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December 21, 2012

**VIA ELECTRONIC FILING**

Rosemary Chiavetta, Secretary  
Pennsylvania Public Utility Commission  
Commonwealth Keystone Bldg., 2<sup>nd</sup> Fl.  
400 North Street  
Harrisburg, PA 17105-3265

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

Dear Secretary Chiavetta:

Enclosed for electronic filing are Comverge, Inc.'s Comments in the above-referenced matter. Copies have been served in accordance with the attached Certificate of Service.

Very truly yours,

A handwritten signature in black ink, appearing to read "Jeffrey J. Norton".

Jeffrey J. Norton

JJN/jls  
Enclosure

cc: Hon. Dennis J. Buckley (w/enc)  
Certificate of Service (w/enc)

## CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the foregoing document has been served upon the following persons, in the manner indicated, in accordance with the requirements of 52 Pa. Code § 1.54 (relating to service by a participant).

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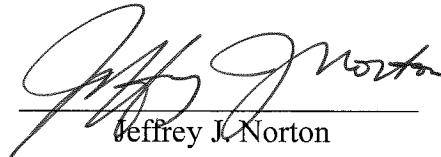
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Jeffrey J. Norton

Date: December 21, 2012

**BEFORE THE  
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

**PETITION OF PPL ELECTRIC** :  
**UTILITIES CORPORATION FOR** : Docket No. M-2012-2334388  
**APPROVAL OF ITS ACT 129 PHASE** :  
**II ENERGY EFFICIENCY AND** :  
**CONSERVATION PLAN** :

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**COMMENTS OF COMVERGE, INC.  
TO PPL ELECTRIC UTILITIES CORPORATION'S  
ACT 129 PHASE II  
ENERGY EFFICIENCY AND CONSERVATION PROGRAM**

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**I. INTRODUCTION**

Comverge, Inc. ("Comverge") hereby offers its Comments in above-captioned docket to PPL Utilities Corporation's ("PPL" or "Company") Act 129 Phase II Energy Efficiency and Conservation ("EE&C") Plan ("Phase II Plan" or "Plan").

On November 15, 2012, PPL filed with the Pennsylvania Public Utility Commission ("PUC" or "Commission") its Phase II Plan, pursuant to Act 129 of 2008, 66 Pa . C.S. § 2806.1 ("Act 129) and the PUC's Implementation Order entered on August 3, 2012, at Docket Nos. M-2008-2069887 and M-2012-2289411. On December 19, 2012, Comverge filed its Petition to Intervene in this proceeding.

Comverge is one of the nation's leading providers of energy management products and services. Comverge has been an active Conservation Service Provider ("CSP") in Pennsylvania<sup>1</sup>

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<sup>1</sup> Comverge is registered as a CSP on the PUC's Registry of CSPs. *Petition of Comverge, Inc.*, Docket No. A-2009-2113604, Secretarial Letter dated Nov. 3, 2011 approving application to re-register as a Conservation Service Provider. Comverge's wholly owned subsidiary, Enerwise Global Technologies, is also registered as a CSP. *Petition of Enerwise Global Technologies, Inc.*, Docket No. A-2012-2297625, Secretarial Letter

and has served several electric distribution companies (“EDCs”) who are in the Act 129 Phase II Programs. Comverge has provided complex energy management programs and related services to small business, large commercial, and industrial customers throughout Pennsylvania, including those customers in the PPL’s service territory. Comverge has a unique business model, and extensive experience in providing energy management solution services to all types of customers.

CHP technologies generate electric and thermal energy from a single fuel source, e.g., natural gas. Customers with steady base load electricity usage coupled with steady thermal demand can realize significant efficiencies and savings by incorporating CHP. In this proceeding, Comverge promotes the development of behind-the-meter cogeneration with combined heat and power (“CHP”) technologies as a supported energy efficient and conservation measure to provide stability in reliability planning, capture significant benefits, and avoid waste at little added cost.

## **II. PPL’S REFERENCE TO CHP IN ITS EE&C PLANS**

PPL has included CHP as an energy efficiency and conservation measure in both its Phase I and Phase II EE&C Plans. In its Phase I EE&C Plan, PPL mentioned CHP technologies for use with the low-income multi-family sector.<sup>2</sup>

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dated April 11, 2012 approving the company’s application to register as a Conservation Service Provider.

<sup>2</sup> CHP is repeatedly mentioned in the same way in the following: PPL Electric Utilities Corporation Energy Efficiency and Conservation Plan, Docket No. M-2009-2093216; July 1, 2009 Plan at 97; July 31, 2009 Plan at 97; December 15, 2009 Plan at 102-103; September 15, 2010 Plan at 103; February 28, 2011 Plan at 122; May 29, 2012 Plan at 98. Also see: PPL Quarterly Report to the Commission by The Cadmus Group dated July 15, 2012 at 12; PPL Final Annual Report to the Commission dated November 15, 2012 at 49.

In its Process Evaluation Report on PPL Plan Program Year 3 dated November 15, 2012, the Cadmus Group stated, "The inclusion of combined heat and power (CHP) projects contributed significantly to program savings but also introduced risks. Two large CHP projects accounted for 43% of PY3 reported savings. One additional large CHP project incentive was paid in PY4-Q1 and several others are currently in progress. While the savings are significant, the predicted TRC ratio for these projects is generally between 1.0 and 1.5, so there is not a wide margin for error. If just one or two large projects significantly underperformed, the program TRC would be lowered considerably."<sup>3</sup> The Cadmus Group recommended that PPL should "continue to work to mitigate risks to program cost-effectiveness presented by large CHP projects by collaborating with the C&I CSP and the EM&V CSP."<sup>4</sup> In a November 2011 report for PPL, The Cadmus Group suggested that "PPL may want to consider developing separate rules, or a separate program for such measures."

Despite these reservations about the CHP systems meeting the TRC test, PPL still included CHP in its Phase II Plan. In its Phase II Plan, PPL discusses eligible energy efficiency and conservation measures and energy savings incentives strategies.<sup>5</sup> PPL mentions that it held

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<sup>3</sup> Process Evaluation Report on PPL EE&C Plan Program Year Three dated November 15, 2012 by The Cadmus Group at 21.

<sup>4</sup> Id., The Cadmus recommendation continued, "To date, the projects have been paid after several months of post-installation performance data has been obtained. This process leads to better alignment of verified to claimed savings than would payment of the incentives at the time of the project is completed." November 15, 2012 Report at 21. In a November 2011 Report on Program Year Two for PPL, The Cadmus Group stated, "While such measures have the opportunity to provide significant savings, they typically struggle to meet the TRC test. PPL may want to consider developing separate rules, or a separate program for such measures." November 2011 Report at 149.

<sup>5</sup> CHP is mentioned in PPL's Plan as an eligible energy measure and/or incentive including references on pages 14, 102, 118 and 134.

meetings with stakeholders that discussed CHP as part of the Custom Incentive Program but provides little detail on the CHP measures that it advocates.

Comverge avers that the PPL Phase II Plan does not go far enough and, at times, actually inhibits the inclusion of CHP as an energy efficiency measure. Comverge provides the following points and suggestions:

1. In its Plan, PPL stated there is a “high degree of uncertainties CHP projects that go into calculating savings (e.g. hours of operation, energy costs, savings over the lifetime).”<sup>6</sup>

The PPL Plan does not specifically raise the uncertainty issue with energy efficiency measures (such as custom chiller replacements, air compressor improvements equipment control projects, etc.). In fact, CHP systems have a higher degree of certainty than in many other energy efficiency technologies and custom measures. For example, the CHP hours of operation can be continuous, thereby allowing the estimated costs to be easier to define and manage. Moreover, many of the other referenced energy efficiency and custom measures can be more impacted by weather, occupancy levels, project load and non-energy benefits. With CHP, any upfront capital investment can be recouped quicker with the savings from the generation of on-site electricity.

2. Although CHP technologies can utilize a variety of fuels, most CHP systems utilize natural gas. With the availability and abundance of low-cost natural gas throughout the Marcellus Shale<sup>7</sup> and Utica Shale regions, the implementation of distributed generation with gas makes financial, economic and environmental sense.

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<sup>6</sup> PPL Phase II EE&C Plan at 102, 118 and 134.

<sup>7</sup> “*Challenges Facing Combined Heat and Power Today: A State-by-State Assessment*,” By Anna Chittum and Nate Kaufman, September 2011, American Council for an Energy-

3. CHP distributed on-site generation of electricity reduces transmission and distribution losses, reduces grid congestion, improves reliability, reduces base-load (presumably coal-fired) generation requirements, reduces capacity requirements and provides enhanced national security by becoming less dependent on foreign oil. Because CHP is more efficient, less fuel is required to produce a given energy output than with separate heat and power. Higher efficiency translates into: lower operating costs, reduced emissions of all pollutants, increased reliability and power quality, reduced grid congestion and avoided distribution losses.<sup>8</sup>
4. To mitigate the risks of variable energy costs associated with the implementation of CHP, the parties can enter into long-term power purchase agreements to lock in the costs.
5. In its Plan, without full justification, PPL requires significantly higher hurdles for CHP projects by requiring a TRC of 1.25 or greater while other custom measures require a TRC greater than 1.0.<sup>9</sup>
6. In its Plan, without full justification, PPL offers a lower incentive rate for CHP at \$0.05/kWh versus \$0.08/kWh for other custom measures.<sup>10</sup>
7. In its Plan, without full justification, PPL utilized a higher societal discount rate of 8.14%<sup>11</sup> and a participant discount rate of 10.0%,<sup>12</sup> as opposed to PECO which utilized a

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Efficient Economy, Report Number IE111, at 64.  
See: <http://www.uschpa.org/files/public/ie111.pdf>

<sup>8</sup> For more information regarding the benefits of CHP technologies and the differentiation between generation efficiency and on-site efficiency, see: <http://www.epa.gov/chp/basic/efficiency.html>.

<sup>9</sup> Id.

<sup>10</sup> Id.

<sup>11</sup> PPL Phase II EE&C Plan at 182



lower societal discount rate of 7.4%<sup>13</sup>. The higher PPL discount rate has an adverse impact on the TRC program scoring of cost effectiveness for CHP.

8. Without justification, the PPL Plan does not fully consider the societal impacts and benefits of reducing the carbon footprint and implementing CHP projects which help minimize externalities including NOx (nitrous oxide), SOx (sulfur oxides) and or VOC (volatile organic compounds) emissions.<sup>14</sup>
9. Without justification, the PPL Plan does not fully consider the other non-energy benefits of implementing CHP which include comfort, health and safety, aesthetics, financial savings, water savings, sustainable job creation and economic development.<sup>15</sup>

### III. COMVERGE'S SUPPORT OF CHP IN PECO'S PHASE II PLAN

Unlike PPL, in PECO's Phase II Plan, its Smart On-Site Program ("the PECO Program") sets forth that Company's interest in developing CHP technologies in its service territory.<sup>16</sup> In its

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<sup>12</sup> Id.

<sup>13</sup> PECO Phase II Plan at 182. Also, a writer for the National Home Performance Council explains: "In calculating the TRC test, costs and benefits are presented in terms of their net present value (NPV) – their value taking into account the opportunity cost of money, or discount rate. Because costs are incurred up front, while savings are realized over an extended period of time, higher discount rates typically result in the program scoring lower on the test. The discount rate can have a substantial impact on test outcomes, and also decrease the value of the effective useful life (EUL) of measures with long life-spans." *Getting to Fair Cost-Effectiveness Testing Using the PAC Test, Best Practices for the TRC Test, and Beyond*, Robin LeBaron National Home Performance Council, September 19th, 2011, at 8. See: <http://www.nhpci.org/images/TRC.pdf>.

<sup>14</sup> Id. at 8-10.

<sup>15</sup> Id. at 9.

<sup>16</sup> PECO's Phase II Plan refers to cogeneration CHP on pages 147-154; *see also*, PECO St. No. 1 (Jiruska) at 16, and PECO St. No. 2 (Galvin) at 12. The Program cost by rate Class is set forth in Exhibit RAS-2.

Petition for Approval of its Phase II Plan, PECO states that the PECO Program is designed to encourage installation of CHP projects that “maximize operational savings and minimize operational and maintenance costs. It offers incentives to customers who install CHP technologies to reduce facility energy use.”<sup>17</sup> For all of the reasons PECO has outlined in their Phase II Plan and testimony, Comverge supports PECO’s Program and highly recommends that PPL adopt the PECO Program element that supports CHP. PPL should then actively develop and implement CHP technologies in its service territory.

#### **IV. PECO’S SMART ON-SITE PROGRAM AND CHP**

In its Phase II Plan, PECO sets forth its Smart On-Site program objectives:

1. Increase consumers’ awareness and understanding of CHP technologies and opportunities in their facilities.
2. Assist customers interested in acting on opportunities to install various types of CHP systems.
3. Overcome financial barriers to allow customers to integrate CHP technologies into their facilities energy systems.
4. Make a significant contribution to attainment of PECO’s energy savings goals.
5. Demonstrate PECO’s commitment to and confidence in innovative energy savings technologies.
6. Strengthen customer trust in PECO as their partner in saving energy.<sup>18</sup>

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<sup>17</sup> *Petition of PECO Energy Company for Approval of its Phase II Energy Efficiency and Conservation Plan* at 10.

<sup>18</sup> PECO’s Phase II Plan, at 147.

For the PECO Program, PECO's target customer market includes all existing commercial and industrial accounts, including government, public, and non-profit facilities. The Company's focus for the PECO Program is customers installing any type of CHP technology that helps offset facility demand. The Program offers incentives to customers who install CHP technologies to reduce facility energy use.<sup>19</sup> The PECO Program will be designed to ensure participating customers install economic CHP projects that maximize operational savings and minimize operational and maintenance costs.<sup>20</sup>

PECO's Phase II Plan also sets forth measures that demonstrate the PECO Program's proposed per-unit gross annual deemed savings, costs and potential incentives.<sup>21</sup> The PECO Program encourages installation of CHP projects that maximize operational savings and minimize operational and maintenance costs. It offers incentives to customers who install CHP technologies to reduce facility energy use.

The PECO Program offers custom incentives paid on a fixed per kWh basis (up to a set amount) based on the projects' first year energy savings. PECO projects that its Program will produce 135,002 MWh in energy savings over the course of the Plan.<sup>22</sup> Comverge advocates that PPL should adopt PECO's Program that promotes the development of CHP technologies and then implement those systems in the PPL service territory.

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<sup>19</sup> Id.

<sup>20</sup> Id.

<sup>21</sup> Id. at 151.

<sup>22</sup> PECO St. No. 1 (Jiruska) at 16.

Comverge's unique offering of a CHP cogeneration strategy can assist the PPL in meeting its Act 129 goals and objectives. Comverge believes that the Commission should continue such efforts and program elements without delay. The development of CHP technologies is in the public interest since the CHP technologies and opportunities will make a significant contribution to attainment of PPL's energy savings goals under Act 129 by providing innovative ways to be energy efficient and conserve energy.

**V. CONCLUSION**

Comverge appreciates the opportunity to offer comments to PPL's Act 129 Phase II Plan, and looks forward to work cooperatively with all interested stakeholders in this proceeding.

Comverge supports the use of CHP as a cost effective, energy efficient energy use that supports the goals and objectives of Act 129. Comverge believes CHP should have an important role in PPL's Phase II Plan.

Respectfully submitted,



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Of Counsel:

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Date: December 21, 2012

Attorneys for Comverge, Inc.

**VERIFICATION**

I, RAYMOND G BERKEBILE hereby state that the facts above set forth are true and correct to the best of my knowledge, information and belief and that I expect to be able to prove the facts. I understand that the statements herein are made subject to the penalties of 18 Pa.C.S. § 4904 relating to falsification to authorities.

Date: DECEMBER 20, 2012

  
Name:

Company: CONVERGE

Title: DIRECTOR OF PROFESSIONAL  
ENGINEERING