

**BEFORE THE  
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

Petition of West Penn Power Company :  
d/b/a Allegheny Power for Approval of its :  
Energy Efficiency and Conservation Plan :  
Approval of Recovery of Plan Costs : Docket No. M-2009-2093218  
through a Reconcilable Adjustment :  
Clause and Approval of Matters :  
Relating to the Energy Efficiency and :  
Conservation Plan :

**DIRECT TESTIMONY OF**

**EDWARD C. MILLER**

**ON BEHALF OF**

**WEST PENN POWER COMPANY d/b/a ALLEGHENY POWER**

**STATEMENT NO. 2**

Dated: June 29, 2009

1 Q. **Please state your name and business address.**

2 A. Edward C. Miller; Chapel Hill Professional Center, 126 Mathews Drive, Suite 1000,  
3 Greensburg, PA 15601.

4  
5 Q. **By whom are you currently employed and in what capacity?**

6 A. I am employed by Allegheny Energy Service Corporation as General Manager Customer  
7 Programs Development. My time is entirely devoted to Program Development tasks  
8 performed for West Penn Power Company, The Potomac Edison Company or  
9 Monongahela Power Company ("Allegheny Power" or Company") in Pennsylvania,  
10 Maryland, and West Virginia. I have been employed by Allegheny Energy for sixteen  
11 years. I have held various engineering and management positions in Customer Services,  
12 Sales & Marketing, and Customer Management. I hold a Bachelor of Science degree in  
13 Electrical Engineering from the University of Pittsburgh.

14

15 Q. **What is the scope of your testimony in this proceeding?**

16 A. My testimony will describe the development of the Energy Efficiency and Conservation  
17 Plan ("EE&C Plan" or "Plan"). I will also describe the reductions in electricity  
18 consumption and demand that will be obtained by the EE&C Plan and will discuss the  
19 cost-effectiveness of the proposed EE&C Plan.

20

1 Q. **Please provide an overview of Allegheny Power's conservation program in**  
2 **Maryland.**

3 A. Potomac Edison Company is West Penn Power Company's utility affiliate in Maryland.  
4 It also does business there as "Allegheny Power." A starting point for development of the  
5 EE&C Plan for Act 129 was the experience Allegheny Power obtained in the Maryland  
6 service territory. In response to EmPOWER Maryland legislation, Allegheny Power  
7 proposed a portfolio of 12 energy-efficiency and conservation (EE&C) programs on  
8 March 31, 2009, including six for the residential sector, five for the commercial and  
9 industrial sectors, and a general customer awareness program. Included were measures  
10 that target the major energy-consuming systems, which are heating, ventilating and air  
11 conditioning (HVAC), major consumer appliances and lighting. Allegheny Power has  
12 sought to create a portfolio of EE&C programs that enables most or all of our Maryland  
13 customers to participate in one or more programs. The proposed residential programs  
14 cover most of the major energy consuming devices in the home, thus increasing the  
15 opportunity for more residential customers to benefit from a program. Likewise, the  
16 commercial and industrial programs encompass the core energy consuming devices for  
17 the types of customers in these sectors. To improve the potential for success, many of the  
18 proposed programs were modeled after American Council for an Energy-Efficient  
19 Economy (ACEEE) exemplary programs or other utility programs identified through  
20 internal benchmarking. The development and benchmarking process used for the  
21 proposed Pennsylvania programs is described in Section 3.1 of the EE&C Plan.

1 Q. **Will any Allegheny Power Act 129 programs be non voluntary or “opt-out” type**  
2 **plans?**

3 A. None of the programs are proposed as non voluntary or “opt-out” type plans. Our  
4 overall strategy has focused on developing a portfolio of programs that all customers can  
5 participate in, providing the best opportunity for overall customer participation as well as  
6 to support changing customer behaviors. As the foundation of our Plan, we are proposing  
7 proven, best practice and successful programs from which customers can immediately  
8 participate and benefit. To support changing customer behaviors, we are also proposing  
9 rate concepts in conjunction with the installation of Smart Metering infrastructure that  
10 support customer awareness and education regarding energy efficiency and conservation  
11 and that encourage and support customer participation in programs and customer  
12 initiatives to manage their electric bills. The EE&C Plan to achieve the Company’s  
13 mandated demand reduction targets relies upon the installation of Smart Metering  
14 equipment and related infrastructure to enable various demand response (“DR”) and rate  
15 offerings as proposed.

16

17 Q. **Will Allegheny Power amend its plan if it finds that it is not going to meet its Act**  
18 **129 consumption or demand requirements?**

19 A. The Company will revise its EE&C Plan through the annual review process when  
20 necessary to meet the requirements of Act 129, including both the consumption and  
21 demand targets, as well as the budgetary requirement. Components of the Plan are based

1 on industry resources such as Energy Star, American Council for an Energy-Efficient  
2 Economy (“ACEEE”) and the Consortium of Energy Efficiency (“CEE”), as well as  
3 benchmarking studies of other electric utilities, companies and entities. The Company  
4 looks forward to the experience gained from offering programs to Pennsylvania  
5 customers and believes this experience will prove invaluable to support Plan revisions  
6 and enhancements during the annual review process. The annual review process provides  
7 an opportunity for the Company to revise the EE&C Plan to maximize overall Plan  
8 performance and cost-effectiveness to meet all requirements of Act 129.

9  
10 **Q. Do the Act 129 and EmPOWER Maryland plans have similar programs or have**  
11 **synergies?**

12 **A.** Given that both Act 129 and EmPOWER Maryland target energy efficiency and  
13 conservation, there are like or similar EE&C programs proposed for both states that  
14 provide synergy between the plans. A benefit of similarities between the Maryland and  
15 Pennsylvania plans include minimization of program costs as well as customer confusion.  
16 The difference in legal requirements between Act 129 and EmPOWER Maryland  
17 explains some of the variations in these plans. For example, new programs were  
18 developed in Pennsylvania to target customers at or below 150% of the federal poverty  
19 level, and government, school and non-profit customers based on the Act 129  
20 requirements associated with these customers.

21

1 Q. **Is Allegheny Power using outside contractors to implement its Act 129 EEC plan?**

2 A. Allegheny Power believes the most cost-effective method for program implementation is  
3 to contract with vendors for specific services to leverage similar activities across the Plan  
4 portfolio of programs and measures or to partner with third parties to leverage existing  
5 resources to provide specific services to customers. Additionally, the Company will  
6 leverage the contracts with vendors for services required for the Company's EmPOWER  
7 Maryland EE&C Plan to ensure best pricing for like services. Allegheny Power plans to  
8 hire contractors for the following services required for the proposed EE&C and DR  
9 programs:

- 10 • Rebate Processing for most rebate-based programs
- 11 • Appliance Recycling Services
- 12 • Energy Auditing Services
- 13 • Plan Implementation Providers to administer various components of the
- 14 Residential programs, Residential Low Income programs, and non-Residential
- 15 programs
- 16 • Advertising and Marketing
- 17 • EM&V Services

18 Allegheny anticipates that some contracts will be performance-based to promote goal  
19 achievement. Plan Implementation Providers will be responsible for plan implementation  
20 including but not limited to: program implementation including hiring all sub-contractors  
21 required for successful program implementation and quality; marketing coordination;  
22 reporting on identified metrics, including presenting to stakeholder groups as requested;

1 customer issue resolution; best practices; and early identification of program success  
2 risks, including recommendations to mitigate or leverage.

3  
4 Allegheny Power will also hire one or more Measurement and Verification (M&V)  
5 Contractors who are independent and not affiliated with the Plan Implementation  
6 Providers or with Allegheny Power. M&V Contractors will be responsible for:  
7 completing a baseline study; completing all measurement and verification activities to  
8 support State TRM data collection, measurement, and reporting requirements as well as  
9 PJM Energy Efficiency M&V Manual specifications for measuring and reporting EE  
10 Resource bids into the PJM RPM auctions; developing and maintaining M&V database;  
11 and working with the State Plan Evaluator during M&V audits.

12  
13 **Q. Please address whether the mandated energy and peak reductions will be met and**  
14 **how those reductions will be met by the proposed EE&C Plan.**

15 **A.** Allegheny Power's portfolio of EE&C and DR programs and rate offerings are projected  
16 to provide net energy savings of 209,956 MWh's by May 31, 2011 and 645,859 MWh's  
17 by May 31, 2013, and a peak demand savings of 160 MW during the top 100 hours  
18 between June 2012 and September 2012, which meets the Act 129 mandated energy and  
19 peak demand reductions. This is shown in Table 2 in the filing. The reductions include  
20 those obtained from the EE&C and DR programs and new rate offerings. The reductions  
21 for the EE&C programs are mostly based on deemed savings per the Technical Reference

1 Manual (TRM), whereas the savings for any measures not included in the TRM, such as  
2 for the rate offerings, have been calculated based on benchmarking studies or other  
3 resources. The estimated energy and demand savings are summarized, by specific  
4 customer group, in Table 2 of the EE&C Plan. The energy and peak demand savings are  
5 projected to be met within the 2% expenditure limit required by Act 129, \$94.25 million,  
6 which is based in part on a reduction in customer incentives in the 2011 and 2012 Plan  
7 years.

8  
9 **Q. Please explain how the EE&C Plan provides a diverse cross-section of alternative**  
10 **programs for all rate classes.**

11 **A.** Allegheny Power has developed a portfolio of 22 EE&C and DR programs and rate  
12 offerings for all customer classes, (residential, residential low-income, small commercial  
13 and industrial, large commercial and industrial and governmental/non-profit) with all but  
14 five of the programs being available to customers in more than one customer class.  
15 Eleven of the programs are primarily targeted at residential customers and the remaining  
16 eleven are primarily targeted at non-residential customers. In addition, many of the  
17 programs have multiple measures which provide additional opportunity for all eligible  
18 customers to participate in a program. Most of the EE&C and DR programs target the  
19 major energy-consuming systems which further provide the best opportunity for all  
20 Pennsylvania customers to have the opportunity to participate in and benefit from the  
21 programs. A chart in Section 1.1 of the EE&C Plan lists all proposed programs and rate

1 offerings and the customer group to which they are primarily targeted as well as all other  
2 eligible customer groups. Each program and rate offering is briefly summarized on pages  
3 12 through 18 of the EE&C Plan. Details for each program including objectives,  
4 implementation strategy, risks, anticipated costs, ramp up strategy, marketing strategy,  
5 start dates, incentives/rebates, assumed evaluation, measurement and verification  
6 ("EM&V") requirements, administrative requirements, estimated participation and  
7 estimated reduction targets are shown for each program and rate offering in Section 3.2  
8 through Section 3.5 of the EE&C Plan.

9  
10 **Q. Does Allegheny Power's EE&C Plan assume the installation of smart meters?**

11 **A.** Yes. The Company's Plan relies upon Smart Metering and the related infrastructure to  
12 enable the Company's DR programs for residential, small commercial and industrial and  
13 governmental/non-profit customers, as well as the various rate offerings. In addition,  
14 Smart Metering supports customer awareness and education as well as customer  
15 initiatives to become more energy efficient and to manage their electric bills.

16  
17 **Q. Which Allegheny Power programs rely on smart meters?**

18 **A.** The Programmable Controllable Thermostat (PCT) Program, Residential Efficiency  
19 Rewards Rate, Pay Ahead (Smart) Service Rate, Critical Peak Rebate (CPR) Rate, Time  
20 of Use (TOU) with Critical Peak Pricing Rate, Hourly Pricing Option (HPO) Rate,  
21 Customer Load Response Program and Distributed Generation Program all rely on Smart

1 Metering infrastructure in order to provide these programs. While some functionality is  
2 available for certain programs with existing metering infrastructure to a limited customer  
3 base, the Company's Plan relies on the installation of Smart Metering infrastructure to  
4 offer these programs to all targeted and eligible customers.

5  
6 **Q. How does Allegheny Power intend to recover the costs of smart meter  
7 implementation?**

8 A. Allegheny Power will provide specific cost information and its recovery plan in the  
9 upcoming Smart Metering Technology Procurement and Installation Plan filing which is  
10 to be completed and filed with the Commission in August of 2009.

11  
12 **Q. What programs are expected to be the most significant in terms of reducing demand  
13 and consumption?**

14 A. The programs that contribute the most reduction in energy consumption include the  
15 Commercial Lighting Efficiency Program, the Compact Fluorescent Lighting (CFL)  
16 Rewards Program, the Governmental/Non-Profit Lighting Efficiency Program, the  
17 Residential Home Performance Program, the Custom Applications Program and the  
18 Energy Star and High Efficiency Appliances Program. The programs that contribute the  
19 most reduction in energy demand include the Customer Load Response Program,  
20 Commercial Lighting Efficiency Program, Distributed Generation Program, Energy Star

1 and High Efficiency Appliance Program, the Critical Peak Rebate (CPR) Rate offering  
2 and the Programmable Controllable Thermostat (PCT) Program.

3  
4 **Q: Do you have any comments on Allegheny Power's retail prices in comparison to**  
5 **other EDCs in Pennsylvania and whether this causes the Company any concern?**

6 **A:** Yes. Allegheny Power's generation rate cap ends on December 31, 2010. Until then, the  
7 company's generation rates are relatively low compared to other Pennsylvania EDCs and  
8 do not reflect current market prices. This could impact customers' interest in pursuing  
9 efficiency and conservation measures.

10  
11 **Q: Do Allegheny Power's comparatively low rates provide other disadvantages in**  
12 **meeting Act 129 goals?**

13 **A:** Yes. Allegheny Power's comparatively low rates and revenue per customer during the  
14 2006 year disadvantages Allegheny Power in meeting its target reductions given the cap  
15 on Plan expenditures of a flat, two percent of 2006 revenues. In other words, Allegheny  
16 has been afforded a smaller budget to obtain the mandated reductions, on a per customer  
17 basis, given that Allegheny's 2006 revenues on a per customer basis is low compared to  
18 other EDCs. Additionally, the State Plan Evaluator cost estimated to be 1.8% of  
19 Allegheny's budget, or \$1.7 million not available for program offerings, presents an  
20 additional disadvantage.

21

1 Q. **Does Allegheny Power intend to use consumption or demand reductions from PJM**  
2 **curtailment programs as part of its Act 129 reduction requirements?**

3 A. Allegheny Power has developed DR programs that operate in parallel with and leverage  
4 the PJM curtailment programs. Allegheny Power acknowledges that the PJM curtailment  
5 programs provide benefit and plans to leverage these programs as available; however, the  
6 Company does not rely on the PJM curtailment programs for the consumption or demand  
7 reduction requirements through the proposed EE&C Plan. While the Company plans to  
8 include any demand reductions provided as result of the PJM curtailment programs as  
9 part of its demand reduction, historical PJM curtailment events have been limited during  
10 the top 100 hours of system loading and therefore requires the Company to provide DR  
11 programs in addition to the PJM programs in order to meet the demand reduction  
12 requirements.

13  
14 Q. **Is Allegheny Power requesting any waivers of Chapter 56 notice provisions to**  
15 **implement its EE&C plan?**

16 A. No, Allegheny Power is not asking for any waivers of Chapter 56 notice provisions and  
17 plans to follow all provisions in conjunction with its plan. This question is primarily  
18 associated with the proposed Pay Ahead (Smart) Service rate offering, which the  
19 Company advocates for providing customers with awareness and education regarding  
20 their electric usage and impact on their electric bill, similar to a gas gauge in a car. While  
21 other means can be used to convey similar information to customers, the Company

1 believes this offering is beneficial to select customers and, as such, is including this in the  
2 portfolio of programs from which customers can choose.

3  
4 **Q. What roles do solar and wind generation have in Allegheny Power's Act 129 EE&C  
5 plan?**

6 A. Allegheny Power developed the Custom Technology Applications program in part to  
7 include solar and wind generation in the EE&C plan. Under the proposed Custom  
8 Technology Applications program, customers will be able to submit projects that provide  
9 energy savings, including new technologies and renewables, for incentives under the  
10 Company's Act 129 Plan. Refer to Section 3.3 C of the filing for more information  
11 related to this program. The Company looks forward to the experience it will gain from  
12 this program to identify new potential prescriptive type programs and/or measures to  
13 consider adding to its Plan through the annual review process, including those specific to  
14 new technologies and renewables.

15  
16 **Q. Are the Plan's programs cost effective under the TRC test? If so, please describe  
17 how the Plan meets the Total Resource Cost (TRC) test.**

18 A. Allegheny Power's overall Plan is cost effective as required by the Pennsylvania-specific  
19 TRC test. The Company has performed TRC testing in accordance with the draft PA  
20 specific TRC test provided by Secretarial Letter on May 21, 2009. The Company will  
21 review the final PA specific TRC test order as adopted on June 18, 2009 and entered on

1 June 23, 2009, and will amend its filing by August 1, 2009 if any changes to the TRC  
2 testing by the Company are required. Table 1 in Section 1.3 of the EE&C Plan shows  
3 that the overall Plan as well as the portfolio of programs and measures specific to each  
4 customer sector are cost effective. In addition, most programs and measures in the plan  
5 have been determined to be cost effective, as illustrated in Table 7 in the Appendices of  
6 the EE&C Plan. This Table also depicts the net present value and cost/benefit analysis  
7 results required by the Commission. Exceptions to this include the Distributed  
8 Generation Program, Programmable Controllable Thermostat (PCT) Program, and the  
9 Low Income Room Air Conditioner Replacement Program. Furthermore, a few EE&C  
10 measures have been determined to be not cost effective or are cost neutral; however, the  
11 Company has included these measures in the Plan to evaluate their actual performance  
12 and cost to determine their actual cost effectiveness, and will consider maintaining or  
13 removing these measures in the Plan through the annual review process.

14  
15 **Q. According to the Plan, is the net present value of the avoided costs of supplying**  
16 **electricity exceeded by the net present value of the monetary costs of the energy**  
17 **efficiency/conservation measures?**

18 **A. Yes, these results were consistent with the outcome of the TRC test as described above.**

19  
20 **Q. Do all of AP's programs have a cost benefit ratio in excess of 1?**

1 A. No. As I explained previously, some programs for low-income customers, demand  
2 reduction programs, and a few individual EE&C measures were not determined to be cost  
3 effective, although overall the EE&C Plan is cost effective as required by the  
4 Pennsylvania-specific TRC test.

5

6 **Q. Describe the planned annual evaluation of EE&C Plan cost effectiveness and the**  
7 **review of 4 year results. How will the plan be adjusted based on the annual**  
8 **evaluation of cost effectiveness?**

9 A. The Plan will be evaluated in whole and in part to create an overall portfolio that  
10 best achieves the mandated energy consumption and demand reduction targets and other  
11 requirements of Act 129 and is determined to be cost effective overall. The programs and  
12 measures will be evaluated to determine the more successful and less successful  
13 components of the plan for:

- 14 • Participation
- 15 • Savings achieved and forecasted
- 16 • Measurement and verification results
- 17 • Cost effectiveness
- 18 • Customer satisfaction
- 19 • Federal Minimum Efficiency Standard or other standard changes
- 20 • Other issues

21

1 The Company will evaluate the actual performance and cost effectiveness of the  
2 programs and measures taking the above information into account, and will consider the  
3 following options during the annual review process if the evaluation of the Plan  
4 performance in meeting the Act 129 requirements indicates modification is necessary:

- 5 • Modify individual programs and/or measures to improve Plan performance to  
6 meet Act 129 requirements while ensuring or improving overall Plan cost  
7 effectiveness.
- 8 • Eliminate less successful programs and/or measures and assign resources to  
9 more successful programs and/or measures.
- 10 • Develop new programs and/or measures to add to the Plan and/or to replace  
11 poor performing programs and/or measures.

12  
13 **Q. How did the persistence of savings over time get accounted for in the application of**  
14 **the TRC test?**

15 **A.** The Company has relied on the deemed savings per the Technical Reference Manual  
16 (TRM) for most EE&C measures, which takes into account the persistence of savings  
17 over time. Savings for any measures not included in the TRM, such as for the rate  
18 offerings, have been calculated based on benchmarking studies or other resources that the  
19 Company believes recognizes that the savings due to these programs may change over  
20 time. Specifically in regard to the rate offerings and DR programs, the Company used a  
21 measure life of 1-year to recognize that savings attained through these programs rely on

1 on-going customer participation and behavior, and the Company believes this to be a  
2 conservative approach. Because of the potential attrition with DR programs and rate  
3 offerings, proactive recruitment of participants will be essential to sustaining the yearly  
4 energy and demand savings. Other programs and/or measures for this consideration  
5 include those that would be completed under the proposed Custom Technology and  
6 Applications and Custom Applications Programs, where the Company used a  
7 conservative estimate of savings based on the anticipated average customer savings  
8 obtained for projects completed under these programs. The Company will calculate  
9 and/or measure the actual savings for these projects for reporting purposes.

10

11 **Q. Does that conclude your testimony?**

12 **A. Yes.**