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| PUC logo | COMMONWEALTH OF PENNSYLVANIA  PENNSYLVANIA PUBLIC UTILITY COMMISSION  P.O. BOX 3265, HARRISBURG, PA 17105-3265 | **IN REPLY PLEASE REFER TO OUR FILE**  M‑00051865 |

**December 17, 2010**

TO ALL INTERESTED STAKEHOLDERS:

Re: Implementation of the Alternative Energy Portfolio Standards Act of 2004: Standards for the Participation of Demand Side Management Resources – Technical Reference Manual 2011 Update.

Docket No. M-00051865

On November 19, 2010, the Pennsylvania Public Utility Commission (Commission) adopted a Tentative Order issuing the proposed 2011 Technical Reference Manual (TRM) update for comment. The Tentative Order and Proposed 2011 TRM update are posted on the Commission’s website at: <http://www.puc.state.pa.us/electric/Act129/TRM.aspx>.

Enclosed please find Errata to the Proposed 2011 TRM update. The Errata corrects an inconsistent value and source reference for CFL hours of operation per day in Table 2-14: *Calculating Assumptions*, under Section 2.7 Home Audit Conservation Kits on page 34 of the Proposed 2011 TRM update. The Errata also corrects the source reference for CFL hours in Table 2-43: *ENERGY STAR Lighting – References*, under Section 2.26 ENERGY STAR Lighting on pages 104 and 105 of the Proposed 2011 TRM update.

A copy of this letter and the enclosed Errata pages, along with a redlined version of the Errata, will be posted on the Commission’s website at the above-referenced web address. The Proposed 2011 TRM update posted on the Commission’s website has been corrected.

The contact person for technical issues related to the proposed 2011 version of the TRM is Gregory A. Shawley, at 717-787-5369 or [gshawley@state.pa.us](mailto:gshawley@state.pa.us). The contact person for legal and process issues related to the proposed 2011 version of the TRM is Kriss Brown at 717-787-4518 or [kribrown@state.pa.us](mailto:kribrown@state.pa.us).



Sincerely,

Rosemary Chiavetta

Secretary

Table Error! No text of specified style in document.‑: Calculation Assumptions

| **Component** | **Value** | **Source** |
| --- | --- | --- |
| NCFL: Number of CFLs per kit | 4 | Program design[[1]](#footnote-1) |
| CFLWatts, Difference between supplanted and efficient luminaire wattage (W) | 47 | Program Design |
| ISR , In Service Rate or Percentage of units rebated that actually get used | variable | EDC Data Gathering |
| CFLhours, hours of operation per day | 1.9 | 1 |
| CF , CFL Summer Demand Coincidence Factor | 0.05 | PA TRM Table 4-3 |
| NAerator: Number of faucet aerators per kit | 4 | Program design |
| NSmartStrip: Number of Smart Strips per kit | 2 | Program design |
| SavingsAerator (kWh) | 61 | FE Interim TRM |
| DemandReductionAerator (kW) | .006 | FE Interim TRM |
| ISRAerator | variable | EDC Data Gathering[[2]](#footnote-2) |
| SavingsSmartStrip (kWh) | 184 | FE Interim TRM |
| DemandReductionSmartStrip (kW) | .013 | FE Interim TRM |
| ISRSmartStrip | variable | EDC Data Gathering |
| SavingsNiteLite (kWh) | 26.3 | PA Interim TRM[[3]](#footnote-3) |
| DemandReductionNiteLite (kW) | 0 | PA Interim TRM |
| ISRNiteLite | variable | EDC Data Gathering |
| NNiteLite | 2 | Program Design |

**Sources:**

1. United States Department of Energy, *Energy Star CFL Market Profile: Data Trends and Market Insights*. Prebared by D&R International, Ltd.: September 2010; pg. 24.

### 1.1.1 Partially Deemed Savings

The deemed energy and demand savings per kit are dependent on the measured ISRs for the individual kit components.

Table Error! No text of specified style in document.‑: ENERGY STAR Lighting - References

|  |  |  |  |
| --- | --- | --- | --- |
| Component | Type | Value | Sources |
| CFLwatts | Fixed | Variable | Data Gathering |
| CFLhours | Fixed | 1.9 | 6 |
| ISRCFL | Fixed | 84% | 3 |
| Torchwatts | Fixed | 115.8 | 1 |
| Torchhours | Fixed | 3.0 | 2 |
| ISRTorch | Fixed | 83% | 3 |
| IFwatts | Fixed | 48.7 | 1 |
| IFhours | Fixed | 2.6 | 2 |
| ISRIF | Fixed | 95% | 3 |
| OFwatts | Fixed | 94.7 | 1 |
| OFhours | Fixed | 4.5 | 2 |
| ISROF | Fixed | 87% | 3 |
| CF | Fixed | 5% | 4 |
| ΔkWh | Fixed | 180 kWh | 5 |
| ΔkW | Fixed | 0.01968 | 5 |

**Sources:**

1. Nexus Market Research, “Impact Evaluation of the Massachusetts, Rhode Island and Vermont 2003 Residential Lighting Programs”, Final Report, October 1, 2004, p. 43 (Table 4-9)
2. Ibid., p. 104 (Table 9-7). This table adjusts for differences between logged sample and the much larger telephone survey sample and should, therefore, have less bias.
3. Ibid., p. 42 (Table 4-7). These values reflect both actual installations and the % of units planned to be installed within a year from the logged sample. The logged % is used because the adjusted values (~~i.e~~ to account for differences between logging and telephone survey samples) were not available for both installs and planned installs. However, this seems appropriate because the % actual installed in the logged sample from this table is essentially identical to the % after adjusting for differences between the logged group and the telephone sample (p. 100, Table 9-3).
4. RLW Analytics, “Development of Common Demand Impacts for Energy Efficiency Measures/Programs for the ISO Forward Capacity Market (FCM)”, prepared for the New England State Program Working Group (SPWG), March 25, 2007, p. IV.
5. Efficiency Vermont. Technical Reference User Manual: Measure Savings Algorithms and Cost Assumptions (July 2008).
6. United States Department of Energy, *Energy Star CFL Market Profile: Data Trends and Market Insights*. Prepared by D&R International, Ltd.: September 2010; pg. 24.

The 1.9 average daily hours of use, for all household socket locations, for all bulbs is based upon two independent large scale comprehensive residential lighting metering studies (one national and on in California). National: U.S. Department of Energy. US Lighting Market Characterization, Volume 1: National Lighting Inventory and Energy Consumption Estimate. 2002. California: KEMA, Inc. “Final Evaluation Report: Upstream Lighting Program.” Prepared for the California Public Utilities Commission, Energy Division. February 6, 2010.

1. Four 23-W CFLs are sent out. We assume that one replaces a 100W lamp while the remaining CFLs replace 60W lamps. [↑](#footnote-ref-1)
2. The ISR calculation for aerators is averaged from observations of a binary variable that takes on value 1 if the aerator is installed and the home has electric water heating, 0 otherwise. [↑](#footnote-ref-2)
3. The savings for night lights are 22.07 kWh in the PA Interim TRM, p. 24. However, these savings are the product of 26.3 kWh and an ISR of 0.84. Since the ISR for the conservation kit items are determined by data gathering during the impact evaluation, the savings for night lights herein are cast as 26.3 × ISR, with ISR as a program-specific empirically determined variable. [↑](#footnote-ref-3)