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November 8, 2012

VIA OVERNIGHT DELIVERY

Rosemary Chiavetta, Secretary
Pennsylvania Public Utility Commission
Commonwealth Keystone Building
P.O. Box 3265
400 North Street
Harrisburg, PA 17105-3265

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PA PUBLIC UTILITY COMMISSION
SECRETARY'S BUREAU

**Re: 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-0005186**

Dear Secretary Chiavetta:

Pursuant to the September 13, 2012 Tentative Order in the above-referenced dockets, enclosed please find **PECO Energy Company's Reply Comments on the Proposed Update to the Technical Reference Manual**. The Reply Comments have also been electronically mailed in Word format to Megan G. Good (megagood@pa.gov) and Kriss Brown (kribrown@pa.gov).

Kindly return a time-stamped copy of this letter in the self-addressed envelope that is enclosed.

Please do not hesitate to contact me should you have any questions regarding this filing.

Very truly yours,

Jack R. Garfinkle

Enclosures

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

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|---|----------|-----------------------------------|
| Implementation of the Alternative Energy | : | |
| Portfolio Standards Act of 2004: Standards | : | |
| for the Participation of Demand Side | : | Docket Nos. M-2012-2313373 |
| Management Resources – Technical | : | M-00051865 |
| Reference Manual 2013 Update | : | |

**REPLY COMMENTS OF PECO ENERGY COMPANY ON THE
PROPOSED UPDATE TO THE TECHNICAL REFERENCE MANUAL**

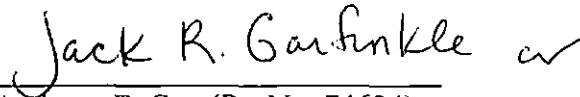
Pursuant to the September 13, 2012 Tentative Order entered by the Pennsylvania Public Utility Commission (the “Commission”) in the above-referenced dockets, PECO Energy Company (“PECO” or the “Company”) hereby replies to the comments submitted by the Keystone Energy Efficiency Alliance (“KEEA”) on the Commission’s proposed 2013 update to its Technical Reference Manual (“TRM”).

PECO’s section-by-section response to KEEA’s comments is attached to this document as Appendix A. The Company notes that KEEA discusses the comments of CLEAResult. These comments have not been posted on the Commission’s website and the Company has not had an opportunity to review them. PECO reserves the right to reply to the comments of CLEAResult if and when they become available.

Overall, and as noted in PECO’s comments filed October 31, 2012, the Company believes that great progress has been made to date and that the final 2013 TRM Update could serve as an appropriate tool for the entire second phase of the Act 129 Energy Efficiency and Conservation Program.

PECO appreciates the opportunity to participate in this important proceeding and believes that the Company's recommended revisions can improve the effectiveness of the Technical Reference Manual.

Respectfully Submitted,

 Jack R. Garfinkle *cr*

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Dated: November 8, 2012

For PECO Energy Company

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PA PUBLIC UTILITY COMMISSION
SECRETARY'S BUREAU**KEEA II.1: Impact of Weather – Draft 2013 TRM Section 1.16**

Response: KEEA makes a reasonable observation concerning the limitations of using the California Climate Zone mapping. The TRM generally performs a weather normalization using HDD or CDD ratios to account for the weather differences between PA and CA. It is unclear if any ratio adjustment was made to account for the differences in PA and CA for those measures which used CA data. This is worth investigating. Use of Heating/Cooling Degree Hours is a valid suggestion and the benefits and impacts should be discussed at the PEG meetings for consideration for future TRM updates.

KEEA II.2: Electric HVAC Algorithms – Draft 2013 TRM Section 2.1.1

Response: KEEA suggests specifying the use of billing analysis for residential heating and cooling measures as the preferred method in PA. While PECO agrees that billing analysis is a more accurate method for individual customers, it is also a costly and burdensome requirement that would significantly hinder implementation of these measures in PA. The theory of the TRM is that it represents the average savings that a population of participants would achieve for a given measure, not the actual savings for a single participant. This theory sacrifices individual accuracy for the cost effectiveness and reliability of the average result of the population. The proposed changes to the 2013 TRM also make significant reductions to the default EFLH in order to reduce the potential for overstating savings on average. PECO does not agree with KEEA's suggestion to list billing analysis as the preferred method.

KEEA II.3: Furnace Whistle – Draft 2013 TRM Section 2.5

Response: KEEA suggests that there are little to no savings associated with furnace whistles. They acknowledge the purpose of the measure is to encourage occupants to change the furnace filters more frequently than they do without the whistle. The algorithm definitions in the TRM are misleading as to how furnace whistles can save energy by implying that savings come from an increase in efficiency of the motor. While KEEA's comments on the minimal efficiency improvements are true, what is not mentioned is the reduction in EFLH of the blower fan motor due to increased airflow associated with cleaner filters. By keeping the filters clean and allowing more airflow during heating or cooling, the system run hours are reduced. This is where the primary savings are achieved.

KEEA II.4: Heat Pump Water Heater Energy Factor – Draft 2013 TRM Section 2.6.4

Response: KEEA's assumption that almost all water heaters are installed in conditioned spaces and virtually none installed in garages in PA is false. PECO's baseline study showed that 79% of electric water heaters in PECO's territory are installed in unconditioned spaces including garages and basements as opposed to conditioned spaces.

It is reasonable to add interactive effects for measures installed in conditioned spaces, while including a flag which allows the proper estimation of savings for units installed in unconditioned basements or garages as well.

PECO agrees Section 2.6.7 Evaluation Protocols should be removed entirely. This is not in other measures and it is unclear why it is listed here. The TRM should not limit how the evaluation should verify a measure.

KEEA II.6: Programmable Thermostats – Draft 2013 TRM Section 2.11

Response: There is no elaborate approach to estimate savings as suggested by KEEA. There is a simple savings algorithm consistent with several other TRMs and the HVAC algorithms. To use a billing analysis for all installed programmable thermostats, as suggested by KEEA, is an impossible proposition as many of these measures are implemented as an upstream buydown at the retail level. The EDCs do not know in these cases who purchased the measure, and it is therefore impossible to do a billing analysis for that customer. Further, if a billing analysis was required for each installation of this measure, savings estimates would not be possible until several months of post-

installation billing data were available. These measures would therefore not be possible to verify until the following program year evaluation.

PECO agrees with KEEA that language should be added to the TRM limiting the programmable thermostats to resistance electric heating and DX cooling systems. Installing a standard programmable thermostat on a HP system could have negative energy consequences and even void the system warranties. There are programmable thermostats available for heat pump systems that could be an option, but the studies are unclear as to whether savings would be achieved for these installations. IL is proposing a detailed programmable thermostat study in the next program evaluation cycle because of uncertainties and ambiguity/conflict with existing studies. Prior to making changes to this measure in the PA TRM, it is worth waiting for the results of the IL study for review.

KEEA II.7: Room AC Retirement Algorithms – Draft 2013 TRM Section 2.12.1

Response: Similar to KEEA’s recommendation for using a billing analysis for the programmable thermostats, this would mean savings estimates and verified savings would not be available until the following program year’s evaluation. This is not feasible under PA’s reporting structure. It is also unclear that it would result in a significant improvement in savings estimates.

KEEA II.10: Residential Whole House Fans – Draft 2013 TRM Section 2.16

Response: The TRM does not provide explicit details on how the savings were calculated for the measure. Future TRM updates should work to provide more details on the savings estimates. KEEA suggests some faults of the current savings estimates, but does not provide solutions.

KEEA II.11: Ductless Mini-Split Heat Pumps – Draft 2013 TRM Section 2.17.1

Response: PECO agrees that the LF is incorrectly applied in the TRM algorithm. A more detailed review of this measure could be warranted.

KEEA II.13: Ceiling /Attic and Wall Insulation – Draft 2013 TRM Section 2.21

Response: KEEA’s comment that the CDD method may be underestimating cooling savings is valid and should be investigated further. Their comment that the baseline uninsulated wall is closer to an R-5 or R-6 is reasonable. There would be a similar increase in assumptions for all of the other wall R-values, however, so there may be minimal effect on savings. Also, their comment that the measure is suggesting only adding R-6 insulation is based on a misunderstanding of the measure. While a higher R-value than R-6 is added to the space between each stud, the overall affect on the wall R-value is less than the R-value added between each stud. If the measure used the R-value of the insulation added, this would overestimate savings.

PECO disagrees that using HDD65 is overstating savings by the amount suggested by KEEA. Many studies have shown *HDD65 is a reasonable base temp for residential analysis.*

KEEA II.16: General Comments on Residential Measures

Response: PECO is unable to respond without the opportunity to review CLEAResult’s comments.

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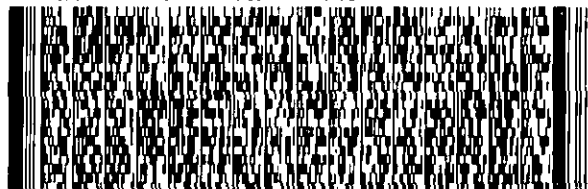
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