BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

METROPOLITAN EDISON COMPANY
Docket No. __________

PENNSYLVANIA ELECTRIC COMPANY
Docket No. __________

PENNSYLVANIA POWER COMPANY
Docket No. __________

WEST PENN POWER COMPANY
Docket No. __________

ENERGY EFFICIENCY AND CONSERVATION PLANS

Prepared
Direct
Testimony
of
Edward C. Miller

List of Topics Addressed

The Companies' Phase II Energy Efficiency and Conservation Plans,

Plan Development and Compliance

Plan Risks and Program Goals

I. INTRODUCTION AND BACKGROUND

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Edward C. Miller and my business address is 631 Excel Drive, Suite 200, Mount Pleasant, Pennsylvania 15666.

Q. MR. MILLER, BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am employed by FirstEnergy Service Company as Manager, Development and Compliance in the Energy Efficiency Department. I am responsible for development and compliance activities related to energy efficiency and conservation ("EE&C") for the FirstEnergy utilities in Ohio, Maryland, New Jersey, Pennsylvania and West Virginia. This primarily involves the development of programs and filings to meet the FirstEnergy utilities' EE&C requirements and obligations. I report to the Director, Compliance and Reporting in FirstEnergy's Energy Efficiency Department.

Q. WHAT IS YOUR EDUCATIONAL AND PROFESSIONAL BACKGROUND?

A. For over seventeen years, I was employed by Allegheny Energy Service Corporation, the service company for Allegheny Energy Inc. ("Allegheny"), which merged in 2011 with FirstEnergy Corp. ("FirstEnergy"). I have held various engineering, customer service and management positions in Customer Services, Sales & Marketing, Customer Management and Energy Efficiency. After FirstEnergy and Allegheny merged in 2011, I became employed by FirstEnergy Service Company as Manager, Development & Compliance in FirstEnergy's Energy

Efficiency Department, my current position. I hold a Bachelor of Science degree in Electrical Engineering from the University of Pittsburgh.

Q. PLEASE DESCRIBE YOUR PROFESSIONAL EXPERIENCE RELEVANT TO THE TESTIMONY YOU ARE NOW GIVING.

A. I have been involved in the development of EE&C programs and filings for the utilities formerly owned by Allegheny in Pennsylvania, Maryland and West Virginia since 2009. Since the FirstEnergy - Allegheny merger I have been involved in the same activities for the FirstEnergy utilities in Ohio and Pennsylvania. I was significantly involved in the development of the Companies' Proposed Phase II EE&C Plans ("Proposed Plans") and was responsible for the modeling and design of the programs included in those plans.

Q. ON WHOSE BEHALF ARE YOU TESTIFYING?

A. I am testifying on behalf of Metropolitan Edison Company ("Met-Ed"), Pennsylvania Electric Company ("Penelec"), Pennsylvania Power Company ("Penn Power") and West Penn Power Company ("West Penn") (collectively, the "Companies"). Unless otherwise stated, my testimony equally applies to all four companies. Further, rather than reiterating what is included in the Companies' proposed plans in my testimony, any references to sections of those plans are incorporated as if fully rewritten herein.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to: (i) summarize the additional EE&C reduction targets set for the Companies by the Pennsylvania Public Utility Commission's ("Commission") 2012

Implementation Order[1] and the spending limitations for each Company under Act 129; (ii) summarize and sponsor the Proposed Plans; (iii) describe the development of the Proposed Plans; (iv) describe how the Companies plan to implement the programs included in the Proposed Plans; (v) analyze whether the Proposed Plans comply with all statutory and regulatory requirements, including without limitation the Commission's 2012 Implementation Order and its Total Resource Cost ("TRC") test Order[2]; and (vi) explain the potential risks surrounding the Companies' ability to achieve the additional consumption targets established in the Commission's 2012 Implementation Order.

Q. WHAT WAS YOUR ROLE IN THE DEVELOPMENT OF THE PROPOSED PLANS?

A. My role in the development of the Proposed Plans was to manage the creation of the Phase II EE&C programs and budgets; evaluate the cost-effectiveness of the Proposed Plans consistent with the Commission's requirements; and optimize the plan components to achieve goals of Act 129 given the regulatory requirements, spending limits, and targeted reductions.

Q. WERE THE PROPOSED PLANS DEVELOPED UNDER YOUR DIRECTION AND CONTROL?

A. Yes. The Proposed Plans were developed under my direction. In order to guide the development of the Plans, I primarily reviewed the requirements of the Commission's 2012 Implementation Order, the Commission's Tentative Order regarding the 2013 Proposed Technical Reference

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

Manual ("TRM")[3], the Commission's Order establishing the 2012 TRM, and the 2013 Phase II TRC Order.

II. PHASE II EE&C TARGETS AND SPENDING LIMITATIONS

Q. DID THE COMMISSION ADOPT ADDITIONAL INCREMENTAL EE&C REDUCTION TARGETS FOR THE COMPANIES?

A. Yes. The Commission adopted new EE&C targets as set forth in the Commission's 2012 Implementation Order. The EE&C targets are for the Phase II period of the Commission's EE&C Program which starts on June 1, 2013 and ends on May 31, 2016 ("Phase II Period").

Q. WHAT ARE THE OVERALL MWH TARGETS THAT EACH OF THE COMPANIES MUST ACHIEVE PURSUANT TO ACT 129 AND THE COMMISSION'S 2012 IMPLEMENTATION ORDER?

A. The following table shows the MWh targets for the Phase II Period:

EDC Name	**Phase II Target MWh**
Met-Ed	337,753
Penelec	318,813
Penn Power	95,502
West Penn Power	337,533
Total	***1,089,601***

[3] *Implementation of the Alternative Energy Portfolio Standards Act of 2004: Standards for the Participation of Demand Side Management Resources – Technical Reference Manual 2013 Update*, Docket Nos. M-2012-2313373 and M-00051865 (Tentative order entered September 13, 2012).

Q. ARE THE COMPANIES CHALLENGING THE ADDITIONAL INCREMENTAL EE&C TARGETS THAT THE COMMISSION ADOPTED FOR THE COMPANIES IN ITS 2012 IMPLEMENTATION ORDER?

A. Yes. On August 20, 2012, the Companies, in Docket Nos. P-2012-2320450, P-2012-2320468, P-2012-2320480, and P-2012-2320484, petitioned the Commission for an evidentiary hearing challenging the EE&C benchmarks established for the Companies' Phase II EE&C Plans. An evidentiary hearing was held on October 19, 2012 and briefs were filed and the record was certified on November 2, 2012.

Q. PLEASE EXPLAIN WHY THE COMPANIES ARE CHALLENGING THE ADDITIONAL INCREMENTAL EE&C TARGETS?

A. The Companies believe that the acquisition costs established by the Commission are too low and, because the Phase II targets are based on the estimated acquisition costs, the Companies believe that the Phase II targets are too high. In the Phase II Implementation Order, the Commission utilized EDC acquisition costs from Phase I as the basis when developing the anticipated acquisition costs for Phase II. The acquisition cost includes an administration cost component and an incentive cost component. In setting the administration cost component, the Statewide Evaluator assessed the statewide average acquisition costs for Phase I, Plan Years 1 and 2 and increased them by 25% for all Pennsylvania EDCs. This means that the Companies, who generally serve more rural areas of the state, have been assigned the same administration cost as utilities who serve more urban, and likely less costly, areas of the state. In setting the incentive cost component, the Statewide Evaluator adopted the same percentage of measure incremental costs for all Pennsylvania EDCs as an input to calculating the incentive cost component of each

EDC's assumed acquisition cost. This means that the Companies, especially Penn Power and West Penn who have average retail rates significantly lower than the statewide average, are generally able to only provide the same incentive as a percentage of a measure's incremental cost as utilities with higher rates. However, a greater incentive is generally necessary to encourage customers to implement measures where the EDC's retail rates are lower, so as to provide an equivalent total benefit to customers. Additionally, given uncertainties with future TRM changes and realization rates, other changes are also needed to the assumed Phase II acquisition costs. In light of these factors, it is necessary to increase the Companies' assumed acquisition costs per MWh to provide the Companies with a reasonable confidence that their acquisition costs are sufficient for the Companies' to meet their targets. However, with the fixed 2% spending cap imposed on the EDCs, unless the Commission decreases the Companies' targets, the increase in the acquisition cost is not possible. The increase in the Companies' acquisition cost to account for the administration and incentive budget inequities between and among EDCs, especially when coupled with the uncertainties in future TRM changes and realization rates, results in the need to decrease the Companies' Phase II targets in order to have a reasonable level of confidence in achieving the Companies' goals and thus avoiding the potential for significant financial penalties. The inequity I reference is therefore remedied by using a higher per MWh acquisition cost which, given a fixed maximum budget, results in lower energy reduction goals for the Companies.

Q. WERE THERE OTHER REASONS THE COMPANIES REQUESTED A REDUCTION IN THEIR PHASE II EE&C TARGETS?

A. Yes. In the challenge proceeding, the Companies also noted that the assigned acquisition costs did not adequately consider the likely effect of TRM changes that reduces allowable savings in the years 2013, 2014, and 2015. Based on future reductions similar to those included in the draft 2013 TRM update, this factor alone exhausts the 25% cushion assigned by the Commission for future uncertainties affecting acquisition costs that could arise during the Phase II plans. Finally, the Companies noted that the Commission's assigned acquisition costs assumed a 100% realization rate while in Phase I only a 96% realization rate has been achieved and future realization rates can be lower as programs evolve.

Q. ARE YOU SAYING THAT THE PROPOSED PLANS ARE NOT DESIGNED TO ACHIEVE THE ENERGY SAVINGS TARGETS ASSIGNED TO THE COMPANIES IN THE 2012 IMPLEMENTATION ORDER?

A. No. Using the Commission's assumptions related to acquisition costs, as well as other assumptions derived therefrom, the Proposed Plans are designed to achieve the Phase II EE&C targets based on current known conditions. However, should these assumptions prove to be invalid, there is a significant risk that the Companies will not be able to achieve their Phase II EE&C targets.

Q. WHAT ASSUMPTIONS ARE YOU REFERRING TO?

A. The overall Commission assumption on acquisition costs dictates the total available budget for incentives and 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. The Companies disagree with those assumptions and remain unconvinced that the Commission has taken all costs and economic factors into account in deciding to continue with Phase II mandatory reductions in the manner prescribed by the 2012 Implementation Order. To the extent, the Commission would rule in favor of the Companies in the Phase II incremental EE&C target proceeding, the Companies capability to overcome these differences to meet the Phase II goals would be improved, thus providing them with a more reasonable level of confidence toward achieving the goals. Since the Companies may be subject to severe financial penalty if the goals are not met, the Companies should be provided a reasonable opportunity to meet the goals, or alternatively, be given an opportunity in the future to demonstrate that the targets should be modified.

Q. WHEN IS THE COMMISSION EXPECTED TO MAKE A DECISION REGARDING THE COMPANIES' PHASE II INCREMENTAL EE&C TARGETS?

A. The Phase II Implementation Order did not provide a specific deadline to decide any Phase II goal challenges. The Commission states that the challenges and the decision on the Phase II Plan itself would be "expedited" so all issues would be resolved prior to June 1, 2013 when Phase II begins.

Q. WOULD THE PROPOSED PLANS BE AFFECTED IF THE COMMISSION WERE TO REDUCE THE COMPANIES' PHASE II EE&C TARGETS?

A. Because the Commission's acquisition cost assumptions are suspect, should the Commission modify their position and increase those assumed costs, certain adjustments to the *assumptions*, rather than the plans themselves, would be necessary. The Companies anticipate that the portfolio of programs would be virtually identical to those included in the Proposed Plans. However, for the reasons supporting the request for a reduction in the targets, the Companies would adjust incentive levels and overall acquisition costs and participation rates. In essence, the changes would be made not so much to program designs, but rather to the levels of savings derived from the programs, based on more reasonable assumptions that reduce the risk of failure. Because of the nature of the changes, the Companies anticipate still needing the full 2% budget to meet any revised goals.

Q. WHAT IS THE ANNUAL BUDGET FOR THE DEVELOPMENT AND IMPLEMENTATION OF THE PROPOSED PLANS?

A. Act 129 specifies that "The total cost of any plan required under this section shall not exceed 2% of the electric distribution company's total annual revenue as of December 31, 2006."[4] Per Act 129, the annual budget for each of the Companies based on this requirement is as follows:

EDC Name	**Annual Budget**
Met-Ed	$24,866,894
Penelec	$22,974,742
Penn Power	$6,659,789
West Penn Power	$23,562,602

[4] 66 Pa.C.S.§ 2806.1(m).

Q. HOW MUCH HAS BEEN BUDGETED FOR THE RESIDENTIAL SECTOR PROGRAMS?

A. For Met-Ed, the residential sector program budget for each program is as follows:

Met-Ed Residential Portfolio *(excluding Low-Income)*			
EE&C Program	Cost Elements ($)		
	Total Incentives	*Operations Costs*	*Total Budget (2013-2015)*
Appliance Turn-In Program	1,096,500	2,752,300	3,848,800
Energy Efficient Products Program	7,162,570	3,536,760	10,699,330
Home Performance Program	10,573,875	10,716,593	21,290,468
Totals	**18,832,945**	**17,005,653**	**35,838,598**

Met-Ed Residential Low-Income Portfolio			
EE&C Program	Cost Elements ($)		
	Total Incentives	*Operations Costs*	*Total Budget (2013-2015)*
Low Income Program	0	6,611,611	6,611,611
Totals	**0**	**6,611,611**	**6,611,611**

For Penelec, the residential sector program budget for each program is as follows:

Penelec			
Residential Portfolio *(excluding Low-Income)*			
EE&C Program	**Cost Elements ($)**		
	Total Incentives	*Operations Costs*	*Total Budget (2013-2015)*
Appliance Turn-In Program	960,750	2,386,644	3,347,394
Energy Efficient Products Program	6,233,400	3,367,739	9,601,139
Home Performance Program	9,123,750	10,043,267	19,167,017
Totals	**16,317,900**	**15,797,650**	**32,115,550**

Penelec			
Residential Low-Income Portfolio			
EE&C Program	**Cost Elements ($)**		
	Total Incentives	*Operations Costs*	*Total Budget (2013-2015)*
Low Income Program	0	8,420,816	8,420,816
Totals	**0**	**8,420,816**	**8,420,816**

For Penn Power, the residential sector program budget for each program is as follows:

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	1,301,865	783,375	2,085,240
Home Performance Program	3,084,750	2,560,232	5,644,982
Totals	**4,713,240**	**4,155,662**	**8,868,902**

Penn Power Residential Low-Income Portfolio			
EE&C Program	**Cost Elements ($)**		
	Total Incentives	*Operations Costs*	*Total Budget (2013-2015)*
Low Income Program	0	2,973,454	2,973,454
Totals	**0**	**2,973,454**	**2,973,454**

For West Penn, the residential sector program budget for each program is as follows:

West Penn Residential Portfolio *(excluding Low-Income)*			
EE&C Program	Cost Elements ($)		
	Total Incentives	*Operations Costs*	*Total Budget (2013-2015)*
Appliance Turn-In Program	1,276,500	3,094,806	4,371,306
Energy Efficient Products Program	7,023,850	4,152,951	11,176,801
Home Performance Program	3,498,750	10,231,640	13,730,390
Totals	**11,799,100**	**17,479,397**	**29,278,497**

West Penn Residential Low-Income Portfolio			
EE&C Program	Cost Elements ($)		
	Total Incentives	*Operations Costs*	*Total Budget (2013-2015)*
Low Income Program	0	5,826,527	5,826,527
Totals	**0**	**5,826,527**	**5,826,527**

Q. HOW MUCH HAS BEEN BUDGETED FOR THE SMALL COMMERCIAL AND INDUSTRIAL ("C&I") SECTOR PROGRAMS?

A. For Met-Ed, the Small C&I sector program budget for each program is as follows:

Met-Ed Commercial/Industrial Small Portfolio			
EE&C Program	Cost Elements ($)		
	Total Incentives	*Operations Costs*	*Total Budget (2013-2015)*
C&I Energy Efficient Equipment Program - Small	6,075,392	4,115,010	10,190,402
C&I Energy Efficient Buildings Program - Small	2,665,695	1,414,958	4,080,653
Totals	**8,741,087**	**5,529,968**	**14,271,055**

For Penelec, the Small C&I sector program budget for each program is as follows:

Penelec Commercial/Industrial Small Portfolio			
EE&C Program	**Cost Elements ($)**		
	Total Incentives	*Operations Costs*	*Total Budget (2013-2015)*
C&I Energy Efficient Equipment Program - Small	5,989,842	4,200,608	10,190,450
C&I Energy Efficient Buildings Program - Small	2,386,272	1,788,665	4,174,937
Totals	**8,376,114**	**5,989,273**	**14,365,387**

For Penn Power, the Small C&I sector program budget for each program is as follows:

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**

For West Penn, the Small C&I sector program budget for each program is as follows:

West Penn Commercial/Industrial Small Portfolio			
EE&C Program	**Cost Elements ($)**		
	Total Incentives	*Operations Costs*	*Total Budget (2013-2015)*
C&I Energy Efficient Equipment Program - Small	7,298,596	5,870,457	13,169,053
C&I Energy Efficient Buildings Program - Small	3,367,298	2,095,764	5,463,062
Totals	**10,665,894**	**7,966,221**	**18,632,115**

Q. HOW MUCH HAS BEEN BUDGETED FOR THE LARGE C&I SECTOR PROGRAMS?

A. For Met-Ed, the Large C&I sector program budget for each program is as follows:

Met-Ed Commercial/Industrial Large Portfolio			
EE&C Program	Cost Elements ($)		
	Total Incentives	*Operations Costs*	*Total Budget (2013-2015)*
C&I Energy Efficient Equipment Program - Large	7,259,409	2,068,433	9,327,842
C&I Energy Efficient Buildings Program - Large	3,236,946	1,032,956	4,269,902
Totals	**10,496,355**	**3,101,389**	**13,597,744**

For Penelec, the Large C&I sector program budget for each program is as follows:

Penelec Commercial/Industrial Large Portfolio			
EE&C Program	Cost Elements ($)		
	Total Incentives	*Operations Costs*	*Total Budget (2013-2015)*
C&I Energy Efficient Equipment Program - Large	5,307,995	1,343,571	6,651,566
C&I Energy Efficient Buildings Program - Large	1,774,682	1,012,043	2,786,725
Totals	**7,082,677**	**2,355,614**	**9,438,291**

For Penn Power, the Large C&I sector program budget for each program is as follows:

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**

For West Penn, the Large C&I sector program budget for each program is as follows:

West Penn Commercial/Industrial Large Portfolio			
EE&C Program	Cost Elements ($)		
	Total Incentives	*Operations Costs*	*Total Budget (2013-2015)*
C&I Energy Efficient Equipment Program - Large	5,520,033	1,465,594	6,985,627
C&I Energy Efficient Buildings Program - Large	3,101,357	824,294	3,925,651
Totals	**8,621,390**	**2,289,888**	**10,911,278**

Q. HOW MUCH HAS BEEN BUDGETED FOR FEDERAL, STATE, AND LOCAL GOVERNMENT/MUNICIPALITIES/SCHOOL DISTRICTS/INSTITUTIONS OF HIGHER LEARNING AND NON-PROFIT ENTITIES (“GOVERNMENT/NON-PROFIT”) SECTOR PROGRAMS?

A. Federal, State, Local Government, municipalities, school districts, institutions of higher learning and non-profit entities are mostly served under the same rate schedules as small and large commercial and industrial customers and are, therefore, included in the programs and budgets targeted for those customers. However, the Companies have also developed an additional program that is solely available to certain specific government/non-profit customers.

For Met-Ed, the Government/Non-Profit sector program budget is as follows:

Met-Ed Governmental/Educational/Non-Profit Portfolio			
EE&C Program	**Cost Elements ($)**		
	Total Incentives	*Operations Costs*	*Total Budget (2013-2015)*
Governmental & Institutional Program	668,877	584,921	1,253,798
Totals	**668,877**	**584,921**	**1,253,798**

For Penelec, the Government/Non-Profit sector program budget is as follows:

Penelec Governmental/Educational/Non-Profit Portfolio			
EE&C Program	**Cost Elements ($)**		
	Total Incentives	*Operations Costs*	*Total Budget (2013-2015)*
Governmental & Institutional Program	757,499	776,625	1,534,124
Totals	**757,499**	**776,625**	**1,534,124**

For Penn Power, the Government/Non-Profit sector program budget is as follows:

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**

For West Penn, the Government/Non-Profit sector program budget is as follows:

West Penn Governmental/Educational/Non-Profit Portfolio			
EE&C Program	Cost Elements ($)		
	Total Incentives	*Operations Costs*	*Total Budget (2013-2015)*
Governmental & Institutional Program	1,496,961	1,352,130	2,849,091
Totals	**1,496,961**	**1,352,130**	**2,849,091**

III. SUMMARY OF THE COMPANIES' PHASE II EE&C PLANS

Q. PLEASE SUMMARIZE THE KEY FEATURES AND IMPLICATIONS OF THE PROPOSED PLANS.

A. Each of the Companies have developed Phase II EE&C Plans that include a portfolio of EE&C programs that are designed to achieve the specific reduction targets set by the Commission in its 2012 Implementation Order for the Phase II Period. Collectively, the proposed programs provide significant opportunities for energy and cost savings for practically all of the Companies' customers and meet the EE&C reduction requirements within the spending limitations. Like the Phase I EE&C Plans that are currently in effect for the Companies ("Existing Plans"), which were approved in Docket Nos. M-2009-2092222 (Met-Ed), M-2009-2112952 (Penelec), M-2009-2112956 (Penn Power), and M-2009-2093218 (West Penn), the proposed Phase II EE&C Plans include a portfolio of EE&C programs targeted to a variety of customer segments, including: (i) residential (which includes low income); (ii) small commercial and industrial ("C&I"); (iii) large C&I; and (iv) Government/Non-profit sector. Each of the

Proposed Plans includes most of the components reflected in the Existing Plans. However, the Companies have modified many of these components in an effort to provide customers with more opportunities for energy and related cost savings and provide the Companies with more implementation flexibility in order to enhance their ability to meet the Phase II EE&C targets. Several of the programs included in the Existing Plans have also been reorganized in the Proposed Plans so as to make the Proposed Plans similar in design and format to FirstEnergy's other utilities outside of Pennsylvania. These changes allow the Companies to: (i) capitalize on the economies of scale and synergies created through common plan administration and program implementation activities; (ii) simplify evaluation measurement and verification ("EM&V") and program performance evaluations; and (iii) streamline program tracking and reporting, which collectively contributes to the minimization of the Companies' overall administrative costs.

IV. <u>DEVELOPMENT OF THE PROPOSED PLANS</u>

Q. PLEASE DESCRIBE GENERALLY HOW THE COMPANIES' PHASE II EE&C PROGRAMS WERE DEVELOPED.

A. Sections 1.2 and 3.1 of the Proposed Plans describe how the FirstEnergy Energy Efficiency Plan development team ("EE&C Team") developed the Companies' Proposed Phase II Plans. Generally, the EE&C Team reviewed the existing programs and measures in the Companies' Existing Plans to assess implementation and performance to date. The EE&C Team reviewed the programs and measures offered by both FirstEnergy and other utilities to establish a universe of programs and measures for consideration. The EE&C Team also reviewed the Pennsylvania Market Potential Study and the Pennsylvania draft 2013 TRM update, and consulted with its implementation team as well as its Existing Plan program evaluator, ADM Associates, Inc. ("ADM"), for additional measure opportunities. The EE&C Team completed initial modeling, taking into account: (i) implementation experience through existing programs; (ii) program costs; (iii) input from stakeholders, consultants and vendors; (iv) the current TRM draft considered by the Commission in Docket No. M-2012-2313373, as well the 2012 TRM and Market Potential Study. Based on this analysis and evaluation, the EE&C Team selected the measures to be included in the Proposed Plans, established participation levels and corresponding program and measure savings results, and developed program budgets within the budget constraints established under Act 129's statutory 2% spending cap.

Q. PLEASE DESCRIBE THE PROCESS THROUGH WHICH STAKEHOLDER INPUT WAS SOLICITED AND RECEIVED?

A. Stakeholder input was primarily obtained through two Stakeholder meetings held on August 9, 2012 and October 4, 2012, as well as through discussions or meetings with interested individual organizations throughout the implementation of the Existing Plans and development of the Proposed Plans. In addition, the second Stakeholder meeting was held to brief the Stakeholder group on the preliminary contents of Proposed Plans and to answer questions posed by participants. The EE&C Team also discussed program concepts with the Pennsylvania Housing Finance Authority in the development of the programs that target Multifamily Buildings.

Q. IN YOUR OPINION, WAS THE STAKEHOLDER PROCESS AND INPUT BENEFICIAL TO THE DEVELOPMENT OF THE PROPOSED PLANS?

A. Yes. The Stakeholder group represented a cross section of customer class representatives, Commission Staff and Conservation Service Providers ("CSPs"). Their contributions were of great value to the process and the results.

Q. HOW MANY MEASURES WERE EVALUATED BY THE COMPANIES?

A. The Companies considered approximately 140 EE&C measures, including EE&C measures as identified by the Companies' EE&C and implementation teams, energy efficiency consultants, and stakeholders. This review also considered programs and measures being offered by other Pennsylvania utilities, the Companies' sister utilities, and utilities in other jurisdictions.

Q. HOW MANY MEASURES WERE INCLUDED IN EACH OF THE PROPOSED PLANS?

A. There are 130 measures included in each of the Proposed Plans. Appendix D-2 in each of the plans lists the measures selected.

Q. WHAT PROGRAMS AND MEASURES DID THE COMPANIES CONSIDER BUT NOT INCLUDE IN THE PROPOSED PLANS?

A. The EE&C Team considered the following programs or measures but did not include them in the Proposed Plans due primarily to implementation concerns, questionable or limited savings estimates or opportunity or cost / budget constraints:

- Conservation Voltage Reduction;
- Dishwashers;

- Clothes Dryers;
- Set Top Boxes;
- Pool Pump Timer Reprogramming;
- Check-up Audits;
- Door Closer-Reach In Refrigerator/Freezer;
- ECM ("Electronically Commutated Motor") Evaporative Fan Motor - Walk in Refrigerator/Freezer;
- ECM ("Electronically Commutated Motor") Evaporative Fan Motor - Reach In Refrigerator/Freezer; and
- Evaporator Fan Controller.

The EE&C Team also considered certain specific application or end use programs, such as retro commissioning (where commercial building operating processes and systems are individually evaluated and redesigned for improved performance), but did not include a dedicated program in the Proposed Plans. Rather, the EE&C Team designed programs with the flexibility to incorporate various types of custom application or end use projects and measures so as to provide implementation flexibility, leverage common program elements and provide the ability to accommodate multiple projects or measures that may have limited application or highly variable energy efficiency impacts based on differences in customer applications. Accordingly, retro commissioning projects, as well as other types of specific application or end-use programs and measures, are eligible as a custom measure under the Companies' Commercial/Industrial Energy Efficient Equipment Program and Commercial/Industrial Energy Efficient Buildings Program, subject to program eligibility guidelines.

V. PROGRAMS

Q. WHAT PROGRAMS ARE THE COMPANIES PROPOSING FOR PHASE II?

A. As previously discussed, the programs included in the Proposed Plans include most of the components reflected in the Existing Plans, only with modifications that provide customers with more opportunities for energy and related cost savings, the Companies with more implementation flexibility, and program managers and Conservation Service Provider(s) ("CSP") with consistency in design and format with FirstEnergy's other utilities outside of Pennsylvania. Each of the programs included in the Proposed Plans are described in detail in Section 3 of each plan. The combination of these programs provides benefits to all classes and optimizes the program mix in order to achieve each Company's portfolio TRC Cost/Benefit ratio of over 1.0.

Q. WHAT RESIDENTIAL PROGRAMS ARE THE COMPANIES PROPOSING?

A. The Companies are proposing the following programs for Residential customers: (i) Appliance Turn-In Program; (ii) Home Performance Program; and, (iii) Energy Efficient Products Program. Residential programs are designed with a progression from general to specific. Home energy kits and audits and Energy Usage Reports 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 both general energy efficiency information as well as specific energy efficiency information, including other services or opportunities that may be available to them. Details surrounding these programs can be found in Section 3.2 of the Proposed Plans

Q. WHAT RESIDENTIAL LOW-INCOME PROGRAMS ARE THE COMPANIES PROPOSING?

A. The Companies propose the Residential Low-Income Program for low income customers that qualify. The Low Income Program outlined in the Proposed Plans 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. The Companies' Low-Income Program leverages the Companies' existing Low Income Usage Reduction Program (also known as WARM) to provide additional services to the low income customers. Additional program services will be targeted at low income customers residing in multifamily buildings. Basic, enhanced and comprehensive measures and education will be provided to give households more control over their energy spending. Details surrounding this program can be found in Section 3.2 of the Proposed Plans.

Q. WHAT SMALL COMMERCIAL AND INDUSTRIAL ("C&I") PROGRAMS ARE THE COMPANIES PROPOSING?

A. The Companies are proposing the following programs for Small C&I: (i) C&I Energy Efficient Equipment Program Small and (ii) C&I Energy Efficient Buildings Program Small. Small C&I customers are similarly addressed by offering targeted information on ways to save energy followed by a prescriptive or performance (calculated based on energy savings) rebates on selected measures. Custom equipment is addressed through calculated rebates based on the estimated amount of energy savings associated with the specific customer project. Descriptions of these programs can be found in Section 3.3 of the Proposed Plans.

Q. WHAT LARGE C&I PROGRAMS ARE THE COMPANIES PROPOSING?

A. The Companies are proposing the following programs for Large C&I: (i) C&I Energy Efficient Equipment Program Large and (ii) C&I Energy Efficient Buildings Program Large. Large C&I customers are offered information and incentives similar to those discussed above for the Small C&I sector. These programs are described in Section 3.4 of the Proposed Plans.

Q. WHAT GOVERNMENT PROGRAMS ARE THE COMPANIES PROPOSING?

A. The Proposed Plans provide program services for the Government Sector including Federal, State, Local Government, municipalities, school districts, institutions of higher learning and non-profit entities through the energy efficiency programs offered under the C&I sectors. The Companies are also proposing the Government/Institution Program for specific customers and applications included in this sector including street lighting and traffic signals, master metered multi-family buildings and non-profit entities served under discrete rate schedules. This program is described in more detail in Section 3.5 of the Proposed Plans.

Q. WHAT PROGRAMS FROM PHASE I WILL THE COMPANIES BE CONTINUING IN PHASE II?

A. The following table shows the continuation and realignment of the EE&C programs from Phase I to Phase II:

Existing Program	Phase II Program
Residential Programs	
Residential Appliance Turn-In Program	Appliance Turn-In Program
Home Performance Program (WP)	Home Performance Program
Behavioral Modification & Education Program	
Residential Home Energy Audits & Outreach Program (ME/PE/PP)	
Whole Building Program (ME/PE/PP)	
Residential Multifamily Building Program (ME/PE/PP)	
Residential New Construction (ME/PE/PP)	
Residential Energy Efficient Products Program	Energy Efficient Products Program
Residential Energy Efficient HVAC Program	
Residential Low-Income Programs	
Low-Income Residential (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)	
Multifamily Building 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	Governmental & Institutional Program
Multi-Family-Tenants (ME/PE/PP)	

Q. WHY DO THE COMPANIES BELIEVE THAT CONTINUING A NUMBER OF THE PHASE I PROGRAMS INTO PHASE II WILL BE SUCCESSFUL IN MEETING THE EE&C REDUCTION TARGETS?

A. The Companies continued the Phase I programs in Phase II in order to continue the momentum gained through program implementation, customer education and marketing efforts. This decision was also based on input from Implementation Team program managers, the Companies' energy efficiency consultant and stakeholders. Continuation of the Phase I programs also leverages the implementation practices and systems that were put in place to support the operation of the programs. While the continuation of programs in Phase II serves to control administration costs associated with the programs, this does not resolve the Companies' concern that their acquisition costs are too low. Acquisition costs will increase as programs evolve beyond the low cost – relatively easy savings – more commonly referred to as "the low hanging fruit" – to more comprehensive, more sophisticated (and, thus, more expensive) services.

Q. WHICH PROGRAMS FROM THE EXISTING PLANS WILL NOT BE INCLUDED IN THE PROPOSED PLANS?

A. The EE&C Team excluded the demand response programs from all of the Proposed Plans and the Conservation Voltage Reduction ("CVR") Program from the Proposed West Penn Plan.

Q. WHY DID THE COMPANIES OPT TO EXCLUDE THESE PROGRAMS FROM THE PROPOSED PLANS?

A. The Companies excluded the demand response programs because there currently is no Phase II demand response requirement and the funds that would have been allocated to these programs were needed in order to meet the Phase II energy savings goals. The CVR program is not being continued in the Proposed West Penn Plan because the EE&C Team determined that there was very little potential for additional cost effective savings through this program.

VI. IMPLEMENTATION OF PROGRAMS

Q. PLEASE DESCRIBE THE COMPANIES' IMPLEMENTATION STRATEGY.

A. The Companies' implementation strategy will rely on a number of CSPs, trade allies, community based organizations and other entities engaged in energy-efficiency to promote, deliver, and support effective deployment of programs. Some CSPs will operate as turnkey program delivery contractors while others will provide specific functions across multiple programs. The Companies intend to contract with CSPs as soon as practicable to enable a timely program transition and implementation of the new programs and measures once the Proposed Plans are approved. As with the Existing Plans, contracts with selected vendors will be contingent upon Commission approval of the new programs and CSP contracts. The Companies' implementation strategy is more fully discussed in Sections 1.4, 1.6 and 4 of the Proposed Plans.

VII. COMPLIANCE WITH STATUTORY AND REGULATORY REQUIREMENTS

Q. ARE THE COMPANIES' PROPOSED PLANS DESIGNED TO MEET THE MWH TARGETS IDENTIFIED IN THE COMMISSION'S 2012 IMPLEMENTATION ORDER?

A. Yes, based upon the assumptions relied on by the Commission when establishing the Phase II energy savings targets, the Proposed Plans are designed to meet the MWh targets, including the special carve outs for low income and Government/Non-profit Sectors, as established in the

Commission's 2012 Implementation Order. The following table shows the cumulative MWh energy savings for Met-Ed by year:

Met-Ed								
Summary of Portfolio Energy and Demand Savings								
MWh and kW Saved for Consumption Reductions	Program Year 2013		Program Year 2014		Program Year 2015		Total	
	MWh Saved	kW Saved	MWh Saved	kW Saved	MWh Saved	kW Saved	MWh Saved	kW Saved
Baseline1	14,865,036		14,865,036		14,865,036		14,865,036	
Residential Sector (exclusive of Low- Income) - Cumulative Projected Portfolio Savings2	82,462	6,328	128,469	8,486	173,865	10,639	173,865	10,639
Residential Low-Income Sector - Cumulative Projected Portfolio Savings2 4	10,704	928	14,183	1,253	18,902	1,615	18,902	1,615
Commercial/Industrial Small Sector - Cumulative Projected Portfolio Savings2	18,784	2,302	41,889	4,951	64,885	7,582	64,885	7,582
Commercial/Industrial Large Sector - Cumulative Projected Portfolio Savings2	17,471	2,425	34,990	4,853	52,297	7,245	52,297	7,245
Governmental/Educational/Non-Profit Sector - Cumulative Projected Portfolio Savings2 5	12,173	1,271	26,844	2,721	41,502	4,169	41,502	4,169
EE&C Plan Total - Cumulative Projected Savings	141,593	13,254	246,376	22,264	351,451	31,250	351,451	31,250
Estimated Phase I Carryover Savings								
Total Cumulative Projected Savings Phase II + Estimated Phase I Carryover Savings	**141,593**	**13,254**	**246,376**	**22,264**	**351,451**	**31,250**	**351,451**	**31,250**
EE&C Plan Total - Percentage of Target to be Met1	42%		73%		104%		104%	
Percent Reduction From Baseline	1.0%		1.7%		2.4%		2.4%	
Commission Identified Goal					337,753		337,753	
Percent Savings Due to Portfolio Above or Below Commission Goal	17%		23%		4%		4%	

The following table shows the cumulative MWh energy savings for Penelec by year:

Penelec 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]	14,399,289		14,399,289		14,399,289		14,399,289	
Residential Sector *(exclusive of Low- Income)* - Cumulative Projected Portfolio Savings[2]	73,981	5,796	115,480	7,632	156,691	9,527	156,691	9,527
Residential Low-Income Sector - Cumulative Projected Portfolio Savings[2,4]	11,718	999	15,472	1,386	21,124	1,836	21,124	1,836
Commercial/Industrial Small Sector - Cumulative Projected Portfolio Savings[2]	18,458	2,128	43,686	4,848	68,800	7,548	68,800	7,548
Commercial/Industrial Large Sector - Cumulative Projected Portfolio Savings[2]	12,624	1,696	26,194	3,515	39,588	5,304	39,588	5,304
Governmental/Educational/Non-Profit Sector - Cumulative Projected Portfolio Savings[2,5]	10,439	1,035	24,601	2,310	38,741	3,582	38,741	3,582
EE&C Plan Total - Cumulative Projected Savings	127,220	11,654	225,433	19,691	324,944	27,797	324,944	27,797
Estimated Phase I Carryover Savings								
Total Cumulative Projected Savings Phase II + Estimated Phase I Carryover Savings	**127,220**	**11,654**	**225,433**	**19,691**	**324,944**	**27,797**	**324,944**	**27,797**
EE&C Plan Total - Percentage of Target to be Met[1]	40%		71%		102%		102%	
Percent Reduction From Baseline	1%		2%		2%		2%	
Commission Identified Goal					318,813		318,813	
Percent Savings Due to Portfolio Above or Below Commission Goal	15%		21%		2%		2%	

The following table shows the cumulative MWh energy savings for Penn Power by year:

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]	18,529	1,313	30,721	1,884	42,771	2,451	42,771	2,451
Residential Low-Income Sector - Cumulative Projected Portfolio Savings[2 4]	2,424	219	3,383	325	4,661	441	4,661	441
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	35,231	3,026	65,455	5,559	95,782	8,084	95,782	8,084
Estimated Phase I Carryover Savings								
Total Cumulative Projected Savings Phase II + Estimated Phase I Carryover Savings	**35,231**	**3,026**	**65,455**	**5,559**	**95,782**	**8,084**	**95,782**	**8,084**
EE&C Plan Total - Percentage of Target to be Met[1]	37%		69%		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%		19%		0%		0%	

The following table shows the cumulative MWh energy savings for West Penn Power by year:

West Penn Summary of Portfolio Energy and Demand Savings								
MWh and kW Saved for Consumption Reductions	Program Year 2013		Program Year 2014		Program Year 2015		Total	
	MWh Saved	kW Saved	MWh Saved	kW Saved	MWh Saved	kW Saved	MWh Saved	kW Saved
Baseline[1]	20,938,650		20,938,650		20,938,650		20,938,650	
Residential Sector *(exclusive of Low- Income)* - Cumulative Projected Portfolio Savings[2]	73,682	5,723	106,244	7,402	139,317	9,159	139,317	9,159
Residential Low-Income Sector - Cumulative Projected Portfolio Savings[2 4]	9,256	801	12,746	1,078	16,907	1,382	16,907	1,382
Commercial/Industrial Small Sector - Cumulative Projected Portfolio Savings[2]	24,287	3,143	50,161	6,507	75,914	9,851	75,914	9,851
Commercial/Industrial Large Sector - Cumulative Projected Portfolio Savings[2]	19,986	2,618	41,131	5,372	62,135	8,103	62,135	8,103
Governmental/Educational/Non-Profit Sector - Cumulative Projected Portfolio Savings[2 5]	17,044	1,815	35,506	3,808	53,927	5,794	53,927	5,794
EE&C Plan Total - Cumulative Projected Savings	144,255	14,101	245,788	24,169	348,200	34,289	348,200	34,289
Estimated Phase I Carryover Savings								
Total Cumulative Projected Savings Phase II + Estimated Phase I Carryover Savings	**144,255**	**14,101**	**245,788**	**24,169**	**348,200**	**34,289**	**348,200**	**34,289**
EE&C Plan Total - Percentage of Target to be Met[1]	43%		73%		103%		103%	
Percent Reduction From Baseline	0.7%		1.2%		1.7%		1.7%	
Commission Identified Goal					337,533		337,533	
Percent Savings Due to Portfolio Above or Below Commission Goal	18%		23%		3%		3%	

However, because the Companies do not agree with some of the Commission's assumptions, the Companies consider the probability of achieving the above results to be unacceptably low and urge the Commission to either adjust the targets or provide the Companies an opportunity to seek revisions of the targets should circumstances warrant. If the Commission were to increase the assumed acquisition costs and, thus, lower the Companies' targets, I would recommend higher incentive and administrative costs, as well as revised participation rates for some programs. If these changes were made, I would be more confident in the Companies' ability to achieve the projected results.

Q. ARE THE COMPANIES' PROPOSED PLANS DESIGNED TO ACHIEVE 25% OF THE CONSUMPTION REDUCTION TARGETS EACH PROGRAM YEAR?

A. Yes. The tables above provide the cumulative energy savings for each program year and illustrate that the Companies project to meet at least 25% of the consumption reduction targets each year.

Q. DO THE COMPANIES' PROPOSED PLANS ACHIEVE THE OVERALL TRC COST-BENEFIT THRESHOLD?

A. Yes. As the following four tables demonstrate, each of the Companies' TRC portfolios, and most of the customer sectors, achieve a Cost-Benefit Ratio of 1.0 or better.

The following table shows Met-Ed TRC test results for the portfolio:

Met-Ed					
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)	7.52%	29,439,330	40,591,356	11,152,026	1.4
Residential Low- Income	7.52%	7,086,576	2,281,118	(4,805,458)	0.3
Commercial/ Industrial Small	7.52%	21,772,990	34,844,891	13,071,902	1.6
Commercial/ Industrial Large	7.52%	26,657,435	47,514,495	20,857,060	1.8
Governmental/ Educational/ Non-Profit	7.52%	918,737	1,052,947	134,210	1.1
Total	**7.52%**	**85,875,067**	**126,284,807**	**40,409,740**	**1.5**

The following table shows Penelec TRC test results for the portfolio:

Penelec					
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)*	7.92%	25,851,651	35,919,936	10,068,285	1.4
Residential Low- Income	7.92%	8,864,733	3,286,349	(5,578,384)	0.4
Commercial/ Industrial Small	7.92%	22,372,685	36,634,256	14,261,571	1.6
Commercial/ Industrial Large	7.92%	18,663,222	34,654,647	15,991,425	1.9
Governmental/ Educational/ Non-Profit	7.92%	1,215,646	1,385,826	170,180	1.1
Total	**7.92%**	**76,967,936**	**111,881,013**	**34,913,078**	**1.5**

The following table shows Penn Power TRC test results for the portfolio:

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)*	10.14%	7,470,904	9,285,696	1,814,792	1.2
Residential Low- Income	10.14%	3,217,079	682,204	(2,534,876)	0.2
Commercial/ Industrial Small	10.14%	6,675,015	10,895,953	4,220,938	1.6
Commercial/ Industrial Large	10.14%	4,339,658	9,263,338	4,923,681	2.1
Governmental/ Educational/ Non-Profit	10.14%	320,390	326,083	5,693	1.0
Total	**10.14%**	**22,023,046**	**30,453,274**	**8,430,229**	**1.4**

The following table shows West Penn Power TRC test results for the portfolio:

West Penn					
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)*	9.15%	24,312,234	25,919,100	1,606,867	1.1
Residential Low- Income	9.15%	6,600,180	1,284,146	(5,316,034)	0.2
Commercial/ Industrial Small	9.15%	26,898,794	34,047,674	7,148,880	1.3
Commercial/ Industrial Large	9.15%	18,854,915	52,132,639	33,277,724	2.8
Governmental/ Educational/ Non-Profit	9.15%	2,336,170	2,362,874	26,704	1.0
Total	**9.15%**	**79,002,293**	**115,746,433**	**36,744,140**	**1.5**

Q. HOW WERE THE TRC RESULTS CALCUATED?

A. Each of the TRC values were calculated consistent with the methodology prescribed by the Commission in the 2013 Total Resource Cost ("TRC") test Order. Section 8.0 of the Proposed Plans provides more detail on the Cost Effectiveness evaluation and methodology.

Q. IN YOUR OPINION DO THE PROPOSED PLANS COMPLY WITH ALL STATUTORY AND REGULATORY REQUIREMENTS?

A. Yes. Each of the Proposed Plans: (i) are designed, based upon the Commission's acquisition cost assumptions, to achieve the Phase II EE&C targets, both in the aggregate and for special customer segment carve outs; (ii) achieve at least 25% of annual targets during each year of the Phase II period; (iii) include at least one program for each customer segment; (iv) pass the TRC test on a portfolio basis; and (v) include a budget no greater than the 2% statutory spending cap. And, although not technically required, the Proposed Plans have placed special emphasis and consideration on multifamily housing within the Government/Nonprofit and Low Income Sectors.

VIII. RISKS AND RECOMMENDATIONS

Q. DURING THE COURSE OF YOUR WORK ON THE DEVELOPMENT OF THE PROPOSED PLANS, DID YOU IDENTIFY ANY SIGNIFICANT RISKS THAT MAY IMPEDE THE COMPANIES' ABILITY TO ACHIEVE THE TARGETS DEVELOPED IN EACH PLAN?

A. Yes. In my opinion, the following are the most significant risks that may impact the ability of the Companies to achieve the Phase II EE&C goals:

- As I have already discussed, the Companies find the Commission's assumptions surrounding the level of acquisition costs to be too low, thus subjecting the Companies to a high level of risk of failure to achieve their targets which, without either a reduction in their Phase II targets or at least an opportunity to seek a modification in the future, subjects them to potential penalties.

- With the exception of low-income programs that have been offered for more than 20 years, most programs are still relatively new with only Phase I serving as the historical basis for participation rates or experience which may cause participation or installation rates to be lower than projected;
- The struggling economy may dampen customer participation in the portfolio of programs to be offered. To meet targets, projects may require higher rebate subsidies to acquire customer participation, which may exceed program funding constraints for the Companies; and
- The new Low Income requirement to obtain a minimum of 4.5% of its consumption reduction requirements from this sector may be difficult to achieve due to the fact that the Companies' Phase I Low Income programs have already served more than 45,000 customers, the LIURP programs have served almost 94,000 low income customers and some of the Low Income programs have run for many years so the market potential in some counties may be limited.

Q. GIVEN THE RISKS THAT YOU HAVE IDENTIFIED, DO YOU HAVE ANY RECOMMENDATIONS FOR THE COMMISSION?

A. I would suggest that the following recommendations be considered:

1. First and foremost, I recommend that the Commission grant the Companies' petition to reduce their Phase II EE&C targets consistent with the Companies' position in that docket. It should also authorize the EDCs to request future changes in their goal levels,

and give those requests fair consideration, should future circumstances unduly jeopardize achievement of the energy reduction goals.

2. If the Companies are going to have any chance of achieving their Phase II targets, the Proposed Plans must be approved as soon as possible in order for the Companies to be ready to launch their approved plans by the start of Phase II.
3. With only three years to achieve the Phase II EE&C targets, and given past history with the length of time taken to approve mid stream corrections to EE&C plans, I would suggest that the Commission provide as much flexibility in the Plans as reasonably possible so as to allow the Companies to keep the overall progress of each EE&C portfolio on track to meet the Phase II goals while keeping within the dollar budgets prescribed.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes, it does.