

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

**Petition of PPL Electric Utilities for
Approval of its Energy Efficiency and Conservation Plan
Under Act 129 of 2008**

Docket No. M-2009-2093216

PPL Electric Utilities Corporation

Statement No. 1

Direct Testimony of Peter D. Cleff

Date: July 1, 2009

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Q. Please state your full name and business address.

A. My name is Peter Cleff and my business address is 2 North Ninth St, Allentown PA 18101.

Q. By whom are you employed and in what capacity?

A. I am employed by PPL Electric Utilities Corporation (“PPL Electric” or the “Company”) as Manager-Energy Efficiency Program.

Q. What are your duties as Manager-Energy Efficiency Program?

A. I am responsible for coordinating the development of PPL Electric’s Act 129 Energy Efficiency and Conservation Plan and establishing the infrastructure necessary to implement the Plan.

Q. What is your educational background?

A. I received a B.S. in mechanical engineering from Lehigh University.

Q. Please describe your professional experience.

A. I have 29 years of experience in the energy industry, including generating plant engineering, project management and construction management of large projects for generating plants; wholesale power marketing, trading, and operations; power plant development; bulk power system operations; and currently, energy efficiency programs.

1 **Q. Have you previously testified as a witness before the Public Utility Commission**
2 **("PUC")?**

3 A. No.

4
5 **Q. Briefly describe the subject matter of your testimony in this proceeding.**

6 A. I will explain the objectives, philosophy, and process that PPL Electric applied to the
7 preparation of its Energy Efficiency and Conservation Plan ("EE&C Plan") filing as
8 required by Act 129 of 2008 ("Act 129" or the "Act").

9

10 **Q. Please describe how PPL Electric's Act 129 EE&C Plan filing is organized.**

11 A. The filing is structured consistent with the Template for Energy Efficiency and
12 Conservation Plans issued by the Public Utility Commission ("PUC" or the
13 "Commission") in a Secretarial letter dated May 7, 2009 at Docket No. M-2008-2069887.
14 It includes an overview of the plan; program summary tables and charts; program
15 descriptions; program management and implementation strategies; reporting and tracking
16 systems; quality assurance, evaluation, measurement, and verification; cost recovery
17 mechanism; cost-effectiveness; and other information to support the plan. PPL Electric's
18 filing consists of the following documents:

- 19 1. A petition requesting approval of the EE&C Plan and the Company's proposed
20 cost recovery mechanism.
- 21 2. The EE&C Plan (PPL Electric Exhibit No. 1);
- 22 3. The direct testimony of Peter D. Cleff (PPL Electric Statement No. 1);
- 23 4. The direct testimony of Dr. Hossein Haeri (PPL Electric Statement No. 2);

1 5. The direct testimony of Douglas A. Krall (PPL Electric Statement No. 3);

2 6. The direct testimony of Joseph M. Kleha (PPL Electric Statement No. 4);

3
4 **Q. Are you sponsoring any exhibits in this proceeding?**

5 A. Yes. Dr. Haeri and I are co-sponsoring PPL Exhibit No. 1. Within that exhibit, I am
6 primarily responsible for and am sponsoring Sections 1, 4, 5, 6 and 9. Dr. Haeri is
7 primarily responsible for and is sponsoring Sections 2, 3 and 8. Mr. Krall will describe
8 PPL Electric's plans to separately file a proposed time of use rate and will summarize the
9 details of that rate. Mr. Kleha is primarily responsible for cost recovery issues and is
10 sponsoring Section 7 of PPL Electric Exhibit No. 1.

11
12 **Q. Please provide a summary of PPL Electric's EE&C Plan.**

13 A. The plan provides an extensive portfolio of energy efficiency, conservation, and peak
14 load reduction programs and customer education. These programs and customer
15 education are designed as a portfolio of options which will offer all of PPL Electric's
16 customers cost-effective, flexible, and wide-ranging choices and financial incentives to
17 reduce their electricity consumption and peak load, which ultimately will help customers
18 reduce their energy costs.

19
20 **Q. What are the primary objectives of the plan?**

21 A. The primary objective of the plan is to cost-effectively reduce PPL Electric retail
22 customers' total electric consumption 1% by May 31, 2011, 3% by May 31, 2013, and to
23 reduce customer's peak load 4.5% by May 31, 2013 by offering all customers cost-

1 effective choices to reduce their electricity consumption, peak demand, and to reduce
2 their energy costs.

3
4 **Q. Please describe PPL Electric's overall strategy to achieve these objectives.**

5 A. PPL Electric's strategy to achieve these objectives includes several key elements. The
6 Company will provide ongoing customer support, education, and guidance to encourage
7 customers to choose energy efficiency and conservation options and to adopt sustainable
8 energy efficient practices. PPL Electric recognizes that no program can succeed unless it
9 is accepted by the customer and is executed well.

10
11 Programs are designed to be easy for the customers to understand and accept. Features
12 are included to facilitate enrollment and participation. Programs are designed with the
13 flexibility to allow customers to use their own resources, trade allies, and to combine
14 incentives from multiple programs or from other sources to create the best solution for
15 any facility or system in a way that utilizes normal market mechanisms for these
16 activities. Programs are designed to engage trade allies, community-based organizations,
17 and other local market participants through outreach, training and potential co-marketing
18 to ensure that they are aware of PPL Electric's programs, are able to articulate program
19 features and benefits to potential customers and can support customers in their decision to
20 take energy efficiency and demand reduction actions. Where appropriate, programs are
21 designed to leverage existing market delivery channels to provide efficient and simple
22 implementation from the customer's perspective. To the extent possible, PPL Electric
23 does not dictate where the customer must obtain energy efficiency products and services.

1 Those decisions are the customer's. PPL Electric expects to utilize approximately 10
2 Conservation Service Providers ("CSPs") to deliver services in support of its programs,
3 with some CSPs operating as turnkey program delivery contractors, and others providing
4 specialized functions across multiple programs. The Company also designed the
5 programs to take advantage of joint delivery of specific programs across multiple
6 customer classes. For example, PPL Electric's Efficient Equipment Incentive Program is
7 available to all customer classes. The program offers different equipment measures
8 appropriate to each customer class and building type, but utilizes identical administrative
9 and delivery mechanisms as well as similar marketing and quality assurance approaches
10 to reduce customer confusion and leverage efficiencies associated with delivery of
11 discrete program functions. PPL Electric has used this model throughout its EE&C Plan
12 to designate programs, allocate budget and realize energy and demand savings across
13 multiple sectors where the program offering and delivery process is compatible with
14 multiple customer and building types. PPL Electric will employ precision marketing to
15 match the specific program outreach to the unique needs of various customer classes and
16 market segments.

17
18 **Q. What uncertainties may affect PPL Electric's ability to meet these objectives?**

19 A. The major uncertainties fall into the following categories: (1) the state of the economy
20 and customer willingness to implement energy efficiency measures, (2) the limited time
21 to develop the infrastructure to promptly implement programs, and (3) the cost and
22 logistics for the peak load reductions.

1 First, the state of the general economy may adversely affect the ability of customers,
2 particularly commercial and industrial customers, to make investments in energy
3 efficiency.

4
5 Second, the Company has limited time to design and implement programs. To ensure
6 that PPL Electric is prepared to begin implementing programs promptly upon the
7 Commission's approval of the Plan, PPL Electric will establish most of its infrastructure
8 of staff, CSPs, trade allies, systems and processes before November.

9
10 Third, there is significant uncertainty surrounding the cost of and ability to meet the
11 demand reduction target, especially for programs that rely on specific demand response
12 measures such as curtailable load and direct load control. The operational and practical
13 logistics of the peak load reductions are complex and uncertain. The peak load reduction
14 is calculated by averaging the reductions over the 100 hours of highest load in the
15 summer. Those hours will be impossible to predict perfectly and will not be known until
16 after the fact. Very few, if any, customers are willing to interrupt for 100 hours because
17 of the impact on their businesses. Recognizing those factors, PPL Electric believes it will
18 have to oversubscribe the participation in demand response programs. This means more
19 participants, comprising more megawatts than the target, willing to interrupt on the order
20 of 10 to 50 hours each.

21
22 **Q. What process did PPL Electric use to develop its EE&C Plan?**

1 A. PPL Electric formed a project team consisting of internal staff from a variety of groups
2 and The Cadmus Group (“Cadmus”), a nationally recognized energy consulting firm, to
3 prepare its plan. Working closely with Cadmus, the Company used the following basic
4 process. The Company started with a thorough review of Act 129 and the Commission’s
5 various orders implementing the Act. PPL Electric then established the baselines for its
6 energy and peak load reduction targets and determined the allowable expenditures.
7 Those targets, along with the institutional and low-income customer set-asides,
8 established the parameters for constructing a portfolio of measures and programs for each
9 customer sector. PPL Electric then established a set of guiding principles for
10 development of the Plan. The Company then assembled a list of potential energy
11 efficiency and demand response measures based on best practices, lessons learned, and
12 energy efficiency potential studies for utility-sponsored or publicly-funded energy
13 efficiency programs in Pennsylvania and other states. Then, PPL Electric developed and
14 balanced the portfolio to meet all of the requirements of the Act. This step, in particular,
15 was a challenging and iterative process. Throughout the process to develop the plan, PPL
16 Electric obtained significant and valuable input from its stakeholders and collaborated
17 with Pennsylvania’s other Electric Distribution Companies.

18
19 **Q. Please provide more details on the stakeholder process that the Company used.**

20 A. Throughout the preparation of its EE&C Plan, PPL Electric pursued multiple
21 opportunities to inform stakeholders of the Company’s progress and to solicit their input.
22 The Company recognizes the importance of stakeholder input in meeting its goal of
23 offering an appropriate and successful energy efficiency portfolio. Both formal and

1 informal communication was maintained with many parties, including other investor-
2 owned utilities; consumer advocates; environmental advocates; chambers of commerce;
3 state, local, and private economic development organizations; community-based
4 organizations; trade associations; governmental organizations; trade allies; market
5 partners; and CSPs. There were three large group meetings, focus group meetings, and
6 numerous one-on-one meetings and teleconferences. PPL Electric also conducted
7 surveys and interviews with customers to better understand their knowledge of and
8 preferences related to energy efficiency. PPL Electric anticipates that this collaborative
9 process will increase the likelihood of success in implementing the portfolio. This
10 process also may help to expedite approval of the Plan, thereby allowing more time to
11 prepare for implementation and expanding the opportunities for consumer savings.
12 Finally, PPL Electric plans to solicit formal and informal input from stakeholders
13 periodically throughout the Plan implementation period in order to continue to improve
14 programs.

15
16 **Q. How did the Company develop the portfolio of programs in its EE&C Plan?**

17 **A.** The energy and peak load saving targets, the expenditure cap, cost-effectiveness of the
18 portfolio, the institutional and low-income set-asides, and the customer equity guidelines
19 established by Act 129 defined the major parameters and constraints for developing the
20 portfolio. In developing the portfolio, PPL Electric and Cadmus followed five primary
21 steps. The first step was a “bottom-up” process, which involved compiling a broad list of
22 energy efficiency and demand response measures and practices, combining them to create
23 programs and aggregating the programs to construct the portfolio. The second step was

1 to determine life-cycle costs, savings and avoided cost benefits for each measure to
2 compute the measure's cost effectiveness from a total resource cost ("TRC") perspective.
3 The third step was to calculate program-level savings. The fourth step was to spread the
4 aggregate, plan-level savings for each program over the four-year Plan cycle to set annual
5 saving targets. The fifth step was an iterative process to balance the portfolio by
6 adjusting the expected number of participants and customer incentive levels of each
7 measure to provide a reasonable mix of programs that met all requirements of the Act.
8

9 **Q. Please summarize PPL Electric's strategy to implement the plan after PUC review
10 and approval.**

11 A. PPL Electric's implementation strategy will rely on a broad range of contractors,
12 partners, trade allies, community agencies, and other entities engaged in energy
13 efficiency to promote, deliver, and support the effective deployment of programs. PPL
14 Electric expects to utilize CSPs to deliver services in support of its EE&C programs, with
15 some CSPs operating as turnkey program delivery contractors, and others providing
16 specific program functions across multiple programs. In addition, many of PPL
17 Electric's programs will depend on trade allies and other market partners to engage
18 customers, promote programs, evaluate projects, and install energy efficient equipment.
19

20 To ensure that PPL Electric is prepared to begin implementing programs promptly upon
21 the Commission's approval of the Plan, PPL Electric will establish most of its
22 infrastructure of staff, CSPs, trade allies, systems and processes before November.
23

1 **Q. What processes is the Company proposing to evaluate and update its EE&C Plan?**

2 A. For each program in the Plan, there will be an impact assessment and a process analysis
3 to evaluate the Plan. The impact assessment will focus on developing accurate estimates
4 of the program's actual savings, based on the protocols developed by the Statewide
5 Evaluation, Measurement and Verification ("EM&V") contractor. The process analysis
6 will focus on qualitative assessments of the program's design, operation, and
7 implementation. The process evaluation will also include an "evaluability" assessment to
8 ensure all data required for the impact assessment are collected.

9
10 Developing a well-balanced plan within the confines of the Act was a complex process
11 which relied on a large number of technical, economic and market assumptions. Clearly,
12 many of these assumptions will have to be revisited, refined and, where necessary,
13 revised. The extent to which such revisions may be called for and whether they will have
14 a material effect on the design and outcomes of programs in the Plan are difficult to
15 predict. PPL Electric expects that some revisions to particular elements of various
16 programs will be necessary as new information becomes available through the process
17 and impact evaluation activities. The Company plans to begin the process evaluations
18 early in program implementation so it can provide timely feedback to the planning and
19 implementation processes. The results of the process analysis will be used to identify
20 aspects of the program that work well and those that do not, and to adjust program
21 features as warranted. The Company expects to continue to refine its proposed programs,
22 adjust projected participation levels, adjust customer incentive levels, reallocate budgets
23 or introduce new measures and programs within the parameters of Act 129, if market

1 conditions warrant. All such revisions will be filed with the Commission in the
2 Company's annual report.

3

4 **Q. Does this conclude your direct testimony?**

5 **A. Yes, it does.**