C Rider rates will be calculated separately for each rate schedule/tariff that has been allocated EE&C program costs, with reconciliation to actual EE&C program costs. The Company is proposing that the Phase II EE&C Rider rates reflecting the programs and budgets of this Phase II Plan would become effective on June 1, 2013. The Phase II EE&C Rider rates are capped at the 2% limit based on 2006 revenue. The Company will submit to the Commission by March 31 of each year a reconciliation of the Phase II EE&C Rider to mitigate the magnitude of the reconciliation balance. The Phase II EE&C Rider tariff meets the requirements of 66 Pa.C.S. § 1307 as required by the Commission's 2012 Implementation Order and Act 129.

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2. Energy Efficiency Portfolio/Program Summary Tables and Charts

2.1. Residential, Commercial/Industrial Small, Commercial/Industrial Large and Governmental/Educational/Non-profit Portfolio Summaries.

The Residential, Commercial/Industrial Small, Commercial/Industrial Large and Governmental/Educational/Non-profit Portfolio Summaries are shown in Table 4 located in Appendix E.

2.2. Plan data: Costs, Cost-effectiveness and Savings by program, sector and portfolio.

The Costs, Cost-effectiveness and Savings by program, sector and portfolio are shown in Tables 1-4 located in Appendix E.

2.3. Budget and Parity Analysis.

The Budget and Parity Analysis are shown in Table 5 located in Appendix E.

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3. Program Descriptions

3.1. Discussion of criteria and process used for selection of programs:

The Company has coordinated EE&C development efforts with the PA Companies to achieve cost efficiencies and offer a consistent set of EE&C programs to customers served by these four companies. Section 1.2 outlines the process followed by the Company when selecting programs. The program selection process included the following activities, with several activities encompassing the program development timeline and being performed coincidently or iteratively:

1. The FirstEnergy EE&C Team reviewed potential programs and measures based on identification by, or feedback from: (i) stakeholders; (ii) FirstEnergy's energy efficiency implementation team; and (iii) evaluation contractor and energy efficiency consultant. The team also reviewed the Pennsylvania ("PA") Technical Reference Manual and the PA Market Potential Study, along with the programs and measures currently being offered through the Existing Plan, by the other PA Companies, other FirstEnergy affiliate utilities and non-FirstEnergy affiliates both within and outside of Pennsylvania.
2. Technologies were grouped by: (i) sectors, such as residential and C&I; (ii) end uses, such as lighting, appliances and HVAC; and (iii) program types, such as home performance, efficient products, and efficient buildings.
3. The potential programs and measures underwent a screening process carried out by the EE&C Team, which included among other things assessment of the anticipated participation, implementation requirements and savings impacts. Potential programs and measures were reviewed with the Company stakeholders, the Company's implementation team and its energy efficiency consultants.
4. Program cost characteristics were developed at the technology level, including, for example, incentive levels; marketing, administration and vendor costs; incremental measure costs; and the availability of other benefits. The value of benefits was developed from savings estimates or formulas that were included in the PA TRM for those measures covered, and from other industry sources, including TRMs from other states. The Company's results were reviewed by its energy efficiency consultant.
5. The economic modeling was completed on an iterative basis and savings, cost and TRC values were determined for each program. The TRC results for each of the programs included in this Plan can be found in Tables 7A through 7E in Appendix E.
6. The results from the PA Market Potential Study, prepared by the SWE on behalf of the Commission, were used to finalize and to confirm that the final program designs and assumptions were consistent with market potential.
7. Once all programs were designed and modeled, the Plan as a whole was evaluated to balance results and costs to ensure Plan reasonableness and compliance in a cost effective manner. The preliminary Plan and results were reviewed with the Company's stakeholders, implementation team and energy efficiency consultants, incorporating, when appropriate, suggestions for refinement from these groups.

Program designs were then finalized and evaluated based on whether each:

- Promotes cost effective results;
- Involves proven delivery strategies;
- Includes programs that address prescriptive and custom measures; and
- Leverages existing delivery channels that have proven to be successful.

When designing the Phase II Plan, the Company pursued the following priorities:

- Leverage the portfolio and program design of the PA Companies that have proven to be successful;
- Incorporate the most successful programs and measures with a focus on those programs and measures with greatest contributions to the energy savings targets vis-à-vis budget impacts;
- Incorporate additional programs or measures identified as successful from other EDCs or based on the expertise of the Company's consultants.

The Company believes that it has designed a suite of programs that move from the general to the specific, from providing customers with generic information about saving energy to customized information and services that will help them make energy efficiency changes in their own homes and facilities.

3.1.1. Describe portfolio objectives and metrics that define program success (e.g., energy savings, customers served, number of units installed).

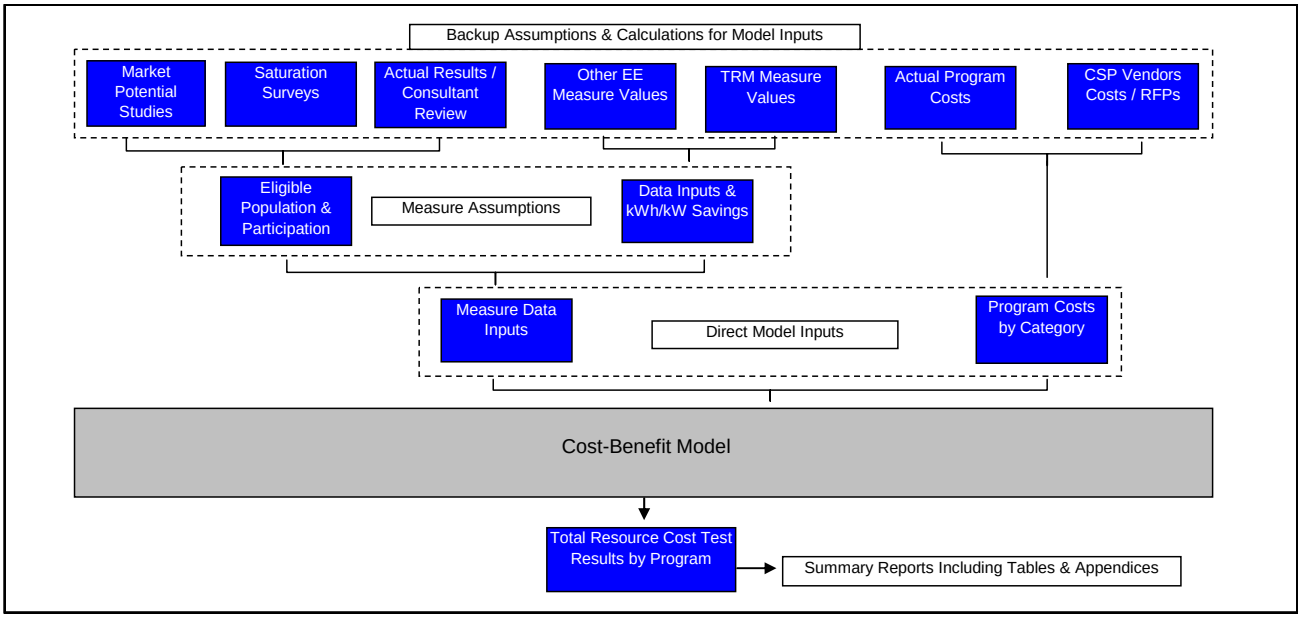
The portfolio design criteria and overall objectives are discussed in Section 3.1 above. General metrics for each program are discussed below, with individual program metrics descriptions set forth in Appendices D & E.

Fundamental metrics for program performance are the number of participants, kWh savings and dollars spent. Individual program metrics follow the three main metric designations: Immediate (Near Term) Metrics which are generally numeric counts, Intermediate Metrics, which generally involve a calculation or data collection through surveys or other means, and Long-Term Metrics, which generally focus on accomplishment of broader range goals over longer periods of time. The Company incorporates both the Immediate and Intermediate Metrics, but only uses the Long-Term metrics from prior plans as a benchmark when designing programs for the current Plan, because these generally extend beyond the Plan period.

3.1.2. Describe how programs were constructed for each portfolio to provide market coverage sufficient to reach overall energy. Describe analyses and/or research that were performed (e.g., market, best-practices, market modeling).

Figure 3 presents a schematic diagram of the analyses the Company used to develop programs, based on available information, experience of the Company and the PA Companies, and input from the Company's consultants. Generally, the approach is a "bottom-up" approach in that it relies upon detailed customer data to characterize the landscape for change and applies assumptions and participation figures to the eligible population in order to arrive at the potential that exists for energy efficiency and the likely rate of uptake. Starting with individual assumptions about energy efficiency technologies, these are grouped into logical program groupings, incentives are applied along with other program costs, participation levels are assumed and the figures multiplied.

Figure 3: Model Process Diagram



The Phase II Plan was developed based on results set forth in the Market Potential Study. The following steps were taken to develop the program portfolio included in this Plan:

1. The first step was to select the potential programs and measures, with the programs included in the Existing Plan being considered first. The majority of the programs and measures included in the Existing Plan are included as the cornerstone of this Plan. Additional measures and programs were then evaluated to supplement and enhance this core group of programs.
2. Once selected, programs and measures were evaluated to ensure the portfolio of programs passed the TRC test and could meet the savings goals.

3. The final step was to ensure that the portfolio represented a comprehensive range of programs that addressed the needs of each major customer group (e.g., low income, large C&I, Governmental) and incorporated all of the major customer end-uses (e.g., appliances, lighting, HVAC).
4. The results from the Market Potential Study was used to finalize and verify that the final modeling inputs used to create the portfolio of programs were reasonable.

Checks are then made between the results from the "bottom-up" analysis and selected data points (such as number of customers by customer segments and number of kWh sales by class) to see how proportional the savings are to these baseline figures. Logical and intuitive feasibility about the program assumptions is examined next, and adjustments are made as necessary, rebalancing the portfolio as appropriate.

3.1.3. Describe how energy efficiency, conservation, solar, solar photovoltaic systems, geothermal heating, and other measures are included in the portfolio of programs as applicable.

The next section presents individual program descriptions. See Appendix D-4 for the Rebate Schedule for incentive and rebate amounts.

For solar and geothermal heating related equipment please refer to the Residential Energy Efficient Products Program and Commercial/Industrial Efficient Equipment Program-Small for rebates on solar water heating and geothermal heating system measures.

3.1.4. Describe the comprehensive measures to be offered to the residential and small commercial rate classes.

In the Commission's 2012 Implementation Order, the Commission requires EDCs to develop EE&C plans that contain at least one comprehensive measure for residential and small commercial rate classes in EE&C Plans going forward. To comply with this Commission directive, the Company is offering both residential and small commercial customers comprehensive programs/measures.

The Company offers comprehensive measures to residential customers including whole house treatments through the Residential Home Performance program and Low Income program. The Home Performance program includes home audits with additional incentives for comprehensive home retrofits as well as incentives for efficient new home construction. These residential home retrofit and new construction measures engage builders, developers, contractors, and trade allies in providing comprehensive measures across the residential sector.

Similarly, the Company offers comprehensive measures to the small commercial and government/non-profit/institution sector through energy audits, direct installation, custom building, and new construction measures. The services include audits with incentives for retrofit of major building end-uses such as lighting and HVAC, incentives for building shell improvements and incentives for efficient new building construction.

Accordingly, the Company's Phase II Plan provides comprehensive services to both the residential and small commercial customers, with measures targeting both existing dwellings and buildings as well as new construction, and with a range of services that target overall energy usage and major end uses. The table below details the major end uses of all of the programs in the Phase II Plan

Table 6: Program Major End Uses

Program	End Use Category						
	HVAC	Water Heating	Lighting	Appliances	Consumer Electronics	Building Envelope	New Construction
Residential Programs							
Appliance Turn-In Program				X			
Home Performance Program	X	X	X	X		X	X
Energy Efficient Products Program	X	X	X	X	X		
Low-Income Program	X	X	X	X	X	X	
Small Commercial & Industrial Programs							
C&I Energy Efficient Equipment Program-Small	X	X	X	X	X		
Energy Efficient Buildings Program-Small	X	X	X			X	X
Large Commercial & Industrial Programs							
C&I Energy Efficient Equipment Program-Large	X		X				
Energy Efficient Buildings Program-Large	X	X	X			X	X
Government Programs							
Governmental & Institutional Program	X	X	X	X	X	X	

3.2. Residential Sector Programs:

The table below details the comparison of the sector's programs included in the Existing Plan with those programs included in the Phase II Plan, along with a description of each program:

Table 7: Residential Existing & New Program Names & Descriptions

Existing Program	Phase II Program	Program Description
	Residential Programs	
Residential Appliance Turn-In Program	Appliance Turn-In Program	This program provides rebates to consumers for turning in a working refrigerator, freezer, or room air-conditioner.
Behavioral Modification & Education Program	Home Performance Program	This program provides energy efficiency education and awareness along with measures and incentives for customers to conserve energy in their homes.
Residential Home Energy Audits & Outreach Program		
Whole Building Program		
Residential Multifamily Building Program		
Residential New Construction		
Residential Energy Efficient Products Program	Energy Efficient Products Program	This program provides rebates to consumers and financial incentives and support to retailers and manufacturers that sell energy efficient products, such as HVAC equipment, appliances, lighting, home electronics and other products.
Residential Energy Efficient HVAC Program		
	Residential Low-Income Programs	
Low-Income Residential (WARM) Program	Low Income Program	This program provides basic to comprehensive whole house measures, through direct mail or direct installation, and educates customers about their home's energy use and ways to save energy to low-income households.
Multi-Family-Tenants		

The Table below illustrates the residential proposed programs, sub-programs, and measures that are included in this Plan:

Table 8: Proposed Residential Portfolio

Proposed Residential Portfolio			
Program	**Sub Program**	**Measure**	**Measure Status**
Appliance Turn-In Program	**Appliance Turn-In**	Refrigerator Recycling	Existing
		Freezer Recycling	Existing
		Room Air Conditioner Recycling	Existing
Home Performance Program	**Audits**	Audit	Existing
		On-Line Audit	Existing
	Kits	Energy Efficiency Measures	Existing
	New Homes	New Construction	Existing
	Behavioral	Energy Usage Reports	Existing
Energy Efficient Products Program	**HVAC & Water Heating**	Heat Pump	Existing
		HVAC Maintenance	Existing
		Central Air Conditioner	Existing
		Ground Source Heat Pump	Existing
		Whole House Fan	New
		Room Air Conditioner	Existing
		Ductless Mini-Split	New
		Electric Water Heating	Existing
		Furnace Fan	Existing
	Appliances	Clothes Washer	Existing
		Dehumidifier	Existing
		Refrigerator	Existing
		Freezer	Existing
		Pool Pump Motor	Existing
	Consumer Electronics	Smart Strip	Existing
		EE Office Equipment	New
		Television	New
	Lighting	Torchiere Floor Lamps	Existing
		Energy Efficient Lighting Products	Existing
		LED Holiday Lighting	Existing
Low Income Program	**Human Services**	Comprehensive	Existing
		Energy Efficiency Measures - Low Income	Existing
		Extra Measures	Existing
	Home Performance	Appliance Replacement	New
		Audit - Multi Family	New

Below are the program descriptions for the Residential sector included in the Phase II Plan:

Program Title and Program years during which program will be implemented	**Appliance Turn-In Program** **June 2013 - May 2016**
Objective(s)	To remove older inefficient appliances from the system by offering customers an incentive and pick-up and disposal service at no additional cost for refrigerators, freezers and room air conditioners. This is a continuation of the existing Residential Appliance Turn-In Program. Relevant metrics are provided in Appendices B and C.
Target market	The target market for this program is existing multi and single family households, renters and home owners. Customers must have working equipment at the time of pick up.
Program description	Provides a service and incentive to customers for turning in inefficient operating appliances. Large and other qualifying appliances will be picked up at the customer's residence. In addition, periodic events may be offered at centralized drop-off locations where customers can drop off smaller inefficient operating appliances such as compact refrigerators and room air conditioners.
Implementation strategy (including expected changes that may occur in different program years)	A vendor will be hired to deliver this program in coordination with other EDCs in Pennsylvania. Regional roll-out and community outreach will support efficiency. Participation by low-income customers will be tracked or surveyed to support reporting and evaluation.
Program issues and risks and risk management strategy	The key risk is that appliances will be turned in that were either not being used or are non-functional. Vendors will be required to test a sample of appliances before issuing the incentive, or sample a percentage of appliances after pick up to determine the percent of units that are not generating energy savings. Customers will be asked to verify working order when they register for pick up.
Anticipated costs to participating customers	There are no additional costs for customers to participate in this program.
Ramp up strategy	This is a continuation of the Companies' existing program.
Marketing strategy	Customers will be alerted to this service through various media and marketing channels (to be determined) to facilitate targeted roll-out of the program, and efficient collection in targeted areas.

	A broad customer awareness campaign will include introduction of the program and the need for consumers to take energy efficiency actions.
Eligible measures and incentive strategy, include tables for each year of program, as appropriate showing financial incentives & rebate levels (e.g., $ per measure, $ per kWh or MW saved)	Equipment that will be removed through this program includes: ➢ Refrigerators ➢ Freezers ➢ Room air conditioners The customer receives an incentive following pick up or turn in of major appliances. Other equipment may be included in exchange events, where old units are swapped out for a coupon toward the purchase of a new high efficiency unit. The program may also include a coupon toward the purchase of a high efficient appliance through the Energy Efficient Products program. See Appendix D-4 for rebate/incentive amounts and Table 3 in Section 1 for a list of potential delivery channel options for this program.
Program start date with key schedule milestones	See Figure 2
Assumed Evaluation, Measurement, and Verification (EM&V) requirements required to document savings by the Commission's statewide EE&C Plan Evaluator	The Company will verify that the planned number of each type of targeted appliances is collected and disposed of within budget. The company plans to check that the calculations of kWh and kW savings from appliance retirement are accurate and compliant with applicable requirements including those contained in the TRM. This will in turn enable accurate tracking and documentation. As part of the monitoring process, the company plans to use selected indicators to verify periodically that energy savings and demand reduction are being realized as projected. In the event that EE&C program indicators show that projected EE&C targets are not likely to be achieved on schedule and within budget, Met-Ed will take appropriate corrective actions. Participation by low-income customers for specific measures will be surveyed to support reporting and evaluation.
Administrative requirements – include internal and external staffing levels	The Company will use a combination of internal and external resources to manage and implement the EE&C programs and will monitor and adjust the allocation of resources to balance the needs of each program. See Sections 4.2.1 and 4.2.2 of the EE&C plan for more details.

Estimated participation – includes tables indicating metric(s) with target value(s) per year	See Appendix D-3
Estimated program budget (total) by year – include table with budget per year	See Appendix C
Estimated percentage of sector budget attributed to program	See Appendix E
Savings targets – include tables with total MWh and MW goals per year and cumulative tables that document key assumptions of savings per measure or project	See Appendix E
Cost-effectiveness – include TRC for each program	See Appendix E
Other information deemed appropriate	None

Program Title and Program years during which program will be implemented	**Residential Energy Efficient Products Program** **June 2013 - May 2016**
Objective(s)	The Energy Efficient Products Program provides rebates to consumers and/or "upstream" financial incentives and support to manufacturers, distributors, and retailers that sell energy efficient products, such as ENERGY STAR® qualified appliances, high efficiency lighting, and other electricity conservation products. The program includes promotional support, point-of-sale materials, training, promotional events and rebates for select appliances. This is a consolidation of the existing Residential Energy Efficient Products Program and Residential Energy Efficient HVAC Program with the addition of new measures as indicated in the overview of Section 3.2, Table 8. In addition, this program is now broken into the following sub-programs: ➢ HVAC & Water Heating ➢ Appliances ➢ Consumer Electronics ➢ Lighting Relevant metrics are provided in Appendices B and C.
Target market	Residential customers of the Company that purchase high-efficiency appliances or other qualifying products from retailers.
Program description	The approach to this program is to provide an avenue for customers to take advantage of the information gained from energy efficiency messages and energy audits and make the recommended changes. A key barrier to implementation of energy efficiency measures remains their higher first cost over less efficient models. While federal tax credits and other programs have increased awareness in recent years, rebates and other discounts are still needed to move people to act in areas of the country where the market has had limited adoption of energy efficiency concepts. This program involves consumer education and dealer marketing and incentives for selling appliances with ENERGY STAR® brand labels and other qualifying equipment and measures. The Company will work with manufacturers and retailers for point of purchase rebates, mid-stream incentives, and up-stream buy-downs for select measures and will consider other methods for providing rebates and other rebate application processes.

	The program will use strategies including, but not limited to, dealer incentives, give-aways, and/or special promotional events to encourage sales of high efficiency products, and/or retirement of less efficient equipment.
Implementation strategy (including expected changes that may occur in different program years)	The Company will offer mail in rebates, work with manufacturers and retailers for point of purchase rebates, up-stream buy-downs and consider other methods for providing rebates and other rebate application processes. A vendor will be secured to take applications, process documentation regarding purchased products and mail the rebate checks. A separate activity will involve implementation of the retailer program. For contractor-installed products such as HVAC, the Company will work with contractors supporting their marketing and installation of energy efficient products, and participation in the program.
Program issues and risks and risk management strategy	Current economic conditions are the main potential threat to program success. Economic conditions may limit customers' ability to purchase energy efficient equipment and technology. Educational materials will need to highlight the lower operating costs of high efficiency equipment and the quick payback customers will enjoy from making the higher efficiency choice. Evaluations will monitor the extent of uptake on each product and determine whether rebate levels need to be adjusted.
Anticipated costs to participating customers	Customers will have to pay the balance of appliance equipment and installation costs not covered by the rebate.
Ramp up strategy	This is a continuation of the Companies' existing programs.
Marketing strategy	The program will use strategies including, but not limited to, dealer incentives, give-aways, and/or special promotional events such as joint retailer/manufacturer promotions to encourage sales of high efficiency products, and/or retirement of less efficient equipment. The program will be marketed, where practical, in conjunction with the online audit and residential audit as the "next step" toward achievement of the identified energy savings. Mass marketing will target this program as a cornerstone of the various other programs and services available to residential customers under the overall portfolio.
Eligible measures and incentive strategy, include tables for each year of program, as appropriate showing financial incentives & rebate levels	For the proposed program, the minimum qualifying efficiency ratings are based on current ENERGY STAR® Qualified Appliances (where applicable) published by the US EPA. Eligible program measures and incentive strategy are included in

(e.g., $ per measure, $ per kWh or MW saved)	Appendix C-4, and include technologies such as, but not limited to: ➢ HVAC & Water Heating ➢ Appliances ➢ Consumer Electronics ➢ Lighting This program also allows for the inclusion of emerging consumer technology that shows promise for reducing customers' energy consumption. This program also allows for upstream payments to trade allies (manufacturers, retail stores, contractors, etc.) where applicable. See Appendix D-4 for rebate/incentive amounts and Table 3 in Section 1 for a list of potential delivery channel options for this program.
Program start date with key schedule milestones	See Figure 2
Assumed Evaluation, Measurement, and Verification (EM&V) requirements required to document savings by the Commission's statewide EE&C Plan Evaluator	Verify that qualified products have been sold by dealers seeking payment of incentives by auditing a sample of their claims. Verify that new, more efficient products have been installed through review of documentation provided by retailers, as well as individual participant rebate applications. Document and store verified measure data, and support Statewide Evaluator (SWE) verification using specified data transmission protocols, processes and technology. As part of the monitoring process, the Company plans to use selected indicators to verify periodically that energy savings and demand reduction are being realized as projected. A DSM tracking system is to be used for such monitoring. In the event that EE&C program indicators show that projected EE&C targets are not likely to be achieved on schedule or within budget, the Company will take appropriate corrective actions. Participation by low-income customers for specific measures will be surveyed to support reporting and evaluation.
Administrative requirements – include internal and external staffing levels	The Company will use a combination of internal and external resources to manage and implement the EE&C programs. The Company will monitor and adjust the allocation of resources to balance the needs of each program. See Sections 4.2.1 and 4.2.2 of the EE&C plan for more details.

Estimated participation – includes tables indicating metric(s) with target value(s) per year	See Appendix D-3
Estimated program budget (total) by year – include table with budget per year	See Appendix C
Estimated percentage of sector budget attributed to program	See Appendix E
Savings targets – include tables with total MWh and MW goals per year and cumulative tables that document key assumptions of savings per measure or project	See Appendix E
Cost-effectiveness – include TRC for each program	See Appendix E
Other information deemed appropriate	This program focuses on electric energy using equipment. Building shell and weatherization measures are covered under the Online Efficient Products Catalog Program and, for electric heat customers, the Comprehensive Residential Retrofit Program.

Program Title and Program years during which program will be implemented	**Residential Home Performance Program** **June 2013 - May 2016**
Objective(s)	To provide energy efficiency education and awareness for customers to conserve energy in their homes. This is a consolidation of the existing Behavioral Modification & Education Program, Residential Home Energy Audits & Outreach Program, Whole Building Program, Residential Multifamily Building Program, and Residential New Construction Program with the addition of new measures as indicated in the overview of Section 3.2, Table 8. In addition, this program and is now broken into the following sub-programs: ➢ Audits ➢ Kits ➢ New Homes ➢ Behavioral Relevant metrics are provided in Appendices B and C.
Target market	The target market for this program is residential customers and builders of new residential home construction.
Program description	Audits Audit This measure offers residential customers a comprehensive home energy audit with air infiltration testing through the use of blower door technology or other diagnostic tools for improving the integrity of the building shell. It also examines appliance efficiency, lighting and HVAC systems. The cost of the comprehensive audit is subsidized by the Company, with the customer paying a discounted fee. After completing a home energy audit, customers are provided with a list of energy savings projects and measures applicable to their home and the associated energy savings impacts. Customers who implement eligible energy savings measures are entitled to rebates from the Company. This measure targets comprehensive measures to provide whole building energy savings opportunities for customers. On-Line Audit

The Online Home Energy Audit Tool is a software program that provides the Company with the necessary tools and equipment needed to properly supply customers with the information and education required to lower their energy costs through energy efficiency program participation and other actions. Customers without access to the internet can complete this tool with a customer service representative over the phone. This tool provides an approach that increases the efficiency and effectiveness of the Company's customer service by helping the residential customers better understand and manage their bills. The tool converts the customers' input of their energy usage characteristics into information customers can understand and act upon, including such things as the cost of heating and cooling their homes, the reasons their bills may have changed. Customers are sent an energy efficiency kit after the successful completion of an audit.

Kits

This sub-program will include a variety of items meant to introduce customer segments to energy efficient technologies that can be easily installed in the home, and serve as a gateway for broader home efficiency education. Provided items may include, but not be limited to: Educational Materials (information on kit contents, installation instructions, household energy savings tips, CFL disposal instructions and marketing materials for other residential programs), CFLs, Smart Strips, Faucet Aerators, Low Flow Shower Heads, Furnace Whistles, etc. Provided items and targeted segments are subject to change during the course of this Plan, and may initially include:

Efficiency Measures – Standard

Provides non-electric water heating energy efficiency measures to non-electric water heating customers.

Efficiency Measures – All Electric

Provides "Standard" energy efficiency measures and electric heating and/or water heating energy efficiency measures to electric heating and/or water heating customers.

Efficiency Measures – School

	Provides energy efficiency measures and education through participating schools. New Homes This program provides a rebate to local builders for achieving energy efficiency targets through a combination of building shell and installed measures, including appliance upgrades. To qualify for this program, the house must exceed the standard building code by 15 percent consistent with energy efficiency standards as published by the DOE under the ENERGY STAR® program. Homes must also qualify at the current ENERGY STAR® level, as determined by the EPA. A potential future enhancement may include the development of a tiered incentive strategy. Behavioral This program provides periodic energy usage reports and specific information about each customer's energy usage as well as analysis regarding their usage over time, with specific tips for conserving energy on a monthly basis. Customized energy usage reports will also be directly targeted to confirmed low-income customers.
Implementation strategy (including expected changes that may occur in different program years)	The implementation and administration of this program will continue to be provided by a third party vendor. Customers can submit a single application for multiple measures installed as a result of an audit, provided that the multiple measures are completed prior to the time of application. The Company will evaluate offering a tiered incentive structure for customers who meet certain audit retrofit performance specifications and will pursue implementation barring unacceptable program impacts or negative stakeholder feedback.
Program issues and risks and risk management strategy	The risks associated with this program are primarily getting enough customers to participate in the program. Well established marketing techniques will be used to promote the participation in this program.
Anticipated costs to participating customers	The on-line audit is offered at no additional cost to the customer, as well as the kit, once the audit is complete and uploaded.

	The Residential Whole Building Comprehensive Audit, customers would pay the difference between the actual cost of the audit and installed measures, and the incentives provided (see Appendix D-2 & D-4). The Behavioral Modification and Education portion of this program is offered at no additional cost to the customer.
Ramp up strategy	For the existing program offerings, there will be no ramp-up period. For new program offerings, it is anticipated that it will take at least four to six months to launch after program approval.
Marketing strategy	The marketing of this program will continue to be provided by a third party vendor. For the existing program offerings, existing marketing strategies will be continued. For new program offerings, existing marketing strategies from similar and already successfully implemented programs will be utilized.
Eligible measures and incentive strategy, include tables for each year of program, as appropriate showing financial incentives & rebate levels (e.g., $ per measure, $ per kWh or MW saved)	The following product categories are offered with this program: ➢ Audits ➢ Kits ➢ New Homes ➢ Behavioral See Appendix D-4 for rebate/incentive amounts and Table 3 in Section 1 for a list of potential delivery channel options for this program.
Program start date with key schedule milestones	See Figure 2
Assumed Evaluation, Measurement, and Verification (EM&V) requirements required to document savings by the Commission's statewide EE&C Plan Evaluator	The Company is to verify that the planned number of each type of audit is performed on time and within budget. A sample of on-site audits will be reviewed to check that their actual costs do not exceed the contract cost, and that customers are satisfied with the service. The Company will also verify that existing EE&C opportunities are properly quantified to enable accurate tracking and documentation of energy efficiency and demand reduction. For the Residential Whole Building Comprehensive component, the Company is to verify that the installed measures and comprehensive diagnostics are performed as supported on program applications. The Company will also verify that existing EE&C opportunities are properly quantified to enable

	accurate tracking and documentation of energy efficiency and demand reduction. The Company will target evaluation funds for annual evaluation of the energy savings associated with the Energy Usage Reports and will share the results of such evaluations and any recommendations being proposed based on such results with interested parties during the Companies' next applicable stakeholder meeting. As part of the monitoring process, the Company plans to use selected indicators to verify periodically that energy savings and demand reduction are being realized as projected. A DSM tracking system is to be used for such monitoring. In the event that EE&C program indicators show that projected EE&C targets are not likely to be achieved on schedule and within budget, the Company will take appropriate corrective actions. Participation by low-income customers for specific measures will be surveyed to support reporting and evaluation.
Administrative requirements – include internal and external staffing levels	The Company will use a combination of internal and external resources to manage and implement the EE&C programs. The Company will monitor and adjust the allocation of resources to balance the needs of each program. See Sections 4.2.1 and 4.2.2 of the EE&C plan for more details.
Estimated participation – includes tables indicating metric(s) with target value(s) per year	See Appendix D-3 In the event the Company's Residential New Homes subprogram becomes fully subscribed during the term of the plan, the Company will pursue transferring additional funding from anticipated available funds allocated to other residential programs to the extent such transfer does not hinder the Company's goal attainment and adheres to the Company's budget caps and the Commission's cost-effectiveness requirements and there is no negative stakeholder feedback.
Estimated program budget (total) by year – include table with budget per year	See Appendix C
Estimated percentage of sector budget attributed to program	See Appendix E
Savings targets – include tables with total MWh and MW goals per year and cumulative tables that	See Appendix E

document key assumptions of savings per measure or project	
Cost-effectiveness – include TRC for each program	See Appendix E
Other information deemed appropriate	None

3.2.1. Low-Income Sector Programs.

Program Title and Program years during which program will be implemented	**Low Income Program** **June 2013 - May 2016**
Objective(s)	To provide basic to comprehensive whole building measures, through direct installation or direct mail to low-income households. This program also educates these customers about their home's energy use and ways to save energy. This is a consolidation of the Low-Income Residential (WARM) Program and Multi-Family-Tenants Program with the addition of new measures as indicated in the overview of Section 3.2, Table 8. In addition, this program and is now broken into the following sub-programs: ➢ Human Services leverages the Low Income programs provided outside of Act 129 including the Low Income Usage Reduction Program (LIURP), also known as WARM, to achieve additional participation and energy savings from the Company's Low Income customers. This sub-program includes the following components. • WARM Plus (Comprehensive) • Low Income Low Use kits (Energy Efficiency Measures – Low Income) • WARM Extra Measures (Extra Measures) ➢ Home Performance provides additional energy efficiency measures primarily in multi-family buildings to the Company's Low Income customers that will be coordinated with the Human Services sub-program. This sub-program includes the following components: • Appliance Replacement • Audit – Multi Family The objective of this program is to provide basic to comprehensive whole building measures, through direct installation or direct mail to low-income households. This program also educates these customers about their home's energy use and ways to save energy. Relevant metrics are provided in Appendices B and C.

Target market	The target market for this program is customers who are income-qualified up to 150% of the Federal Poverty Income Guideline (FPIG).
Program description	Human Services WARM Plus (Comprehensive) 1) This component is an expansion of the existing comprehensive WARM program. This program provides additional energy education and comprehensive weatherization services in single and multi-family homes and includes referrals and coordination with the Natural Gas Distribution Companies (NGDC) and the Department of Community and Economic Development (DCED) Weatherization Assistance Program, where available. Low Income Low Use kits (Energy Efficiency Measures – Low Income) 2) This component consists of customers receiving a kit with energy savings measures and energy education information through direct mail or other direct to customer channels. Typically these are customers whose electric use does not meet the minimum usage requirements for the comprehensive WARM program, or who do not accept in-home services, or their landlord does not accept services, or they otherwise are not eligible for other low income program services. WARM Extra Measures (Extra Measures) 3) This component is an expansion of the existing WARM Program, and provides additional electric energy savings measures above and beyond those provided to customers in individually metered residential properties that are participating in the WARM and WARM Plus program. Home Performance Appliance Replacement This is a new program service for low-income customers that consists of income qualified customers having older inefficient appliances replaced with Energy Star appliances. Audit – Multi Family This is a new program service for low-income multi family customers that consists of eligible customers

	receiving a no-cost in-home audit. The program examines major end uses including appliance efficiency, lighting and HVAC systems and provides customers with a list of energy savings projects and measures applicable to their home and the associated energy savings impacts. Additional services may include air infiltration testing through the use of blower door technology or other diagnostic tools for improving the integrity of the building shell. This program includes comprehensive measures to provide whole building energy savings opportunities for customers.
Implementation strategy (including expected changes that may occur in different program years)	Program services would be administered by Company staff, and delivered by a Conservation Service Provider, WARM program Community Based Organizations ("CBOs"), and/or private contractors, coordinated or augmented by additional private vendors as needed to enhance the capacity of existing agencies and contractors. The Company will give specific consideration for program referrals and coordination with the DCED Weatherization Assistance Program and the NGDC LIURP Program. Participation by low-income customers in the other programs in the Plan will be tracked or surveyed where applicable to support reporting and evaluation.
Program issues and risks and risk management strategy	Challenges with adding and training contractors if needed and landlord reluctance to permit services. Risk management strategy will include adding an option to provide some measures directly to tenants.
Anticipated costs to participating customers	Based on income qualification, there are no out-of-pocket costs to participate in this program.
Ramp up strategy	For the existing and continuing programs, there will be no ramp-up period. For new and expanded programs, it is anticipated that it will take at least three to six months to launch after program approval. This may include conducting a RFP for additional capacity if needed.
Marketing strategy	The marketing strategy for this program will include but not be limited to Company bill inserts, Company website, direct mail campaigns, radio, newspaper and internet advertising, bus signs, senior citizen and low-income information fairs and community presentations as needed. Marketing activities will be coordinated with other Act 129 programs, the Company's and other state low-income programs such as the Customer

	Assistance Program, Dept. of Public Welfare, PHFA, DCED Weatherization Assistance Program, the NGDC LIURP Program and CBO initiatives.
Eligible measures and incentive strategy, include tables for each year of program, as appropriate showing financial incentives & rebate levels (e.g., $ per measure, $ per kWh or MW saved)	See Table 16 in Section 9.1.3 for a list of sub-measures dedicated to low-income customers and Table 5 in Section 1.1 for a list of potential delivery channel options for this program. During 2013, the Company will investigate the market for heat pump water heaters and the feasibility of adding an add-on heat pump to existing water heaters. The Company will share the results no later than their first stakeholder meeting in 2014, including the results of the pilot developed under the LIURP program in Penn Power's service territory. Should the results of the pilot demonstrate the feasibility of installing more heat pump water heaters within the available program budget, the Company will discuss during its stakeholder meeting the possibility of expanding the budget for such installations.
Program start date with key schedule milestones	See Figure 2
Assumed Evaluation, Measurement, and Verification (EM&V) requirements required to document savings by the Commission's statewide EE&C Plan Evaluator	For the Human Services programs, a third-party Quality Assurance vendor will inspect a percentage of completed homes. EM&V contractors will conduct surveys and check sample calculations of projected savings for accuracy and for compliance with TRM guidelines. For the post-installation phase, measures will be verified that they have been installed and that expected energy savings goals are being achieved. As part of the monitoring process, the Company plans to use selected indicators to verify periodically that energy savings are being realized as projected. A DSM tracking system will be used for such monitoring. In the event that EE&C program indicators show that projected EE&C targets are not likely to be achieved on schedule or within budget, the Company will take appropriate corrective actions. Low income customers in other residential programs will be tracked, or surveyed to support reporting and evaluation.
Administrative requirements – include internal and external staffing levels	The Company will use a combination of internal and external resources to manage and implement the EE&C programs. The Company will monitor and adjust the allocation of resources to balance the needs of each program. See Sections 4.2.1 and 4.2.2 of the EE&C plan for more details.

Estimated participation – includes tables indicating metric(s) with target value(s) per year	See Appendix D-3
Estimated program budget (total) by year – include table with budget per year	See Appendix C To the extent that additional funding is required to support the targeted increase in energy savings noted in the "Savings targets" line below, the Company will shift up to $1 million in funds currently included in the general residential programs to this program. The Company will review any requirement for additional funds with its residential and low income advocates, and will solicit input and pursue any required funding transfer through the applicable process. The Company may pursue reallocation of funds shifted to this program back to general residential programs should it be determined that the actual results are not meeting expectations, or the Company cannot achieve its targets if such additional funding continues.
Estimated percentage of sector budget attributed to program	See Appendix E
Savings targets – include tables with total MWh and MW goals per year and cumulative tables that document key assumptions of savings per measure or project	See Appendix E The Company will target an increase in the energy savings of this program by at least 10% over the plan targets as currently proposed in Tables ___. Within 60 days of the Company's EE&C plan being approved, the Company will meet with the low income advocates to discuss the results of its evaluation to increase the energy savings achieved through this program, and will solicit input and pursue program enhancements through the applicable process. Further, within 9 months of the Company's EE&C plans being approved, the Company will meet with these same parties and will review the results of the implemented recommendations.
Cost-effectiveness – include TRC for each program	See Appendix E
Other information deemed appropriate	This program leverages and consolidates the Low-Income Residential (WARM) and Multi-Family-Tenants programs at Met-Ed, Penelec, and Penn Power and replaces the previous West Penn Power programs, with the addition of new measures.

3.3. Commercial/Industrial Small Sector Programs.[11]

The table below details the comparison of this sector's programs included in the Existing Plan with those included in the Phase II Plan, along with a program description:

Table 9: Existing & New Small C/I Programs

Existing Program	Phase II Program	Program Description
	Small Commercial & Industrial Programs	
C&I Equipment Program - Small	C&I Energy Efficient Equipment Program - Small	This program provides financial incentives (prescriptive & performance) and support to customers directly, or through trade allies, for purchasing and installing energy efficient equipment and products.
Industrial Motors and Variable Speed Drives		
Multifamily Building Program	C&I Energy Efficient Buildings Program - Small	This program provides financial incentives and support to customers for implementing building shell or system improvements. Other delivery mechanisms include incentives towards audits and kits and audits with direct installation of measures targeted at small business.

The table below details each measure that is offered in the programs listed in Table 9 and whether it is an existing or new measure:

Table 10: Proposed Small C/I Portfolio

Proposed Small C&I Portfolio			
Program	**Sub Program**	**Measure**	**Measure Status**
C&I Energy Efficient Equipment Program - Small	**HVAC & Water Heating**	Air Conditioning - Small C&I	Existing
		Heat Pump - Small C&I	Existing
		Ground Source Heat Pump - Small C&I	Existing
		PTAC - Small C&I	Existing
		PTHP - Small C&I	Existing
		Ductless Mini-Split - Small C&I	New
		HVAC Maintenance - Small C&I	Existing
		Hotel Room HVAC/Receptacle Controls/Room	New
		Dual Enthalpy Economizer - Small C&I	New
		Electric Chiller - Small C&I	Existing
		Room Air Conditioner - Small C&I	New
		Electric Water Heater - Small C&I	Existing
	Appliances	Clothes Washer - Small C&I	Existing
		Refrigerator Recycling - Small C&I	New
		Freezer Recycling - Small C&I	New
		Room Air Conditioner Recycling - Small C&I	New
		Refrigerator - Small C&I	New
		Freezer - Small C&I	New
		Vending Equipment Controller (Remote Mount, Lighting)	Existing
		EE Office Equipment - Small C&I	New
	Food Service	Commercial Solid Door Freezer	Existing
		Commercial Solid Door Refrigerator	Existing
		Commercial Glass Door Freezer	New
		Commercial Glass Door Refrigerator	New
		Ice Machine	Existing
		Steam Cooker	Existing
		Hot Food Holding Cabinet	Existing
		Fryers & Griddles	Existing
		Combination & Convection Oven	Existing
		Refrigerated Case Cover	New
		Anti Sweat Heater Control	Existing
		LED Reach in Refrigerator / Freezer Lighting	New
		Pre Rinse Sprayer	Existing
		Strip curtains for walk-in Refrigerator / Freezer	Existing
	Lighting	Energy Efficient Exterior Lighting - Small C&I	Existing
		Linear Fluorescent Retrofits (Stndrd & Non Stndrd) - Small C&I	Existing
		Energy Efficient Lighting Products - Small C&I	Existing
		LED Exit Sign (Retrofit Only) - Small C&I	Existing
		LED Signage	New
		Lighting Controls (Occupancy & Daylight) - Small C&I	Existing
	Custom Equipment	VFDs up to 200 HP - Small C&I	Existing
		VFDs greater than 200 HP - Small C&I	Existing
		Custom - Small C&I	Existing
C&I Energy Efficient Buildings Program - Small	**New Buildings**	New Construction - Small C&I	New
	C&I Audits	Audit - Small C&I	Existing
		Audit w/ Direct Install Measures	Existing
	Custom Buildings	Building Operation Training - Small C&I	New
		Energy Management System - Small C&I	New
		Custom Building - Small C&I	New
	Kits	Energy Efficiency Measures - Small C&I	Existing

[11] Additional measures may be incorporated, as appropriate, as new measures are approved for inclusion in the TRM.

Below are the program descriptions for the Commercial/Industrial Small sector included in the Phase II Plan:

Program Title and Program years during which program will be implemented	**C&I Energy Efficient Equipment Program - Small** **June 2013 - May 2016**
Objective(s)	This is an expansion of the existing C&I Equipment Program-Small and Industrial Motors and Variable Speed Drives Program and the addition of new measures as indicated in the overview of Section 3.3, Table 10. In addition, the consolidated program is broken into the following sub-programs: • HVAC & Water Heating • Appliances • Food Service • Lighting • Custom Equipment The primary objective of the program is to accelerate the adoption and increase the market share of high efficiency equipment among commercial and industrial customers by reducing the first cost of high efficiency equipment thereby encouraging the adoption of high efficient equipment in lieu of standard equipment at the end of the useful life of measures, or as early replacement. The ultimate goal is influencing future customer behavior toward energy efficiency measures and practices. This program will provide financial support through incentives to the commercial and industrial customer who implements qualifying high efficiency measures, recycles inefficient appliances or retrofit specialized processes and applications to higher efficiency processes and applications. Prescriptive and performance incentives are intended to reduce customer's capital investment for qualifying high efficiency equipment. Relevant metrics are provided in Appendices D-E.
Target market	Commercial, industrial, and municipal customers of the Company with buildings or equipment in the Company's Pennsylvania service territory.

Program description	This program will provide financial support through prescriptive or performance based incentives to the commercial and industrial customer who implements qualifying high efficiency measures. Prescriptive and performance incentives are intended to reduce customer's capital investment for qualifying high efficiency equipment thereby encouraging the adoption of high efficient equipment in lieu of standard equipment at the end of the useful life of measures, or as early replacement. Potential future enhancements to this program include the direct installation of select energy efficiency measures to customers through participating contractors and working with customers, manufacturers, allies, wholesalers and retailers including mid/up-stream incentives on select measures, other methods for providing incentives and other rebate application processes based on market considerations and opportunities that are identified during program implementation and the delivery of energy efficiency kits requested by small C/I customers and master metered multi-family customers. Initiatives may be added as current technologies are retired from the market and new ones require promotion and encouragement. <u>HVAC & Water Heating</u> HVAC measures within the C&I Energy Efficient Equipment Program - Small are intended to encourage customers to maintain or install more efficient HVAC equipment in an effort to reduce both energy consumption and demand in the HVAC end use category. The Plan proposes traditional and newer efficiency measures within this grouping as listed in the table above. Prescriptive-based incentives will be provided to encourage customers to perform maintenance on existing units to ensure baseline performance levels are being met, to upgrade less efficient HVAC equipment to higher efficiency units, and to install HVAC system controls, in order to improve system operation and decrease system run hours. These program measures are selected and designed to encourage the customer to retrofit existing systems, implement controls and install newer energy efficiency measures. Water Heating measures within the C&I Energy Efficient Equipment Program - Small are intended to encourage customers to install more efficient water heating equipment in an effort to reduce both energy consumption and demand in the water heating end use. The Plan proposes traditional and newer efficiency sub-measures within this grouping. Prescriptive based incentives will be provided to customers

for upgrading less efficient Domestic Hot Water (DHW) equipment to higher efficiency units. The focus will be on replacing resistive electric domestic storage type units. These program measures as designed to encourage customer renovation of existing systems and install newer energy efficiency measures.

Appliances

Appliance recycle and rebate measures within the C&I Energy Efficient Equipment Program - Small are intended to encourage customers to recycle inefficient refrigeration and room air conditioning appliances and replace them with ENERGY STAR® qualified appliances in an effort to reduce both energy consumption and demand in the Small Enterprise sector.

Prescriptive-based incentives will be provided to consumers and financial incentives and support to retailers that sell energy efficient products, such as ENERGY STAR® qualified appliances.

Provides a service and incentive to customers for turning in inefficient operating appliances. Large and other qualifying appliances will be picked up at the customer's business. In addition, periodic events may be offered at centralized drop-off locations where customers can drop off smaller inefficient operating appliances such as compact refrigerators and room air conditioners.

Food Service

Food service / commercial kitchens measures within the C&I Energy Efficient Equipment Program - Small are intended to encourage customers to install more efficient food service equipment in an effort to reduce both energy consumption and demand in the food service sector. The Plan proposes traditional, ENERGYSTAR® rated, and newer efficiency measures within this grouping as listed in the table above. Prescriptive incentives will be offered for retrofits of existing, and for the installation of new, energy efficient systems and equipment. These program measures are designed to encourage customers to retrofit existing food service equipment implement equipment controllers or to install newer energy efficiency measures.

Lighting

Lighting measures within the C&I Energy Efficient Equipment Program - Small are intended to encourage customers to install more efficient lighting equipment in an

	effort to reduce both energy consumption and demand in the lighting end use category. The Plan proposes measures within this grouping as listed in the table above. Prescriptive and performance based incentives will be provided to customers for upgrading less efficient lighting systems to higher efficiency lighting and controls. Prescriptive incentives will be offered for individual lighting applications and smaller retrofit projects employing standard efficient lighting technologies. Performance based incentives will be offered for higher efficient technologies as well as larger projects and retrofits, based on kWh savings. These program measures are designed to encourage customer renovation of existing lighting systems and to install newer energy efficiency measures by not limiting the reward to standard efficient lighting technologies. This offering will allow for future market development that can bring even greater energy savings without modification of the program design. <u>Custom</u> Custom measures within the C&I Energy Efficient Equipment Program - Small are intended to encourage customers to retrofit to or install more efficient specialized processes and applications in an effort to reduce both energy consumption and demand. Calculated or performance based incentives will be provided to customers based upon an analysis of potential energy savings on a case by case basis for upgrading less efficient specialized processes and applications (e.g. variable frequency drives, motors, compressed air leakage reduction, equipment replacement, combined heat and power, process change, etc.) to high efficiency specialized processes and applications. Custom measures must be installed and operational during the term of this Plan and program. Additionally, Combined Heat and Power ("CHP") projects may be approved as eligible custom measure projects, if found to be cost effective as indicated by a Total Resource Cost ("TRC") score above 1.0. In addition, each eligible project must not be above 10 MW in size, must be intended solely for customer on-site use and must comply with all interconnection and standby service rules and requirements.
Implementation strategy (including expected changes that may occur in different program years)	The Company through a competitive bidding process intends to contract with a qualified Program Implementation Vendor ("Vendor") on a performance basis to insure creativity and motivation toward obtaining participation and meeting the goal. The Vendor will conduct the marketing and rebate fulfillment

	aspects of this program. The Company expects implementation will be traditional and will attempt to align with the PA Companies for consistency across the state. Additionally providing target marketing to specific customer sectors to insure awareness in the program and enhance participation. Intra Company resources will be utilized to conduct outreach to their constituents regarding program availability. All existing proposed measures will continue as implemented from the Existing Plan into the Phase II Plan. Minor changes to existing measures will be implemented as efficiently as possible in an effort to reduce Vendor costs and attempt to reduce customer confusion. This program is designed to provide incentives after customers have installed qualified energy efficient equipment. The Company will consider providing the direct installation of select energy efficiency measures to customers through participating contractors during program implementation or as a future enhancement.
Program issues and risks and risk management strategy	Ramp up in new measures may be slower than otherwise expected. A customer education campaign that informs customers about the benefits of energy efficiency in general, as well as the specific benefits regarding energy efficiency will be utilized to minimize slow ramp-up. Availability of qualifying high efficiency equipment. The Company will negotiate with manufacturers to increase availability in the PA market for any items that are in demand but are in short supply. Business climate may require customer fees or contributions to be reduced or waived in order to encourage participation. Process evaluation will determine if this adjustment is necessary. With respect to risk management, refer to Section 4 of the EE&C plan. The Company provides further details on “early warning systems” as well as a description of contingency plans.
Anticipated costs to participating customers	Balance of costs of equipment, plus installation costs as relevant.
Ramp up strategy	The Company intends to direct its Vendor to begin communicating program changes and the new measure offering in the first quarter of 2013 so Commercial and Industrial customers can plan and budget for projects in 2013. The program changes and new measures are expected to be ‘fully launched’ that is, offered to the entire target population on or before the launch date. It is assumed that the ramp up period for

	new program measures will occur in the 2013 and 2014 plan years.
Marketing strategy	The objective of the program is to promote the installation of energy efficient equipment which will increase market demand for those measures, thereby increasing customer awareness, EE product availability and lowering EE product prices. Marketing activities will target eligible customers to inform them of the program changes and the new measures, its components, and the associated benefits through bill inserts, direct mail, website, trade shows, the business customer newsletter, and key account managers. The Company will work with distributors and contractors to market eligible higher efficiency equipment than required by federal standard. Additionally, Company resources will be utilized to conduct outreach to their constituents regarding program availability.
Eligible measures and incentive strategy, include tables for each year of program, as appropriate showing financial incentives & rebate levels (e.g., $ per measure, $ per kWh or MW saved)	Incentives are designed to help overcome cost barriers of implementing the program measures. Proposed measures with their eligibility and rebate strategy can be found in Appendix D-4. Tenants in rental properties will be eligible with appropriate approvals from the property owner. This program also allows for upstream payments to trade allies (retail stores, contractors, etc.) where applicable. See Table 3 in Section 1 for a list of potential delivery channel options for this program.
Program start date with key schedule milestones	See Figure 2
Assumed Evaluation, Measurement, and Verification (EM&V) requirements required to document savings by the Commission's statewide EE&C Plan Evaluator	The Company will perform processes to meet standards specified in the Pennsylvania Technical Reference Manual (TRM). For the pre-installation phase, for a sample of participants, verify that inefficient equipment (Ex. HVAC, lighting, food services equipment plug loads and controls) are installed and working on customers' premises. Determine current total energy consumption and demand using billing/meter information. Check sample calculations of projected savings and assumptions (e.g. EFLH) for accuracy and for compliance with TRM guidelines. Pre-approval and opportunity for pre-installation inspections is required, with the exception of emergency HVAC replacements.

	For the post-installation phase, verify through verification inspections, customer contact and "desk reviews" that new, more efficient, equipment has been installed. Document and store verified measure data, and support Statewide Evaluator (SWE) verification using specified data transmission protocols, processes and technology. As part of the monitoring process, the company plans to use selected indicators to verify periodically that energy savings and demand reduction are being realized as projected. A DSM tracking system is to be used for such monitoring. In the event that EE&C program indicators show that projected EE&C targets are not likely to be achieved on schedule and within budget, the Company will take appropriate corrective actions. Participation of multi-family low income customers in this program will be tracked or surveyed to support reporting and evaluation.
Administrative requirements – include internal and external staffing levels	The Company will use a combination of internal and external resources to manage and implement the EE&C programs. The Company will monitor and adjust the allocation of resources to balance the needs of each program. See Section 4 of the EE&C plan for more details.
Estimated participation – includes tables indicating metric(s) with target value(s) per year	See Appendix D-3
Estimated program budget (total) by year – include table with budget per year	See Appendix C
Estimated percentage of sector budget attributed to program	See Appendix E
Savings targets – include tables with total MWh and MW goals per year and cumulative tables that document key assumptions of savings per measure or project	See Appendix E
Cost-effectiveness – include TRC for each program	See Appendix E

Other information deemed appropriate	None

Program Title and Program years during which program will be implemented	**C&I Energy Efficient Buildings Program – Small** **June 2013 - May 2016**
Objective(s)	This is an expansion of the existing Multifamily Building Program measures as indicated in the overview of Section 3.3, Table 10. In addition, the new program is broken into the following sub-programs: • New Buildings • C&I Audits • Custom Buildings • Kits The primary objective of this program is to accelerate the adoption and increase the energy efficiency of buildings among commercial and industrial customers. This program will provide financial support through incentives to the commercial and industrial customers who implements qualifying high efficiency measures. Relevant metrics are provided in Appendices D-E.
Target market	Commercial, industrial, and municipal customers of the Company with buildings or equipment in the Company's Pennsylvania service territory. This program targets comprehensive measures to provide whole building energy savings opportunities for customers.
Program description	This program will provide financial support through incentives to the commercial and industrial customer who implements qualifying high efficiency building shell improvements, request or complete an energy efficiency audit, or request an EE Kit. Prescriptive and performance incentives are intended to reduce customer's capital investment for qualifying high efficiency equipment. Initiatives may be added as current technologies are retired from the market and new ones require promotion and encouragement. <u>New Buildings</u> The New Construction measure within the C&I Energy Efficient Buildings Program - Small is intended to encourage customers to construct buildings to higher efficiency codes and standards in an effort to reduce both energy consumption and demand. The Plan proposes a measure within this grouping as listed in the table above.

This sub-program provides financial support through incentives for the design and construction of buildings that exceed standard building codes and practices by 15% of the electrical consumption and meet ENERGY STAR®. The incentives will cover a portion of the incremental cost for design services over the base cost of building design.

Project eligibility is any new construction or major renovation project, where significant electric energy use is projected, for potential to improve efficiencies of electric equipment to meet the increased energy efficiency standard.

The program provides incentives to building owners and developers for achieving energy efficiency targets through a combination of building shell and equipment upgrades. To qualify for this program, the facility must exceed the standard building code by 15 percent consistent with energy efficiency standards as published by the DOE under the ENERGY STAR® program.

While not a requirement, some projects may elect to expand their targets toward LEED certification status. This program also seeks to move construction to ASHRAE 90.1 standards.

C&I Audits

The Audit - Small measure with-in the C&I Energy Efficient Buildings Program - Small is intended to encourage customers to acquire a detailed third party energy efficiency audit for their building and/or process systems. This program will provide financial support through incentives to the commercial and industrial customer who implements qualifying audit recommended high efficiency building shell and/or system improvements. The incentive will be toward the customers cost of the third party audit pending approval and implementation of audit recommended energy efficiency improvements that are incented through the Company's other Plan programs. The program provides audit incentives of up to $.05/kWh not to exceed (NTE) 50% of audit cost.

The Audit w/ Direct Install Measures with-in the C&I Energy Efficient Buildings Program - Small is intended to provide an energy audit/assessment with technical assistance conducted to document the building's existing equipment and efficiency opportunities prior to installation of efficiency measures. The direct installation of measures will be delivered by the Company's participating contractor network as selected by the customer. In coordination with PHFA, the Company will support and track participation by low-income multi-family customers toward the Low Income goal as

described in Section 9.1.3 and multi family customers financed through federal aid toward the Government Goal in the program. For small business, audits are provided at a set cost which includes CFLs to replace existing incandescent lamps based on the audit and customer requirements. Registration will be encouraged in the EPA's Benchmarking Tool that provides additional insights as to energy efficiency levels. Office equipment audits may be included for appropriate building types to ensure proper efficiency settings on equipment, and to identify savings potential for plug loads. The installation of efficiency measures will be rebated at 80% of the total cost of the retrofit up to $6,000.

Custom Buildings

The measures within the Custom Buildings sub-program and C&I Energy Efficient Buildings Program - Small are intended to encourage customers to install specialized building shell improvements to reduce energy consumption and demand by improved building energy performance.

This program provides financial support through incentives for the implementation of cost effective, high efficiency measures to improve building energy performance by commercial and industrial customers. Incentives are intended to reduce customer's capital investment for selected high efficiency equipment and operations.

Performance incentives will be provided to customers for installing highly specialized custom building shell improvements. The incentive will be based on verified energy savings through the EM&V process. The energy savings threshold per project to qualify for the incentive is initially set at 20,000kWh/yr.

Kits

The Energy Efficiency Measures measure within the Kits sub-program and C&I Energy Efficient Buildings Program - Small is intended to educate customers on the benefits of simple energy efficiency measures and other opportunities to accelerate the adoption and increase the market share of high efficiency equipment in the small business sector, to improve building energy performance in an effort to reduce both energy consumption and demand. The Plan proposes initial measures and may include items such as, but not limited to, Compact Fluorescent Lights, Smart Strips, Faucet Aerators, etc. This sub-program provides cost effective measures and promotes customer participation and adoption of more comprehensive measures through energy efficiency

	measures provided at no upfront cost to the small business customers. These energy efficiency measures are implemented by the customer and provide the opportunity to get broad participation in the program which spurs additional interest and demonstrates the positive effects in energy efficiency. The energy efficiency measures will promote customer participation from engaged customers in other C/I programs and the adoption of more comprehensive measures. The energy efficiency measures will act as the incentive for this sub-program.
Implementation strategy (including expected changes that may occur in different program years)	The Company through a competitive bidding process intends to contract with a qualified Program Implementation Vendor ("Vendor") on a performance basis to insure creativity and motivation toward obtaining participation and meeting the goal. The Vendor will conduct the marketing and rebate fulfillment aspects of this program. The Company expects implementation will be traditional and will attempt to align with the PA Companies for consistency across the state. Additionally providing target marketing to specific customer sectors to insure awareness in the program and enhance participation. Intra Company resources will be utilized to conduct outreach to their constituents regarding program availability. All existing proposed measures will continue as implemented from the Phase 1 Plan into the 2013-2015 Plan. Minor changes to existing measures will be implemented as efficiently as possible in an effort to reduce Vendor costs and attempt to reduce customer confusion. This program is designed to provide incentives after customers have installed qualified energy efficient equipment.
Program issues and risks and risk management strategy	Ramp up in new measures may be slower than otherwise expected. A customer education campaign that informs customers about the benefits of energy efficiency in general, as well as the specific benefits regarding energy efficiency will be utilized to minimize slow ramp-up. Availability of qualifying high efficiency equipment. The Company will negotiate with manufacturers to increase availability in the PA market for any items that are in demand but are in short supply. Business climate may require customer fees or contributions to be reduced or waived in order to encourage participation. Process evaluation will determine if this adjustment is necessary.

	With respect to risk management, refer to Section 4 of the EE&C plan. The Company provides further details on "early warning systems" as well as a description of contingency plans.
Anticipated costs to participating customers	Balance of costs of equipment, plus installation costs as relevant.
Ramp up strategy	The Company intends to contract with a qualified Program Implementation Vendor ("Vendor") on a performance basis to insure creativity and motivation toward obtaining participation and meeting the goal. The Company intends to direct its Vendor to begin communicating program changes and the new measure offering in the first quarter of 2013 so Commercial and Industrial customers can plan and budget for projects in 2013. The program changes and new measures are expected to be 'fully launched' that is, offered to the entire target population on the launch date. It is assumed that the ramp up period for new program measures will occur in the 2013 and 2014 plan years.
Marketing strategy	The objective of the program is to promote the installation of energy efficient equipment which will increase market demand for those measures, thereby increasing customer awareness, EE product availability and lowering EE product prices. Marketing activities will target eligible customers to inform them of the program changes and the new measures, its components, and the associated benefits through bill inserts, direct mail, website, trade shows, the business customer newsletter, and key account managers. The Company will work with distributors and contractors to market eligible higher efficiency equipment that is required by federal standard. Additionally, Company resources will be utilized to conduct outreach to their constituents regarding program availability. FirstEnergy Area Managers will be tapped to provide first line contacts to eligible customers within the target market segments. The Implementation Providers and/or Program Managers will be responsible for ultimate program marketing. The Company will contract with experienced Implementation Providers and/or Program Managers on a performance basis to insure creativity and motivation in marketing strategies toward obtaining participation and meeting the goal. The Implementation Providers and/or Program Manager(s) will provide specific details on marketing for this program.
Eligible measures and incentive strategy, include tables for each year	Incentives are designed to help overcome cost barriers of implementing the program measures. Proposed measures with

of program, as appropriate showing financial incentives & rebate levels (e.g., $ per measure, $ per kWh or MW saved)	their eligibility and rebate strategy can be found in Appendix D-4. Tenants in rental properties will be eligible with appropriate approvals from the property owner. This program also allows for upstream payments to trade allies where applicable. See Table 3 in Section 1 for a list of potential delivery channel options for this program.
Program start date with key schedule milestones	See Figure 2
Assumed Evaluation, Measurement, and Verification (EM&V) requirements required to document savings by the Commission's statewide EE&C Plan Evaluator	The Company will perform processes to meet standards specified in the Pennsylvania TRM. For the pre-installation phase, for a sample of participants, verify that inefficient equipment and controls are installed and working on customers' premises. Determine current total energy consumption and demand using billing/meter information. Check sample calculations of projected savings and assumptions for accuracy and for compliance with TRM guidelines. For the post-installation phase, verify through verification inspections, customer contact and "desk reviews" that new, more efficient, equipment has been installed. Document and store verified measure data, and support Statewide Evaluator (SWE) verification using specified data transmission protocols, processes and technology. As part of the monitoring process, the Company plans to use selected indicators to verify periodically that energy savings and demand reduction are being realized as projected. A DSM tracking system is to be used for such monitoring. In the event that EE&C program indicators show that projected EE&C targets are not likely to be achieved on schedule and within budget, the Company will take appropriate corrective actions.
Administrative requirements – include internal and external staffing levels	The Company will use a combination of internal and external resources to manage and implement the EE&C programs. The Company will monitor and adjust the allocation of resources to balance the needs of each program. See Section 4 for more details.

Estimated participation – includes tables indicating metric(s) with target value(s) per year	See Appendix D-3
Estimated program budget (total) by year – include table with budget per year	See Appendix C
Estimated percentage of sector budget attributed to program	See Appendix E
Savings targets – include tables with total MWh and MW goals per year and cumulative tables that document key assumptions of savings per measure or project	See Appendix E
Cost-effectiveness – include TRC for each program	See Appendix E
Other information deemed appropriate	None

3.4. Commercial/Industrial Large Sector Programs.[12]

The table below details the comparison of this sector's programs included in the Existing Plan with those included in the Phase II Plan, along with a program description:

Table 11: Existing & New Large C/I Programs

Existing Program	Phase II Program	Program Description
Large Commercial & Industrial Programs		
C&I Equipment Program - Large	C&I Energy Efficient Equipment Program - Large	This program provides financial incentives (prescriptive & performance) and support to customers directly, or through trade allies, for purchasing and installing energy efficient equipment and products.
Industrial Motors and Variable Speed Drives		
C&I Performance Contracting	C&I Energy Efficient Buildings Program - Large	This program provides financial incentives and support to customers for implementing building shell or system improvements. Other delivery mechanisms include incentives towards audits.

The table below details each measure that is offered in the programs listed in Table 11 and whether it is an existing or new measure:

Table 12: Large C/I Portfolio

Proposed Large C&I Portfolio			
Program	**Sub Program**	**Measure**	**Measure Status**
C&I Energy Efficient Equipment Program - Large	**HVAC**	Air Conditioning - Large C&I	Existing
		Heat Pump - Large C&I	Existing
		Ground Source Heat Pump - Large C&I	Existing
		PTAC - Large C&I	Existing
		PTHP - Large C&I	Existing
		Ductless Mini-Split - Large C&I	New
		HVAC Maintenance - Large C&I	Existing
		Dual Enthalpy Economizer - Large C&I	New
		Electric Chillers - Large C&I	Existing
	Lighting	Energy Efficient Exterior Lighting - Large C&I	Existing
		Linear Fluorescent Retrofits (Stndrd & Non Stndrd) - Large C&I	Existing
		Energy Efficient Lighting Products - Large C&I	Existing
		LED Exit Sign (Retrofit Only) - Large C&I	Existing
		Lighting Controls (Occupancy & Daylight) - Large C&I	Existing
	Custom Equipment	VFDs up to 200 HP - Large C&I	Existing
		VFDs greater than 200 HP - Large C&I	Existing
		Custom - Large C&I	Existing
C&I Energy Efficient Buildings Program - Large	**Audits**	Audit - Large C&I	Existing
	Custom Buildings	Custom Building - Large C&I	New
		Retrocommissioning - Large C&I	New
		Building Operation Training - Large C&I	New
		Energy Management System - Large C&I	New

Below are the program descriptions for the Commercial/Industrial Large sector included in the Phase II Plan:

[12] Additional measures may be incorporated, as appropriate, as new measures are approved for inclusion in the TRM.

Program Title and Program years during which program will be implemented	**C/I Energy Efficient Equipment Program - Large** **June 2013 - May 2016**
Objective(s)	This is an expansion of the existing C&I Equipment Program – Large and Industrial Motors and Variable Speed Drives Program with the addition of new measures as indicated in the overview of Section 3.4, Table 12. In addition, the consolidated program is broken into the following sub-programs: • HVAC • Lighting • Custom Equipment The primary objective of the program is to accelerate the adoption and increase the market share of high efficiency equipment among commercial and industrial customers by reducing the first cost of high efficiency equipment thereby encouraging the adoption of high efficient equipment in lieu of standard equipment at the end of the useful life of measures, or as early replacement. The ultimate goal is influencing future customer behavior toward energy efficiency measures and practices. This program will provide financial support through incentives to the commercial and industrial customer who implements qualifying high efficiency measures, recycles inefficient appliances or retrofit specialized processes and applications to higher efficiency processes and applications. Prescriptive and performance incentives are intended to reduce customer's capital investment for qualifying high efficiency equipment. Relevant metrics are provided in Appendices D-E.
Target market	Commercial, industrial, and municipal customers of the Company with buildings or equipment in the Company's Pennsylvania service territory.
Program description	This program will provide financial support through prescriptive or performance based incentives to the commercial and industrial customer who implements qualifying high efficiency measures. Prescriptive and performance incentives are intended to reduce customer's capital investment for qualifying high efficiency equipment thereby encouraging the adoption of high efficient equipment in lieu of standard equipment at the end of the useful life of measures, or as early replacement.

Potential future enhancements to this program include the direct installation of select energy efficiency measures to customers through participating contractors and working with customers, manufacturers, allies, wholesalers and retailers including mid/up-stream incentives on select measures, other methods for providing incentives and other rebate application processes based on market considerations and opportunities that are identified during program implementation and the delivery of energy efficiency kits requested by large C/I customers and master metered multi-family customers.

Initiatives may be added as current technologies are retired from the market and new ones require promotion and encouragement.

HVAC

HVAC measures within the C&I Energy Efficient Equipment Program - Large are intended to encourage customers to maintain or install more efficient HVAC equipment in an effort to reduce both energy consumption and demand in the HVAC end use category. The Plan proposes traditional and newer efficiency measures within this grouping as listed in the table above. Prescriptive-based incentives will be provided to encourage customers to perform maintenance on existing units to ensure baseline performance levels are being met, to upgrade less efficient HVAC equipment to higher efficiency units, and to install HVAC system controls, in order to improve system operation and decrease system run hours. These program measures are selected and designed to encourage the customer to retrofit existing systems, implement controls and install newer energy efficiency measures.

Lighting

Lighting measures within the C&I Energy Efficient Equipment Program - Large are intended to encourage customers to install more efficient lighting equipment in an effort to reduce both energy consumption and demand in the lighting end use category. The Plan proposes measures within this grouping as listed in the table above. Prescriptive and performance based incentives will be provided to customers for upgrading less efficient lighting systems to higher efficiency lighting and controls. Prescriptive incentives will be offered for individual lighting applications and smaller retrofit projects employing standard efficient lighting technologies. Performance based incentives will be offered for higher efficient technologies as well as larger projects and retrofits, based on kWh savings. These

	program measures are designed to encourage customer renovation of existing lighting systems and to install newer energy efficiency measures by not limiting the reward to standard efficient lighting technologies. This offering will allow for future market development that can bring even greater energy savings without modification of the program design. <u>Custom</u> Custom measures within the C&I Energy Efficient Equipment Program - Large are intended to encourage customers to retrofit to or install more efficient specialized processes and applications in an effort to reduce both energy consumption and demand. Calculated or performance based incentives will be provided to customers based upon an analysis of potential energy savings on a case by case basis for upgrading less efficient specialized processes and applications (e.g. variable frequency drives, motors, compressed air leakage reduction, equipment replacement, combined heat and power, process change, etc.) to high efficiency specialized processes and applications. Custom measures must be installed and operational during the term of this Plan and program. Additionally, Combined Heat and Power ("CHP") projects may be approved as eligible custom measure projects, if found to be cost effective as indicated by a Total Resource Cost ("TRC") score above 1.0. In addition, each eligible project must not be above 10 MW in size, must be intended solely for customer on-site use and must comply with all interconnection and standby service rules and requirements.
Implementation strategy (including expected changes that may occur in different program years)	The Company through a competitive bidding process intends to contract with a Vendor on a performance basis to insure creativity and motivation toward obtaining participation and meeting the goal. The Vendor will conduct the marketing and rebate fulfillment aspects of this program. The Company expects implementation will be traditional and will attempt to align with the PA Companies for consistency across the state. Additionally providing target marketing to specific customer sectors to insure awareness in the program and enhance participation. Intra Company resources will be utilized to conduct outreach to their constituents regarding program availability. All existing proposed measures will continue as implemented from the Existing Plan into the Phase II Plan. Minor changes to existing measures will be implemented as efficiently as possible in an effort to reduce Vendor costs and attempt to reduce customer confusion.

	This program is designed to provide incentives after customers have installed qualified energy efficient equipment. The Company will consider providing the direct installation of select energy efficiency measures to customers through participating contractors during program implementation or as a future enhancement. Applications for eligible projects that have been submitted, but no yet processed prior to May 31, 2013 will be processed without re-application, consistent with the Company's EE&C Plan review and eligibility requirements.
Program issues and risks and risk management strategy	Ramp up in new measures may be slower than otherwise expected. A customer education campaign that informs customers about the benefits of energy efficiency in general, as well as the specific benefits regarding energy efficiency will be utilized to minimize slow ramp-up. Availability of qualifying high efficiency equipment. The Company will negotiate with manufacturers to increase availability in the PA market for any items that are in demand but are in short supply. Business climate may require customer fees or contributions to be reduced or waived in order to encourage participation. Process evaluation will determine if this adjustment is necessary. With respect to risk management, refer to Section 4 of the EE&C plan. The Company provides further details on "early warning systems" as well as a description of contingency plans.
Anticipated costs to participating customers	Balance of costs of equipment, plus installation costs as relevant.
Ramp up strategy	The Company intends to contract with a qualified Vendor on a performance basis to insure creativity and motivation toward obtaining participation and meeting the goal. The Company intends to direct its Vendor to begin communicating program changes and the new measure offering in the first quarter of 2013 so Commercial and Industrial customers can plan and budget for projects in 2013. The program changes and new measures are expected to be 'fully launched' that is, offered to the entire target population on or before the launch date. It is assumed that the ramp up period for new program measures will occur in the 2013 and 2014 plan years.

Marketing strategy	The objective of the program is to promote the installation of energy efficient equipment which will increase market demand for those measures, thereby increasing customer awareness, EE product availability and lowering EE product prices. Marketing activities will target eligible customers to inform them of the program changes and the new measures, its components, and the associated benefits through bill inserts, direct mail, website, trade shows, the business customer newsletter, and key account managers. The Company will work with distributors and contractors to market eligible higher efficiency equipment that is required by federal standard. Additionally, Company resources will be utilized to conduct outreach to their constituents regarding program availability. FirstEnergy Area Managers will be tapped to provide first line contacts to eligible customers within the target market segments. The Implementation Providers and/or Program Managers will be responsible for ultimate program marketing. The Company will contract with experienced Implementation Providers and/or Program Managers on a performance basis to insure creativity and motivation in marketing strategies toward obtaining participation and meeting the goal. The Implementation Providers and/or Program Manager(s) will provide specific details on marketing for this program.
Eligible measures and incentive strategy, include tables for each year of program, as appropriate showing financial incentives & rebate levels (e.g., $ per measure, $ per kWh or MW saved)	Incentives are designed to help overcome cost barriers of implementing the program measures. Proposed measures with their eligibility and rebate strategy can be found in Appendix D-4. Tenants in rental properties will be eligible with appropriate approvals from the property owner. This program also allows for upstream payments to trade allies (retail stores, contractors, etc.) where applicable. See Table 3 in Section 1 for a list of potential delivery channel options for this program.
Program start date with key schedule milestones	See Figure 2
Assumed Evaluation, Measurement, and Verification (EM&V) requirements required to document savings by the Commission's statewide EE&C Plan Evaluator	The Company will perform processes to meet standards specified in the Pennsylvania Technical Reference Manual (TRM). For the pre-installation phase, for a sample of participants, verify that inefficient HVAC, lighting, and plug loads and controls are installed and working on customers' premises. Determine

	current total energy consumption and demand using billing/meter information. Check sample calculations of projected savings and assumptions (e.g. EFLH) for accuracy and for compliance with TRM guidelines. For the post-installation phase, verify through verification inspections that new, more efficient, equipment has been installed. Document, store and send measure data to state using specified data transmission protocols, processes and technology. For the post-installation phase, verify through verification inspections, customer contact and "desk reviews" that new, more efficient, equipment has been installed. Document and store verified measure data, and support Statewide Evaluator (SWE) verification using specified data transmission protocols, processes and technology. As part of the monitoring process, the Company plans to use selected indicators to verify periodically that energy savings and demand reduction are being realized as projected. A DSM tracking system is to be used for such monitoring. In the event that EE&C program indicators show that projected EE&C targets are not likely to be achieved on schedule and within budget, the Company will take appropriate corrective actions.
Administrative requirements – include internal and external staffing levels	The Company will use a combination of internal and external resources to manage and implement the EE&C programs. The Company will monitor and adjust the allocation of resources to balance the needs of each program. See Section 4 of the EE&C plan for more details.
Estimated participation – includes tables indicating metric(s) with target value(s) per year	See Appendix D-3
Estimated program budget (total) by year – include table with budget per year	See Appendix C
Estimated percentage of sector budget attributed to program	See Appendix E
Savings targets – include tables with total MWh and MW goals per year and cumulative tables that document key assumptions of savings per measure or project	See Appendix E

Cost-effectiveness – include TRC for each program	See Appendix E
Other information deemed appropriate	None

Program Title and Program years during which program will be implemented	**C&I Energy Efficient Buildings Program – Large** **June 2013 - May 2016**
Objective(s)	This is an expansion of the existing C&I Performance Contracting that includes measures as indicated in the overview of Section 3.4, Table 12. In addition, the new program is broken into the following sub-programs: • C&I Audits • Custom Buildings The primary objective of this program is to accelerate the adoption and increase the energy efficiency of buildings among commercial and industrial customers. This program will provide financial support through incentives to the commercial and industrial customers who implements qualifying high efficiency measures. Relevant metrics are provided in Appendices D-E.
Target market	Commercial, industrial, and municipal customers of the Company with buildings or equipment in the Company's Pennsylvania service territory.
Program description	This program will provide financial support through incentives to the commercial and industrial customer who implements qualifying high efficiency building shell improvements or request or complete an energy efficiency audit. Prescriptive and performance incentives are intended to reduce customer's capital investment for qualifying high efficiency equipment. Initiatives may be added as current technologies are retired from the market and new ones require promotion and encouragement. <u>C&I Audits</u> The Audit - Large measure with-in the C&I Energy Efficient Buildings Program - Large is intended to encourage customers to acquire a detailed third party energy efficiency audit for their building and/or process systems. This program will provide financial support through incentives to the commercial and industrial customer who implements qualifying audit recommended high efficiency building shell and/or system improvements. The incentive will be toward the customers cost of the third party audit pending approval and implementation of audit recommended energy efficiency improvements that are incented through the Company's

	other Plan programs. The program provides audit incentives of up to $.05/kWh not to exceed (NTE) 50% of audit cost. Custom Buildings The Custom Buildings sub-program group of measures within the C&I Energy Efficient Buildings Program - Large is intended to encourage customers to install specialized building shell and system improvements to reduce energy consumption and demand by improved building energy performance. This program provides financial support through incentives for the implementation of cost effective, high efficiency measures to improve building energy performance by commercial and industrial customers. Incentives are intended to reduce customer's capital investment for selected high efficiency equipment and operations. Performance incentives will be provided to customers for installing highly specialized custom building shell improvements. The incentive will be based on verified energy savings through the EM&V process. The energy savings threshold per project to qualify for the incentive is initially set at 20,000kWh/yr.
Implementation strategy (including expected changes that may occur in different program years)	The Company through a competitive bidding process intends to contract with a qualified Vendor on a performance basis to insure creativity and motivation toward obtaining participation and meeting the goal. The Vendor will conduct the marketing and rebate fulfillment aspects of this program. The Company expects implementation will be traditional and will attempt to align with the PA Companies for consistency across the state. Additionally providing target marketing to specific customer sectors to insure awareness in the program and enhance participation. Intra Company resources will be utilized to conduct outreach to their constituents regarding program availability. All existing proposed measures will continue as implemented from the Phase 1 Plan into the Phase II Plan. Minor changes to existing measures will be implemented as efficiently as possible in an effort to reduce Vendor costs and attempt to reduce customer confusion. This program is designed to provide incentives after customers have installed qualified energy efficient equipment. Applications for eligible projects that have been submitted, but not processed prior to May 31, 2013 will be processed without

	re-application, consistent with the Company's EE&C Plan review and eligibility requirements.
Program issues and risks and risk management strategy	Ramp up in new measures may be slower than otherwise expected. A customer education campaign that informs customers about the benefits of energy efficiency in general, as well as the specific benefits regarding energy efficiency will be utilized to minimize slow ramp-up. Availability of qualifying high efficiency equipment. The Company will negotiate with manufacturers to increase availability in the PA market for any items that are in demand but are in short supply. Business climate may require customer fees or contributions to be reduced or waived in order to encourage participation. Process evaluation will determine if this adjustment is necessary. With respect to risk management, refer to Section 4 of the EE&C plan. The Company provides further details on "early warning systems" as well as a description of contingency plans.
Anticipated costs to participating customers	Balance of costs of equipment, plus installation costs as relevant.
Ramp up strategy	The Company intends to contract with a Vendor on a performance basis to insure creativity and motivation toward obtaining participation and meeting the goal. The Company intends to direct its Vendor to begin communicating program changes and the new measure offering in the first quarter of 2013 so Commercial and Industrial customers can plan and budget for projects in 2013. The program changes and new measures are expected to be 'fully launched' that is, offered to the entire target population on the launch date. It is assumed that the ramp up period for new program measures will occur in the 2013 and 2014 plan years.
Marketing strategy	The objective of the program is to promote the installation of energy efficient equipment which will increase market demand for those measures, thereby increasing customer awareness, EE product availability and lowering EE product prices. Marketing activities will target eligible customers to inform them of the program changes and the new measures, its components, and the associated benefits through bill inserts, direct mail, website, trade shows, the business customer newsletter, and key account managers. The Company will work

	with distributors and contractors to market eligible higher efficiency equipment that is required by federal standard. Additionally, Company resources will be utilized to conduct outreach to their constituents regarding program availability. FirstEnergy Area Managers will be tapped to provide first line contacts to eligible customers within the target market segments. The Implementation Providers and/or Program Managers will be responsible for ultimate program marketing. The Company will contract with experienced Implementation Providers and/or Program Managers on a performance basis to insure creativity and motivation in marketing strategies toward obtaining participation and meeting the goal. The Implementation Providers and/or Program Manager(s) will provide specific details on marketing for this program.
Eligible measures and incentive strategy, include tables for each year of program, as appropriate showing financial incentives & rebate levels (e.g., $ per measure, $ per kWh or MW saved)	Incentives are designed to help overcome cost barriers of implementing the program measures. Proposed measures with their eligibility and rebate strategy can be found in Appendix D-4. Tenants in rental properties will be eligible with appropriate approvals from the property owner. This program also allows for upstream payments to trade allies where applicable. See Table 3 in Section 1 for a list of potential delivery channel options for this program.
Program start date with key schedule milestones	See Figure 2
Assumed Evaluation, Measurement, and Verification (EM&V) requirements required to document savings by the Commission's statewide EE&C Plan Evaluator	The Company will perform processes to meet standards specified in the Pennsylvania TRM. For the pre-installation phase, for a sample of participants, verify that inefficient equipment and controls are installed and working on customers' premises. Determine current total energy consumption and demand using billing/meter information. Check sample calculations of projected savings and assumptions for accuracy and for compliance with TRM guidelines. For the post-installation phase, verify through verification inspections, customer contact and "desk reviews" that new, more efficient, equipment has been installed. Document and store verified measure data, and support Statewide Evaluator (SWE)

	verification using specified data transmission protocols, processes and technology. As part of the monitoring process, the Company plans to use selected indicators to verify periodically that energy savings and demand reduction are being realized as projected. A DSM tracking system is to be used for such monitoring. In the event that EE&C program indicators show that projected EE&C targets are not likely to be achieved on schedule and within budget, the Company will take appropriate corrective actions.
Administrative requirements – include internal and external staffing levels	The Company will use a combination of internal and external resources to manage and implement the EE&C programs. The Company will monitor and adjust the allocation of resources to balance the needs of each program. See Section 4 of the EE&C plan for more details.
Estimated participation – includes tables indicating metric(s) with target value(s) per year	See Appendix D-3
Estimated program budget (total) by year – include table with budget per year	See Appendix C
Estimated percentage of sector budget attributed to program	See Appendix E
Savings targets – include tables with total MWh and MW goals per year and cumulative tables that document key assumptions of savings per measure or project	See Appendix E
Cost-effectiveness – include TRC for each program	See Appendix E
Other information deemed appropriate	None

3.5. Governmental/Educational/Non-Profit Sector Programs.[13]

The table below compares the program included in the Existing Plan with that included in the Phase II Plan, along with a program description:

Table 13: Existing & New Government Programs

Existing Program	Phase II Program	Program Description
	Government Programs	
Governmental & Institutional Program	Governmental & Institutional Programs	This program provides financial incentives and support to Governmental & Institutional customers for the installation of energy efficient equipment and products.
Multi-Family-Tenants		

The table below details each measure that is offered in the programs listed in Table 13 and whether it is an existing or new measure:

Table 14: Government Portfolio

Proposed Government Portfolio			
Program	**Sub Program**	**Measure**	**Measure Status**
Governmental & Institutional Program	**Outdoor Lighting**	LED Traffic Signals	Existing
		Energy Efficient Street & Area Lighting (Tariff / Util Owned)	Existing
		Energy Efficient Exterior Lighting (Tariff / Cust Owned)	Existing
	Lighting	Energy Efficient Exterior Lighting - Non Profit	Existing
		Linear Fluorescent Retrofits (Stndrd & Non Stndrd) - Non Profit	Existing
		Energy Efficient Lighting Products - Non Profit	Existing
		LED Exit Sign (Retrofit Only) - Non Profit	Existing
		Lighting Controls (Occupancy & Daylight) - Non Profit	Existing
	Audits	Audit - Govt	Existing
		Audits w/ Direct Install Measures - Govt	New
	HVAC & Water Heating	Air Conditioning - Non Profit	New
		Heat Pump - Non Profit	New
		Ground Source Heat Pump - Non Profit	New
		PTAC - Non Profit	New
		PTHP - Non Profit	New
		Room Air Conditioner - Non Profit	New
		Efficient Water Heater - Non Profit	New
	Appliances	Refrigerator Recycling - Non Profit	New
		Freezer Recycling - Non Profit	New
		Room Air Conditioner Recycling - Non Profit	New
		Refrigerator - Non Profit	New
		Freezer - Non Profit	New
		EE Office Equipment - Non Profit	New
	Multi Family	Audit - Multifamily - Govt	Existing
		Energy Efficiency Measures - Multifamily - Govt	Existing
	Custom	Custom - Non Profit	New

Below are the program descriptions for the Government sector included in the Phase II Plan:

[13] Additional measures may be incorporated, as appropriate, as new measures are approved for inclusion in the TRM.

Program Title and Program years during which program will be implemented	**Government & Institutional Program** **June 2013 - May 2016**
Objective(s)	This is an expansion of the existing Governmental & Institutional Programs and Multi-Family-Tenants Program with the addition of new measures as indicated in the overview of Section 3.5, Table 14. In addition, the consolidated program is broken into the following sub-programs: • Outdoor Lighting • HVAC & Water Heating • Appliances • Lighting • Audits • Multi Family • Custom The primary objective of the program is to accelerate the adoption and increase the market share of high efficiency equipment among government and institutional customers by reducing the first cost of high efficiency equipment thereby encouraging the adoption of high efficient equipment in lieu of standard equipment at the end of the useful life of measures, or as early replacement. The ultimate goal is influencing future customer behavior toward energy efficiency measures and practices. This program will provide financial support through incentives to the government and institutional customer who implements qualifying high efficiency measures, recycles inefficient appliances or retrofit specialized processes and applications to higher efficiency processes and applications. Prescriptive and performance incentives are intended to reduce customer's capital investment for qualifying high efficiency equipment. Relevant metrics are provided in Appendices D-E.
Target market	Commercial, industrial, and municipal customers of the Company meeting the Government and Institutional definitions under Act 129 with buildings or equipment in the Company's Pennsylvania service territory. Specifically the HVAC & Water Heating, Appliances, Lighting, Audits, and Multi Family Sub Programs target Non Profit customers on the Company's Non Profit rate schedule(s). Additionally the Outdoor Lighting Sub

	Program targets Government customers on the Company's street-lighting rate schedules and with traffic signals on Small C&I accounts.
Program description	This program will provide financial support through prescriptive or performance based incentives to the commercial and industrial customer who implements qualifying high efficiency measures. Prescriptive and performance incentives are intended to reduce customer's capital investment for qualifying high efficiency equipment thereby encouraging the adoption of high efficient equipment in lieu of standard equipment at the end of the useful life of measures, or as early replacement. Potential enhancements to this program include working with customers, manufacturers, partnerships with local government or public agencies, allies, wholesalers and retailers including mid/up-stream incentives on select measures, other methods for providing incentives and other rebate application processes based on market considerations and opportunities that are identified during program implementation. Initiatives may be added as current technologies are retired from the market and new ones require promotion and encouragement. <u>HVAC & Water Heating</u> HVAC measures within the Government & Institutional Program are intended to encourage customers to maintain or install more efficient HVAC equipment in an effort to reduce both energy consumption and demand in the HVAC end use category. The Plan proposes traditional and newer efficiency measures within this grouping as listed in the table above. Prescriptive-based incentives will be provided to encourage customers to perform maintenance on existing units to ensure baseline performance levels are being met, to upgrade less efficient HVAC equipment to higher efficiency units, and to install HVAC system controls, in order to improve system operation and decrease system run hours. These program measures are selected and designed to encourage the customer to retrofit existing systems, implement controls and install newer energy efficiency measures. Water Heating measures within the C&I Energy Efficient Equipment Program - Small are intended to encourage customers to install more efficient water heating equipment in an effort to reduce both energy consumption and demand in the water heating end use. The Plan proposes traditional and newer efficiency sub-measures within this grouping. Prescriptive based incentives will be provided to customers

for upgrading less efficient Domestic Hot Water (DHW) equipment to higher efficiency units. The focus will be on replacing resistive electric domestic storage type units. These program measures as designed to encourage customer renovation of existing systems and install newer energy efficiency measures.

Appliances

Appliance recycle and rebate measures within the Government & Institutional Program are intended to encourage customers to recycle inefficient refrigeration and room air conditioning appliances and replace them with ENERGY STAR® qualified appliances in an effort to reduce both energy consumption and demand in the Small Enterprise sector.

Prescriptive-based incentives will be provided to consumers and financial incentives and support to retailers that sell energy efficient products, such as ENERGY STAR® qualified appliances.

Provides a service and incentive to customers for turning in inefficient operating appliances. Large and other qualifying appliances will be picked up at the customer's business. In addition, periodic events may be offered at centralized drop-off locations where customers can drop off smaller inefficient operating appliances such as compact refrigerators and room air conditioners.

Lighting & Outdoor Lighting

Lighting measures within the Government & Institutional Program are intended to encourage customers to install more efficient lighting equipment in an effort to reduce both energy consumption and demand in the lighting end use category. The Plan proposes measures within this grouping as listed in the table above. Prescriptive and performance based incentives will be provided to customers for upgrading less efficient lighting systems to higher efficiency lighting and controls. Prescriptive incentives will be offered for individual lighting applications and smaller retrofit projects employing standard efficient lighting technologies. Performance based incentives will be offered for higher efficient technologies as well as larger projects and retrofits, based on kWh savings. These program measures are designed to encourage customer renovation of existing lighting systems and to install newer energy efficiency measures by not limiting the reward to standard efficient lighting technologies. This offering will allow for future

market development that can bring even greater energy savings without modification of the program design.

Audits

The Audit - Government measure with-in the Government & Institutional Program is intended to encourage local government and jurisdictional agency customers to acquire a detailed third party energy efficiency audit for their building and/or process systems through a public agency partnership implementation strategy. This program will provide financial support through incentives, customer education and guidance in order to implement audit recommendations. The local government and jurisdictional agencies who implement qualifying audit recommended energy efficiency improvements will additionally be provided incentives through the Company's other Plan programs. The Audit w/ Direct Install Measures with-in the Government & Institutional Program is intended to provide an energy audit/assessment with technical assistance conducted to document the building's existing equipment and efficiency opportunities prior to installation of efficiency measures. The direct installation of measures will be delivered by the Company's participating contractor network as selected by the customer. For small business, audits are provided at a set cost which includes CFLs to replace existing incandescent lamps based on the audit and customer requirements. Registration will be encouraged in the EPA's Benchmarking Tool that provides additional insights as to energy efficiency levels. Office equipment audits may be included for appropriate building types to ensure proper efficiency settings on equipment, and to identify savings potential for plug loads. The installation of efficiency measures will be rebated at 80% of the total cost of the retrofit up to $6,000.

Multi Family

The Comprehensive Audit – Multi Family measure within the Government & Institutional Program is intended to provide a comprehensive audit with simple direct installed measures installed during the audit. The audit will also provide customer education and awareness of the other energy affiance opportunities for the customer that are eligible within the Company's plan. This audit targets Multi Family facilities with federal financing in accordance with PHFA's customer database. In coordination with PHFA, the Company will support and track participation by multi

	family C&I customers with federal financing toward the Government Goal in the program. Energy Efficiency Measures - Multifamily - Govt measure within the Government & Institutional Program will include a variety of items meant to introduce customer segments to energy efficient technologies that can be easily installed in the home, and serve as a gateway for broader home efficiency education. Provided items may include, but not limited to: Educational Materials, CFLs, Smart Strips, Faucet Aerators, Low Flow Shower Heads, Furnace Whistles, etc. Provided items and targeted segments are subject to change during the course of this Plan, and may initially include: <u>Efficiency Measures – Standard</u> Provides non-electric water heating energy efficiency measures to non-electric water heating customers. <u>Efficiency Measures – All Electric</u> Provides electric water heating energy efficiency measures to electric water heating customers. <u>Custom</u> Custom measures within the Government & Institutional Program are intended to encourage customers to retrofit to or install more efficient specialized processes, equipment, and applications in an effort to reduce both energy consumption and demand. Calculated or performance based and prescriptive incentives will be provided to customers based upon an analysis of potential energy savings on a case by case basis for upgrading less efficient specialized processes, equipment and applications (e.g. variable frequency drives, food service equipment, HVAC, process change, etc.) to high efficiency specialized processes, equipment and applications. Custom measures must be installed and operational during the term of this Plan and program.
Implementation strategy (including expected changes that may occur in different program years)	The Company through a competitive bidding process intends to contract with a qualified Vendor on a performance basis to insure creativity and motivation toward obtaining participation and meeting the goal. The Vendor will conduct the marketing and rebate fulfillment aspects of this program. The Company expects implementation will be traditional and will attempt to align with the PA Companies for consistency across the state. Additionally providing target marketing to specific customer sectors to insure awareness in the program and enhance participation. Intra Company resources will be utilized to

	conduct outreach to their constituents regarding program availability. All existing proposed measures will continue as implemented from the Existing Plan into the Phase II Plan. Minor changes to existing measures will be implemented as efficiently as possible in an effort to reduce Vendor costs and attempt to reduce customer confusion. This program is designed to provide incentives after customers have installed qualified energy efficient equipment.
Program issues and risks and risk management strategy	Ramp up in new measures may be slower than otherwise expected. A customer education campaign that informs customers about the benefits of energy efficiency in general, as well as the specific benefits regarding energy efficiency will be utilized to minimize slow ramp-up. Availability of qualifying high efficiency equipment. The Company will negotiate with manufacturers to increase availability in the PA market for any items that are in demand but are in short supply. Business climate may require customer fees or contributions to be reduced or waived in order to encourage participation. Process evaluation will determine if this adjustment is necessary. With respect to risk management, refer to Section 4 of the EE&C plan. The Company provides further details on "early warning systems" as well as a description of contingency plans.
Anticipated costs to participating customers	Balance of costs of equipment, plus installation costs as relevant.
Ramp up strategy	The Company intends to contract with a Vendor on a performance basis to insure creativity and motivation toward obtaining participation and meeting the goal. The Company intends to direct its Vendor to begin communicating program changes and the new measure offering in the first quarter of 2013 so Commercial and Industrial customers can plan and budget for projects in 2013. The program changes and new measures are expected to be 'fully launched' that is, offered to the entire target population on or before the launch date. It is assumed that the ramp up period for new program measures will occur in the 2013 and 2014 plan years.
Marketing strategy	The objective of the program is to promote the installation of energy efficient equipment which will increase market demand for those measures, thereby increasing customer awareness, EE product availability and lowering EE product prices.

	Marketing activities will target eligible customers to inform them of the program changes and the new measures, its components, and the associated benefits through bill inserts, direct mail, website, trade shows, the business customer newsletter, and key account managers. The Company will work with distributors and contractors to market eligible higher efficiency equipment than required by federal standard. Additionally, Company resources will be utilized to conduct outreach to their constituents regarding program availability.
Eligible measures and incentive strategy, include tables for each year of program, as appropriate showing financial incentives & rebate levels (e.g., $ per measure, $ per kWh or MW saved)	Incentives are designed to help overcome cost barriers of implementing the program measures. Proposed measures with their eligibility and rebate strategy can be found Appendix D-4 **.** Tenants in rental properties will be eligible with appropriate approvals from the property owner. This program also allows for upstream payments to trade allies (retail stores, contractors, etc.) where applicable. See Table 3 in Section 1 for a list of potential delivery channel options for this program.
Program start date with key schedule milestones	See Figure 2.
Assumed Evaluation, Measurement, and Verification (EM&V) requirements required to document savings by the Commission's statewide EE&C Plan Evaluator	The Company will perform processes to meet standards specified in the Pennsylvania TRM. For the pre-installation phase, for a sample of participants, verify that inefficient equipment and controls are installed and working on customers' premises. Determine current total energy consumption and demand using billing/meter information. Check sample calculations of projected savings and assumptions for accuracy and for compliance with TRM guidelines. For the post-installation phase, verify through verification inspections, customer contact and "desk reviews" that new, more efficient, equipment has been installed. Document and store verified measure data, and support Statewide Evaluator (SWE) verification using specified data transmission protocols, processes and technology. As part of the monitoring process, the Company plans to use selected indicators to verify periodically that energy savings and demand reduction are being realized as projected. A DSM tracking system is to be used for such monitoring. In the event that EE&C program indicators show that projected EE&C

	targets are not likely to be achieved on schedule and within budget, the Company will take appropriate corrective actions.
Administrative requirements – include internal and external staffing levels	The Company will use a combination of internal and external resources to manage and implement the EE&C programs. The Company will monitor and adjust the allocation of resources to balance the needs of each program. See Section 4 of the EE&C plan for more details.
Estimated participation – includes tables indicating metric(s) with target value(s) per year	See Appendix F
Estimated program budget (total) by year – include table with budget per year	See Appendix D
Estimated percentage of sector budget attributed to program	See Appendix E
Savings targets – include tables with total MWh and MW goals per year and cumulative tables that document key assumptions of savings per measure or project	See Appendix E
Cost-effectiveness – include TRC for each program	See PUC Table 7a
Other information deemed appropriate	None

4. Program Management and Implementation Strategies

4.1. Overview of EDC Management and Implementation Strategies:

4.1.1. Describe the types of services to be provided by EDC as well as consultants, trade allies, and CSPs. Indicate which organizations will provide which services and the basis for such allocation. Reference reporting and EM&V information from Sections 5 and 6 below.

Generally the Company will continue overall administration and oversight of this Plan, and utilize third party vendors to perform various program implementation and support duties. Specific activities that the Company will oversee include Plan development; the execution of marketing campaigns; Quality Assurance/Quality Control activities and tracking and reporting activities. The Company will use contractors to provide many program implementation services, including assistance with Plan design and implementation, EM&V and the installation of the tracking and reporting tool. The following are examples of contractors/allies that the Company anticipates using for program implementation services, either directly or indirectly:

Residential and Low Income

A. Online audit vendor, energy audit services firm, local energy auditors

B. Environmentally responsible appliance recycler

C. Local contractors with appropriate training and certification

D. Statewide national vendor(s) coordinated w/other Pennsylvania utilities

E. BPI certified contractors

Commercial, Industrial and Government

A. Qualified contractors who agree to participation terms, trade allies who have attended training

B. Qualified vendors from list of eligible FEMP contractors that are also registered in Pennsylvania as a

C. Qualified energy service company contractors that agree to participation terms and meet specific rules

D. Regional motor distributors who would be incentivized to move the products

4.1.2. Describe how the risk categories of performance, technology, market and evaluation can affect the programs and any risk management strategies that will be employed to mitigate those risks.

There are various risks associated with the implementation of this Plan, the more significant of which are described below:

1. Performance Risk is the risk that, due to design or implementation assumptions, the program does not deliver expected savings within approved budgets.

   While modeling assumptions yielded results that support program success within budget, the Company notes the following conditions under which these programs will be implemented during the Reporting Period. Below is a list of some of the more material risks the Company will face:

   - The TRM is updated annually and there is uncertainty around the deemed savings estimates over the life of the plan which poses a risk to the Company's compliance achievements as well as putting the cost effectiveness outcomes at risk.
   - The timing of the regulatory review process and related uncertainty while the Plan is under consideration could delay the Company's ability to enter into contracts with implementation vendors and begin large scale execution of program support and implementation activities prior to approval of this Plan.
   - The economic impact of the continued slow recovery of Pennsylvania's economic base causes concern that business and government accounts may not support the pace of investment estimated, and slow the pace of mass market penetration;
   - Newly introduced programs and measures included in this Plan will not have a historical basis for participation rates or experience. As a result, installation rates may be lower than modeled, particularly in the early years;
   - Targeted participation rates and energy/demand savings may not be achieved due to a variety of factors such as changing technology, market trends or incentives that are not high enough to encourage desired energy efficiency investment. The ability to make mid-stream adjustments on a timely basis to program measures or incentive levels is of paramount importance for the Company to meet its targets and allows the Company to proactively address rapidly evolving technology and market trends.
   - Electricity costs may prove to be lower during Phase II than the costs experienced during Phase I, thus providing less incentive for customers to pursue energy saving measures.
   - The impact of factors not taken into account in the SWE's Market Potential Study on which the Company's acquisition costs per MWh were based may create an artificially low acquisition cost when compared to actual, thus making it more difficult for the Company to achieve targets when factoring the 2% spending cap.

   The Company has taken steps to identify and manage risks as well as to prepare for contingencies that may be necessary during the Plan's implementation period. Those steps are as follows:

   - The Company will continue seeking input from stakeholders as circumstances dictate.
   - The Company will continue to consult with its Conservation Service Providers to modify program implementation strategies and suggest program designs changes as indicated by participation and savings results.

- The Company intends to perform EM&V of its programs in order to ensure that all programs are reasonable in terms of dollars spent, participation rates achieved and kWh savings realized.
- The Company has developed its incentive strategy in a way that allows timely response to market trends. By employing incentive ranges as opposed to fixed points, the Company has the ability to quickly adjust incentive levels within the approved range to maximize program participation with appropriate incentive levels.
- The Company will continue to address issues and remain committed to resolve: (i) important programmatic change requirements; (ii) potential additions that are found to be necessary and/or desirable as the Company, and the stakeholders collects and assesses key program performance metrics over the course of each program's deployment and operation; and (iii) unforeseen events that may arise over the next several years.
- The Company will continue to participate in proceedings involving the TRM and TRC, and adjustments thereto, as well as other proceedings, rulemakings and policy decisions which involve the deemed estimated savings achieved by each measure included in this Plan

Given the significant investment required to meet the energy savings goals, the Company believes that it is both prudent and necessary to have a robust evaluation process in place from the date of each program's inception, as well as the financial capability to make those changes that are either indicated by the program process evaluations and/or general economic conditions as they change over time. The Company believes that its Plan contains the right mixture of incentives and measure offerings to meet the prescribed targets under conditions as known today. Further, the Company's risk management strategies, as designed, should provide the flexibility necessary to maximize the potential for success

2. Technology Risk is the risk that program technologies fail to deliver the savings expected.

This Plan incorporates virtually all of the programs included in the Existing Plan. Therefore this risk is minimized because of the known historic results for the vast majority of the technologies and the market potential for future savings through these programs. However, this risk is heightened for those new or existing measures that have been modified since being implemented under the Existing Plan. The Company has attempted to manage this risk by relying on its expert consultants, its experience with similar measures used by its sister utilities in other jurisdictions and industry research. Further, this Plan incorporates a comprehensive suite of programs that will have an immediate impact on energy use and, in the long run, should help transform the market into one where customers seek energy efficient options on a regular basis. As with the Performance Risk, the Company will also continue to participate in proceedings involving the TRM and adjustments thereto, as well as other proceedings, rulemakings and policy decisions which involve the deemed estimated savings achieved by each measure included in this Plan..

3. Market Risk is the risk that customers, or other key market players, such as contractors, are not aware of available programs, choose to not participate in a program or cannot afford investments in energy efficiency supporting achievement of targets.

   Market risk will be assessed through program tracking and periodic surveys to gauge awareness of the programs and, for those not participating, barriers to participation. Market risk will also be assessed through periodic process evaluations. This will enable the Company to identify issues related to market risk and implement mid-course corrections to enable the programs to stay on track. The Company will continue to carefully evaluate various approaches to building and enhancing awareness through communications in order to minimize market risk. It plans to further raise customers' awareness of the benefits of energy efficiency and conservation, as well as the existence of its programs offered through this Plan through a wide-reaching educational campaign, and community level outreach. In addition, the Company intends to utilize the relationships it has with interested parties through the stakeholder process, as well as contacts within various target markets, providing the latter with educational tools as well. Further, each program implementation vendor will also support and supplement such efforts with program specific marketing activities.

4. Evaluation Risk is the risk that independent EM&V will, based on different measurement methodologies and assumptions, support different levels of savings than those estimated in this Plan. The Company minimizes this risk through its ongoing work with its EM&V consultant, an expert in program design and evaluation, insights gained through Company experiences in other jurisdictions, and by utilizing the TRM and other industry guidelines to estimate program savings. The Company and its EM&V consultant will also work with the Commission's SWE, in an effort to perform EM&V activities consistent with Commission in a sufficiently robust manner so as to reliably capture all applicable program-related savings.

5. Regulatory Risk is the risk that the rules governing compliance, recognition of savings estimates through guidance of the Technical Reference Manual, reporting and management of program budgets constrain the Company's ability to manage programs to meet the targets. The Company minimizes this risk through active participation in regulatory proceedings, ongoing work with Commission Staff, the SWE, its EM&V consultant and by following regulatory guidance. The Company will work with the Commission to perform EE&C Plans consistent with Commission direction so as to reliably capture all applicable program-related savings

4.1.3. Describe how EDC plans to address human resource and contractor resource constraints to ensure that adequate personnel and contractors are available to implement the EE&C plan successfully.

The Company intends to use both in-house personnel and contractors to successfully implement this Plan. The Company will also leverage the FirstEnergy PA Companies' centralized organization staffed with qualified and experienced personnel. Additionally, this

organization has access to personnel from various departments including legal, finance, engineering, customer service and regulatory affairs on an as needed basis.

To confirm the availability of contractors to help with the implementation of the EE&C plan, the Company has surveyed several companies qualified to implement this Plan. The results of the survey were used in program design and to ensure that there will be a sufficient number of adequately qualified contractors to implement the measures being selected or developed to reach the kWh and kW savings goals. These surveys also provided information on the cost of some EE&C measures, their implementation timeframe and likelihood of success in reducing energy consumption and demand.

4.1.4. Describe "early warning systems" that will be utilized to indicate progress towards the goals and whether they are likely to be met. Describe EDC's approach and process for shifting goals and funds, as needed, between programs and adding new measures/programs.

The Company leverages tracking and reporting processes to monitor progress of each program toward its goals and for the portfolio toward benchmarks on a monthly basis, identifying performance issues, gaps and opportunities for improvement. Review meetings are performed at least monthly. Evaluation activities will also inform how well the programs are moving toward the achievement of goals, and will form the basis upon which any recommendations for adjustments to programs are made. The vast majority of this evaluation work will be done by the EM&V consultant hired by the PA Companies. Also internal meetings are held with FirstEnergy's Energy Efficiency management on a monthly basis or as needed to keep them appraised of potential problems and issues so as to develop a timely response thereto.

The Company has developed a contingency plan in the unlikely event that any of the following four issues arise:

What if the savings don't materialize? If it is found that one or more programs are not meeting expectations, the Company will take one or more of the following actions:

1. Shift the focus of underperforming programs to measures or programs that have a higher adoption rate. The Company's Phase II Plan utilizes over 130 measures that are rolled up into programs. This large number of measures incorporated into the programs allows flexibility to shift emphasis to incorporate successful measures as are required to achieve program energy savings goals.

2. Expand program measures to include emerging technology that shows the potential to produce costs effective savings and may not have been well known, tested, accepted by the market, or produced in sufficient quantities at the time this Plan was designed. The Company will continue to monitor technologies reviewed but not incorporated into this Plan.

3. Alter the program delivery processes utilized in order to enhance market penetration. Options here may include having vendors add field staff to handle more inquiries or shorten response times, eliminating or adjusting project requirements if bottlenecks appear to be stalling progress, or other adjustments as dictated by process evaluations. Any changes made will take care not to compromise data tracking for evaluation purposes.
4. Investigate issues that customers have with problem programs and modify delivery based upon the results of these surveys.
5. Shift program delivery to more aggressively promoted and perhaps rebated versions.
6. In extreme cases, abandon non-performing programs or measures and replace them with other programs or measures that show the potential for greater success.
7. Shift resources to higher performing programs. The Plan assumes customer participation based on current experience of the PA Companies and their consultants. These are based, among other things, on customer participation in existing programs. To the extent actual customer participation significantly differs from these assumptions, the Plan's resources may need to be rebalanced among programs or Sectors to ensure the overall objectives of the Plan are met.
8. Add delivery channels.
9. Shift resources among sectors as needed to address demand.
10. Alter rebate levels on a temporary or long term basis to affect market response.
11. Petition the Commission to revise the Company's energy reduction goal set in the Implementation Order.

What mid-course corrections could be implemented? In addition to the steps discussed above, the Company believes that certain programs are able to be ramped up through enhanced marketing efforts to outperform projected kWh impacts to offset under performing programs. This may require a re-balancing of program goals and budgets. Notwithstanding, the program tracking system will provide guidance for making such mid-course decisions and adjustments with enough time for such corrections to take effect. The PA Companies have infrastructure in place for analysis of such information and the development and resolution of recommendations arising from such analysis.

How will the appropriate mid-course corrections be identified? The Company anticipates using process evaluations to determine progress and to identify any necessary corrective actions. Process evaluations will be performed using a combination of participant satisfaction and key customer perception surveys -- all performed using statistically significant samples along with a kWh impact/cost analysis in which each program's performance are compared with Plan expectations. On a monthly basis, the Company conducts an internal evaluation that reviews the progress of each program from both an energy savings and budget perspective.

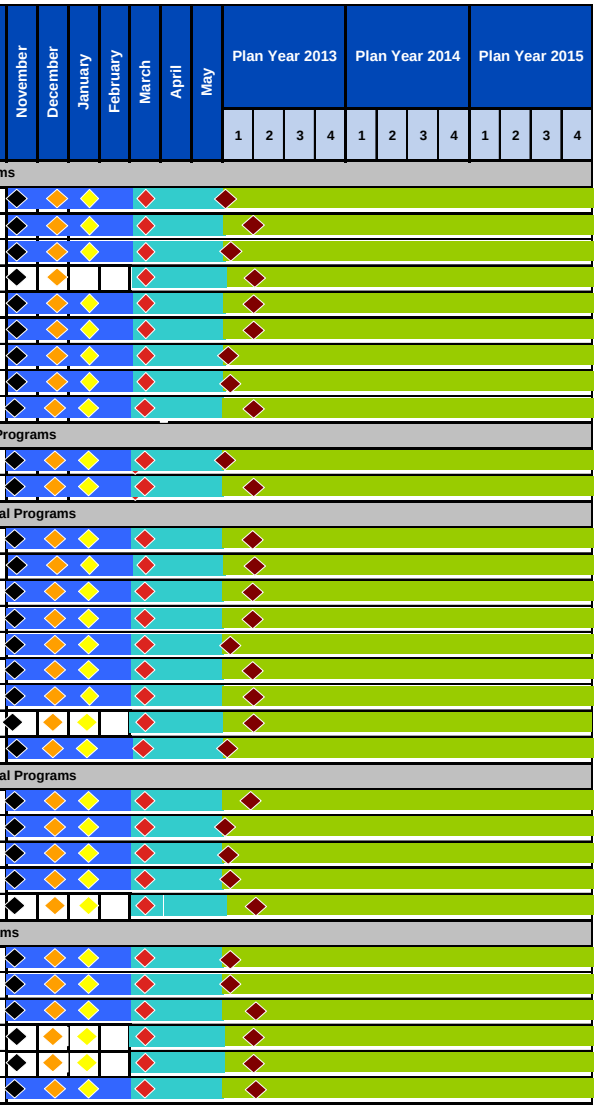
4.1.5. Provide implementation schedules with milestones.

Section 1.4 describes the Company's current roll out plan for the various programs proposed in this Plan.

The Gantt chart below details this Plan's anticipated implementation schedule, based on Commission approval by March 14, 2013. The Company notes that it will continue to receive and process rebate applications for participation in the Company's existing programs through November 2013 based on projects installed prior to June 1, 2013. The Company will track and report this participation with its existing programs in accordance with the Commission's Implementation Order.

Figure 4: Sub-Program Implementation Schedule

Program Name	Sub-Program Name
Residential Programs	
Appliance Turn-In Program	Appliance Turn-In
Energy Efficient Products Program	HVAC & Water Heating
	Appliances
	Consumer Electronics
	Lighting
Home Performance Program	Audits
	Kits
	New Homes
	Behavioral
Residential Low-Income Programs	
Low Income Program	Human Services
	Home Performance
Small Commercial & Industrial Programs	
C&I Energy Efficient Equipment Program - Small	HVAC & Water Heating
	Appliances
	Food Service
	Lighting
	Custom Equipment
C&I Energy Efficient Buildings Program - Small	New Buildings
	C&I Audits
	Custom Buildings
	Kits
Large Commercial & Industrial Programs	
C&I Energy Efficient Equipment Program - Large	HVAC
	Lighting
	Custom Equipment
C&I Energy Efficient Buildings Program - Large	Audits
	Custom Buildings
Government Programs	
Governmental & Institutional Program	Outdoor Lighting
	Lighting
	Audits
	HVAC & Water Heating
	Appliances
	Multi Family



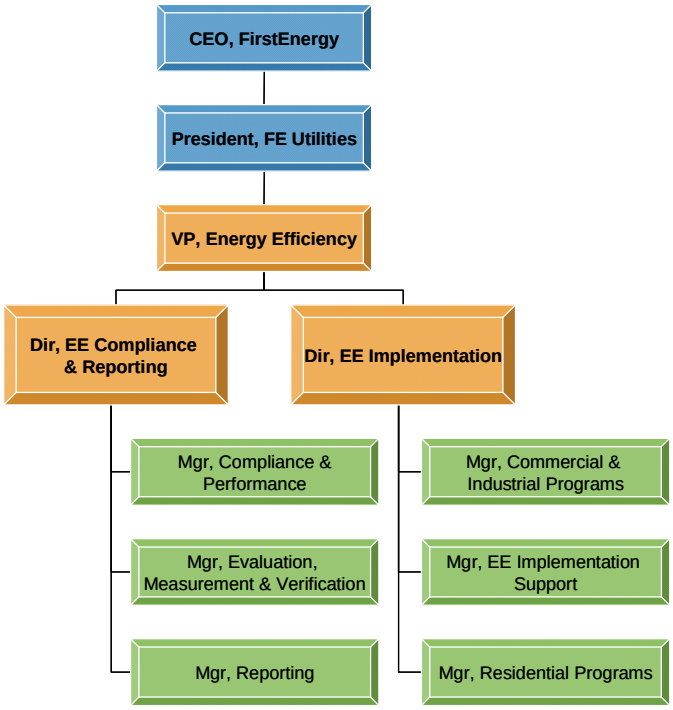
Key	
Continuation of Existing Sub-Program	
Continuation of Existing & Set-Up Activities of New Sub-Programs	
New Sub-Programs Implementation per PUC Approval	
File Plan	◆
Issue RFPs	◆
Preliminary Award RFPs	◆
Anticipated New Program Measures & Budgets Approval	◆
All Sub-Program Changes Implemented & Launched	◆

4.2. Executive Management Structure:

4.2.1. Describe EDC structure for addressing portfolio strategy, planning, review of program metrics, internal and external communications, budgeting and financial management, program implementation, procurement, program tracking and reporting, and Quality Assurance/Quality Control (QA/QC). Include EDC organization chart for management team responsible for implementing EE&C plan.

The Energy Efficiency Group is entrusted with ensuring that the Company complies with all statutory EE&C requirements and that the approved programs are successfully implemented. The group reports to the Vice President, Energy Efficiency, who in turn, reports to the President, FE Utilities, and has a working relationship with the Company's Regional Presidents. This group also has responsibility for similar activities for FirstEnergy's other Pennsylvania utilities, as well as its Maryland, New Jersey, Ohio, and West Virginia utility subsidiaries. The organization chart set forth below depicts the Program Portfolio Plan management team and their primary areas of responsibility as they currently exist.

Figure 5: Organization Chart



FirstEnergy believes that it is particularly important for senior management to be visible in its oversight role and actively support the changes and adjustments needed in organizational structure, interdepartmental cooperation, staffing, and corporate-wide support for the EE&C

initiatives. As a result, FirstEnergy has also created a steering committee that is comprised of senior management members from across the organization, including the President – FE Utilities, and Vice-Presidents representing Energy Efficiency, Customer Service, Legal, Rates and Regulatory Affairs, IT, Corporate Communications, Energy Policy and Supply Chain. The steering committee's primary purpose is to:

- Define strategies and provide governance over initiatives relating to EE&PDR and smart grid; and
- Assure initiatives support corporate objectives integrating customer solutions with operational efficiencies.

The Energy Efficiency Program Implementation group is organized based on program management responsibilities across customer classes. Key activities include planning and executing marketing campaigns and acquiring and managing implementation vendors to ensure quality control and assurance over program implementation. The Energy Efficiency Program Development, Compliance and Performance group is organized based on support functions that are common to all programs such as plan development, program evaluation, measurement and verification, and compliance tracking and reporting. The group also receives dedicated support from areas such as Rates and Regulatory Affairs, Legal, Customer Service, Customer Support, Information Technology ("IT") and Communications.

4.2.2. Describe approach to overseeing the performance of sub-contractors and implementers of programs and how they can be managed to achieve results, within budget, and ensure customer satisfaction.

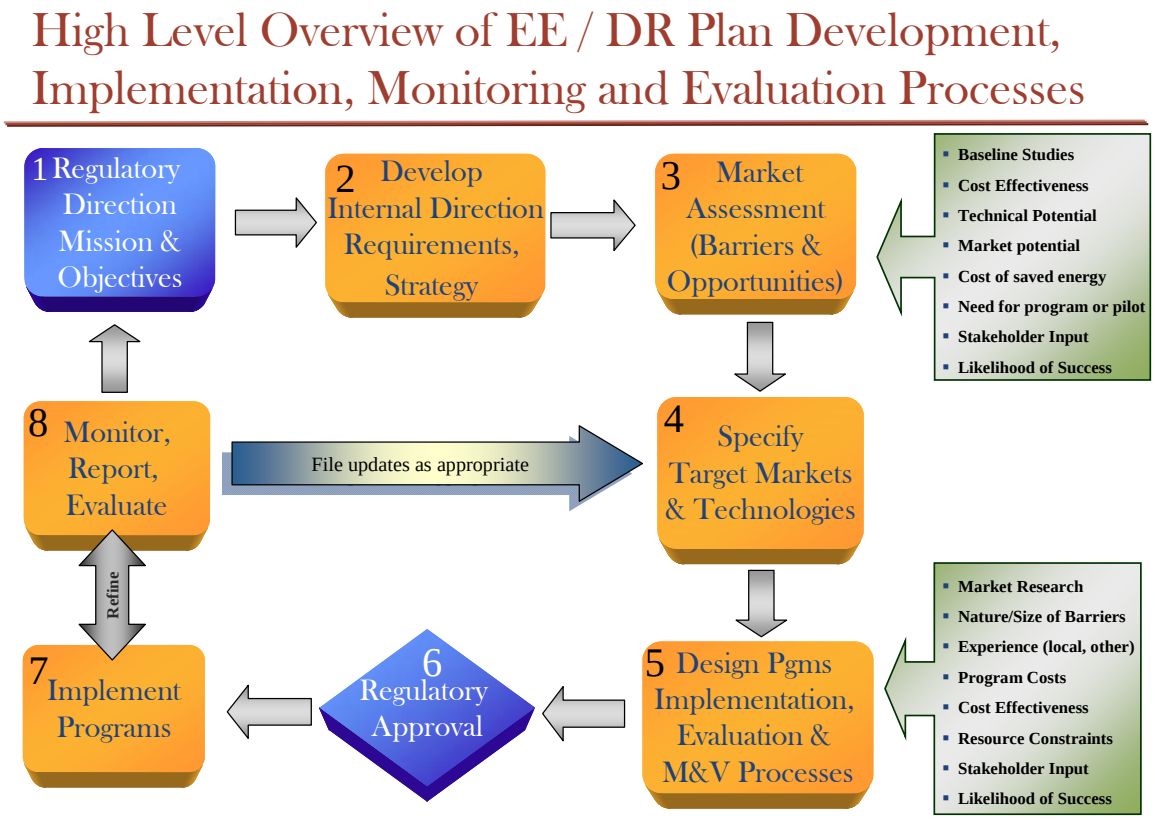
The Company will provide administrative, contract management, program design and marketing oversight of the selected CSPs primarily through the Energy Efficient Department staff who will be dedicated for this purpose. Not only will such monitoring be accomplished through the use of the tracking and reporting system described in Section 5, but this dedicated staff will also provide:

- Guidance and direction to the implementation contractors, including review and revision of proposed annual implementation plans and proposed milestones, and, additionally, engage with the contractor team on a daily basis when working through strategy and policy issues.
- Review and approval of implementation contractor invoices and ensure program activities are within investment and on schedule.
- Review of implementation contractor operational databases for accuracy, ensuring incorporation of data into the companies' comprehensive portfolio tracking database to be used for overall tracking and regulatory reporting.
- Review of measure saving estimates maintained by the implementation contractor.
- Oversight and coordination of evaluation, measurement, and verification contractors.
- Public education and outreach to community groups, trade allies and trade associations.
- Provide guidance and direction on new initiatives or strategies proposed by the implementation contractors.

- Communicate to implementation contractors other initiatives that may provide opportunities for cross-program promotion.
- Review and approve printed materials and advertising plans.
- Evaluate portfolio and program effectiveness and recommend modifications to programs and approach as needed.
- Perform periodic review of program metrics, conduct investment analysis, and review evolving program design.

In addition to the comprehensive oversight activities described above, the Company will follow the overall planning, implementation, monitoring and evaluation framework identified below to help guide our programs and contractors.

Figure 6: High Level Overview of EM&V



The Company believes that this framework will help its efforts to achieve the targets established by Act 129 in an efficient and cost-effective manner. Of significance, is the need to remain agile and flexible to make adjustments to program details, improve staff knowledge and effectiveness, and change course when conditions and opportunities warrant.

4.2.3. Describe basis for administrative budget.

Program cost elements are categorized into operations costs and incentives.

Operations costs includes all program operating expenses, including Labor, Marketing, M&V, Program Administration, Tracking and Reporting and Other Costs. The Operations cost elements are defined as follows:

- Labor - Includes costs incurred by the utility for employee labor to oversee and manage the portfolio and perform duties associated with activities such as regulatory reporting or meetings to support the Plan (Ex. Stakeholder meetings, technical working groups).

- Marketing – Includes costs associated with developing and providing program specific marketing/promotional strategies and materials.

- M&V – Includes costs for evaluation, measurement and verification activities performed by the company or M&V contractor. Each program includes a dollar amount associated with M&V to capture cost efficiencies across programs. These funds are spent on evaluation, surveys, M&V processes, TRM updates, SWE data transfer responsibilities and participation in evaluation meetings.

- Program Administration – Includes program direct costs, including CSP administration and utility administration, for the management of new and existing programs, including staffing, employee labor to oversee vendors, websites(s), data collection and transfers, call centers, processing and approving incentives, packing and shipping measures as applicable, verifying invoices, incentive processing, quality assurances and control processes, and other activities supporting successful program implementation.

- Tracking and Reporting – Includes costs to develop and maintain a data collection, tracking and reporting system, develop and generate standard reports, and provide the functionality for program management ad hoc reporting. These funds are spent on external resources, and by the utility to cover data transfer responsibilities, finalizing formal filed reports, and meeting attendance supporting these activities.

- Other Costs – Includes costs associated with legal fees, plan development expenses including modeling software fees, and employee expenses related to development and implementation of the Plan.

Incentives include rebates paid to customers as well as costs associated with providing services or measures directly to customers or upstream payments to trade allies (retail stores, contractors, etc.) where applicable.

See Appendix D-1 for cost assumptions associated with the cost elements of this Plan.

4.3. Conservation Service Providers (CSPs):

4.3.1. List any selected CSPs, describe their qualifications and basis for selection (include contracts in Appendix).

See Appendix B for a listing of the Company's current CSPs.

4.3.2. Describe the work and measures being performed by CSPs

The Company will contract with one or more CSPs to implement the portfolio of programs. The CSP(s) will be responsible for the start-up and ongoing management of new programs including staffing, development of website(s), promotional strategies, and processes ensuring quality and other controls supporting successful program implementation. The start-up phase was described in Section 1.4 of this Plan. The CSPs will also be responsible for program set up. .

During program set-up and for the duration of the program, the CSP(s) will meet with the Company, its consultant(s), tracking system contractors and the SWE as necessary and appropriate.

The CSP(s) will support consumer education initiatives and be the interface with the customer on many of the programs being offered.

The Company will host or contract for website services, linked through the Company's public internet domain, www.firstenergycorp.com. Although FirstEnergy personnel will manage the overall content on the website, the CSP(s) will be responsible for generally managing their section of the site and updating it as necessary. Customers will be able to obtain information, contact the CSP, download program literature and application forms, or complete on-line forms and applications through the website.

In addition to the development of the Start Up plan, which is described in Section 1.4, and the implementation of the same, CSPs will also be responsible for the following activities:

- Managing advertising and marketing activities that promote its programs including:
  - Telemarketing, sales training, participation in and sponsorship of program/industry seminars and trade shows;
  - Sponsoring special promotional "events" to encourage sales of high efficiency products, and/or retirement of less efficient equipment through "buy down" first cost and/or promotion of eligible equipment to customers;
  - Developing bill inserts, local newspaper ads, radio spots, direct mail, and point-of-sale displays at retailers, the Company's website and the Company's on-line store. Retailers and manufacturers will also be involved in cross-promoting product offers in conjunction with national campaigns like Earth Day and ENERGY STAR® Change a Light, Change the World programs;
  - Developing and launching promotional strategies, including use of the energysavepa.com to facilitate such strategies;

- Developing rebate application forms, and detailed processes for managing rebate/incentive applications, rebate/incentive payment processes, reporting procedures, data collection and data recording processes, internal billing and related documentation to be sent to the Company for processing;
- Performing energy savings calculations, collecting data and maintaining auditable records required to support program reporting, measurement and verification consistent with the TRM;
- Performing quality assurance and verification inspections;
- Conducting outreach, training, certification management, and coordination with trade allies;
- Performing outreach, communications, training and development of participation agreements with retailers and manufacturers for the Energy Efficient Products program, as appropriate;
- If applicable, performing energy audits; and,
- Managing fulfillment of all requests for services or energy efficient products offered through the programs..

4.3.3. Describe any pending RFPs to be issued for additional CSPs.

It is anticipated that CSPs will be contracted to support the following:

1. Residential sector program manager(s);
2. Commercial and Industrial sector program manager(s), including governmental sector;
3. Tracking/Reporting system; and,
4. EM&V

The PA Companies currently have in effect contracts for Tracking/Reporting, as well as for EM&V and expect to extend these contracts for services rendered during Phase II. The PA Companies expect to issue RFPs for all sector program management activities.

5. Reporting and Tracking Systems

5.1. Indicate that the EDC will provide quarterly and annual reports as prescribed in the August 2, 2012 Implementation Order:

As more fully discussed in Section 5.2, the Company has put in place Applied Energy Group, Inc.'s ("AEG") tracking and reporting system to provide the necessary reports across all FirstEnergy operating companies and the FirstEnergy system. The AEG system will have the ability to monitor the progress of the various programs being offered and generate reports required by the Commission.

Standard reports are provided as necessary and required. The format and content are consistent with that defined by the Commission. The Company currently anticipates that such reports will include at a minimum:

- The number of customer applications;
- Annualized rebates by program, utility, and operating company;
- Installed measures summary;
- Annualized impacts summary by measure type and by program;
- Program participation overview;
- Impacts versus goals; and
- Rebates versus budget.

Not only does the system have the ability to generate standard reports, but it can also produce customized reports using the report writing tool. More complex queries are performed by Reporting Business Analysts. Dashboards and other reporting formats are used to monitor program performance on an on-going basis.

As part of this Plan, a model has been created to project the amount of energy savings and demand reduction to be derived from the implementation of each measure. The model is used to compare actual to projected energy savings and demand reduction goals.

5.2. Project Management Tracking Systems:

5.2.1. Provide brief overview of the data tracking system for managing and reporting measure, project, program and portfolio activities, status and performance as well as EDC and CSP performance and expenditures.

The Company is using AEG's comprehensive system to report and track activities and results associated with EE&C programs throughout the FirstEnergy footprint. The reporting and tracking system has the ability to track a customer through program-specific statuses. The system will provide standard status reports for individual participants and overall programs. The system is configured to provide any required reports for varying jurisdictions and service

territories. Additional enhancements will be made to the system as deemed necessary as requirements change. In addition, the Company uses SAP enterprise software for financial management.

5.2.2. Describe the software format, data exchange format, and database structure you will use for tracking participant and savings data. Provide examples of data fields captured.

The reporting and tracking system is web-based, allowing for access from any internet connection. The system interfaces directly with implementation contractor databases wherever necessary to gather data to upload key metrics on a routine basis, (e.g., daily, weekly or monthly) and ensures data integrity through a routine reconciliation processes. The Company regularly works with the third party program managers and the Company's EM&V consultant to verify the accuracy of data transferred from implementation contractor databases to the tracking and reporting system. Not only will this reduce paperwork and minimize data entry, but it will support quality control and allow for easy access to track goal attainment and budget variances. The Company currently stores various data fields, including:

- Customer name;
- Customer contact info (address, e-mail, phone);
- Customer type;
- Customer ID number;
- Account number;
- Premise number;
- Project/Program name;
- Contractor/Retailer;
- Measure;
- Service address;
- Job status;
- Completion date;
- Install Date;
- Heating system type;
- Square footage;
- kWh savings;

- KW savings;
- MWh savings;
- MW savings;
- Rate Code;
- Incentive;
- Transaction results;
- Measures implemented;

5.2.3. Describe access and mechanism for access for Commission and statewide EE&C Plan Evaluator.

The reporting and tracking system is web based, thus requiring an internet connection for access. The system is designed to allow for varying levels of security-controlled access by Company staff, program contractors, trade allies, customers, and system administrators. Access for others, such as Commission staff and the SWE, is provided as required.

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6. Quality Assurance and Evaluation, Measurement and Verification

6.1 Quality Assurance/Quality Control:

An overview of quality assurance was discussed in Section 1.7 of this Plan..

6.1.1 Describe overall approach to quality assurance and quality control.

The following are examples of specific steps that the Company took toward quality assurance and quality control during the design phase of this Plan:

- Administered customer surveys, using the results to design or select EE&C measures;
- Validated EE&C program assumptions with stakeholders;
- Use of adequately qualified and experienced personnel, including contactors, to assist with the design and implementation of EE&C programs;
- Selected EE&C measures compliant with the requirements of the 2012 TRM;
- Use of proven approaches to reach both the energy savings and demand reduction targets set for the Company;
- Communicated frequently and effectively with interested parties and other stakeholders on EE&C program design and objectives; and
- Verified that established EE&C program design procedures and approaches are being followed.

During the implementation phase of this Plan, the Company intends to acquire selected program managers (or CSPs) to present processes that accurately document and verify data used to support energy savings and peak load reductions – all of which will be subject to audit and review by both the Company's EM&V contractor and the Commission's SWE. The Company will perform, directly or through contract auditors, its own quality assurance processes, including audits of CSP systems, in order to ensure the accuracy and reliability of the reported data and savings. Such audits will have the following key characteristics:

- Both deemed and custom measures will be included in the audit universe;
- The statistically valid sample size may cover a subset or the entire population for a particular measure;
- The frequency and sample size of these audits will vary based on the significance of any findings; and
- The control points will target specific risks associated with the design or implementation of EE&C measures.

6.1.2 Describe procedures for measure and project installation verification, quality assurance and control, and savings documentation.

EM&V efforts evolve over time and change as programs move from initial roll-out to full-scale implementation. The Company will continue to engage an EM&V Consultant who will develop and implement EM&V processes and procedures. While EM&V plans are written on a program-by-program basis, the Company intends to utilize synergies among programs and between PA Companies to reduce redundant work. EM&V plans may be refined over

time to include best practices and lessons learned – issues periodically reviewed by the Company and its contractor. The EM&V Consultant will utilize the format required by the SWE for evaluation plans and will include the following topics:

Introduction and Program Background

Includes program description, measures covered, markets targeted, program implementation activities, applicable budgets and expected program participation.

Evaluation Objectives

The overall objective for the impact evaluation is to quantify and validate the extent of *ex post* energy saved and demand reduced as a result of a program. Process evaluation is viewed as providing the explanatory depth to improve program processes, better understand market barriers and opportunities, and support identification of opportunities for improving program implementation, including marketing and promotion, delivery, tracking and verification. Thus, impact evaluation identifies how much of an impact a program has, while process evaluation tells you why.

To the extent energy efficiency programs are committed to deliver energy efficiency resources in PJM markets, EM&V activities will be implemented to meet PJM requirements.

Overall Evaluation Approach

Impact Evaluation

The Companies will perform processes to meet standards specified in the Pennsylvania TRM. Programs include documentation requirements supporting documentation of expected ("ex-ante") impact estimates that reside in tracking and reporting databases. Samples of participant applications are selected for EM&V. After the statistically valid samples of projects are selected, and the program implementation contractor provides documentation pertaining to the projects, the first step in the EM&V effort is to review the documentation. Documentation that is reviewed for all projects selected for the sample may include program forms, databases, reports, billing data, logger data, weather data, and any other potentially useful data. The Companies will support metering studies independently or in coordination with other EDCs as appropriate.

Program-level gross ex post savings are calculated by applying achieved savings realization rates calculated for the analysis sample to program-level data for reported savings. Realization rates describe the relationship between verified savings and program expected savings estimates. . The realization rates are calculated as the ratio of the EM&V Consultant's calculated measure savings to the ex ante reported savings.

Sampling Plan

Residential Programs

Statistically valid sampling of program participants (and in some cases non-participants) will vary among the programs according to participants, measures, and methods of installation. Where appropriate, the sample will be stratified by measure using proportional stratification. The advantage of a proportionally stratified random sample is that greater precision can be achieved than a simple random sample of the same size. Additionally, proportional stratification guards against an underrepresentation of any one particular measure. Sample

stratification is particularly useful when there are clear differences in energy savings between each stratum, and when each stratum is relatively homogenous.

Commercial & Industrial Programs

EM&V sampling will occur concurrently with program implementation. Projects are added to the program tracking system as they are submitted and accumulate over time. As a result, sample selection is spread over the entire program year.

Stratified sampling is performed to account for skewed distributions of savings and to reduce the sample sizes required to satisfy the desired precision requirements. By developing strata such that the projects within each stratum are relatively homogeneous with respect to expected kWh savings, a smaller sample is required from each stratum in order to arrive at desired precision estimates. When performing sampling for a skewed population, stratified sampling methods are preferred because a group of projects with less variance in expected savings requires a relatively smaller sample size in order to reach a given precision and level of confidence.

Projects with high kWh savings contribute significantly to the variance in expected savings and are included in the sample with certainty. The EM&V Consultant will select a site-level ex ante kWh threshold above which all projects at a site will be selected for the sample with certainty. The remaining projects will then be assigned to a kWh stratum according to the level of the expected site-level kWh savings and are chosen at random within each stratum.

6.1.3 Describe process for collecting and addressing participating customer, contractor and trade ally feedback (e.g., suggestions and complaints).

During the design phase of the programs, the Company sought and obtained feedback on proposed EE&C programs from customers, contractors, trade allies and other stakeholders through a variety of methods. Representatives from all customer segments were surveyed or interviewed to obtain their input into EE&C program design. CSPs were surveyed with respect to their capabilities to help the Company achieve the mandated EE&C targets. Stakeholder meetings on different aspects of the EE&C program design were also held. To the extent possible, responses from these stakeholders have been factored in to the various program designs.

Process evaluations will be performed periodically to support program performance. Where applicable the EM&V Consultant may incorporate program manager interviews, participant (and in some cases non-participant) customer surveys, and trade ally surveys. Program manager interviews explore researchable issues and help inform the customer survey design. The interviews identify stated program goals and objectives, assess the effectiveness of the programs' operations relative to the defined program goals and objectives, capture program processes and flows, and explore potential ways to implement the programs more cost-effectively. Surveys are used to gather data on decision-making criteria and on the attitudes and behavior of decision-makers. Participants are questioned regarding their knowledge of the program, their level of interest in the program, and their reasons for participating, while non-participant surveys identify market barriers that could be addressed in program design. The survey of trade allies also allows the EM&V Consultant to gather information on the size

of the market for energy efficiency measures that can be used in the assessment of market potential for the Companies' programs.

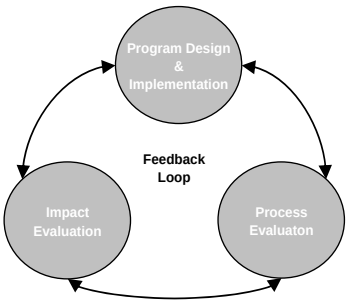
During the implementation phase of this Plan, the Company hopes to gain additional direct input from various sources, including CSPs that bid to perform program management and implementation services, stakeholders and other EDCs for relevant developments, the PUC and the PUC's SWE for insights into the evolution of the process.

6.2 Describe any planned market and process evaluations and how results will be used to improve programs.

For purposes of this Plan, *process evaluation* is viewed as providing the explanatory depth to improve program processes, better understand market barriers and opportunities, and support identification of opportunities for improving program implementation, including marketing and promotion, delivery, tracking and verification. *Impact evaluations* quantify and validate the extent of energy saved and demand reduced as a result of a program. Thus, impact evaluation identifies how much of an impact a program has, while process evaluation tells you why.

There is a feedback loop among program design and implementation, impact evaluation, and process evaluation. Program design and implementation, and evaluation are elements in a cyclical feedback process, as shown in Figure 7 below. Initial program design is informed by prior baseline and market potential studies. Ongoing impact evaluation quantifies whether a program is meeting its goals and may raise questions related to program processes and design. Process evaluation tells the story behind how the impact was achieved, and points the way toward improving program impacts by providing insight into program operations. Thus, the three elements work together to create a better, more effective program.

Figure 7: Program Feedback Loop Process



The Company's EM&V contractor will conduct process evaluations in order to identify issues that may require mid-course correction, gauge progress toward goals and measure customer, trade ally and vendor satisfaction with various program features.

6.3 Describe strategy for coordinating with the statewide EE&C Plan Evaluator (nature and type of data will be provided in a separate Commission Order).

A representative from the Company's evaluation team, as well as the EM&V Consultant will attend scheduled evaluation and/or technical working group meetings with the SWE to support development, and ensure compliance with statewide EM&V directives, share ideas and suggestions regarding the approach being taken by the Company and otherwise assist the Company in shaping and performing a prudent and effective evaluation strategy in coordination with the SWE and other EDCs.

Additionally, the EM&V Consultant will conduct evaluations on each program included in the approved Plan while coordinating efforts with the SWE to minimize duplication of work. Documentation required by the SWE to fulfill its responsibilities will be provided as requested.

The EM&V planning process will also include the SWE to incorporate where appropriate its advice and consent to enhance EM&V efforts. The EM&V Consultant will facilitate ongoing Company communications with the SWE to ensure the highest practicable level of coordination, particularly for any EM&V field activities and other time-sensitive EM&V tasks and processes.

As discussed in Section 9.1.3., the Company will survey customers participating in its residential sector programs in order to inform the savings associated with Low Income customers in these programs. The Company will work with the Statewide Evaluator (SWE) to develop a survey methodology that is acceptable to the SWE that assesses low income customer participation in non-low income programs. Prior to conducting the survey, the Company will discuss the survey methodology agreed-upon by the SWE, and will share the results of the survey during an upcoming stakeholder meeting.

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7. Cost-Recovery Mechanism

7.1 Provide the amount of total annual revenues as of December 31, 2006, and provide a calculation of the total allowable EE&C costs based on 2% of that annual revenue amount.

See Table 5 in Section 1.3 for the calculation of the Company's Total Allowable Plan Costs pursuant to Act 129.

7.2 Description of plan in accordance with 66 Pa. C.S. §§ 1307 and 2806.1 to fund the energy efficiency and conservation measures, to include administrative costs.

See Section 4.2.3 for the budgeting process used to identify the funding for the energy efficiency and conservation measures. See Section 7.4 for a complete description of the cost recovery plan. Included within the cost recovery mechanism is an allocated portion of administrative start-up costs currently incurred by the Company in connection with the development of this Plan. These costs to design, create, and obtain Commission approval for the Company's EE&C Programs include consultant costs, outside legal fees, and other direct and indirect costs associated with the development and implementation of the Company's EE&C Programs in compliance with Commission directives.

7.3 Provide data tables (see Tables 6A, 6B, and 6C).

Tables 6A, 6B, and 6C are provided in Appendix E.

7.4 Provide and describe tariffs and a Section 1307 cost recovery mechanism. Provide all calculations and supporting cost documentation.

Consistent with Act 129, the Company's tariff will contain a Section 1307 cost recovery mechanism for the recovery of all energy efficiency and conservation program costs. ("Phase II EE&C-C Rider"). Under the Company's proposal, the EE&C-C Phase II rates requested in this proceeding would remain in effect for the period June 1, 2013 through May 31, 2014. On an annual basis, to be effective June 1 of each year starting June 1, 2014, the Company will file by March 31st of each year the following:

1. A reconciliation between actual Phase II EE&C-C revenues and actual EE&C-C costs through February of that year, as adjusted for removal of GRT;
2. Any adjustment to the forecasted Phase II EE&C-C revenues anticipated to be billed during March through May of that year, as adjusted for the removal of GRT;
3. Any adjustment to the Phase II EE&C-C program costs through May 31, 2014 based upon actual costs incurred through February and any revised estimates for future months, subject to the amount permitted to be recovered under 66 Pa.C.S. § 2806.1;
4. The subsequent effect of the Phase II EE&C-C cost adjustment, Billing Unit forecast update, and reconciliation to the Phase II EE&C-C rates adjusted for GRT, and

levelized over the period of the upcoming June 1 and continuing through the remaining months of the Phase II EE&C-C rates.

5. The Phase II EE&C budget estimate for the forthcoming annual calculation period (June 1 through May 31) by rate class.
6. Any other changes or adjustments approved by the Commission pertaining to the implementation of the Phase II EE&C Plan.

The costs included for recovery through the Phase II EEC-C Rider will be offset by any net revenues received from PJM for Demand Resources (Energy Efficiency Resources or Demand Response Resources) bid into the Reliability Pricing Model Auctions and accepted by PJM, after deducting costs associated with making such bids, including but not limited to the cost of interest for credit associated with such Demand Resources and any applicable penalties.

Company is submitting to the Commission for approval the following exhibits which are attached to Witness Siedt's Direct Testimony:

1. Exhibit KMS-1-3 - An EE&C-C Rider sets forth the existing Phase I Rider which will be will have a rate equal to zero beginning June 1, 2013. Program costs, including savings measurement, administration, and consulting costs will continue to accrue by rate class. A final reconciliation of all actual costs incurred and revenue collected will be performed, resulting in a refund of any over-collection by class, or recovery of any under-collection by class. The mechanism used to calculate a final reconciliation and extension of the Company's EE&C Phase I Rider will be addressed in a separate proceeding.

2. Exhibit KMS-4-8 – The Phase II EE&C-C Rider for Met-Ed, Penelec, Penn Power, and West Penn (Both Tariff 37 and 39).

3. Exhibit KMS-9 - The calculation of Phase II EE&C-C rates based on the Company's Plan.

This filing includes the Company's tariff compliance filing with final Phase II EE&C-C rates and will again consist of five (5) cost recovery classes. The cost recovery classes utilized to allocated EE costs are Residential, Non-Profit, Small Commercial, Street Lighting, and Industrial rate classes.

The Phase II EE&C-C rates are expressed as a price per kilowatt-hour ("kWh"), except for the industrial customer class that is expressed on a kilowatt ("kW") basis using customer PLC, and will be billed on that basis over the duration of this Plan, and six months thereafter in order to perform a final reconciliation of costs and revenues collected. Exhibit KMS-9 shows rates to be effective June 1, 2013, after considering updated sales forecasts and modifications to the Phase II program costs. The Phase II EE&C-C rates will be calculated and stated separately for the residential, non-profit, commercial, street lighting and industrial

customer classes. The rate schedules that comprise the residential, non-profit, commercial, street-lighting and industrial customer classes are identified on pages 1 and 2 of the rider.

The Phase II EE&C-C rates to be billed to the residential, commercial, non-profit, street lighting and industrial classes will consist of two principal components. The first is the EECC or "current cost" component, while the second is the reconciliation component, or "E" factor. The E-Factor represents the cumulative over or under-collection of EE&C costs by Customer Class that results from the billing of the Phase II EE&C-C rates (an over-collection is denoted by a positive E and an under-collection by a negative E).

The EEC-C component represents the recovery of costs to be incurred during the 12-month period ending May 31, 2014 or "Annual Computational Period" that the EE&C-C rates will be in effect for each customer class. As shown on pages 3 and 4 of the Phase II rider, the EECC component is customer class specific. The costs to be included in development of each customer class' EEC-C rate are identified in the rider. EEC_{Exp1} represents customer class specific costs incurred through the customer class specific EEC Programs as approved by the Commission. These costs will also include an allocated portion of any indirect costs incurred through all of the Company's EE&C Programs. EEC_{Exp2} represents an allocated portion of administrative start-up costs currently incurred by the Company in connection with the development of each Company's EE&C Programs in response to the Commission's orders and guidance at Docket No. M-2012-2289411. The start up costs were incurred to design the programs and create the plan and to assist in the preparation of this filing and include consulting costs, outside legal fees, and other direct and indirect costs associated with the development and initial steps to implement the Plan as approved. EEC_{Exp2} costs will be amortized over the 3-month period starting June 1, 2013 and ending August 31, 2013. EEC_{Exp3} represents an allocated portion of the costs Company incurs to fund the Commission's statewide evaluator contract, which shall be excluded in the final determination of the Act 129 2% spending cap. EEC_{Exp4} is the allocated portion of any costs the Company incurs and projects to incur to fund any future Commission-approved demand response programs, or successor demand response programs.

The Phase II EE&C-C Rider will include a reconciliation process that will calculate annual over or under-collection by rate class. Pursuant to the Commission Order at Docket No. M-2012-2289411, any over or under-collection will be reflected in annual adjustments to Phase II rates.

All Plan costs (net-of-tax) and revenues included in the Company's EE&C revenues will be excluded from distribution base rate treatment and subject to Commission review and audit. To the extent that the Company is reimbursed through the Phase II EE&C-C Rider for Company-owned property, it will be treated as a contribution-in-aid-of-construction resulting in a net-of-tax reduction in amounts capitalized for those assets. As a result, these costs will be excluded from rate base in determining future distribution base rate case revenue requirements

7.5 Describe how the cost recovery mechanism will ensure that measures approved are financed by the same customer class that will receive the direct energy and conservation benefits.

Consistent with the Commission's 2012 Implementation Order and Act 129, the Company's proposed Phase II EEC-C Rider will permit it to bill annual, levelized Phase II EE&C-C rates on a per kWh or kW basis, as applicable to all residential, commercial, non-profit, street lighting, and industrial customers. The rates will be calculated specifically for each customer class to recover the costs of this Plan as approved by the Commission and in compliance with 66 Pa.C.S. § 1307. Coupled with the reconciliation provisions by customer class included in the Company's proposed Phase II EE&C-C Rider, the Phase II EE&C-C rates will provide full, equitable and timely cost recovery of actual EE&C Program costs incurred by each Company for each customer class' available EE&C Programs as approved by the Commission in this proceeding.

7.6 Describe how Phase II costs will be accounted for separate from Phase I costs.

A separate reconciliation mechanism will be used to account for the recovery of all of the Phase I costs accumulated through December 31, 2013. Since the Order requires that Phase II cost recovery mechanism is to be a separate cost recovery mechanism from that used for Phase I, the Companies' propose a separate Phase II EE&C-C Rider in the calculation of the Phase II EE&C-C Rates to recover Phase II EE&C-C Costs for the period beginning June 1, 2013. A reconciliation statement will be completed to reconcile the total actual recoverable EE&C plan expenditures incurred through May 31, 2013, with its actual Existing Plan revenues received through May 31, 2013, and will be recovered under the existing EE&C-C Rider.

8. Cost Effectiveness

8.1. Explain and demonstrate how the proposed plan will be cost effective as defined by the Total Resource Cost Test (TRC) specified by the Commission.

The savings generated and evaluated through this Plan is based upon the requirements and guidance of the Pennsylvania Technical Reference Manual ("TRM"), the 2012 PA Total Resource Cost ("TRC") Test Order (August 30, 2012) and other sources, which have been used in developing the key inputs to the analysis of the EE&C technologies or measures proposed in this Plan, including but not limited to the following:

- The California PUC's Database for Energy Efficient Resources (DEER)
- Northeast Energy Efficiency Partnerships, Mid-Atlantic Technical Reference Manual
- Energy Star
- ACEEE
- ASHRAE

The TRC takes into account the combined effects of this Plan on both participating and non-participating customers. The sum of costs incurred by both the Company and any participating customers was used to calculate the costs. The benefits calculated in the TRC test include the avoided supply costs, including generation, transmission and distribution capacity costs, and the avoided energy supply costs calculated using the Commission requested third stage approach.

On the benefits side the approach requires during the first five-year period that the avoided energy costs be calculated using the wholesale electric generation prices as reflected in the NYMEX PJM futures price, to reflect both on- and off-peak prices on a 50% on- and 50% off-peak basis. The Company uses futures price projections through August 1, 2016 and chose a forward market data point of COB (close of business) September 1, 2012. As PJM forward contracts are not available for the entire five-year period, the Company used the spark price spread methodology described below for the second five-year period for the remaining period of the first five-year segment.

The Commission approach called for in the second five-year period has the avoided energy costs calculated using the NYMEX natural gas futures price. The natural gas futures price was then converted into an estimated wholesale energy price through the use of a standard spark spread calculation. Specifically, heat rates for the spark spread calculation are based on the heat rate of a conventional combustion turbine for on-peak periods and a conventional gas/oil combined cycle turbine for off-peak periods as depicted on Table 5.4 from EIA Annual Outlook. Similar to the first 5 year period, this calculation used the natural gas forward market observation date of September 1, 2012.

The Commission approach in the third five-year period requires that the avoided energy costs use the spark price spread methodology based NYMEX natural gas futures price as described above or to the extent NYMEX natural gas futures are not available, EIA Annual Energy

Outlook natural gas cost projections. CME NYMEX natural gas futures were used through year 11 and the prices after this timeframe were based on Middle Atlantic Region Natural Gas price from the US Department of Energy's ("DOE") Energy Information Administration's ("EIA") Annual Energy Outlook ("AEO") published in June 2012. The same spark-spread heat rates used in the second five-year period were used in the third five-year period to calculate the forward electric price.

For the avoided ancillary services cost, yield curves were created based on monthly weighted average actual costs experienced by the Company for ancillary services for the period January 2011 through September 2012.

For the avoided generation supply capacity cost, the Company used the current PJM RPM results for the ATSI American Transmission Systems, Inc. ("ATSI") zone. The avoided transmission and distribution capacity costs are based on unit rate forecasts for transmission and distribution based on the Company's current approved retail rates. The tariff schedules were rolled up into the rate classes in order to align with the customer sectors in accordance with the Commission's Act 129 Implementation Orders. The avoided capacity rates were escalated as defined by the Commission in the Pennsylvania TRC Order. The escalator is the 5-year rolling average of the Bureau of Labor Statistics' Electric Power Generation Transmission Distribution ("GTD") sector price index. The average annual compound rate of growth in this index is 2.00 % for the period 2013-2031. The benefits were then calculated using the projected measure kWh and kW net verified savings multiplied by the assumed number of measure units and the avoided capacity and energy costs. Avoided operation and maintenance costs were included where quantified. The value of the benefits per year was then discounted by taking a Net Present Value ("NPV") over the measure life-time using the Company's post-tax weighted average cost of capital ("WACC").

On the costs side the TRC test includes the costs of the various programs incurred by the Company and the participating customers, including, equipment, installation, operation, and maintenance costs, cost of removal (less salvage value) for turn-in programs, and administrative costs. The costs are "as spent" due to the fact that each year's program is evaluated separately by measure and the projected number of measure units. Program costs are budgeted by year, but operation and maintenance costs are based on measure life and are discounted using NPV back to the program year installed.

As a result, the Company's Phase II Plan is cost-effective based on the TRC test as described above. The results of the TRC test are presented in Tables 1 & 7 located in Appendix E of this Plan, and are expressed as both a net present value and a benefit-cost ratio.

8.2. Provide data tables (see Tables 7A thru 7E).

Tables 7A thru 7E are provided in Appendix E.

9. Plan Compliance Information and Other Key Issues

9.1. Plan Compliance Issues.[14]

9.1.1. Describe how the plan provides a variety of energy efficiency and conservation measures and will provide the measures equitably to all classes of customers in accordance with the August 2, 2012 Implementation Order.

The Plan addresses all customer sectors with a variety of programs that offer a range of services from passive education (on-line audits) through direct installation of measures (Home Performance Audits, Low-Income Comprehensive weatherization services) and helps overcome first cost barriers through incentives to customers and trade allies. Table 2 in Section 1 presents a summary description of the programs by sector and detailed descriptions are provided in Section 3. Appendix D provides a listing of measures to all classes of customers.

9.1.2. Provide a statement delineating the manner in which the EE&C plan will achieve the requirements of the program under 66 Pa. C.S. §§ 2806.1(c).

The Phase II Plan has been developed to incorporate a comprehensive set of programs that, based on known conditions, will enable the Company to achieve the goals established under Act 129 for energy reductions, all achieved within the spending caps. See Table 2 in Appendix E for the projected energy reductions by each year and in total for the Phase II Plan.

9.1.3. Provide a statement delineating the manner in which the EE&C plan will achieve the Low-Income requirements prescribed in the August 2, 2012 Implementation Order.

There are two low-income targets under the Implementation Order. The first is to obtain a minimum of four-and-a-half percent (4.5%) of its consumption reduction requirements from the low-income sector. The Phase II Plan is designed to achieve that requirement through the combination of direct low-income customer participation in the Low-Income program, dedicated program components directly targeted to low-income customers and the proportion of low-income customer participation in the residential sector programs as assessed through tracking and surveys.

The second requirement is that each EE&C Plan include specific energy efficiency measures for households at or below 150% of the federal poverty income guidelines ("FPIG"), in proportion to that sector's share of the total energy usage in the EDC's service territory.[15]

[14] These sub-sections may reference other chapters of the plan as they may restate what was included elsewhere in the plan, and are collected here only for convenience of review.

[15] 2012 Implementation Order at 53.

This requirement is achieved by including measures that number at least proportional to low-income sector energy usage in the program targeted directly to low-income customers.[16]

The Low Income program includes the following services that are targeted directly to low-income customers:

- WARM Plus Component (Comprehensive weatherization services)
- WARM Extra Measures (Extra measures provided directly to customers participating in the Company's LIURP or WARM Plus programs.)
- Low Income Low Use Program (Energy Efficiency Measures provided to customers through direct mail kits or other channels)
- Primarily in Multi-Family Units (Appliance Replacement)
- Audit – Multi Family, including installation of basic energy efficiency measures

The Company also will directly target customized Energy Usage Reports to identified low-income customers, with specific education, energy savings recommendations and marketing for this sector.

In accordance with the 2012 Implementation Order, the Company will complete a survey of customers participating in its residential sector programs in order to inform the savings associated with low-income customers in these programs. In the Phase II Plan the Company conservatively assumed an 11% participation level across the residential sector measures that have a limited incremental cost.

In addition to achieving 4.5% of total plan savings from the Low-Income sector, the Phase II Plan also meets the requirement for the Company to offer a proportionate number of measures to Low-Income customers. Table 15 below lists 42 measures that are provided directly at no cost to Low Income customers through the Phase II Plan. The measures listed in Tables 7, 9, 11 and 13 include a total of 72 additional non-low-income measures (without double counting measures offered in multiple sectors) resulting in a total of 113 measures, of which low-income represents 36%, significantly greater than the target percentages (all under 11%).

[16] Targets provided in an October 10, 2012 memo from the SWE follow:

Phase 2 Low-Income Target Proportions by EDC

EDC	Percent 2011 kWh Usage Low-Income Households vs. Total Consumption
Duquesne	8.402%
PECO	8.799%
PPL	9.950%
Met-Ed	8.787%
Penelec	10.231%
Penn Power	10.639%
West Penn Power	8.794%

The programs targeted or available to Low-Income customers are described in Section 3.2.

Table 15: Residential Low Income Sub-Measures

Dedicated to Low-Income Customers
AC/Heating System Filter Replacement and Tune-Up
Air Sealing
Appliance Timers
Central Air Conditioner
CFL Torchiere Floor Lamp
CFLs
Clothes Line Installation
Clothes Washer
Dehumidifier
Door Repair or Replacement
Duct Insulation
Duct Sealing
Electric Baseboard Heater Replacement
Electric Clothes Dryer
Electric Dryer Venting Repair or Replacement
Electric Furnace
Electric Heat Pump
Energy Education
Exhaust Fan Repair and Replacement
Faucet Aerator
Freezer Replacement
Furnace Whistle
Gravity Film Exchange (Drain Water Heat Recovery System)
Health and Safety Measures
Heated Waterbed Mattress Replacement
Insulation (attic, wall, floor, band joist, basement, crawl space)
LED Nightlight
Low Flow Shower Head
Plumbing and Electrical Repairs
Reflective Roof Coating
Reflective Window Tint
Refrigerator Replacement
Room Air Conditioner Cover
Room Air Conditioner Replacement
Smart Strip
Storm Windows & Doors
Thermostat Replacement and Repair
Water Heater Pipe Insulation
Water Heater Replacement
Well Pump
Window Quilt
Windows

The table below provides the Company's projections of the savings under the Phase II Plan through direct low-income customer participation in the Low-Income program, dedicated Energy Usage

Reports directly targeted to identified low-income customers and the proportion of low-income customer participation in the residential sector programs as assessed through tracking and surveys.

Table 16: Residential Low Income Savings Projection

Cumulative MWh Projections	Penn Power
Low Income Human Services & Home Performance	2,225
Low Income Dedicated Energy Usage Reports	314
Low Income Programs Sub-Total	2,539
Low Income participation in Residential Programs	2,269
Total	**4,808**
4.5% Target	4,298

9.1.4. Provide a statement delineating the manner in which the EE&C plan will achieve the Government/Educational/Non-Profit requirements prescribed in the August 2, 2012 Implementation Order.

While all non-residential buildings are eligible for the prescriptive and custom energy efficiency programs through the Commercial/Industrial Small and Large sector programs, special efforts are targeted at these subdivisions of the government sector in recognition of their unique decision-making and financing processes for making capital improvements to facilities. This Plan will achieve Government/Non-Profit requirements through the combination of program services targeted for federal government facilities, local government facilities, non-profits and schools through the Government Program and the services provided to Government/Non-Profit customers under the Commercial/Industrial Small and Large sector programs. The Company's programs will leverage existing Company Area Manager relationships and vendors who will specifically provide support to governmental accounts to get projects completed. Government programs are described in Section 3.5

9.1.5. Describe how an EDC will ensure that no more than two percent of funds available to implement the plan shall be allocated for experimental equipment or devices.

The Phase II Plan focuses on encouraging the accelerated adoption of commercially available technologies for achieving the energy efficiency. See Appendix D for the measures included in the Phase II Plan. No program or services are specifically devoted to encouraging experimental equipment or devices.

9.1.6. Describe how the plan will be competitively neutral to all distribution customers even if they are receiving supply from an EGS.

All programs are available to customers who receive distribution service from the Company regardless of shopping status, and will be offered on a non-discriminatory basis. Likewise, the EEC-C Surcharge will collect the costs from like customers; thereby assuring the Phase II Plan is competitively neutral.

9.2. Other Key Issues:

9.2.1. Describe how this EE&C plan will lead to long-term, sustainable energy efficiency savings in the EDC's service territory and in Pennsylvania.

The aim of this EE&C plan is to elucidate the connections between end-use energy technologies and energy consumption, and to better guide energy decisions. The amount of energy used in the future is a central determinant of environmental impacts both within the Company's service territory and beyond. Energy use will depend on the demand for energy services and the technologies used to supply those services.

The Company's Phase II Plan is intended to make people become more conscious of their energy usage and establish ongoing energy saving habits through market transformation by first providing introductory products and educational materials and then moving customers to more sophisticated energy efficiency options. In addition, many measures installed and appliances retired and/or replaced, resulting from the execution of the Company's Phase II Plan have lengthy expected product lifetimes. They will save energy for years to come, bridging customers to even better technologies as they become available. So, the benefits of this Plan should extend far beyond the length of specific programs.

9.2.2. Describe how this EE&C plan, and the EDC, will avoid possible overlaps between programs offered in different Pennsylvania EDC service territories as well as possibly programs offered in neighboring states.

The Company's Phase II Plan considered the programs of other Pennsylvania EDCs and those offered in neighboring states to ensure that little overlap will occur during the Phase II Period. Furthermore, the Company has participated in industry meetings and technical working groups to inform the development and ongoing implementation of this Plan which helps the Company to implement programs in a manner that avoids overlaps and customer confusion. The Company will continue to participate in these industry forums and conduct program implementation in a manner to, where appropriate, avoid overlaps. Finally, a significant portion of the Commonwealth is served by the PA Companies. The EE&C Team made a special effort to try to make all programs offered by the PA Companies consistent not only with each other, but also with its sister utilities in neighboring states, which may abut the PA Companies' service territories, in an effort to try to avoid customer confusion.

9.2.3. Describe how this EE&C plan will leverage and utilize other financial resources, including funds from other public and private sector energy efficiency and solar energy programs.

The Company's approach will be to encourage customers to use financial resources to gain the greatest possible financial support available to install energy-efficiency technologies. The Company expects its CSPs to educate customers on the funding mechanisms that are available, including state and federal tax incentives, Company rebates, and potential funds that may be offered through other government agencies. Customers will be encouraged to

use financial incentives that are available in addition to incentives of Act 129 to help offset some of their capital outlay.

The Company's program descriptions contain specific references to third-party financial resources and rebates such as Keystone HELP, federal tax credits, The Sustainable Energy Fund ("SDF"), and the Pennsylvania Housing Finance Authority ("PHFA") among others. The Company will make this information available to customers on its website as well as in general educational and program specific promotional materials.

9.2.4. Describe how the EDC will address consumer education for its programs.

Essential to the success of these programs will be a concurrent marketing and educational campaign. The Company will continue to market its existing programs and measures to build awareness and interest in both the existing programs as well as the core programs proposed under the Phase II Plan, since the Phase II Plan leverages the programs currently offered. Once Commission approval is obtained on the Phase II Plan, the Company will pursue marketing efforts to build awareness and interest in the new or revised programs and measures, including solar and geothermal heating measures. Included in each program's budget is a marketing budget for promoting the program for each year of the Plan, including sustaining marketing resources for subsequent years of the Plan to ensure adequate outreach for achieving program goals. The Company's CSPs will be required to develop and execute a Marketing Plan that will include a requirement for the CSP team to include a member with educational expertise in social marketing and consumer behavior change. In addition, the Company assigns dedicated staff (i.e., Program Manager) to help manage its customer communication and educations efforts. This staff will be tasked with continually evaluating and, when appropriate, modifying the Company's energy efficiency education messages and delivery strategies.

The Company will develop educational materials to be distributed during customer interactions in specific programs. These materials may include equipment fact sheets, customer and/or sector specific energy use information, installation and maintenance guides and other materials.

The Company's consumer website, *energysavepa.com*, contains information and tools to support customer energy-efficiency strategies, including information regarding its existing programs. The Company will increase the information available on its website for the Phase II Plan by posting customer educational materials developed for its new programs and measures and creating new materials and tools to increase customers' ability to manage their energy use.

The Company will also seek input on marketing and other communication materials from interested parties through its stakeholder process

9.2.5. Indicate that the EDC will provide a list of all eligible federal and state funding programs available to ratepayers for energy efficiency and conservation.

The Company will provide a list of all eligible federal and state funding programs to ratepayers as part of its Phase II Plan implementation.

9.2.6. Describe how the EDC will provide the public with information about the results from the programs.

The Company will make available summary reports to the Commission as part of its regular reporting responsibilities. Key findings will be summarized and posted on the Company website and other communications to the public that highlight the achievement of the EE&C programs.

10. Appendices

Appendix A: Commission approved electricity consumption forecast for the period of June 1, 2009 through May 31, 2010.

Appendix B: Approved CSP contract(s)

Appendix C: Program costs and savings by program year

Appendix D-1: Calculation Methods and Assumptions - Costs Assumptions

Appendix D-2: Calculation Methods and Assumptions - Measure Assumptions

Appendix D-3: Calculation Methods and Assumptions - Number of Units

Appendix D-4: Calculation Methods and Assumptions - Rebate Strategy

Appendix E: PUC Tables 1-7

Table 1: Portfolio Summary of Lifetime Costs and Benefits

Table 2: Summary of Portfolio Energy and Demand Savings

Table 3: Summary of Portfolio Costs

Table 4: Program Summaries

Table 5: Budget and Parity Analysis Summary

Table 6A: Portfolio-Specific Assignment of EE&C Costs

Table 6B: Allocation of Common Costs to Applicable Customer Sector

Table 6C: Summary of Portfolio EE&C Costs

Table 7A: TRC Benefits Table

Table 7B: TRC Benefits Table

Table 7C: TRC Benefits Table

Table 7D: TRC Benefits Table

Table 7E: TRC Benefits Table

Appendix F: Phase II EE&C Rider

Appendix A:
Commission Approved Consumption Forecast

Appendix A: Commission approved electricity consumption forecast for the period of June 1, 2009 through May 31, 2010

Retail Energy Forecast (MWh)	
Penn Power	
June 2009	366,734
July 2009	415,287
August 2009	419,370
September 2009	390,407
October 2009	387,107
November 2009	381,241
December 2009	427,293
January 2010	437,822
February 2010	399,162
March 2010	418,209
April 2010	373,603
May 2010	356,702
Total	**4,772,937**

Appendix B:
Approved CSP Contract(s)

Appendix B: Approved CSP Contract(s)

First Energy Approved CSP Contract(s) as of 10/15/12	Approval Date	Expiration Date	CSPs Contracts by OPCO (all expire on 5/31/13)				Registered CSP as of 10/5/12
			West Penn	Met-Ed	Penn Power	Penelec	
Aclara Software, Inc.	N/A	N/A	X	X	X	X	
ADM Associates	N/A	6/24/2014	X	X	X	X	X
Applied Energy Group (AEG)	N/A	3/18/2014	X	X	X	X	X
BPL Global	N/A	N/A		X			
GDS Associates	N/A	N/A	X	X	X	X	
Garrison Hughes	N/A	4/19/2014	X				X
Dollar Energy Fund	N/A	4/23/2013	X				X
Honeywell International Inc.	1/7/2010	N/A	X	X	X	X	
JACO Environmental, Inc.	N/A	7/29/2013	X	X	X	X	X
Performance Systems Development	9/15/2010	4/8/2013		X	X	X	X
PowerDirect Marketing	9/29/2010	6/14/2014	X	X	X	X	X
SAIC Energy Environment & Infrastructure, LLC	12/18/2009	5/22/2013	X	X	X	X	X

Appendix C:
Program Costs and Savings by Program Year

Appendix C: Program costs and savings by program year

o Program Year is June 1 - May 31

Penn Power												
			Direct Costs					Administrative Costs				
Sector	Program	Sub Program	2013 Program Administration	2013 Marketing	2013 M&V	2013 Incentives	Total 2013 Direct Costs	2013 Labor	2013 Tracking & Reporting	2013 Other*	Total 2013 Administrative Costs	2013 Total Costs
Residential	Appliance Turn-In Program	Appliance Turn-In	$185,424	$66,750	$14,089	$108,875	$375,138	$10,137	$5,268	$1,605	$17,010	$392,148
	Energy Efficient Products Program	Appliances	$26,727	$409	$308	$113,775	$141,219	$107	$56	$17	$180	$141,399
		Consumer Electronics	$10,000	$0	$164	$19,300	$29,464	$57	$30	$9	$96	$29,560
		HVAC & Water Heating	$50,373	$9,903	$148	$129,340	$189,764	$51	$27	$8	$86	$189,850
		Lighting	$92,430	$35,887	$27,085	$165,500	$320,903	$9,433	$4,902	$1,493	$15,828	$336,731
	Home Performance Program	Audits	$79,604	$9,467	$884	$103,500	$193,455	$988	$513	$156	$1,657	$195,112
		Behavioral **	$509,225	$0	$22,484	$0	$531,709	$25,502	$13,252	$4,037	$42,791	$574,500
		Kits	$139,695	$44,027	$8,217	$768,500	$960,440	$9,181	$4,771	$1,453	$15,406	$975,845
		New Homes	$74,857	$4,620	$128	$168,750	$248,354	$142	$74	$23	$239	$248,594
Residential Low-Income	Low Income Program	Home Performance	$39,199	$1,115	$20	$0	$40,334	$22	$12	$4	$37	$40,371
		Human Services	$977,456	$23,865	$41,500	$0	$1,042,821	$70,500	$19,792	$87,529	$177,821	$1,220,642
Small C&I	C&I Energy Efficient Equipment Program - Small	Appliances	$55,314	$10,838	$3,524	$89,407	$159,084	$3,647	$1,895	$577	$6,119	$165,202
		Custom Equipment	$291,109	$99	$94	$87,250	$378,551	$97	$50	$15	$163	$378,714
		Food Service	$1,372	$535	$507	$238,133	$240,547	$525	$273	$83	$881	$241,427
		HVAC & Water Heating	$1,094	$426	$404	$52,076	$54,000	$418	$217	$66	$702	$54,703
		Lighting	$29,220	$11,391	$10,804	$130,134	$181,550	$11,180	$5,809	$1,770	$18,758	$200,308
	C&I Energy Efficient Buildings Program - Small	Audits	$21,135	$5,892	$221	$86,655	$113,903	$86	$45	$14	$145	$114,048
		Custom Buildings	$31,668	$15,160	$155	$29,260	$76,243	$60	$31	$10	$101	$76,345
		Kits	$42,835	$18,089	$14,946	$62,100	$137,970	$5,827	$3,028	$922	$9,777	$147,747
		New Buildings	$5,811	$1,083	$11	$1,507	$8,412	$4	$2	$1	$7	$8,419
Large C&I	C&I Energy Efficient Equipment Program - Large	Custom Equipment	$24,851	$8	$47	$244,570	$269,476	$4	$2	$1	$7	$269,483
		Lighting	$20,391	$7,949	$44,403	$62,316	$135,059	$3,708	$1,927	$587	$6,222	$141,281
		HVAC	$124	$48	$269	$24,642	$25,083	$22	$12	$4	$38	$25,121
	C&I Energy Efficient Buildings Program - Large	Audits	$11,310	$5,414	$18,633	$54,890	$90,248	$1,346	$700	$213	$2,259	$92,506
		Custom Buildings	$15,834	$7,580	$26,086	$72,916	$122,417	$1,885	$979	$298	$3,162	$125,579
Government	Governmental & Institutional Program	Appliances	$839	$274	$260	$732	$2,105	$82	$42	$13	$137	$2,242
		Audits	$2,002	$110	$195	$58,581	$60,888	$61	$32	$10	$103	$60,991
		HVAC & Water Heating	$56	$22	$234	$2,815	$3,127	$73	$38	$12	$123	$3,250
		Lighting	$905	$353	$3,813	$2,201	$7,272	$1,194	$620	$189	$2,004	$9,275
		Outdoor Lighting	$315	$123	$1,327	$9,214	$10,979	$416	$216	$66	$697	$11,677
		Multifamily	$53,882	$4,400	$2,928	$15,900	$77,110	$917	$476	$145	$1,539	$78,648
Grand Total			$2,795,055	$285,837	$243,892	$2,902,839	$6,227,624	$157,675	$65,091	$101,328	$324,094	$6,551,718

* Includes costs for plan development, modeling, employee expenses, and legal fees.

** Includes Low Income

Appendix C: Program costs and savings by program year

o Program Year is June 1 - May 31

Penn Power												
			Direct Costs					Administrative Costs				
Sector	Program	Sub Program	2014 Program Administration	2014 Marketing	2014 M&V	2014 Incentives	Total 2014 Direct Costs	2014 Labor	2014 Tracking & Reporting	2014 Other*	Total 2014 Administrative Costs	2014 Total Costs
Residential	Appliance Turn-In Program	Appliance Turn-In	$189,503	$66,750	$14,399	$108,875	$379,528	$10,693	$5,809	$661	$17,163	$396,691
	Energy Efficient Products Program	Appliances	$27,257	$418	$315	$113,775	$141,765	$115	$62	$7	$184	$141,949
		Consumer Electronics	$12,264	$0	$201	$21,600	$34,065	$73	$40	$5	$117	$34,182
		HVAC & Water Heating	$51,481	$10,121	$151	$129,340	$191,093	$55	$30	$3	$88	$191,181
		Lighting	$89,411	$36,676	$27,648	$165,500	$319,236	$10,071	$5,471	$622	$16,165	$335,401
	Home Performance Program	Audits	$73,889	$7,059	$624	$76,500	$158,073	$655	$356	$41	$1,052	$159,125
		Behavioral **	$447,243	$0	$23,350	$0	$470,593	$24,906	$13,531	$1,539	$39,976	$510,569
		Kits	$141,596	$42,843	$8,304	$747,830	$940,573	$8,967	$4,871	$554	$14,392	$954,965
		New Homes	$76,503	$4,722	$132	$168,750	$250,108	$139	$76	$9	$223	$250,331
Residential Low-Income	Low Income Program	Home Performance	$40,061	$1,115	$21	$0	$41,197	$22	$12	$1	$35	$41,232
		Human Services	$795,797	$16,863	$42,413	$0	$855,073	$72,051	$17,505	$85,285	$174,841	$1,029,914
Small C&I	C&I Energy Efficient Equipment Program - Small	Appliances	$89,010	$13,200	$5,541	$159,819	$267,569	$6,440	$3,499	$398	$10,337	$277,907
		Custom Equipment	$297,512	$99	$79	$87,250	$384,939	$91	$50	$6	$147	$385,086
		Food Service	$1,523	$586	$465	$259,891	$262,465	$541	$294	$33	$868	$263,333
		HVAC & Water Heating	$1,689	$650	$516	$65,577	$68,432	$600	$326	$37	$963	$69,395
		Lighting	$29,696	$11,432	$9,071	$130,134	$180,332	$10,544	$5,728	$652	$16,924	$197,256
	C&I Energy Efficient Buildings Program - Small	Audits	$20,315	$5,397	$226	$86,655	$112,593	$78	$42	$5	$125	$112,718
		Custom Buildings	$28,769	$13,772	$158	$29,260	$71,959	$54	$30	$3	$87	$72,047
		Kits	$43,777	$1,681	$15,275	$62,100	$122,833	$5,239	$2,846	$324	$8,409	$131,242
		New Buildings	$5,682	$984	$11	$1,507	$8,184	$4	$2	$0	$6	$8,190
Large C&I	C&I Energy Efficient Equipment Program - Large	Custom Equipment	$36,282	$12	$69	$373,230	$409,593	$7	$4	$0	$11	$409,603
		Lighting	$20,722	$7,977	$45,360	$62,316	$136,375	$4,347	$2,362	$269	$6,978	$143,353
		HVAC	$126	$48	$275	$24,642	$25,091	$26	$14	$2	$42	$25,133
	C&I Energy Efficient Buildings Program - Large	Audits	$10,275	$4,919	$14,282	$54,890	$84,366	$1,165	$633	$72	$1,869	$86,235
		Custom Buildings	$22,604	$10,821	$31,421	$135,430	$200,276	$2,562	$1,392	$158	$4,112	$204,388
Government	Governmental & Institutional Program	Appliances	$864	$276	$291	$858	$2,289	$92	$50	$6	$148	$2,437
		Audits	$2,046	$110	$199	$58,581	$60,936	$63	$34	$4	$101	$61,036
		HVAC & Water Heating	$60	$23	$252	$2,840	$3,174	$80	$43	$5	$128	$3,302
		Lighting	$920	$354	$3,879	$2,201	$7,354	$1,228	$667	$76	$1,970	$9,325
		Outdoor Lighting	$320	$123	$1,350	$9,214	$11,008	$427	$232	$26	$686	$11,694
		Multifamily	$55,067	$2,577	$2,979	$15,900	$76,523	$943	$512	$58	$1,513	$78,036
Grand Total			$2,612,265	$261,609	$249,258	$3,154,465	$6,277,597	$162,277	$66,523	$90,861	$319,662	$6,597,259

* Includes costs for plan development, modeling, employee expenses, and legal fees.

** Includes Low Income

Appendix C: Program costs and savings by program year

o Program Year is June 1 - May 31

Penn Power												
			Direct Costs					Administrative Costs				
Sector	Program	Sub Program	2015 Program Administration	2015 Marketing	2015 M&V	2015 Incentives	Total 2015 Direct Costs	2015 Labor	2015 Tracking & Reporting	2015 Other*	Total 2015 Administrative Costs	2015 Total Costs
Residential	Appliance Turn-In Program	Appliance Turn-In	$193,672	$66,750	$14,716	$108,875	$384,014	$11,164	$5,608	$638	$17,410	$401,424
	Energy Efficient Products Program	Appliances	$27,857	$427	$321	$113,775	$142,380	$121	$61	$7	$189	$142,569
		Consumer Electronics	$14,623	$0	$239	$23,900	$38,762	$90	$45	$5	$141	$38,903
		HVAC & Water Heating	$52,614	$10,344	$154	$129,340	$192,452	$58	$29	$3	$90	$192,542
		Lighting	$91,379	$37,483	$28,223	$165,500	$322,585	$10,641	$5,345	$608	$16,594	$339,180
	Home Performance Program	Audits	$70,446	$4,542	$340	$49,500	$124,829	$353	$178	$20	$551	$125,380
		Behavioral **	$431,804	$0	$24,082	$0	$455,886	$25,414	$12,767	$1,453	$39,634	$495,520
		Kits	$146,388	$42,843	$8,565	$747,830	$945,626	$9,150	$4,596	$523	$14,269	$959,895
		New Homes	$78,186	$4,826	$137	$168,750	$251,899	$142	$71	$8	$221	$252,120
Residential Low-Income	Low Income Program	Home Performance	$40,943	$1,115	$21	$0	$42,079	$22	$11	$1	$34	$42,114
		Human Services	$1,013,544	$21,312	$43,346	$0	$1,078,202	$73,636	$21,074	$87,523	$182,234	$1,260,435
Small C&I	C&I Energy Efficient Equipment Program - Small	Appliances	$90,968	$13,208	$5,662	$159,819	$269,657	$6,756	$3,394	$386	$10,536	$280,193
		Custom Equipment	$304,057	$101	$80	$87,250	$391,488	$96	$48	$5	$150	$391,638
		Food Service	$1,556	$599	$475	$259,891	$262,522	$567	$285	$32	$884	$263,406
		HVAC & Water Heating	$1,726	$665	$527	$65,577	$68,495	$629	$316	$36	$981	$69,476
		Lighting	$30,349	$11,683	$9,271	$130,134	$181,437	$11,060	$5,556	$632	$17,249	$198,685
	C&I Energy Efficient Buildings Program - Small	Audits	$20,762	$5,505	$231	$86,655	$113,153	$81	$41	$5	$127	$113,280
		Custom Buildings	$29,402	$14,075	$162	$29,260	$72,899	$57	$29	$3	$89	$72,988
		Kits	$44,740	$1,718	$15,611	$62,100	$124,169	$5,499	$2,762	$314	$8,575	$132,744
		New Buildings	$5,807	$1,005	$12	$1,507	$8,331	$4	$2	$0	$6	$8,337
Large C&I	C&I Energy Efficient Equipment Program - Large	Custom Equipment	$37,080	$12	$70	$373,230	$410,393	$7	$3	$0	$11	$410,403
		Lighting	$21,178	$8,153	$46,358	$62,316	$138,005	$4,563	$2,292	$261	$7,116	$145,121
		HVAC	$128	$49	$281	$24,642	$25,101	$28	$14	$2	$43	$25,144
	C&I Energy Efficient Buildings Program - Large	Audits	$10,501	$5,027	$14,597	$54,890	$85,014	$1,222	$614	$70	$1,906	$86,920
		Custom Buildings	$23,101	$11,059	$32,112	$135,430	$201,703	$2,689	$1,351	$154	$4,194	$205,896
Government	Governmental & Institutional Program	Appliances	$883	$276	$298	$858	$2,315	$97	$49	$6	$151	$2,466
		Audits	$2,091	$110	$203	$58,581	$60,985	$66	$33	$4	$103	$61,088
		HVAC & Water Heating	$61	$23	$257	$2,840	$3,182	$83	$42	$5	$130	$3,312
		Lighting	$940	$362	$3,964	$2,201	$7,468	$1,287	$647	$74	$2,008	$9,475
		Outdoor Lighting	$327	$126	$1,380	$9,214	$11,047	$448	$225	$26	$699	$11,746
		Multifamily	$56,279	$2,581	$3,044	$15,900	$77,804	$989	$497	$57	$1,542	$79,346
Grand Total			$2,843,393	$265,981	$254,741	$3,129,765	$6,493,880	$167,020	$67,987	$92,860	$327,867	$6,821,748

* Includes costs for plan development, modeling, employee expenses, and legal fees.

** Includes Low Income

Appendix C: Program costs and savings by program year

o Program Year is June 1 - May 31

Penn Power												
			Direct Costs					Administrative Costs				
Sector	Program	Sub Program	2013-2015 Program Administration	2013-2015 Marketing	2013-2015 M&V	2013-2015 Incentives	Total 2013-2015 Direct Costs	2013-2015 Labor	2013-2015 Tracking & Reporting	2013-2015 Other*	Total 2013-2015 Administrative Costs	2013-2015 Total Costs
Residential	Appliance Turn-In Program	Appliance Turn-In	$568,600	$200,250	$43,205	$326,625	$1,138,680	$31,994	$16,685	$2,904	$51,584	$1,190,263
	Energy Efficient Products Program	Appliances	$81,841	$1,253	$945	$341,325	$425,364	$343	$179	$31	$553	$425,917
		Consumer Electronics	$36,887	$0	$604	$64,800	$102,291	$221	$115	$19	$354	$102,645
		HVAC & Water Heating	$154,468	$30,368	$452	$388,020	$573,309	$164	$86	$15	$265	$573,574
		Lighting	$273,220	$110,047	$82,957	$496,500	$962,724	$30,145	$15,719	$2,724	$48,588	$1,011,312
	Home Performance Program	Audits	$223,940	$21,069	$1,848	$229,500	$476,356	$1,997	$1,047	$217	$3,261	$479,617
		Behavioral **	$1,388,271	$0	$69,917	$0	$1,458,188	$75,822	$39,550	$7,029	$122,400	$1,580,588
		Kits	$427,680	$129,713	$25,086	$2,264,160	$2,846,639	$27,298	$14,239	$2,530	$44,067	$2,890,706
		New Homes	$229,546	$14,168	$397	$506,250	$750,361	$424	$221	$39	$684	$751,045
Residential Low-Income	Low Income Program	Home Performance	$120,203	$3,346	$62	$0	$123,611	$66	$34	$6	$106	$123,717
		Human Services	$2,786,797	$62,040	$127,259	$0	$2,976,096	$216,187	$58,372	$260,337	$534,895	$3,510,991
Small C&I	C&I Energy Efficient Equipment Program - Small	Appliances	$235,292	$37,246	$14,727	$409,045	$696,310	$16,842	$8,788	$1,361	$26,991	$723,302
		Custom Equipment	$892,677	$299	$253	$261,750	$1,154,979	$284	$148	$26	$459	$1,155,438
		Food Service	$4,451	$1,720	$1,448	$757,915	$765,534	$1,633	$851	$149	$2,633	$768,167
		HVAC & Water Heating	$4,509	$1,741	$1,448	$183,230	$190,928	$1,647	$859	$139	$2,646	$193,574
		Lighting	$89,265	$34,506	$29,146	$390,402	$543,319	$32,784	$17,094	$3,053	$52,931	$596,250
	C&I Energy Efficient Buildings Program - Small	Audits	$62,212	$16,794	$679	$259,965	$339,650	$245	$128	$23	$396	$340,046
		Custom Buildings	$89,839	$43,007	$475	$87,780	$221,102	$172	$90	$16	$278	$221,379
		Kits	$131,352	$21,487	$45,833	$186,300	$384,972	$16,565	$8,636	$1,560	$26,761	$411,733
		New Buildings	$17,300	$3,072	$34	$4,521	$24,927	$12	$6	$1	$20	$24,947
Large C&I	C&I Energy Efficient Equipment Program - Large	Custom Equipment	$98,213	$33	$186	$991,030	$1,089,462	$17	$9	$1	$28	$1,089,490
		Lighting	$62,291	$24,079	$136,121	$186,948	$409,439	$12,619	$6,581	$1,116	$20,316	$429,755
		HVAC	$378	$146	$825	$73,926	$75,274	$76	$40	$7	$123	$75,398
	C&I Energy Efficient Buildings Program - Large	Audits	$32,085	$15,360	$47,512	$164,670	$259,627	$3,733	$1,946	$355	$6,034	$265,661
		Custom Buildings	$61,540	$29,460	$89,620	$343,776	$524,396	$7,136	$3,722	$610	$11,468	$535,864
Government	Governmental & Institutional Program	Appliances	$2,586	$826	$849	$2,448	$6,709	$270	$141	$24	$435	$7,145
		Audits	$6,139	$331	$597	$175,743	$182,809	$190	$99	$17	$306	$183,115
		HVAC & Water Heating	$176	$68	$743	$8,495	$9,482	$236	$123	$21	$381	$9,863
		Lighting	$2,765	$1,069	$11,656	$6,603	$22,093	$3,709	$1,934	$338	$5,982	$28,075
		Outdoor Lighting	$963	$372	$4,058	$27,642	$33,035	$1,291	$673	$118	$2,082	$35,117
		Multifamily	$165,227	$9,558	$8,951	$47,700	$231,437	$2,848	$1,485	$260	$4,594	$236,030
Grand Total			$8,250,713	$813,428	$747,891	$9,187,069	$18,999,101	$486,972	$199,601	$285,050	$971,622	$19,970,724

* Includes costs for plan development, modeling, employee expenses, and legal fees.

** Includes Low Income

Appendix C: Program costs and savings by program year
o Program Year is June 1 - May 31

Residential Portfolio (exclusive of Low-Income)	Penn Power TRC Benefits By Program Per Year ($000)											
			Program Costs	Program Benefits	Capacity Annual		Energy Annual		Load Reductions in kW		MWh Saved	
Program	Program Year	TRC	($000)	($000)	Benefits	Gen/T&D	Benefits	On/Off Peak	Annual	Lifetime	Annual	Lifetime
Appliance Turn-In Program	2013		283	65	14,658	See footnote 1	50,401	See footnote 2	151		1,451	
	2014		288	121	18,013		103,357		301		2,902	
	2015		293	194	32,451		161,286		452		4,354	
	Total	*1.3*	*779*	*1,005*	*135,195*		*869,677*			*3,253*		*21,601*
Energy Efficient Products Program	2013		566	118	13,470		104,859		138		5,475	
	2014		569	233	16,650		215,875		278		10,993	
	2015		578	368	30,170		338,295		420		16,554	
	Total	*1.2*	*1,546*	*1,859*	*134,967*		*1,723,741*			*3,458*		*42,601*
Home Performance Program	2013		1,925	802	108,924		692,762		1,119		12,897	
	2014		1,828	1,073	84,270		989,102		1,409		18,592	
	2015		1,799	1,432	121,585		1,310,812		1,692		24,083	
	Total	*1.2*	*5,025*	*6,041*	*484,069*		*5,556,942*			*11,128*		*130,143*
Total		**1.2**	**7,351**	**8,905**	**754,232**		**8,150,360**			**17,839**		**194,345**

1: Generation, Transmission and Distribution Capacity costs are combined in a sum of avoided capacity costs. These costs are then NPV back to the year the measure unit was installed. The combined avoided capacity costs can not be identified by component; therefore, the total avoided capacity costs for Generation, Transmission, and Distribution are displayed here.

2: The on and off peak energy costs are combined in a sum of avoided energy costs. These costs are then NPV back to the year the measure unit was installed. The combined avoided energy costs can not be identified by component; therefore, the total avoided energy costs for on and off peak energy costs are displayed here.

Residential Low-Income Portfolio	Penn Power TRC Benefits By Program Per Year ($000)											
			Program Costs	Program Benefits	Capacity Annual		Energy Annual		Load Reductions in kW		MWh Saved	
Program	Program Year	TRC	($000)	($000)	Benefits	Gen/T&D	Benefits	On/Off Peak	Annual	Lifetime	Annual	Lifetime
Low Income Program	2013		1,270	72	22,413	See footnote 1	49,517	See footnote 2	230		1,086	
	2014		1,080	100	26,312		73,789		440		1,475	
	2015		1,312	163	47,427		115,677		660		2,225	
	Total	*0.3*	*3,304*	*827*	*224,385*		*602,410*			*5,609*		*14,615*
Total		**0.3**	**3,304**	**827**	**224,385**		**602,410**			**5,609**		**14,615**

1: Generation, Transmission and Distribution Capacity costs are combined in a sum of avoided capacity costs. These costs are then NPV back to the year the measure unit was installed. The combined avoided capacity costs can not be identified by component; therefore, the total avoided capacity costs for Generation, Transmission, and Distribution are displayed here.
2: The on and off peak energy costs are combined in a sum of avoided energy costs. These costs are then NPV back to the year the measure unit was installed. The combined avoided energy costs can not be identified by component; therefore, the total avoided energy costs for on and off peak energy costs are displayed here.

3: Includes Human Services and Home Performance Sub-Programs

Appendix C: Program costs and savings by program year
o Program Year is June 1 - May 31

Commercial/ Industrial-Small	Penn Power TRC Benefits By Program Per Year ($000)											
			Program Costs	Program Benefits	Capacity Annual		Energy Annual		Load Reductions in kW		MWh Saved	
Program	Program Year	TRC	($000)	($000)	Benefits	Gen/T&D	Benefits	On/Off Peak	Annual	Lifetime	Annual	Lifetime
C&I Energy Efficient Equipment Program - Small	2013		2,028	455	74,538	See footnote 1	379,679	See footnote 2	766		8,520	
	2014		2,157	916	99,119		816,307		1,657		17,853	
	2015		2,167	1,476	182,684		1,292,429		2,543		27,153	
	Total	*1.7*	*5,723*	*9,479*	*983,053*		*8,491,100*			*29,011*		*233,543*
C&I Energy Efficient Buildings Program - Small	2013		344	76	14,024		61,483		144		1,202	
	2014		321	143	17,234		126,081		288		2,405	
	2015		324	228	31,047		196,854		432		3,607	
	Total	*1.0*	*895*	*900*	*93,938*		*805,612*			*2,117*		*19,865*
Total		**1.6**	**6,618**	**10,379**	**1,076,991**		**9,296,712**			**31,128**		**253,408**

1: Generation, Transmission and Distribution Capacity costs are combined in a sum of avoided capacity costs. These costs are then NPV back to the year the measure unit was installed. The combined avoided capacity costs can not be identified by component; therefore, the total avoided capacity costs for Generation, Transmission, and Distribution are displayed here.

2: The on and off peak energy costs are combined in a sum of avoided energy costs. These costs are then NPV back to the year the measure unit was installed. The combined avoided energy costs can not be identified by component; therefore, the total avoided energy costs for on and off peak energy costs are displayed here.

Commercial/ Industrial-Large	Penn Power TRC Benefits By Program Per Year ($000)											
			Program Costs	Program Benefits	Capacity Annual		Energy Annual		Load Reductions in kW		MWh Saved	
Program	Program Year	TRC	($000)	($000)	Benefits	Gen/T&D	Benefits	On/Off Peak	Annual	Lifetime	Annual	Lifetime
C&I Energy Efficient Equipment Program - Large	2013		1,012	229	44,764	See footnote 1	183,746	See footnote 2	482		3,585	
	2014		1,353	515	64,072		450,778		1,123		8,483	
	2015		1,355	861	120,459		740,812		1,758		13,346	
	Total	*2.1*	*3,326*	*6,894*	*793,558*		*6,099,978*			*26,483*		*187,899*
C&I Energy Efficient Buildings Program - Large	2013		261	51	7,517		43,744		81		791	
	2014		415	142	13,575		128,087		238		2,248	
	2015		417	247	27,061		220,307		395		3,705	
	Total	*1.9*	*973*	*1,817*	*165,209*		*1,651,490*			*5,492*		*50,555*
Total		**2.0**	**4,299**	**8,710**	**958,767**		**7,751,468**			**31,975**		**238,455**

1: Generation, Transmission and Distribution Capacity costs are combined in a sum of avoided capacity costs. These costs are then NPV back to the year the measure unit was installed. The combined avoided capacity costs can not be identified by component; therefore, the total avoided capacity costs for Generation, Transmission, and Distribution are displayed here.

2: The on and off peak energy costs are combined in a sum of avoided energy costs. These costs are then NPV back to the year the measure unit was installed. The combined avoided energy costs can not be identified by component; therefore, the total avoided energy costs for on and off peak energy costs are displayed here.

Appendix C: Program costs and savings by program year
o Program Year is June 1 - May 31

Governmental/ Educational/ Non-Profit	Penn Power TRC Benefits By Program Per Year ($000)											
					Capacity		Energy		Load Reductions in kW		MWh Saved	
					Annual		Annual					
Program	Program Year	TRC	Program Costs ($000)	Program Benefits ($000)	Benefits	Gen/T&D	Benefits	On/Off Peak	Annual	Lifetime	Annual	Lifetime
Governmental & Institutional Program	2013		117	18	2,116	See footnote 1	9,187	See footnote 2	22		181	
	2014		117	34	2,607		18,850		44		362	
	2015		118	53	4,645		29,205		65		538	
	Total	*1.0*	*318*	*312*	*25,316*		*175,272*			*742*		*4,646*
Total		**1.0**	**318**	**312**	**25,316**		**175,272**			**742**		**4,646**

1: Generation, Transmission and Distribution Capacity costs are combined in a sum of avoided capacity costs. These costs are then NPV back to the year the measure unit was installed. The combined avoided capacity costs can not be identified by component; therefore, the total avoided capacity costs for Generation, Transmission, and Distribution are displayed here.

2: The on and off peak energy costs are combined in a sum of avoided energy costs. These costs are then NPV back to the year the measure unit was installed. The combined avoided energy costs can not be identified by component; therefore, the total avoided energy costs for on and off peak energy costs are displayed here.

Appendix D:
Calculation Methods and Assumptions

Appendix D-1: Costs Assumptions

Cost Assumptions	
Program cost elements are categorized into operations costs and incentives. Operations costs include 1) direct costs associated with program administration and marketing, and evaluation, measurement and verification (M&V); and 2) administrative costs associated with labor, tracking and reporting and other costs. The following details the assumptions for each cost element used in the budget tables located throughout the plan:	
Cost Elements	**Description**
Program Administration	Program administration costs were informed by experience for similar programs operated by FirstEnergy in Pennsylvania or in other jurisdictions. Costs were identified by two components, (1) fixed program/sub-program, and (2) variable measure unit cost. These components were allocated to programs/sub-programs/measures based on projected number of units.
Marketing	Marketing costs were informed by experience for similar programs operated by FirstEnergy in Pennsylvania or in other jurisdictions. Costs were identified by two components, (1) fixed program/sub-program, and (2) variable measure unit cost. These components were allocated to programs/sub-programs/measures based on projected number of units.
M&V	M&V costs were estimates based on program year three actual results allocated to programs/sub-programs/measures based on projected number of units.
Labor	Labor costs were based on Company estimated EE&C Portfolio administration costs, allocated to each program based on the program administration, marketing and M&V costs, and allocated to measures based on projected number of units.
Tracking & Reporting	Tracking and reporting costs were based on existing contracts, allocated to each program based on the program administration, marketing and M&V costs, and allocated to measures based on projected number of units.
Other	Other costs, including costs associated with Plan development, employee expenses, legal fees, and modeling software costs, were informed by existing contracts, or Company estimates, allocated to each program based on the program administration, marketing and M&V costs, and allocated to measures based on projected number of units.
Incentives	Incentives include rebates paid to customers as well as costs associated with providing services or measures directly to customers, or upstream payments to trade allies (retail stores, contractors, etc.) where applicable.

Appendix D-2: Measure Assumptions

Penn Power												
Sector	Program	Sub Program	Measure	Measure Life	Verified kWh Savings	Verified kW Savings	NTG	Incremental Cost	Modeled Rebate	O&M Benefit	Source of Savings	Source of Incremental Cost
Residential	Appliance Turn-In Program	Appliance Turn-In	Freezer Recycling	8.0	863	0.1069	0.59	$0.00	$50.00	$0.00	2012 PA TRM	Energy Efficiency Consultan
			Refrigerator Recycling	8.0	629	0.0779	0.59	$0.00	$50.00	$0.00	2012 PA TRM	Energy Efficiency Consultan
			Room Air Conditioner Recycling	4.0	207	0.6390	0.59	$0.00	$31.00	$0.00	2012 PA TRM	Energy Efficiency Consultan
	Energy Efficient Products Program	Appliances	Clothes Washer	11.0	143	0.0146	0.32	$250.00	$92.00	$0.00	2012 PA TRM	Mid-Atlantic TRM
			Dehumidifier	12.0	152	0.0097	0.32	$45.00	$11.00	$0.00	2012 PA TRM	Ohio TRM
			Refrigerator	13.0	113	0.0129	0.32	$104.00	$61.00	$0.00	2012 PA TRM	Mid-Atlantic TRM
			Freezer	12.0	73	0.0084	0.32	$104.00	$29.00	$0.00	2012 PA TRM	Mid-Atlantic TRM
			Pool Pump Motor	10.0	525	0.2776	0.32	$290.00	$63.00	$0.00	2012 PA TRM	Mid-Atlantic TRM
		Consumer Electronics	Smart Strip	5.0	182	0.0129	0.32	$21.00	$13.00	$0.00	2012 PA TRM	Mid-Atlantic TRM
			Television	15.0	249	0.0380	0.32	$1.00	$10.00	$0.00	2012 PA TRM	Energy Efficiency Consultan
			EE Office Equipment	5.0	175	0.0236	0.32	$1.00	$25.00	$0.00	2012 PA TRM	Energy Efficiency Consultan
		HVAC & Water Heating	Central Air Conditioner	14.0	106	0.1167	0.32	$357.00	$150.00	$0.00	2012 PA TRM	2008 DEER
			Furnace Fan	15.0	480	0.1228	0.32	$200.00	$100.00	$0.00	2012 PA TRM	Mid-Atlantic TRM
			Ground Source Heat Pump	15.0	2,826	0.0819	0.32	$10,000.00	$600.00	$0.00	2012 PA TRM	Company Assumption
			Heat Pump	12.0	611	0.1167	0.32	$411.00	$313.00	$0.00	2012 PA TRM	2008 DEER
			HVAC Maintenance	5.0	283	0.2602	0.32	$85.00	$60.00	$0.00	2012 PA TRM	Historic Actuals
			Room Air Conditioner	9.0	19	0.0635	0.32	$60.00	$29.00	$0.00	2012 PA TRM	Mid-Atlantic TRM
			Whole House Fan	15.0	215	0.0000	0.32	$400.00	$125.00	$0.00	2012 PA TRM	Energy Efficiency Consultan
			Ductless Mini-Split	15.0	153	0.2070	0.32	$1,200.00	$375.00	$0.00	2012 PA TRM	Energy Efficiency Consultan
			Efficient Water Heater	12.2	959	0.0879	0.32	$635.06	$245.00	$0.00	2012 PA TRM	2008 DEER & Ohio TRM
		Lighting	Energy Efficient Lighting Products	6.8	28	0.0013	0.32	$2.47	$1.00	$0.00	2012 PA TRM	2008 DEER
			Torchiere Floor Lamp	10.0	97	0.0048	0.32	$5.00	$10.00	$0.00	2012 PA TRM	2008 DEER
			LED Holiday Lighting	10.0	11	0.0000	0.32	$4.86	$4.00	$0.00	2012 PA TRM	Company Assumption
	Home Performance Program	Audits	On-Line Audit	6.9	407	0.0196	0.65	$42.82	$54.00	$0.00	2012 PA TRM	Historic Actuals
			Audit	10.5	672	0.2089	0.65	$554.40	$375.00	$0.00	2012 PA TRM	Energy Efficiency Consultan
		Behavioral	Energy Usage Reports	1.0	173	0.0206	1.00	$0.00	$0.00	$0.00	Company Assumption	N/A
		Kits	Energy Efficiency Measures	6.9	347	0.0167	0.81	$42.82	$53.00	$0.00	2012 PA TRM	Historic Actuals
		New Homes	New Construction	15.0	1,552	0.4312	0.80	$2,249.00	$750.00	$0.00	Historic Actuals	Historic Actuals
Residential Low-Income	Low Income Program	Home Performance	Appliance Replacement	7.0	1,176	0.1458	0.65	$0.00	$0.00	$0.00	2012 PA TRM	No Upfront Cost to Customer
			Audit - Multifamily	10.5	672	0.2089	0.65	$554.40	$0.00	$0.00	2012 PA TRM	No Upfront Cost to Customer
		Human Services	Comprehensive	8.0	1,060	0.3905	1.00	$0.00	$0.00	$0.00	Historic Actuals	No Upfront Cost to Customer
			Extra Measures	8.0	279	0.0223	1.00	$0.00	$0.00	$0.00	Historic Actuals	No Upfront Cost to Customer
			Energy Efficiency Measures - Low Income	6.6	308	0.0141	0.65	$0.00	$0.00	$0.00	2012 PA TRM	No Upfront Cost to Customer

Appendix D-2: Measure Assumptions

Penn Power												
Sector	Program	Sub Program	Measure	Measure Life	Verified kWh Savings	Verified kW Savings	NTG	Incremental Cost	Modeled Rebate	O&M Benefit	Source of Savings	Source of Incremental Cost
Small C&I	C&I Energy Efficient Equipment Program - Small	Appliances	Refrigerator Recycling - Small C&I	8.0	636	0.0789	0.76	$0.00	$50.00	$0.00	2012 PA TRM	Energy Efficiency Consultant
			Freezer Recycling - Small C&I	8.0	873	0.1082	0.76	$0.00	$50.00	$0.00	2012 PA TRM	Energy Efficiency Consultant
			Room Air Conditioner Recycling - Small C&I	4.0	210	0.6470	0.76	$0.00	$25.00	$0.00	2012 PA TRM	Energy Efficiency Consultant
			Clothes Washer - Small C&I	10.0	266	0.0629	0.76	$378.26	$63.00	$0.00	2012 PA TRM	2008 DEER
			Refrigerator - Small C&I	13.0	115	0.0131	0.76	$104.00	$63.00	$0.00	2012 PA TRM	Mid-Atlantic TRM
			Freezer - Small C&I	13.0	75	0.0085	0.76	$104.00	$31.00	$0.00	2012 PA TRM	Mid-Atlantic TRM
			Vending Equipment Controller (Remote Mount, Lighting)	5.0	1,135	0.0000	0.76	$161.75	$31.00	$0.00	Ohio TRM	Ohio TRM
			EE Office Equipment - Small C&I	5.0	240	0.0323	0.76	$1.00	$25.00	$0.00	2012 PA TRM	Energy Efficiency Consultant
		Food Service	Commercial Solid Door Freezer	12.0	1,790	0.2043	0.76	$220.25	$63.00	$0.00	2012 PA TRM	Ohio TRM
			Commercial Solid Door Refrigerator	12.0	692	0.0803	0.76	$180.00	$63.00	$0.00	2012 PA TRM	Ohio TRM
			Commercial Glass Door Freezer	12.0	3,791	0.4328	0.76	$220.25	$63.00	$0.00	2012 PA TRM	Ohio TRM
			Commercial Glass Door Refrigerator	12.0	783	0.0893	0.76	$180.00	$63.00	$0.00	2012 PA TRM	Ohio TRM
			Anti Sweat Heater Control	12.0	63,008	1.3597	0.76	$1,936.46	$1,920.00	$0.00	2012 PA TRM	2008 DEER
			Combination & Convection Oven	12.0	6,298	1.2064	0.76	$1,619.00	$500.00	$0.00	2010 OH TRM	Ohio TRM
			Fryers & Griddles	12.0	1,962	0.4018	0.76	$818.00	$313.00	$0.00	2010 OH TRM	Ohio TRM
			Hot Food Holding Cabinet	12.0	3,360	0.5160	0.76	$1,110.00	$313.00	$0.00	2010 OH TRM	Ohio TRM
			Ice Machine	10.0	456	0.1001	0.76	$1,092.57	$188.00	$0.00	2012 PA TRM	Ohio TRM
			Pre Rinse Sprayer	5.0	695	0.1315	0.76	$52.00	$35.00	$0.00	2012 PA TRM	DSMore
			Refrigerated Case Cover	5.0	2,659	0.0000	0.76	$2,531.84	$750.00	$0.00	2012 PA TRM	2008 DEER
			Strip curtains for walk-in Refrigerator / Freezer	4.0	2,750	0.3137	0.76	$490.79	$63.00	$0.00	2012 PA TRM	2008 DEER
			Steam Cooker	12.0	3,397	0.6525	0.76	$2,000.00	$360.00	$0.00	2012 PA TRM	Ohio TRM
			LED Reach in Refrigerator / Freezer Lighting	8.0	27,890	3.4034	0.76	$10,248.00	$1,200.00	$4.07	2010 OH TRM	Ohio TRM
		HVAC & Water Heating	Air Conditioning - Small C&I	15.0	135	0.1615	0.69	$719.93	$169.00	$0.00	2012 PA TRM	2008 DEER
			Dual Enthalpy Economizer - Small C&I	10.0	4,110	0.0000	0.69	$690.58	$250.00	$0.00	2010 OH TRM	2008 DEER
			Electric Chiller - Small C&I	15.0	9,274	11.0627	0.69	$18,443.00	$2,813.00	$0.00	2012 PA TRM	2008 DEER
			Ground Source Heat Pump - Small C&I	15.0	1,363	0.4521	0.69	$540.00	$281.00	$0.00	2012 PA TRM	Ohio TRM
			Heat Pump - Small C&I	15.0	339	0.0851	0.69	$540.00	$135.00	$0.00	2012 PA TRM	Ohio TRM
			Ductless Mini-Split - Small C&I	15.0	1,056	0.0278	0.69	$1,200.00	$375.00	$0.00	2012 PA TRM	Energy Efficiency Consultant
			Hotel Room HVAC/Receptacle Controls/Room	7.5	311	0.0803	0.69	$200.00	$100.00	$0.00	2012 PA TRM	Mid-Atlantic TRM & PA TRM
			HVAC Maintenance - Small C&I	10.0	814	0.2614	0.69	$50.85	$59.00	$0.00	2012 PA TRM	2008 DEER
			PTAC - Small C&I	15.0	444	0.5291	0.69	$90.33	$150.00	$0.00	2012 PA TRM	2008 DEER
			PTHP - Small C&I	15.0	1,156	0.5124	0.69	$204.00	$150.00	$0.00	2012 PA TRM	2008 DEER
			Room Air Conditioner - Small C&I	15.0	115	0.1433	0.69	$60.00	$31.00	$0.00	2012 PA TRM	Ohio TRM
			Efficient Water Heater - Small C&I	12.2	978	0.0897	0.69	$635.06	$245.00	$0.00	2012 PA TRM	2008 DEER & Ohio TRM
		Lighting	Energy Efficient Lighting Products - Small C&I	2.4	119	0.0257	0.78	$3.15	$1.00	$0.00	2012 PA TRM	2008 DEER
			Energy Efficient Exterior Lighting - Small C&I	15.0	151	0.0000	0.78	$140.18	$9.00	$0.00	2012 PA TRM	2008 DEER
			LED Exit Sign (Retrofit Only) - Small C&I	6.0	191	0.0258	0.78	$2.23	$15.00	$6.04	2012 PA TRM	2008 DEER
			LED Signage	15.0	379	0.0700	0.78	$217.60	$71.00	$0.00	2012 PA TRM	Energy Efficiency Consultant
			Lighting Controls (Occupancy & Daylight) - Small C&I	15.0	45	0.0097	0.78	$112.78	$44.00	$0.00	2012 PA TRM	2008 DEER
			Linear Fluorescent Retrofits (Stndrd & Non Stndrd) - Small C&I	15.0	148	0.0319	0.78	$24.08	$15.00	$0.00	2012 PA TRM	2008 DEER
		Custom Equipment	VFDs up to 200 HP - Small C&I	15.0	9,754	1.8558	0.60	$4,417.00	$938.00	$0.00	2012 PA TRM	2008 DEER
			VFDs greater than 200 HP - Small C&I	15.0	51,194	17.1158	0.60	$35,336.00	$7,500.00	$0.00	2012 PA TRM	2008 DEER
			Custom - Small C&I	15.0	8,395	0.9583	1.00	$1,569.41	$628.00	$0.00	ACEEE 5-15% of average usage, Company Assumption of 10%	Company Assumption
	C&I Energy Efficient Buildings Program - Small	Audits	Audit - Small C&I	1.0	0	0.0000	1.00	$0.00	$3,750.00	$0.00	N/A	N/A
			Audit w/ Direct Install Measures	12.0	3,352	0.4490	1.00	$2,414.20	$4,527.00	$0.00	2012 PA TRM	Company Assumption
		Kits	Energy Efficiency Measures - Small C&I	3.3	612	0.1154	0.78	$37.07	$46.00	$0.00	2012 PA TRM	Historic Actuals
		New Buildings	New Construction - Small C&I	15.0	20,148	2.3000	1.00	$20,000.00	$1,507.00	$0.00	24% > ASHRAE 90.1-2004, Green Bldg Approach w/ LEED Cert, Customer Assumption of Average Usage	Energy Efficiency Consultant
		Custom Buildings	Building Operation Training - Small C&I	10.0	35,409	1.0117	1.00	$10,000.00	$3,500.00	$0.00	RLW Analytics Impact and Process Evaluation in the Northeast	Stakeholder Input
			Energy Management System - Small C&I	5.0	8,195	0.4735	1.00	$2,430.00	$810.00	$0.00	2012 PA TRM	Energy Efficiency Consultant
			Custom Building - Small C&I	15.0	8,395	0.9583	1.00	$1,255.52	$628.00	$0.00	ACEEE 5-15% of average usage, Company Assumption of 10%	Energy Efficiency Consultant

Appendix D-2: Measure Assumptions

Penn Power												
Sector	Program	Sub Program	Measure	Measure Life	Verified kWh Savings	Verified kW Savings	NTG	Incremental Cost	Modeled Rebate	O&M Benefit	Source of Savings	Source of Incremental Cost
Large C&I	C&I Energy Efficient Equipment Program - Large	HVAC	Air Conditioning - Large C&I	15.0	615	0.7330	0.69	$2,666.40	$625.00	$0.00	2012 PA TRM	2008 DEER
			Ductless Mini-Split - Large C&I	15.0	1,036	0.0273	0.69	$1,200.00	$469.00	$0.00	2012 PA TRM	Energy Efficiency Consultant
			Dual Enthalpy Economizer - Large C&I	10.0	4,033	0.0000	0.69	$690.58	$200.00	$0.00	2010 OH TRM	2008 DEER
			Heat Pump - Large C&I	15.0	1,154	1.3768	0.69	$2,000.00	$500.00	$0.00	2012 PA TRM	Ohio TRM
			Ground Source Heat Pump - Large C&I	15.0	6,755	0.3429	0.69	$1,125.00	$281.00	$0.00	2012 PA TRM	Ohio TRM
			HVAC Maintenance - Large C&I	10.0	2,960	0.9501	0.69	$50.85	$59.00	$0.00	2012 PA TRM	2008 DEER
			PTAC - Large C&I	15.0	435	0.5191	0.69	$90.33	$188.00	$0.00	2012 PA TRM	2008 DEER
			PTHP - Large C&I	15.0	1,134	0.5028	0.69	$204.00	$188.00	$0.00	2012 PA TRM	2008 DEER
			Electric Chiller - Large C&I	15.0	9,100	10.8546	0.69	$18,443.00	$2,813.00	$0.00	2012 PA TRM	2008 DEER
		Lighting	Energy Efficient Lighting Products - Large C&I	2.4	117	0.0253	0.78	$3.15	$3.00	$0.00	2012 PA TRM	2008 DEER
			Energy Efficient Exterior Lighting - Large C&I	15.0	148	0.0000	0.78	$140.18	$9.00	$0.00	2012 PA TRM	2008 DEER
			LED Exit Sign (Retrofit Only) - Large C&I	6.0	187	0.0253	0.78	$2.23	$2.00	$6.04	2012 PA TRM	2008 DEER
			Lighting Controls (Occupancy & Daylight) - Large C&I	15.0	44	0.0095	0.78	$112.78	$44.00	$0.00	2012 PA TRM	2008 DEER
			Linear Fluorescent Retrofits (Stndrd & Non Stndrd) - Large C&I	15.0	145	0.0313	0.78	$24.08	$9.00	$0.00	2012 PA TRM	2008 DEER
		Custom Equipment	VFDs up to 200 HP - Large C&I	15.0	9,754	1.8558	0.60	$4,417.00	$750.00	$0.00	2012 PA TRM	2008 DEER
			VFDs greater than 200 HP - Large C&I	15.0	51,194	17.1158	0.60	$35,336.00	$7,500.00	$0.00	2012 PA TRM	2008 DEER
			Custom - Large C&I	15.0	1,210,801	138.2193	1.00	$284,150.32	$113,660.00	$0.00	ACEEE 5-15% of average usage, Company Assumption of 10%	Company Assumption
	C&I Energy Efficient Buildings Program - Large	Audits	Audit - Large C&I	1.0	0	0.0000	1.00	$0.00	$10,978.00	$0.00	N/A	N/A
		Custom Buildings	Building Operation Training - Large C&I	10.0	86,856	0.9926	1.00	$10,000.00	$6,750.00	$0.00	RLW Analytics Impact and Process Evaluation in the Northeast	Stakeholder Input
			Energy Management System - Large C&I	5.0	8,040	0.4646	1.00	$2,430.00	$810.00	$0.00	2012 PA TRM	Energy Efficiency Consultant
			Retrocommissioning - Large C&I	4.0	30,270	3.4555	1.00	$15,000.00	$2,842.00	$0.00	ACEEE 5-15% of 25% of Avg Usage (Bldg Shell & Operating System ONLY), Co Assumption 1% of 25%	Company Assumption
			Custom Building - Large C&I	15.0	302,700	34.5548	1.00	$56,830.06	$28,415.00	$0.00	ACEEE 5-15% of average usage, Company Assumption of 10%	Energy Efficiency Consultant

Appendix D-2: Measure Assumptions

Penn Power												
Sector	Program	Sub Program	Measure	Measure Life	Verified kWh Savings	Verified kW Savings	NTG	Incremental Cost	Modeled Rebate	O&M Benefit	Source of Savings	Source of Incremental Cost
Government	Governmental & Institutional Program	Appliances	Refrigerator Recycling - Non Profit	8.0	636	0.0789	0.76	$0.00	$50.00	$0.00	2012 PA TRM	Energy Efficiency Consultant
			Freezer Recycling - Non Profit	8.0	873	0.1082	0.76	$0.00	$50.00	$0.00	2012 PA TRM	Energy Efficiency Consultant
			Room Air Conditioner Recycling - Non Profit	4.0	210	0.6470	0.76	$0.00	$25.00	$0.00	2012 PA TRM	Energy Efficiency Consultant
			Refrigerator - Non Profit	13.0	115	0.0131	0.76	$104.00	$63.00	$0.00	2012 PA TRM	Mid-Atlantic TRM
			Freezer - Non Profit	13.0	75	0.0085	0.76	$104.00	$31.00	$0.00	2012 PA TRM	Mid-Atlantic TRM
			EE Office Equipment - Non Profit	5.0	240	0.0323	0.76	$0.00	$25.00	$0.00	2012 PA TRM	Energy Efficiency Consultant
		Audits	Audit - Govt	1.0	0	0.0000	1.00	$0.00	$3,750.00	$0.00	N/A	N/A
			Audit w/ Direct Install Measures - Govt	12.0	3,352	0.4490	1.00	$2,414.20	$4,527.00	$0.00	2012 PA TRM	Company Assumption
		HVAC & Water Heating	Air Conditioning - Non Profit	15.0	135	0.1615	0.69	$719.93	$169.00	$0.00	2012 PA TRM	2008 DEER
			Heat Pump - Non Profit	15.0	339	0.0851	0.69	$540.00	$135.00	$0.00	2012 PA TRM	Ohio TRM
			Ground Source Heat Pump - Non Profit	15.0	1,403	0.4994	0.69	$540.00	$281.00	$0.00	2012 PA TRM	Ohio TRM
			PTAC - Non Profit	15.0	444	0.5291	0.69	$90.33	$150.00	$0.00	2012 PA TRM	2008 DEER
			PTHP - Non Profit	15.0	1,156	0.5124	0.69	$204.00	$150.00	$0.00	2012 PA TRM	2008 DEER
			Room Air Conditioner - Non Profit	15.0	115	0.1433	0.69	$60.00	$25.00	$0.00	2012 PA TRM	Ohio TRM
			Efficient Water Heater - Non Profit	12.2	978	0.0897	0.69	$635.06	$245.00	$0.00	2012 PA TRM	2008 DEER & Ohio TRM
		Lighting	Energy Efficient Exterior Lighting - Non Profit	15.0	124	0.0000	0.81	$140.18	$9.00	$0.00	2012 PA TRM	2008 DEER
			Linear Fluorescent Retrofits (Stndrd & Non Stndrd) - Non Profit	15.0	122	0.0263	0.81	$24.08	$9.00	$0.00	2012 PA TRM	2008 DEER
			Energy Efficient Lighting Products - Non Profit	2.4	98	0.0212	0.81	$3.15	$1.00	$0.00	2012 PA TRM	2008 DEER
			LED Exit Sign (Retrofit Only) - Non Profit	6.0	157	0.0212	0.81	$2.23	$15.00	$6.04	2012 PA TRM	2008 DEER
			Lighting Controls (Occupancy & Daylight) - Non Profit	15.0	37	0.0079	0.81	$112.78	$44.00	$0.00	2012 PA TRM	2008 DEER
		Outdoor Lighting	LED Traffic Signals	10.0	445	0.1506	0.81	$165.00	$131.00	$189.00	2012 PA TRM	Vendor Quote
			Energy Efficient Street & Area Lighting (Tariff / Util Owned)	15.0	183	0.0000	0.81	$140.18	$63.00	$0.00	2012 PA TRM	2008 DEER
			Energy Efficient Exterior Lighting (Tariff / Cust Owned)	15.0	183	0.0000	0.81	$140.18	$63.00	$0.00	2012 PA TRM	2008 DEER
		Multifamily	Energy Efficiency Measures - Multifamily - Govt	6.9	347	0.0167	0.81	$54.00	$84.00	$0.00	2012 PA TRM	Historic Actuals
			Audit - Multifamily - Govt	7.0	449	0.0191	1.00	$35.40	$44.00	$0.00	2012 PA TRM	Energy Efficiency Consultant

Appendix D-3: Number of Units

o Program Year is June 1 - May 31

Penn Power					
Program Name	**Sub Program**	**Measure Name**	**2013 Units**	**2014 Units**	**2015 Units**
Appliance Turn-In Program	Appliance Turn-In	Refrigerator Recycling	1,650	1,650	1,650
		Freezer Recycling	450	450	450
		Room Air Conditioner Recycling	125	125	125
Home Performance Program	Audits	On-Line Audit	1,500	1,000	500
		Audit	60	60	60
	Behavioral [1]	Energy Usage Reports	39,675	39,675	39,675
	Kits	Energy Efficiency Measures	14,500	14,110	14,110
	New Homes	New Construction	225	225	225
Energy Efficient Products Program	Appliances	Clothes Washer	525	525	525
		Dehumidifier	250	250	250
		Refrigerator	895	895	895
		Freezer	150	150	150
		Pool Pump Motor	60	60	60
	Consumer Electronics	Smart Strip	100	200	300
		Television	300	400	500
		EE Office Equipment	600	600	600
	HVAC & Water Heating	HVAC Maintenance	400	400	400
		Central Air Conditioner	25	25	25
		Ground Source Heat Pump	40	40	40
		Whole House Fan	50	50	50
		Room Air Conditioner	50	50	50
		Furnace Fan	125	125	125
		Heat Pump	30	30	30
		Ductless Mini-Split	30	30	30
		Efficient Water Heater	150	150	150
	Lighting	Energy Efficient Lighting Products	165,000	165,000	165,000
		Torchiere Floor Lamp	10	10	10
		LED Holiday Lighting	100	100	100
Low Income Program	Home Performance	Appliance Replacement	10	10	10
		Audit - Multifamily	25	25	25
	Human Services	Comprehensive	284	284	284
		Extra Measures	4,235	4,235	4,235
		Energy Efficiency Measures - Low Income	2,261	0	1,171

1. Includes Low Income

Appendix D-3: Number of Units

o Program Year is June 1 - May 31

Penn Power					
Program Name	**Sub Program**	**Measure Name**	**2013 Units**	**2014 Units**	**2015 Units**
C&I Energy Efficient Equipment Program - Small	Appliances	Clothes Washer - Small C&I	48	48	48
		Refrigerator Recycling - Small C&I	250	250	250
		Freezer Recycling - Small C&I	28	28	28
		Room Air Conditioner Recycling - Small C&I	75	150	150
		Vending Equipment Controller (Remote Mount, Lighting)	66	66	66
		Refrigerator - Small C&I	80	160	160
		Freezer - Small C&I	12	24	24
		EE Office Equipment - Small C&I	2,526	5,051	5,051
	Custom Equipment	VFDs up to 200 HP - Small C&I	71	71	71
		VFDs greater than 200 HP - Small C&I	2	2	2
		Custom - Small C&I	9	9	9
	Food Service	Fryers & Griddles	7	15	15
		Commercial Solid Door Freezer	11	11	11
		Commercial Solid Door Refrigerator	6	6	6
		Commercial Glass Door Freezer	25	25	25
		Commercial Glass Door Refrigerator	8	8	8
		Ice Machine	53	53	53
		Steam Cooker	157	157	157
		Combination & Convection Oven	7	15	15
		Refrigerated Case Cover	17	34	34
		Anti Sweat Heater Control	40	40	40
		Pre Rinse Sprayer	15	15	15
		LED Reach in Refrigerator / Freezer Lighting	57	57	57
		Hot Food Holding Cabinet	7	15	15
		Strip curtains for walk-in Refrigerator / Freezer	34	34	34
	HVAC & Water Heating	HVAC Maintenance - Small C&I	22	22	22
		Air Conditioning - Small C&I	40	40	40
		Heat Pump - Small C&I	3	3	3
		Ground Source Heat Pump - Small C&I	1	1	1
		PTAC - Small C&I	8	8	8
		PTHP - Small C&I	8	8	8
		Ductless Mini-Split - Small C&I	5	5	5
		Hotel Room HVAC/Receptacle Controls/Room	114	227	227
		Dual Enthalpy Economizer - Small C&I	46	46	46
		Electric Chiller - Small C&I	2	2	2
		Room Air Conditioner - Small C&I	71	142	142
		Efficient Water Heater - Small C&I	34	34	34
	Lighting	Energy Efficient Lighting Products - Small C&I	454	454	179
		Lighting Controls (Occupancy & Daylight) - Small C&I	80	80	80
		Energy Efficient Exterior Lighting - Small C&I	1,750	1,750	1,750
		Linear Fluorescent Retrofits (Stndrd & Non Stndrd) - Small C&I	7,086	7,086	7,086
		LED Exit Sign (Retrofit Only) - Small C&I	38	38	38
		LED Signage	50	50	50
C&I Energy Efficient Buildings Program - Small	Audits	Audit - Small C&I	5	5	5
		Audit w/ Direct Install Measures	15	15	15
	Custom Buildings	Building Operation Training - Small C&I	7	7	7
		Energy Management System - Small C&I	2	2	2
		Custom Building - Small C&I	5	5	5
	Kits	Energy Efficiency Measures - Small C&I	1,350	1,350	1,350
	New Buildings	New Construction - Small C&I	1	1	1

Appendix D-3: Number of Units

o Program Year is June 1 - May 31

Penn Power					
Program Name	**Sub Program**	**Measure Name**	**2013 Units**	**2014 Units**	**2015 Units**
C&I Energy Efficient Equipment Program - Large	Custom Equipment	VFDs up to 200 HP - Large C&I	3	3	3
		VFDs greater than 200 HP - Large C&I	2	4	4
		Custom - Large C&I	2	3	3
	HVAC	Dual Enthalpy Economizer - Large C&I	2	2	2
		HVAC Maintenance - Large C&I	4	4	4
		Air Conditioning - Large C&I	12	12	12
		Heat Pump - Large C&I	3	3	3
		Ground Source Heat Pump - Large C&I	4	4	4
		PTAC - Large C&I	5	5	5
		PTHP - Large C&I	4	4	4
		Ductless Mini-Split - Large C&I	2	2	2
		Electric Chiller - Large C&I	4	4	4
	Lighting	Linear Fluorescent Retrofits (Stndrd & Non Stndrd) - Large C&I	5,075	5,075	5,075
		Energy Efficient Lighting Products - Large C&I	501	501	198
		Lighting Controls (Occupancy & Daylight) - Large C&I	170	170	170
		Energy Efficient Exterior Lighting - Large C&I	850	850	850
		LED Exit Sign (Retrofit Only) - Large C&I	4	4	4
C&I Energy Efficient Buildings Program - Large	Audits	Audit - Large C&I	5	5	5
	Custom Buildings	Retrocommissioning - Large C&I	3	5	5
		Custom Building - Large C&I	2	4	4
		Building Operation Training - Large C&I	1	1	1
		Energy Management System - Large C&I	1	1	1
Governmental & Institutional Program	Appliances	Refrigerator Recycling - Non Profit	4	4	4
		Freezer Recycling - Non Profit	2	2	2
		Room Air Conditioner Recycling - Non Profit	3	3	3
		Refrigerator - Non Profit	2	4	4
		Freezer - Non Profit	1	1	1
		EE Office Equipment - Non Profit	8	8	8
	Audits	Audit - Govt	12	12	12
		Audit w/ Direct Install Measures - Govt	3	3	3
	HVAC & Water Heating	Air Conditioning - Non Profit	2	2	2
		Heat Pump - Non Profit	2	2	2
		Ground Source Heat Pump - Non Profit	2	2	2
		PTAC - Non Profit	1	1	1
		PTHP - Non Profit	8	8	8
		Room Air Conditioner - Non Profit	2	3	3
		Efficient Water Heater - Non Profit	1	1	1
	Lighting	Linear Fluorescent Retrofits (Stndrd & Non Stndrd) - Non Profit	185	185	185
		Energy Efficient Lighting Products - Non Profit	75	75	30
		LED Exit Sign (Retrofit Only) - Non Profit	4	4	4
		Lighting Controls (Occupancy & Daylight) - Non Profit	4	4	4
		Energy Efficient Exterior Lighting - Non Profit	25	25	25
	Multifamily	Audit - Multifamily - Govt	75	75	75
		Energy Efficiency Measures - Multifamily - Govt	150	150	150
	Outdoor Lighting	LED Traffic Signals	41	41	41
		Energy Efficient Street & Area Lighting (Tariff / Util Owned)	-	-	-
		Energy Efficient Exterior Lighting (Tariff / Cust Owned)	61	61	61

Appendix D-4: Calculation Methods and Assumptions - Rebate Strategy

Program	Measure Name	Eligibility / Description	Rebate Strategy
Appliance Turn-In Program	Refrigerator Recycling	Removal of an existing inefficient unit generally older than 10 years from service prior to end of useful life thru recycling	Up to $50 per Unit
	Freezer Recycling	Removal of an existing inefficient unit generally older than 10 years from service prior to end of useful life thru recycling	Up to $50 per Unit
	Room Air Conditioner Recycling	Removal of an existing inefficient unit from service prior to end of useful life thru recycling	Up to $50 per Unit
Home Performance Program	Audit	In-Home Audit w/ direct install measures. Also provides incentive for comprehensive measures including but not limited to: Windows, Duct Sealing, and Wall & Attic Insulation, etc., Eligible to customers w/ electric water heating, and/or central electric HVAC systems.	Audit = $250 + Recommendations up to $.11/kWh
	On-Line Audit	Energy education and awareness supporting installation of measures and behaviors that reduce consumption of energy and demand thru recommendations from the self performed on-line audit specific to the residence home.	Up to $100 in EE Measures
	Energy Efficiency Measures	Opt In Kit with energy efficiency measures including but not limited to: CFLs, Night Lights etc. mailed at customers request. Adoption of an energy efficiency school curriculum provided by teachers or districts which encourages efficient practices & installation of efficiency measures at home.	Up to $100 in EE Measures
	New Construction	Improvement in residence electric energy efficiency of 10 - 15% above present IECC code or Energy Star.	Up to $400 + Up to $.11/kWh savings per House
	Energy Usage Reports	Reports containing energy usage comparisons, recommendations and education emphasizing key points, general conservation tips and information on tools and resources supporting implementation of measures and efficiencies behaviors that reduces consumption of energy and demand.	N/A
Energy Efficient Products Program	Heat Pump	Replacement of ducted split central units prior to end of life or a new system w/ Energy Star qualifying units w/ SEER ratings > or = 14.5 or 12 EER or 8.2 HSPF	Up to $411 per Unit
	HVAC Maintenance	Check refrigerant levels and air flow across coils for CAC and HP units using standard industry tools with correction of any problems found and post-treatment re-measurement.	Up to $85 per Unit
	Central Air Conditioner	Replacement of ducted split central units prior to end of life w/ Energy Star qualifying units w/ SEER ratings > or = 14.5 or 12 EER	Up to $357 per Unit
	Ground Source Heat Pump	Replacement of air-air or air-water split central units that are Energy Star Rated, Tier 1-3 water-air or water-water unit	Up to $750 per Unit
	Whole House Fan	New installation of a whole house fan for customers w/ electric CAC and/or HP units	Up to $300 per Unit
	Room Air Conditioner	Purchase and installation of Energy Star (>=10.8 EER) or CEE Tier 1 (>=11.3 EER) qualifying units	Up to $45 per Unit
	Efficient Water Heater	Replacement of existing electric storage tank type units heated by Resistive Elec. w/ EF >.93, HP w/ EF >2.0 & Solar w/ EF >1.84	Solar = Up to $500 Heat Pump = Up to $300 EE Resistive = Up to $125
	Furnace Fan	Replacement of an existing fan with a BPM or ECM at the time of an HVAC tune-up or installation of a new CAC or HP.	Up to $150 per Unit
	Ductless Mini-Split	New installation of a Energy Star qualifying unit w/ SEER >= 14.5, EER >=12 or HSPF >= 8.2.	Up to $720 per Unit
	Clothes Washer	Purchase and installation of an Energy Star (MEF >=2.0) or CEE Tier 3 (MEF >=2.20) qualifying units	Up to $188 per Unit
	Dehumidifier	Purchase and installation of an Energy Star qualifying units w/ L/kWh of 1.20 to 2.50 and greater	Up to $34 per Unit
	Refrigerator	Purchase and installation of a new unit meeting either Energy Star or CEE Tier 2, >=20% or >=25% respectively lower energy consumption than the federal standard.	Up to $78 per Unit

Appendix D-4: Calculation Methods and Assumptions - Rebate Strategy

Program	Measure Name	Eligibility / Description	Rebate Strategy
Energy Efficient Products Program	Freezer	Purchase and installation of a new unit meeting either Energy Star or CEE Tier 2, >=20% or >=25% respectively lower energy consumption than the federal standard.	Up to $78 per Unit
	Pool Pump Motor	Replacement of an existing single speed pool pump motor with a higher efficiency single, two or variable speed motor of equivalent horsepower.	Up to $218 per Unit
	Smart Strip	Purchase and installation of controlled power strip (occupancy sensing or load sensing) units w/ 5 or 7 outlets	Up to $16 per Unit
	Television	Purchase and installation of Energy Star qualifying units meeting version 5.1 (effective May 1,2012) requirements	N/A
	EE Office Equipment	Purchase and installation of Energy Star qualifying units	N/A
	Torchiere Floor Lamp	Purchase and installation of Energy Star qualifying units	Up to $10 per Unit
	LED Holiday Lighting	Purchase and installation of Energy Star qualifying units	Up to $4 per Unit
	Energy Efficient Lighting Products	Purchase and installation of CFLs, LEDs, EE Incandescent and Halogen screw in & pin base bulbs, single or multi packs replacing incandescents	CFLs = Up to $3.00 NTE cost of bulb LED Products = Up to $30 NTE cost of bulb
Low Income Program	Comprehensive	WARM Plus - Weatherization services provided to customers who qualify within 200% of the Federal Poverty Income Guidelines	As Determined
	Extra Measures	WARM Extra Measures - additonal energy affiance measures provided to customers who qualify within 200% of the Federal Poverty Income Guidelines	As Determined
	Energy Efficiency Measures - Low Income	LILU - Opt Out Kit with energy efficiency measures including but not limited to: CFLs, Night Lights etc. mailed to customers.	As Determined
	Appliance Replacement	Removal of an existing inefficient appliance and replacement with a energy efficient appliance of equal size and type.	As Determined
	Audit - Multifamily	In-Home Audit w/ direct install measures. Also provides comprehensive measures including but not limited to: Windows, Duct Sealing, and Wall & Attic Insulation, etc., Eligible to customers w/ electric water heating, and/or central electric Heating and Cooling	As Determined
C&I Energy Efficient Equipment Program - Small	Air Conditioning - Small C&I	Replacement or new installation of a Single Package or Split System AC, (unitary air, water or evaporatively cooled) exceeding IECC 2006 Table 503.2.3 (1)	Up to $75 / Ton
	Heat Pump - Small C&I	Replacement or new installation of a Single Package or Split System HP, (unitary air, water or evaporatively cooled) exceeding IECC 2006 Table 503.2.3 (1)	Up to $75 / Ton
	Ground Source Heat Pump - Small C&I	Replacement or new Grounnd Water & Source Heat Pumps < 135kBtuH, meeting CEE Tier 1 of >=15.5EER Cool & >=3.5 COP Heat	Up to $75 / Ton
	PTAC - Small C&I	Replacement or new installation of units meeting CEE Tier 1 of >=11.6 EER Cool	Up to $150 per Unit
	PTHP - Small C&I	Replacement or new installation of units meeting CEE Tier1 of >=11.2 Cool & >=3.4 COP Heat	Up to $150 per Unit
	Ductless Mini-Split - Small C&I	Replacement or new installation of Energy Star units >=14.5SEER, >=12EER , and >=8.2HSPF	Up to $720 per Unit
	HVAC Maintenance - Small C&I	Check refrigerant levels and air flow across coils for CAC and HP units using standard industry tools with correction of any problems found and post-treatment re-measurement.	Up to $15 per Ton
	Hotel Room HVAC/Receptacle Controls/Room	New installation of occupancy and load sensing controls on lights, receptacles and individual room HVAC units (adjusted back to default settings)	Up to $154 per Room
	Dual Enthalpy Economizer - Small C&I	Upgrade the outside air dry bulb economizer sensors and controls to a dual enthalpy controlled economizer. Upgrade provides continuous monitoring of both outside and return air which controlling system dampers.	Up to $300 per Unit

Appendix D-4: Calculation Methods and Assumptions - Rebate Strategy

Program	Measure Name	Eligibility / Description	Rebate Strategy
C&I Energy Efficient Equipment Program - Small	Electric Chiller - Small C&I	Replacement or new installation of a single electric chiller w/o VSDs w/ efficiency exceeding IECC 2006, Table 503.2.3 (7) w/ IPLV based on COP	Up to $19 per Ton
	Room Air Conditioner - Small C&I	Purchase and installation of Energy Star (>=9.4 EER) or CEE SHEA Tier 1 (>=9.8 EER) qualifying units	Up to $45 per Unit
	Efficient Water Heater - Small C&I	Replacement of existing electric storage tank type units heated by Resistive Elec. w/ EF >.93, HP w/ EF >2.0 & Solar w/ EF >1.84	Solar = Up to $500 Heat Pump = Up to $300 EE Resistive = Up to $125
	Clothes Washer - Small C&I	Purchase and installation of Energy Star or CEE Tier 1 qualifying units meeting MEF >=2.0 w/ electric hot water heating only	Up to $284 per Unit
	Refrigerator Recycling - Small C&I	Removal of an existing inefficient unit generally older than 10 years from service prior to end of useful life thru recycling	Up to $50 per Unit
	Freezer Recycling - Small C&I	Removal of an existing inefficient unit generally older than 10 years from service prior to end of useful life thru recycling	Up to $50 per Unit
	Room Air Conditioner Recycling - Small C&I	Removal of an existing inefficient unit from service prior to end of useful life thru recycling	Up to $50 per Unit
	Refrigerator - Small C&I	Purchase and installation of a new unit meeting either Energy Star or CEE Tier 2, >=20% or >=25% respectively lower energy consumption than the federal standard.	Up to $78 per Unit
	Freezer - Small C&I	Purchase and installation of a new unit meeting either Energy Star or CEE Tier 2, >=20% or >=25% respectively lower energy consumption than the federal standard.	Up to $78 per Unit
	Vending Equipment Controller (Remote Mount, Lighting)	New installation of system controls on Non Energy Star rated refrigerated & non-refrigerated machines in addition to external mounted occupancy controls for lighting.	Up to $121 per Unit
	EE Office Equipment - Small C&I	Purchase and installation of Energy Star qualifying units	N/A
	Commercial Solid Door Freezer	Replacement or new installation of a Energy Star qualified reach-in commercial unit w/ solid door (0 - 50CF and greater)	Up to $165 per Unit
	Commercial Solid Door Refrigerator	Replacement or new installation of a Energy Star qualified reach-in commercial unit w/ solid door (0 - 50CF and greater)	Up to $135 per Unit
	Commercial Glass Door Freezer	Replacement or new installation of a Energy Star qualified reach-in commercial unit w/ glass door (0 - 50CF and greater)	Up to $135 per Unit
	Commercial Glass Door Refrigerator	Replacement or new installation of a Energy Star qualified reach-in commercial unit w/ glass door (0 - 50CF and greater)	Up to $165 per Unit
	Ice Machine	Replacement or new installation of Energy Star qualified air cooled, cube-type machines including ice-making heads, self contained & remote-condenser units w/ capacity (100 to 1500lbs/day and greater)	0-500Lbs/Day =Up to $50 501-1000lbs/Day = Up to $100 1001lbs/Day < = Up to $200
	Steam Cooker	Replacement or new installation of Energy Star qualified electric units w/ 3-6 pans	3 Pan =Up to $200, 4 Pan =Up to $275 5 Pan = Up to $325, 6 Pan = Up to $400
	Hot Food Holding Cabinet	Replacement or new installation of Full, Three Qtr and Half sized Energy Star qualified units w/ idle energy rate of .04kW/CF	Up to $833 per Unit
	Fryers & Griddles	Replacement or new installation of Energy Star qualified electric units.	Up to $971 per Unit
	Combination & Convection Oven	Replacement or new installation of: Combination ovens w/ a heavy load cooking affiance of 60% or greater, or Convection ovens meeting Energy Star qualifications	Up to $1,214 per Unit
	Refrigerated Case Cover	New installation of continuous curtains over case openings put in place when not in use.	Up to $32 per LF of Unit
	Anti Sweat Heater Control	New installation of door heater controls on glass door refrigerators or coolers, these on-off controls offer two eligible strategies utilizing relative humidity of indoor air or conductivity of the door	Up to $23 per Door
	LED Reach in Refrigerator / Freezer Lighting	Replacement of T8 or T12 linear fluorescent refrigerator, cooler or freezer lighting w/ LED lighting. Occupancy sensing controls are optional.	Up to $40 per Door
	Pre Rinse Sprayer	Replacement of sprayer w/ a unit that uses 1.6GPM or less, On/Off squeeze lever, and cleanability performance of at least 26 seconds, electric water heating only	Up to $39 per Unit
	Strip curtains for walk-in Refrigerator / Freezer	Replacement or new installation of a polyethylene strip curtain on walk in freezers and coolers covering the entire door frame, eligible openings must be open a minimum of 2.5hrs/day	Up to $1 per SF

Appendix D-4: Calculation Methods and Assumptions - Rebate Strategy

Program	Measure Name	Eligibility / Description	Rebate Strategy
C&I Energy Efficient Equipment Program - Small (Cont'd)	Energy Efficient Exterior Lighting - Small C&I	Replacement or new installation of lighting equipment to a greater efficiency than existing or designed	NTE 75% of Incremental Costs
	Linear Fluorescent Retrofits (Stndrd & Non Stndrd) - Small C&I	Replacement or new installation of linear fluorescent lighting equipment, including but not limited to T8 and T5, to a higher efficiency than existing or designed	Standard = NTE 75% of Incremental Cost Non Standard = Up to $.18/kWh
	LED Exit Sign (Retrofit Only) - Small C&I	Replacement of incandescent or fluorescent signs w/ LED	Up to $15 per Unit
	LED Signage	Replacement, retrofit or new installation of channel letter signs w/ LED technolgy.	Up to $2 per LF of Letter
	Energy Efficient Lighting Products - Small C&I	Purchase and installation of CFLs, LEDs, EE Incandescent and Halogen screw in & pin base bulbs, single or multi packs replacing incandescents	Standard = NTE 75% of Incremental Cost Non Standard = Up to $.18/kWh
	Lighting Controls (Occupancy & Daylight) - Small C&I	New installation of lighting controls including but not limited to: daylight On/Off & dimming, occupancy sensors (wall plate, remote & fixture mounted), time clocks and switching controls.	Up to $78 per Unit
	VFDs up to 200 HP - Small C&I	New Installation on existing motors driving HVAC fans, cooling tower fans, chilled water pumps, condenser water pumps, hot water pumps and air compressors. Other applications and larger VFDs will be considered as a Custom measure.	Up to $47 per HP
	VFDs greater than 200 HP - Small C&I	New Installation on existing motors driving HVAC fans, cooling tower fans, chilled water pumps, condenser water pumps, hot water pumps and air compressors. Other applications and larger VFDs will be considered as a Custom measure.	Up to $47 per HP
	Custom - Small C&I	Replacement or retrofit of existing equipment with greater efficient equipment or process changes, including motors.	Up to $.18/kWh saved NTE 50% of Project Cost
C&I Energy Efficient Buildings Program - Small	New Construction - Small C&I	Improvement in building electric consumption of 24% better than ASHRAE 90.1-2004.	Up to $2 per SF
	Audit - Small C&I	Customer completed energy audits recommending installation of efficient equipment or process changes. Eligible audits will recommend implementation of measures offered by the Company. The audit measure is dependent on implementation and approval of an audit recomended measure offered by the Company.	Up to $0.05 per kWh saved NTE 50% of Audit Cost
	Audit w/ Direct Install Measures	Provides an audit with the installation of standard energy efficency measures and an expedited, simple solution for busniess owners who are interested in upgarding to energy efficient equipment.	Upgraded equipment at 80% up to $6000
	Custom Building - Small C&I	Retrofit of existing building shell, electrical & electric mechanical retrofits to greater efficiency components and processes.	Up to $.18/kWh saved NTE 50% of Project Cost
	Building Operation Training - Small C&I	Customers who obtain Building Operator Certification (BOC®) for there operating employees and maintain the system changes brought about by the education/certification.	Up to $.18/kWh saved NTE 50% of Project Cost
	Energy Management System - Small C&I	Purchase and Installation of an Energy Management System designed to improve electric energy efficency	Up to $.18/kWh saved NTE 50% of Project Cost
	Energy Efficiency Measures - Small C&I	Opt In Kit with energy efficiency measures including but not limited to: CFLs, Night Lights etc. mailed at customers request. Adoption of an energy efficiency school curriculum provided by teachers or districts which encourages efficient practices & installation of efficiency measures at home.	Up to $100 in EE Measures

Appendix D-4: Calculation Methods and Assumptions - Rebate Strategy

Program	Measure Name	Eligibility / Description	Rebate Strategy
C&I Energy Efficient Equipment Program - Large	Air Conditioning - Large C&I	Replacement or new installation of a Single Package or Split System AC, (unitary air, water or evaporatively cooled) exceeding IECC 2006 Table 503.2.3 (1)	Up to $75 / Ton
	Heat Pump - Large C&I	Replacement or new installation of a Single Package or Split System HP, (unitary air, water or evaporatively cooled) exceeding IECC 2006 Table 503.2.3 (1)	Up to $75 / Ton
	Ground Source Heat Pump - Large C&I	Replacement or new Grounnd Water & Source Heat Pumps < 135kBtuH, meeting CEE Tier 1 of >=15.5EER Cool & >=3.5 COP Heat	Up to $75 / Ton
	PTAC - Large C&I	Replacement or new installation of units meeting CEE Tier 1 of >=11.6 EER Cool	Up to $150 per Unit
	PTHP - Large C&I	Replacement or new installation of units meeting CEE Tier1 of >=11.2 Cool & >=3.4 COP Heat	Up to $150 per Unit
	Ductless Mini-Split - Large C&I	Replacement or new installation of Energy Star units >=14.5SEER, >=12EER , and >=8.2HSPF	Up to $720 per Unit
	HVAC Maintenance - Large C&I	Check refrigerant levels and air flow across coils for CAC and HP units using standard industry tools with correction of any problems found and post-treatment re-measurement.	Up to $15 per Ton
	Dual Enthalpy Economizer - Large C&I	Upgrade the outside air dry bulb economizer sensors and controls to a dual enthalpy controlled economizer. Upgrade provides continuous monitoring of both outside and return air which controlling system dampers.	Up to $300 per Unit
	Electric Chiller - Large C&I	Replacement or new installation of a single electric chiller w/o VSDs w/ efficiency exceeding IECC 2006, Table 503.2.3 (7) w/ IPLV based on COP	Up to $19 per Ton
	Energy Efficient Exterior Lighting - Large C&I	Replacement or new installation of lighting equipment to a greater efficiency than existing or designed	NTE 75% of Incremental Costs
	Linear Fluorescent Retrofits (Stndrd & Non Stndrd) - Large C&I	Replacement or new installation of linear fluorescent lighting equipment, including but not limited to T8 and T5, to a higher efficiency than existing or designed	Standard = NTE 75% of Incremental Cost Non Standard = Up to $.18/kWh
	Energy Efficient Lighting Products - Large C&I	Replacement of incandescent or fluorescent signs w/ LED	Standard = NTE 75% of Incremental Cost Non Standard = Up to $.18/kWh
	LED Exit Sign (Retrofit Only) - Large C&I	Purchase and installation of CFLs, LEDs, EE Incandescent and Halogen screw in & pin base bulbs, single or multi packs replacing incandescents	Up to $15 per Unit
	Lighting Controls (Occupancy & Daylight) - Large C&I	New installation of lighting controls including but not limited to: daylight On/Off & dimming, occupancy sensors (wall plate, remote & fixture mounted), time clocks and switching controls.	Up to $78 per Unit
	VFDs up to 200 HP - Large C&I	New Installation on existing motors driving HVAC fans, cooling tower fans, chilled water pumps, condenser water pumps, hot water pumps and air compressors. Other applications and larger VFDs will be considered as a Custom measure.	Up to $47 per HP
	VFDs greater than 200 HP - Large C&I	New Installation on existing motors driving HVAC fans, cooling tower fans, chilled water pumps, condenser water pumps, hot water pumps and air compressors. Other applications and larger VFDs will be considered as a Custom measure.	Up to $47 per HP
	Custom - Large C&I	Replacement or retrofit of existing equipment with greater efficient equipment or process changes, including motors.	Up to $.18/kWh saved NTE 50% of Project Cost

Appendix D-4: Calculation Methods and Assumptions - Rebate Strategy

Program	Measure Name	Eligibility / Description	Rebate Strategy
C&I Energy Efficient Buildings Program - Large	Audit - Large C&I	Customer completed energy audits recommending installation of efficient equipment or process changes. Eligible audits will recommend implementation of measures offered by the Company. The audit measure is dependent on implementation and approval of an audit recomended measure offered by the Company.	Up to $0.05 per kWh saved NTE 50% of Audit Cost
	Custom Building - Large C&I	Retrofit of existing building shell, electrical & electric mechanical retrofits to greater efficiency components and processes.	Up to $.18/kWh saved NTE 50% of Project Cost
	Retrocommissioning - Large C&I	Adjust Electrical, Electric Mechanical, & Control System set points to improve system performance to existing building conditions and use.	Up to $.18/kWh saved NTE 50% of Project Cost
	Building Operation Training - Large C&I	Customers who obtain Building Operator Certification (BOC®) for there operating employees and maintain the system changes brought about by the education/certification.	Up to $.18/kWh saved NTE 50% of Project Cost
	Energy Management System - Large C&I	Purchase and Installation of an Energy Management System designed to improve electric energy efficency	Up to $.18/kWh saved NTE 50% of Project Cost
Program	**Measure Name**	**Eligibility / Description**	**Rebate Strategy**
Governmental & Institutional Program	LED Traffic Signals	Replace incandescent traffic & pedestrian signals with LED signals	Up to $70 per Socket
	Energy Efficient Street & Area Lighting (Tariff / Util Owned)	Replace streetlighting with higher efficient lighting	Up to $75 per Unit
	Energy Efficient Exterior Lighting (Tariff / Cust Owned)	Replace streetlighting with higher efficient lighting	Up to $75 per Unit
	Energy Efficient Exterior Lighting - Non Profit	Replacement or new installation of lighting equipment to a greater efficiency than existing or designed	NTE 75% of Incremental Costs
	Linear Fluorescent Retrofits (Stndrd & Non Stndrd) - Non Profit	Replacement or new installation of linear fluorescent lighting equipment, including but not limited to T8 and T5, to a higher efficiency than existing or designed	Standard = NTE 75% of Incremental Cost Non Standard = Up to $.18/kWh
	Energy Efficient Lighting Products - Non Profit	Purchase and installation of CFLs, LEDs, EE Incandescent and Halogen screw in & pin base bulbs, single or multi packs replacing incandescents	Standard = NTE 75% of Incremental Cost Non Standard = Up to $.18/kWh
	LED Exit Sign (Retrofit Only) - Non Profit	Replacement of incandescent or fluorescent signs w/ LED	Up to $15 per Unit
	Lighting Controls (Occupancy & Daylight) - Non Profit	New installation of lighting controls including but not limited to: daylight On/Off & dimming, occupancy sensors (wall plate, remote & fixture mounted), time clocks and switching controls.	Up to $78 per Unit
	Audit - Govt	Customer completed energy audits recommending installation of efficient equipment or process changes. Eligible audits will recommend implementation of measures offered by the Company. The audit measure is dependent on implementation and approval of an audit recomended measure offered by the Company.	Up to $0.05 per kWh saved NTE 50% of Audit Cost
	Audit w/ Direct Install Measures - Govt	Provides an audit with the installation of standard energy efficency measures and an expedited, simple solution for busniess owners who are interested in upgarding to energy efficient equipment.	Upgraded equipment at 80% up to $6000

Appendix D-4: Calculation Methods and Assumptions - Rebate Strategy

Program	Measure Name	Eligibility / Description	Rebate Strategy
Governmental & Institutional Program	Air Conditioning - Non Profit	Replacement or new installation of a Single Package or Split System AC, (unitary air, water or evaporatively cooled) exceeding IECC 2006 Table 503.2.3 (1)	Up to $75 / Ton
	Heat Pump - Non Profit	Replacement or new installation of a Single Package or Split System HP, (unitary air, water or evaporatively cooled) exceeding IECC 2006 Table 503.2.3 (1)	Up to $75 / Ton
	Ground Source Heat Pump - Non Profit	Replacement or new Grounnd Water & Source Heat Pumps < 135kBtuH, meeting CEE Tier 1 of >=15.5EER Cool & >=3.5 COP Heat	Up to $75 / Ton
	PTAC - Non Profit	Replacement or new installation of units meeting CEE Tier 1 of >=11.6 EER Cool	Up to $150 per Unit
	PTHP - Non Profit	Replacement or new installation of units meeting CEE Tier1 of >=11.2 Cool & >=3.4 COP Heat	Up to $150 per Unit
	Room Air Conditioner - Non Profit	Purchase and installation of Energy Star (>=9.4 EER) or CEE SHEA Tier 1 (>=9.8 EER) qualifying units	Up to $45 per Unit
	Efficient Water Heater - Non Profit	Replacement of existing electric storage tank type units heated by Resistive Elec. w/ EF >.93, HP w/ EF >2.0 & Solar w/ EF >1.84	Solar = Up to $500 Heat Pump = Up to $300 EE Resistive = Up to $125
	Refrigerator Recycling - Non Profit	Removal of an existing inefficient unit generally older than 10 years from service prior to end of useful life thru recycling	Up to $50 per Unit
	Freezer Recycling - Non Profit	Removal of an existing inefficient unit generally older than 10 years from service prior to end of useful life thru recycling	Up to $50 per Unit
	Room Air Conditioner Recycling - Non Profit	Removal of an existing inefficient unit from service prior to end of useful life thru recycling	Up to $50 per Unit
	Refrigerator - Non Profit	Purchase and installation of a new unit meeting either Energy Star or CEE Tier 2, >=20% or >=25% respectively lower energy consumption than the federal standard.	Up to $78 per Unit
	Freezer - Non Profit	Purchase and installation of a new unit meeting either Energy Star or CEE Tier 2, >=20% or >=25% respectively lower energy consumption than the federal standard.	Up to $78 per Unit
	EE Office Equipment - Non Profit	Purchase and installation of Energy Star qualifying units	N/A
	Audit - Multifamily - Govt	In-Home Audit w/ direct install measures. Also provides incentive for comprehensive measures including but not limited to: Windows, Duct Sealing, and Wall & Attic Insulation, etc., Eligible to customers w/ electric water heating, and/or central electric HVAC systems.	Audit = $250 + Recommendations up to $.11/kWh
	Energy Efficiency Measures - Multifamily - Govt	Opt In Kit with energy efficiency measures including but not limited to: CFLs, Night Lights etc. mailed at customers request. Adoption of an energy efficiency school curriculum provided by teachers or districts which encourages efficient practices & installation of efficiency measures at home.	Up to $100 in EE Measures
	Custom - Non Profit	Replacement or retrofit of existing equipment with greater efficient equipment or process changes, including motors.	Same as applicable measure in Small / Large C&I

Appendix E:
PUC Tables 1 - 7

Appendix E
Table 1: Portfolio Summary of Lifetime Costs and Benefits

Penn Power					
Portfolio Summary of Lifetime Costs and Benefits					
Portfolio	**Discount Rate**	**Total Discounted Lifetime Costs ($000)**	**Total Discounted Lifetime Benefits ($000)**	**Total Discounted Net Lifetime Benefits ($000)**	**Cost- Benefit Ratio (TRC)**
Residential *(exclusive of Low-Income)*	11.14%	7,350,604	8,904,592	1,553,988	1.2
Residential Low- Income [1]	11.14%	3,303,719	826,795	(2,476,924)	0.3
Commercial/ Industrial Small	11.14%	6,617,979	10,378,702	3,760,723	1.6
Commercial/ Industrial Large	11.14%	4,299,043	8,710,475	4,411,432	2.0
Governmental/ Educational/ Non-Profit	11.14%	317,689	311,877	(5,812)	1.0
Total	**11.14%**	**21,889,034**	**29,132,442**	**7,243,407**	**1.3**

1. Includes Human Services and Home Performance Sub-Programs

Appendix E

Table 2: Summary of Portfolio Energy and Demand Savings

o Program Year is June 1 - May 31

Penn Power								
Summary of Portfolio Energy and Demand Savings								
	Program Year 2013		Program Year 2014		Program Year 2015		Total	
MWh and kW Saved for Consumption Reductions	MWh Saved	kW Saved	MWh Saved	kW Saved	MWh Saved	kW Saved	MWh Saved	kW Saved
Baseline[1]	4,772,937		4,772,937		4,772,937		4,772,937	
Residential Sector *(exclusive of Low- Income)* - Cumulative Projected Portfolio Savings[2]	18,436	1,302	30,493	1,868	42,408	2,430	42,408	2,430
Residential Low-Income Sector - Cumulative Projected Portfolio Savings[2 4]	2,473	336	3,469	560	4,808	794	4,808	794
Commercial/Industrial Small Sector - Cumulative Projected Portfolio Savings[2]	7,198	734	15,154	1,590	23,078	2,439	23,078	2,439
Commercial/Industrial Large Sector - Cumulative Projected Portfolio Savings[2]	3,051	402	7,310	947	11,534	1,486	11,534	1,486
Governmental/Educational/Non-Profit Sector - Cumulative Projected Portfolio Savings[2 5]	4,031	358	8,886	813	13,738	1,267	13,738	1,267
EE&C Plan Total - Cumulative Projected Savings	35,188	3,132	65,312	5,778	95,565	8,417	95,565	8,417
Estimated Phase I Carryover Savings								
Total Cumulative Projected Savings Phase II + Estimated Phase I Carryover Savings	**35,188**	**3,132**	**65,312**	**5,778**	**95,565**	**8,417**	**95,565**	**8,417**
EE&C Plan Total - Percentage of Target to be Met[1]	37%		68%		100%		100%	
Percent Reduction From Baseline	0.7%		1.4%		2.0%		2.0%	
Commission Identified Goal					95,502		95,502	
Percent Savings Due to Portfolio Above or Below Commission Goal	12%		18%		0%		0%	

[1] As defined in the August 2, 2012 Implementation Order, Docket No. M-2012-2289411.

[2] Adjusted for weather and extraordinary load as applicable.

[3] The August 2, 2012 Implementation Order directed that at least 25% of an EDC's target amount in each program year.

[4] Includes Low Income participation allocated to Low Income sector from Residential Sector and targeted Energy Usage Reports

[5] Includes Multi Family participation allocated to Government sector from Small/Large C&I sector

Appendix E
Table 3: Summary of Portfolio Costs
o Program Year is June 1 - May 31

Penn Power Summary of Portfolio Costs						
	Program Year 2013		Program Year 2014		Program Year 2015	
	Portfolio Budget ($)	% of Portfolio Budget	Portfolio Budget ($)	% of Portfolio Budget	Portfolio Budget ($)	% of Portfolio Budget
Residential Portfolio *(exclusive of Low-Income)* Annual Budget	3,083,740	47%	2,974,395	45%	2,947,532	43%
Residential Low-Income Portfolio Annual Budget [1]	1,261,013	19%	1,071,146	16%	1,302,549	19%
Commercial/Industrial Small Portfolio Annual Budget	1,386,913	21%	1,517,174	23%	1,530,748	22%
Commercial/Industrial Large Portfolio Annual Budget	653,970	10%	868,713	13%	873,485	13%
Governmental/Educational/Non-Profit Portfolio Annual Budget	166,082	3%	165,830	3%	167,433	2%
Total Portfolio Annual Budget	**6,551,718**	**100%**	**6,597,259**	**100%**	**6,821,748**	**100%**

1. Includes Human Services and Home Performance Sub-Programs

Appendix E
Table 4: Program Summaries

Penn Power Program Summaries								
	Program Name	**Program Market**	**Program Two Sentence Summary**	**Program Years Operated**	**Net Lifetime MWh Savings**	**Net Peak Demand kW Savings**	**Percentage of Portfolio MWh savings %**	**Percentage of Total Lifetime MWh savings %**
Residential Portfolio Programs *(exclusive of Low Income)*	Appliance Turn-In Program	RES	This program provides rebates to consumers for turning in a working refrigerator, freezer, or room air-conditioner.	4	21,601	3,253	4.6%	3.1%
	Energy Efficient Products Program	RES	This program provides rebates to consumers and financial incentives and support to retailers and manufacturers that sell energy efficient products, such as HVAC equipment, appliances, lighting, home electronics and other products.	4	42,601	3,458	17.3%	6.0%
	Home Performance Program	RES	This program provides energy efficiency education and awareness along with measures and incentives for customers to conserve energy in their homes.	4	130,143	11,128	25.2%	18.4%
	Totals for Residential Sector				**194,345**	**17,839**	**47.1%**	**27.5%**
Residential Low-Income Sector Programs	Low Income Program [1.]	LI RES	This program provides basic to comprehensive whole house measures, through direct mail or direct installation, and educates customers about their home's energy use and ways to save energy to low-income households.	4	14,615	5,609	2.3%	2.1%
	Totals for Low-Income Sector				**14,615**	**5,609**	**2.3%**	**2.1%**

1. Includes Human Services and Home Performance Sub-Programs

Appendix E
Table 4: Program Summaries

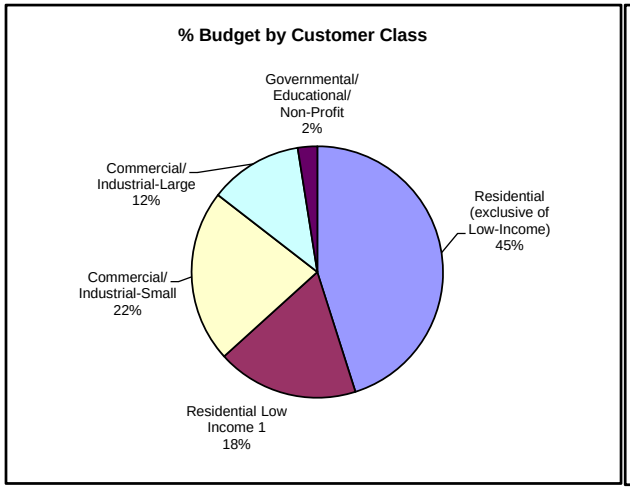
Penn Power Program Summaries								
	Program Name	Program Market	Program Two Sentence Summary	Program Years Operated	Net Lifetime MWh Savings	Net Peak Demand kW Savings	Percentage of Portfolio MWh savings %	Percentage of Total Lifetime MWh savings %
Commercial/ Industrial Small Portfolio Programs	C&I Energy Efficient Equipment Program - Small	Small C&I	This program provides financial incentives (prescriptive & performance) and support to customers directly, or through trade allies, for purchasing and installing energy efficient equipment and products.	4	233,543	29,011	28.3%	33.1%
	C&I Energy Efficient Buildings Program - Small	Small C&I	This program provides financial incentives and support to customers for implementing building shell or system improvements. Other delivery mechanisms include incentives towards audits and kits and audits with direct installation of measures targeted at small business.	4	19,865	2,117	3.8%	2.8%
	Totals for Small Enterprise				**253,408**	**31,128**	**32.1%**	**35.9%**
Commercial/ Industrial Large Portfolio Programs	C&I Energy Efficient Equipment Program - Large	Large C&I	This program provides financial incentives (prescriptive & performance) and support to customers directly, or through trade allies, for purchasing and installing energy efficient equipment and products.	4	187,899	26,483	13.9%	26.6%
	C&I Energy Efficient Buildings Program - Large	Large C&I	This program provides financial incentives and support to customers for implementing building shell or system improvements. Other delivery mechanisms include incentives towards audits.	4	50,555	5,492	3.9%	7.2%
	Totals for Large Enterprise				**238,455**	**31,975**	**17.8%**	**33.8%**
Governmental/ Educational/ Non-Profit Portfolio Programs	Governmental & Institutional Program	Gov't	This program provides financial incentives and support to Governmental & Institutional customers for the installation of energy efficient equipment and products.	4	4,646	742	0.6%	0.7%
	Totals for Gov't/NP Sector Programs				**4,646**	**742**	**0.6%**	**0.7%**
Total for Plan					**706,252**	**84,380**	**100.0%**	**100.0%**

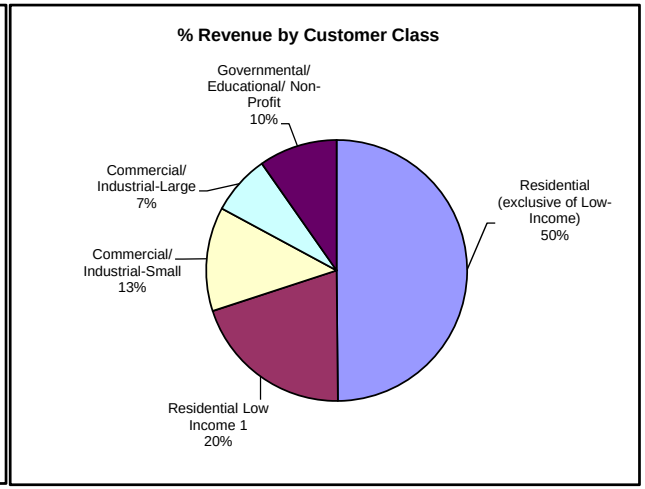
Appendix E

Table 5: Budget and Parity Analysis Summary

o Through Program Year 2015

Penn Power					
Budget and Parity Analysis Summary					
Customer Class	**Budget (PY 2013-2015)**	**% of Total EDC Budget**	**% of Total Budget Excluding Other Expenditures**	**% of Total Customer Revenue**	**Difference**
Residential *(exclusive of Low-Income)*	9,005,667	45.1%	45.1%	49.9%	-4.8%
Residential Low Income [1]	3,634,708	18.2%	18.2%	20.1%	-1.9%
Residential Subtotal	12,640,375	63.3%	63.3%	70.0%	-6.7%
Commercial/Industrial-Small	4,434,835	22.2%	22.2%	12.9%	9.3%
Commercial/Industrial-Large	2,396,167	12.0%	12.0%	7.4%	4.6%
C&I Subtotal	6,831,003	34.2%	34.2%	20.3%	13.9%
Governmental/Educational/Non-Profit	499,346	2.5%	2.5%	9.7%	-7.2%
Governmental/Educational/Non-Profit Subtotal	499,346	2.5%	2.5%	9.7%	-7.2%
Residential/C&I/Governmental/ Educational/Non-Profit Subtotal	19,970,724	100.0%	100.0%	100.0%	
Other Expenditures	-	0.0%			
Other Expenditures Subtotal	-	0.0%			
EDC TOTAL	**19,970,724**	**100%**	**100%**	**100%**	





1. Includes Human Services and Home Performance Sub-Programs

Appendix E
Table 6A: Portfolio-Specific Assignment of EE&C Costs

Penn Power			
Residential Portfolio *(excluding Low-Income)*			
EE&C Program	**Cost Elements ($)**		
	Total Incentives	*Operations Costs*	*Total Budget (2013-2015)*
Appliance Turn-In Program	326,625	812,055	1,138,680
Energy Efficient Products Program	1,290,645	773,043	2,063,688
Home Performance Program	2,999,910	2,531,634	5,531,544
Totals	**4,617,180**	**4,116,732**	**8,733,912**

Penn Power			
Residential Low-Income Portfolio			
EE&C Program	**Cost Elements ($)**		
	Total Incentives	*Operations Costs*	*Total Budget (2013-2015)*
Low Income Program [1]	0	3,099,707	3,099,707
Totals	**0**	**3,099,707**	**3,099,707**

1. Includes Human Services and Home Performance Sub-Programs

Appendix E
Table 6A: Portfolio-Specific Assignment of EE&C Costs

Penn Power Commercial/Industrial Small Portfolio			
EE&C Program	**Cost Elements ($)**		
	Total Incentives	*Operations Costs*	*Total Budget (2013-2015)*
C&I Energy Efficient Equipment Program - Small	2,002,342	1,348,727	3,351,069
C&I Energy Efficient Buildings Program - Small	538,566	432,085	970,651
Totals	**2,540,908**	**1,780,812**	**4,321,720**

Penn Power Commercial/Industrial Large Portfolio			
EE&C Program	**Cost Elements ($)**		
	Total Incentives	*Operations Costs*	*Total Budget (2013-2015)*
C&I Energy Efficient Equipment Program - Large	1,251,904	322,271	1,574,175
C&I Energy Efficient Buildings Program - Large	508,446	275,577	784,023
Totals	**1,760,350**	**597,848**	**2,358,198**

Penn Power Governmental/Educational/Non-Profit Portfolio			
EE&C Program	**Cost Elements ($)**		
	Total Incentives	*Operations Costs*	*Total Budget (2013-2015)*
Governmental & Institutional Program	268,631	216,934	485,565
Totals	**268,631**	**216,934**	**485,565**

Appendix E
Table 6B: Allocation of Common Costs to Applicable Customer Sector

Penn Power						
Allocation of Common Costs to Applicable Customer Sector						
Common Cost Element	Total Cost ($)	Basis for Cost Allocation	Class Cost Allocaton ($)			
			Residential *(including Low-Income)*	Commercial/ Industrial-Small	Commercial/ Industrial-Large	Governmental/ Educational/ Non-Profit
Tracking and Reporting	$ 199,601	Program Specific Costs	$146,246	$36,601	$12,298	$4,456
Labor	$ 486,972	Program Specific Costs	$384,661	$70,184	$23,581	$8,545
Legal Fees, Plan Development Expenses, Modeling, Employee Expenses	$ 285,050	Program Specific Costs	$275,850	$6,330	$2,090	$779
Totals	**$ 971,622**		**$806,757**	**$113,115**	**$37,970**	**$13,781**

Appendix E

Table 6C: Summary of Portfolio EE&C Costs

Penn Power	Total Sector Portfolio-specific Costs	Total Common Costs	Total of All Costs
Residential (including Low-Income)	$11,833,619	$806,757	$12,640,375
Commercial/ Industrial-Small	$4,321,720	$113,115	$4,434,835
Commercial/ Industrial-Large	$2,358,198	$37,970	$2,396,167
Governmental/Educational/ Non-Profit	$485,565	$13,781	$499,346
Totals	**$18,999,101**	**$971,622**	**$19,970,724**

Appendix E

Table 7A: TRC Benefits Table

o Program Year is June 1 - May 31

Residential Portfolio *(exclusive of Low-Income)*	Penn Power TRC Benefits By Program Per Year ($000)											
					Capacity		Energy		Load Reductions in kW		MWh Saved	
					Annual		Annual					
Program	Program Year	TRC	Program Costs ($000)	Program Benefits ($000)	Benefits	Gen/T&D	Benefits	On/Off Peak	Annual	Lifetime	Annual	Lifetime
Appliance Turn-In Program	2013		283	65	14,658	See footnote 1	50,401	See footnote 2	151		1,451	
	2014		288	121	18,013		103,357		301		2,902	
	2015		293	194	32,451		161,286		452		4,354	
	Total	*1.3*	*779*	*1,005*	*135,195*		*869,677*			*3,253*		*21,601*
Energy Efficient Products Program	2013		566	118	13,470		104,859		138		5,475	
	2014		569	233	16,650		215,875		278		10,993	
	2015		578	368	30,170		338,295		420		16,554	
	Total	*1.2*	*1,546*	*1,859*	*134,967*		*1,723,741*			*3,458*		*42,601*
Home Performance Program	2013		1,925	802	108,924		692,762		1,119		12,897	
	2014		1,828	1,073	84,270		989,102		1,409		18,592	
	2015		1,799	1,432	121,585		1,310,812		1,692		24,083	
	Total	*1.2*	*5,025*	*6,041*	*484,069*		*5,556,942*			*11,128*		*130,143*
Total		**1.2**	**7,351**	**8,905**	**754,232**		**8,150,360**			**17,839**		**194,345**

1: Generation, Transmission and Distribution Capacity costs are combined in a sum of avoided capacity costs. These costs are then NPV back to the year the measure unit was installed. The combined avoided capacity costs can not be identified by component; therefore, the total avoided capacity costs for Generation, Transmission, and Distribution are displayed here.

2: The on and off peak energy costs are combined in a sum of avoided energy costs. These costs are then NPV back to the year the measure unit was installed. The combined avoided energy costs can not be identified by component; therefore, the total avoided energy costs for on and off peak energy costs are displayed here.

Appendix E

Table 7B: TRC Benefits Table

o Program Year is June 1 - May 31

Residential Low-Income Portfolio	Penn Power TRC Benefits By Program Per Year ($000)											
					Capacity		Energy		Load Reductions in kW		MWh Saved	
					Annual		Annual					
Program	Program Year	TRC	Program Costs ($000)	Program Benefits ($000)	Benefits	Gen/T&D	Benefits	On/Off Peak	Annual	Lifetime	Annual	Lifetime
Low Income Program	2013		1,270	72	22,413	See footnote 1	49,517	See footnote 2	230		1,086	
	2014		1,080	100	26,312		73,789		440		1,475	
	2015		1,312	163	47,427		115,677		660		2,225	
	Total	*0.3*	*3,304*	*827*	*224,385*		*602,410*			*5,609*		*14,615*
Total		**0.3**	**3,304**	**827**	**224,385**		**602,410**			**5,609**		**14,615**

1: Generation, Transmission and Distribution Capacity costs are combined in a sum of avoided capacity costs. These costs are then NPV back to the year the measure unit was installed. The combined avoided capacity costs can not be identified by component; therefore, the total avoided capacity costs for Generation, Transmission, and Distribution are displayed here.

2: The on and off peak energy costs are combined in a sum of avoided energy costs. These costs are then NPV back to the year the measure unit was installed. The combined avoided energy costs can not be identified by component; therefore, the total avoided energy costs for on and off peak energy costs are displayed here.

3: Includes Human Services and Home Performance Sub-Programs

Appendix E
Table 7C: TRC Benefits Table
o Program Year is June 1 - May 31

Commercial/ Industrial-Small	Penn Power TRC Benefits By Program Per Year ($000)											
					Capacity		Energy		Load Reductions in kW		MWh Saved	
					Annual		Annual					
Program	Program Year	TRC	Program Costs ($000)	Program Benefits ($000)	Benefits	Gen/T&D	Benefits	On/Off Peak	Annual	Lifetime	Annual	Lifetime
C&I Energy Efficient Equipment Program - Small	2013		2,028	455	74,538	See footnote 1	379,679	See footnote 2	766		8,520	
	2014		2,157	916	99,119		816,307		1,657		17,853	
	2015		2,167	1,476	182,684		1,292,429		2,543		27,153	
	Total	*1.7*	*5,723*	*9,479*	*983,053*		*8,491,100*			*29,011*		*233,543*
C&I Energy Efficient Buildings Program - Small	2013		344	76	14,024		61,483		144		1,202	
	2014		321	143	17,234		126,081		288		2,405	
	2015		324	228	31,047		196,854		432		3,607	
	Total	*1.0*	*895*	*900*	*93,938*		*805,612*			*2,117*		*19,865*
Total		**1.6**	**6,618**	**10,379**	**1,076,991**		**9,296,712**			**31,128**		**253,408**

1: Generation, Transmission and Distribution Capacity costs are combined in a sum of avoided capacity costs. These costs are then NPV back to the year the measure unit was installed. The combined avoided capacity costs can not be identified by component; therefore, the total avoided capacity costs for Generation, Transmission, and Distribution are displayed here.

2: The on and off peak energy costs are combined in a sum of avoided energy costs. These costs are then NPV back to the year the measure unit was installed. The combined avoided energy costs can not be identified by component; therefore, the total avoided energy costs for on and off peak energy costs are displayed here.

Appendix E
Table 7D: TRC Benefits Table
o Program Year is June 1 - May 31

Commercial/ Industrial-Large	Penn Power TRC Benefits By Program Per Year ($000)											
					Capacity		Energy		Load Reductions in kW		MWh Saved	
					Annual		Annual					
Program	Program Year	TRC	Program Costs ($000)	Program Benefits ($000)	Benefits	Gen/T&D	Benefits	On/Off Peak	Annual	Lifetime	Annual	Lifetime
C&I Energy Efficient Equipment Program - Large	2013		1,012	229	44,764	See footnote 1	183,746	See footnote 2	482		3,585	
	2014		1,353	515	64,072		450,778		1,123		8,483	
	2015		1,355	861	120,459		740,812		1,758		13,346	
	Total	*2.1*	*3,326*	*6,894*	*793,558*		*6,099,978*			*26,483*		*187,899*
C&I Energy Efficient Buildings Program - Large	2013		261	51	7,517		43,744		81		791	
	2014		415	142	13,575		128,087		238		2,248	
	2015		417	247	27,061		220,307		395		3,705	
	Total	*1.9*	*973*	*1,817*	*165,209*		*1,651,490*			*5,492*		*50,555*
Total		**2.0**	**4,299**	**8,710**	**958,767**		**7,751,468**			**31,975**		**238,455**

1: Generation, Transmission and Distribution Capacity costs are combined in a sum of avoided capacity costs. These costs are then NPV back to the year the measure unit was installed. The combined avoided capacity costs can not be identified by component; therefore, the total avoided capacity costs for Generation, Transmission, and Distribution are displayed here.

2: The on and off peak energy costs are combined in a sum of avoided energy costs. These costs are then NPV back to the year the measure unit was installed. The combined avoided energy costs can not be identified by component; therefore, the total avoided energy costs for on and off peak energy costs are displayed here.

Appendix E
Table 7E: TRC Benefits Table

o Program Year is June 1 - May 31

Governmental/ Educational/ Non-Profit	Penn Power TRC Benefits By Program Per Year ($000)											
					Capacity		Energy		Load Reductions in kW		MWh Saved	
					Annual		Annual					
Program	Program Year	TRC	Program Costs ($000)	Program Benefits ($000)	Benefits	Gen/T&D	Benefits	On/Off Peak	Annual	Lifetime	Annual	Lifetime
Governmental & Institutional Program	2013		117	18	2,116	See footnote 1	9,187	See footnote 2	22		181	
	2014		117	34	2,607		18,850		44		362	
	2015		118	53	4,645		29,205		65		538	
	Total	*1.0*	*318*	*312*	*25,316*		*175,272*			*742*		*4,646*
Total		**1.0**	**318**	**312**	**25,316**		**175,272**			**742**		**4,646**

1: Generation, Transmission and Distribution Capacity costs are combined in a sum of avoided capacity costs. These costs are then NPV back to the year the measure unit was installed. The combined avoided capacity costs can not be identified by component; therefore, the total avoided capacity costs for Generation, Transmission, and Distribution are displayed here.

2: The on and off peak energy costs are combined in a sum of avoided energy costs. These costs are then NPV back to the year the measure unit was installed. The combined avoided energy costs can not be identified by component; therefore, the total avoided energy costs for on and off peak energy costs are displayed here.

Appendix F:
Phase II EE&C Rider

P E N N S Y L V A N I A P O W E R C O M P A N Y

Schedule of Rates, Rules and Regulations
for
Electric Service
For List of Communities Served,
See Pages 5 and 6

ISSUED: March 29, 2013 **EFFECTIVE: June 1, 2013**

Issued by
Charles E. Jones, Jr.
President
233 Frenz Drive
New Castle, PA 16101

N O T I C E

This Supplement Makes Changes to Existing Tariff -- See Ninety-first Revised Sheet No. 1

LIST OF MODIFICATIONS

Riders

Added Phase II Energy Efficiency and Conservation Charge Rider (See Original Sheets 74.1-74.4).

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Energy Efficiency & Conservation Charge Rider	60.1-60.3
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Net Metering Rider	65.1-65.4
Solar Photovoltaic Requirements Charge Rider	70.1-70.4
Price to Compare Default Service Rate Rider	71.1-71.8
Phase II Energy Efficiency and Conservation Charge Rider	74.1-74.4

PHASE II ENERGY EFFICIENCY AND CONSERVATION CHARGE RIDER

A Phase II Energy Efficiency and Conservation Charge ("Phase II EE&C-C") shall be applied to each Billing Unit during a billing month to Customers served under this Tariff. Billing Units are defined as follows:

Residential, Non-profit, Commercial, and Street Lighting Customer Classes:	Per kWh
Industrial Customer Class:	Per kW PLC

Residential, Non-profit, Commercial, and Street Lighting Customer Class rates will be calculated to the nearest one-thousandth of a cent per kWh. Industrial Customer Class rates will be calculated to the nearest one-hundredth of a dollar per kW PLC. The Phase II EE&C-C rates shall be calculated separately for each Customer Class according to the provisions of this rider.

For service rendered June 1, 2013 through May 31, 2014 the Phase II EE&C-C rates billed by Customer Class are as follows:

Residential Customer Class (Rate Schedules RS; RS Optional Controlled Service Rider; RH; RH Water Heating Option; and WH):

0.291 cents per kWh.

Non-profit Customer Class (Rate GS Special Provision for Volunteer Fire Companies, Non-Profit Senior Citizen Centers, Non-Profit Rescue Squad, and Non-Profit Ambulance Service; and Rate PNP):

0.630 cents per kWh.

Commercial Customer Class (Rate Schedules GS; GS Special Rule GSDS, GS Optional Controlled Service Rider; GM; GM Optional Controlled Service Rider; PLS; OH With Cooling Capabilities; OH Without Cooling Capabilities; and WH Non-Residential):

0.122 cents per kWh.

Street Lighting Customer Class (Rate Schedules SV; SVD; and SM):

0.082 cents per kWh.

Industrial Customer Class (Rate GP, and Rate GT):

$ 0.28 per kW PLC.

Phase II Energy Efficiency and Conservation Charge Rider (continued)

The Phase II EE&C-C rates by Customer Class shall be calculated in accordance with the formula set forth below:

$$EEC\text{-}C = [(EEC_C - E) / S] \times [1 / (1 - T)]$$

$$EEC_C = EEC_{Exp1} + EEC_{Exp2} + EEC_{Exp3} + EEC_{Exp4}$$

Where:

EEC-C = The charge in cents or dollar per Billing Unit by Customer Class as defined by this rider applied to each Billing Unit for the Rate Schedules identified in this rider.

EEC_C = The Energy Efficiency and Conservation Costs by Customer Class incurred and projected to be incurred by the Company for the Phase II EE&C-C Computational Period calculated in accordance with the formula shown above.

EEC_{Exp1} = Costs incurred and projected to be incurred associated with the Customer Class specific Phase II EE&C Programs as approved by the Commission for the Phase II EE&C-C Computational Period by Customer Class. These costs also include an allocated portion of any indirect costs incurred associated with all the Company's Phase II EE&C Programs for the Phase II EE&C-C Computational Period. Such costs shall be allocated to each Customer Class based on the ratio of class-specific approved budgeted program costs to total approved budgeted program costs.

EEC_{Exp2} = An allocated portion of incremental administrative start-up costs incurred by the Company through May 31, 2013 in connection with the development of the Company's Phase II EE&C Programs in response to the Commission's orders and guidance at Docket Nos. M-2012-2289411 and M-2008-2069887. These costs to design, create, and obtain Commission approval for the Company's Phase II EE&C Programs include, but are not limited to, consultant costs, legal fees, and other direct and indirect costs associated with the development and implementation of the Company's Phase II EE&C Programs in compliance with Commission directives. Such costs shall be allocated to each Customer Class based on the ratio of class-specific approved budgeted program costs to total approved budgeted program costs.

Phase II Energy Efficiency and Conservation Charge Rider (continued)

EEC_{Exp3} = An allocated portion of the costs the Company incurs and projects to incur to fund the Commission's statewide evaluator contract which shall be excluded in the final determination of the Act 129 limitation on the Company's Phase II EE&C Programs costs. Such costs shall be allocated to each Customer Class based on the ratio of class-specific approved budgeted program costs to total approved budgeted program costs.

EEC_{Exp4} = An allocated portion of any costs the Company incurs and projects to incur to fund any future Commission-approved demand response programs, or successor demand response programs. Such costs shall be allocated to each Customer Class based on the ratio of class-specific approved budgeted program costs to total approved budgeted program costs.

E = The cumulative over or under-collection of Phase II EE&C costs by Customer Class that results from the billing of the Phase II EE&C-C rates (an over-collection is denoted by a positive E and an under-collection by a negative E).

S = The Company's projected Billing Units (kWh sales delivered to all Customers in the specific Customer Class or kW PLC demand for the Industrial Customer Class).

T = The Pennsylvania gross receipts tax rate in effect during the billing month expressed in decimal form as reflected in the Company's base rates.

All capitalized terms not otherwise defined in this rider shall have the definitions specified in the Definitions of Terms section of this Tariff. For the purpose of this Rider, the following additional definitions shall apply:

Phase II Energy Efficiency and Conservation Charge Rider (continued)

1. Phase II EE&C-C Computational Period – The 12-month period from June 1, 2013 through May 31, 2014.

2. Phase II EE&C-C Initial Reconciliation Period – June 1, 2013 through March 31, 2014 for the initial period of the rider.

3. Phase II EE&C-C Reconciliation Period – The 12-month period ending March 31 each year thereafter, except for the Initial Reconciliation Period, for the duration of this rider.

4. Peak Load Contribution ("PLC") – A Customer's contribution to the Company's transmission zone normalized summer peak load, as estimated by the Company in accordance with PJM rules and requirements.

The Company will submit to the Commission by May 1 of each year starting May 1, 2014: (1) a reconciliation between actual Phase II EE&C-C revenues and actual Phase II EE&C-C costs through March of that year, as adjusted for removal of gross receipts tax; (2) any adjustment to the forecasted Phase II EE&C-C revenues anticipated to be billed during April through May of that year, as adjusted for removal of gross receipts tax; (3) any adjustment to the Phase II EE&C costs based upon actual costs incurred through March and any revised estimates for future months (including, but not limited to, re-evaluation or re-design of Phase II EE&C Programs and re-allocation of Phase II EE&C Program Costs to the designated Rate Schedules), subject to the amount permitted to be recovered under 66 Pa.C.S. § 2806.1; (4) the subsequent effect of the EE&C cost adjustment, Billing Unit forecast update, and reconciliation to the Phase II EE&C-C rates adjusted for gross receipts tax, and levelized over the period of the upcoming June 1 and continuing through the following May 31; (5) the Phase II EE&C budget estimate for the forthcoming annual calculation period (June 1 through May 31) by rate class; and (6) any other adjustments approved by the Commission pertaining to the implementation of the Phase II EE&C Plan. There shall also be a final reconciliation of amounts to be collected or refunded after May 31, 2016.

Upon determination that the Phase II EE&C-C rates, if left unchanged, would result in material over or under-collection of all recoverable costs incurred or expected to be incurred by Customer Class, the Company may request that the Commission approve one or more interim revisions to the Phase II EE&C-C rates to become effective thirty (30) days from the date of filing, unless otherwise ordered by the Commission.

The Company shall file an annual report of collections under this rider by June 30th of each year starting June 30, 2014 until the conclusion of this rider.

At the conclusion of the duration of this rider, the Company is authorized to recover or refund any remaining amounts not reconciled at that time under such mechanism as approved by the Commission.

Application of the Phase II EE&C-C rates shall be subject to annual review and audit by the Commission.