Exelon

Business Services Company

Legal Department

Exelon Business Services Company
2301 Market Street/S23-1
P.O. Box 8699
Philadelphia, PA 19101-8699

Telephone 215.841.4000
Fax 215.568.3389
www.exeloncorp.com

Direct Dial: 215.841.4608

March 12, 2010

VIA OVERNIGHT DELIVERY

James J. McNulty, Secretary
Pennsylvania Public Utility Commission
Commonwealth Keystone Building
P.O. Box 3265
400 North Street
Harrisburg, PA 17120

Re: Implementation of the Alternative Energy Portfolio Standards Act of 2004: Standards for the Participation of Demand Side Management Resources – Technical Reference Manual Update – Docket No. M-00051865

Dear Secretary McNulty

Pursuant to the February 2, 2010 Tentative Order in the above-referenced docket, enclosed please find an original and fifteen (15) copies of PECO Energy Company's Comments on the Commission's proposed update to its 2009 Technical Reference Manual. The Comments have also been electronically mailed to Gregory A. Shawley and Kriss Brown.

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 filling.

Very truly yours,

Jack R. Garfinkle
Assistant General Counsel

Enclosures

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Implementation of the Alternative Energy Portfolio Standards Act of 2004: Standards for the Participation of Demand Side Management Resources – Technical Reference Manual Update	:	**Docket No. M-00051865**

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

Pursuant to the February 2, 2010 Tentative Order entered by the Pennsylvania Public Utility Commission (the "Commission") in the above-referenced docket, PECO Energy Company ("PECO") hereby submits comments on the Commission's proposed update to its 2009 Technical Reference Manual ("TRM").

I. INTRODUCTION

PECO appreciates the Commission's efforts to complete an updated TRM that will serve as a more effective tool for validating savings and providing support for Act 129 goals. PECO strongly agrees that the TRM should "appropriately balance the integrity and accuracy of savings estimates with costs incurred to measure those savings." Tentative Order, p. 3. After a careful review of the proposed updates, PECO believes that, overall, the use of deemed savings can be increased without sacrificing the effectiveness and accuracy of the TRM. The existing annual update process for the TRM presents an opportunity to establish deemed savings values and then refine them over time. The more streamlined the savings assessment process, the more successful PECO and other electric distribution companies ("EDCs") will be at capturing customer interest and energy savings. PECO's specific comments to the proposed TRM update are described below.

II. SPECIFIC COMMENTS

A. Retroactive Application Of Proposed Changes

In general, PECO believes changes in the annual update of the TRM should be applied prospectively. However, given that part of the objective of this first annual TRM update is "to clarify existing protocols and algorithms that were difficult to interpret in light of sound engineering principles and to provide values that were referenced in the TRM algorithms but not previously provided," PECO supports the retroactive application of the update. *See* Tentative Order, p. 5.

B. Lighting

1. Overall Data and Analysis Requirements

The depth and detail of the data required by the updated TRM for most lighting measures effectively requires a space-by-space "custom analysis." For example, the updated TRM requires space-by-space data on the specific pre- and post- project fixture type, fixture code, fixture wattage, control type, and estimated operating hours for projects saving more than 20 kW (Section 6.2.4.2). Specific area-level operating hours also must be identified for projects with greater than 50 kW savings (Section 6.2.5.1), with stipulated operating hours and coincidence factors available for projects with less than 50 kW savings. Although the requirement for detailed inventory is relaxed for smaller projects, Section 6.2.4.1 states "... information sufficient to validate savings according to the algorithm above must be included in the documentation. This includes identification of baseline equipment utilized for quantifying kW base."

PECO believes the requirement for a detailed space-by–space inventory for larger lighting projects will significantly increase time investment for those customers who are performing this work "in-house" without the support of an ESCO or lighting contractor, and it will increase project costs. The updated TRM (even for small projects) will also increase the data collection handling and storage requirements and administrative costs for EDCs and implementation contractors.

To reduce barriers to customer participation such as cost and time investment, PECO believes that the requirement that base case fixture codes be identified should be relaxed for smaller (<20 kW) projects. The base case fixture type and delta watts can be inferred with appropriate accuracy from the similar retrofits on the larger projects, for which the data is available or can be generated by limited market studies. In addition, PECO recommends that the TRM allow use of stipulated operating hours and coincidence factors for projects with up to 100 kW savings.

2. Requirements for Lighting Retrofits

PECO has identified one area where it believes the updated TRM could add clarity. The minimum number of usage groups for different building types provided in Table 6-1 could serve as a barrier to certain retrofit lighting measures. Retrofit lighting measures can provide significant energy savings but often focus on a limited number of the most cost-effective usage groups (e.g., areas where lights are used the most). To encourage customer participation and acknowledge common retrofitting scenarios, PECO recommends that the minimum number of usage groups be modified so that even single space use retrofit lighting measures can be easily calculated.

3. Exterior and Roadway Lighting

PECO recommends that the updated TRM specifically addresses efficiency upgrades for the dusk to dawn security and roadway lighting applications. This could be accomplished by inserting a new section called "Security and Roadway Lighting" where the wattage savings is defined (Appendix C) e.g., [(existing watts – new watts) times run hours per year] and then adding a new row in Table 6-6 that identifies security and roadway lighting hours use per year. The average dusk to dawn hours should be used in the table entry, which PECO believes is approximately 4100 hours per year. The security and roadway lighting fixtures are already in the TRM appendix as part of the detailed light/luminaire types.

4. Correction to Section 6.2

PECO recommends that the reference to "metal halide lamps" in Section 6.2 be replaced with "High Intensity Discharge" or "HID" which is a broader category of lighting that includes metal halide lamps. PECO notes that the manual tables in the back of the TRM refer to the entire variety of HID, not just metal halide.

C. Motor Data Requirements

The updated TRM requires detailed pre- and post- project data for all motor measures, regardless of size (Section 6.3). Because these data requirements may serve as a participation barrier for some customers with projects involving a small amount of horsepower, PECO believes the Commission should consider establishing a threshold (e.g., projects involving a total horsepower of greater than 50 or 100) above which the requirements would apply. Projects below the threshold would be consistent with the market-defined baseline efficiencies identified in Table 6.10.

D. Weather Data

We note that the updated TRM refers to weather data that is used as a basis for some of the factors. *See* TRM Update, p. 68 (notes for Table 6-12). PECO recommends that the Statewide Evaluator publish "bin weather data" and "TMY 8760" weather data for representative program locations. This will remove one area of potential discrepancy (and evaluation risk) for custom analysis projects.

E. Increasing Deemed Savings Measures

As stated earlier, PECO believes that the savings assessment process can and should be further streamlined through the expanded use of deemed savings. The TRM requirements as updated will significantly increase data collection and storage requirements as well as the need for site verification and repeated customer interactions. PECO is concerned that time and cost required to meet TRM requirements will operate as a barrier to customer participation and additional energy savings.

While PECO fully supports detailed engineering reviews of measure savings, it notes that many other successful utility programs foster participation by minimizing program requirements initially through the use of deemed savings. More detailed analysis is reserved for the subsequent evaluation cycles to confirm that stipulated energy savings are in fact being realized. Studies have shown that realization rates are quite high for prescriptive measures in programs using this iterative deemed savings approach. *See* Appendix A.

PECO believes that increasing the use of deemed savings in the TRM would better balance the needs of the customer, the utility, and the overall program cost – while still allowing energy savings targets to be met. Sufficient data exists from base case and market penetration studies (California, New York), and additional data could be gathered in Pennsylvania, to allow

for a broader range of measures to have deemed energy savings without sacrificing the precision that make the TRM a valuable tool. As the Commission continues its annual evaluation process of the TRM, PECO encourages the Commission to consider increased use of deemed savings.

III. CONCLUSION

PECO appreciates the opportunity to comment on this important matter and believes that the Company's recommended revisions can improve the effectiveness of the Technical Reference Manual.

Respectfully Submitted

Jack R. Garfinkle (Pa. No. 81892)
Exelon Business Services Company
2301 Market Street
P.O. Box 8699
Philadelphia, PA 19101-8699
Phone: 215.841.4608
Fax: 215.568.3389
jack.garfinkle@exeloncorp.com

March 12, 2010

For PECO Energy Company

Appendix A. Evaluation Results from Example Programs in the Public Record

The four tables below illustrate evaluation results for "prescriptive lighting" program elements, where the ex ante kWh and kW savings for each generic type of fixture change or modification (e.g., T12 to T8, HID to T8, etc.) are based on stipulated "delta Watt" values and market-averaged operating hours. These "deemed savings" are then subjected to site-specific evaluation based on a stratified sampling approach to determine whether the savings have been realized through measure implementation. As the tables show, the gross realization rates for the measures using "deemed savings" are high.

NV Energy South Region 2007 Results -

Summary of Firm Verified Energy Savings

ECM (Stratum)	*Ex Ante* Annual Energy Savings (kWh)	Verified Energy Savings (kWh)		
		Annual	Realization Rate	2007 Partial-Year
Custom	33,247,671	36,439,448	109.6%	13,883,430
Custom - Schools BOA	1,219,500	1,284,752	105.4%	231,744
Custom - Schools Portable Classrooms	535,000	628,910	117.6%	30,859
Direct HVAC	847,000	701,316	82.8%	13,325
Direct Lighting (LED Exit Signs)	75,667	60,155	79.5%	7,519
Direct Lighting (High-Eff. Lighting)	2,308,354	2,142,153	92.8%	274,196
Prescriptive HVAC	4,187,586	3,082,063	73.6%	1,559,524
Prescriptive Lighting	19,941,138	23,550,484	118.1%	9,938,304
Prescriptive Miscellaneous	16,000	16,000	100.0%	4,672
Upstream HVAC	929,222	665,323	71.6%	90,484
Upstream Motor	74,219	74,219	100.0%	15,215
Total	**63,381,357**	**68,644,823**	**108.3%**	**26,049,272**

NV Energy North Region 2007 Results

Realization Rates and Verified Energy Savings per ECM, 2007 Sure Bet Commercial Incentives (Retrofit) Project

ECM	*Ex Ante* kWh of M&V Sites	Verified kWh of M&V Sites	Realization Rate per ECM	*Ex Ante* kWh, Data Store Populations	**Verified Annual kWh**	**Verified Partial-year kWh**
Custom	10,790,823	10,288,302	95.3%	12,646,475	**12,057,538**	**6,544,692**
Prescriptive Lighting	3,145,610	3,255,570	103.5%	8,018,858	**8,299,171**	**4,719,768**
Prescriptive Miscellaneous	59,201	59,201	100.0%	59,201	**59,201**	**37,001**
Prescriptive HVAC	55,510	55,510	100.0%	57,218	**57,218**	**21,456**
Prescriptive Refrigeration	88,301	88,301	100.0%	88,301	**88,301**	**33,113**
Total	14,139,444	13,746,883	GRR: 98.5%	20,870,053	**20,561,429**	**11,356,031**

Commonwealth Edison PY1 Results (June 2008 – May 2009)

PY1 Prescriptive Program Gross kWh Savings

End Use	Tracking Gross kWh	Verified Gross kWh	Realization Rate
LIGHTING	83,461,120	110,155,743	1.32
HVAC	6,598,992	9,851,596	1.49
REFRIG	494,488	521,752	1.06
MOTORS	16,822	20,475	1.22
Program	90,571,422	120,549,567	1.33

Source: Tracking savings from ComEd online tracking system, July 7, 2009.

PY1 Prescriptive Program Gross kW Savings

End Use	Tracking Gross kW	Verified Gross kW	Realization Rate
LIGHTING	17,971	17,934	1.00
HVAC	885	1,403	1.58
REFRIG	33	31	0.94
MOTORS	3	3	1.05
Program	18,893	19,370	1.03

Source: Tracking savings from ComEd online tracking system, July 7, 2009.

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Morgan Lewis
COUNSELORS AT LAW

TO:

VIA FEDERAL EXPRESS

James J. McNulty
Secretary
Pennsylvania Public Utility Commission
Commonwealth Keystone Building
400 North Street
Harrisburg, PA 17120

RT 205 1

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