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|  | **PENNSYLVANIA**  **PUBLIC UTILITY COMMISSION**  **Harrisburg, PA 17120** |  |

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|  | Public Meeting held February 4, 2021 |
| Commissioners Present: |  |

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| Gladys Brown Dutrieuille, Chairman | | |  |
| David W. Sweet, Vice Chairman | | |  |
| John F. Coleman, Jr. | | |  |
| Ralph V. Yanora | | |  |
|  |  |
| Implementation of the Alternative Energy Portfolio Standards Act of 2004: Standards for the Participation of Demand Side Management Resources – Technical Reference Manual 2021 Update | M-2019-3006867 |

**2021 TRM UPDATE amendment FINAL Order**

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**BY THE COMMISSION:**

As we stated in the Phase IV Implementation Order,[[1]](#footnote-2) the Pennsylvania Public Utility Commission (Commission) will continue to utilize the Technical Reference Manual (TRM) to help fulfill the evaluation process requirements in the Alternative Energy Portfolio Standards Act (AEPS Act) as well as the energy efficiency and conservation program (EE&C Program) requirements in Section 2806.1 of the Pennsylvania Public Utility Code, 66 Pa. C.S. § 2806.1. In addition, we noted that the 2021 TRM would be applicable for the entirety of Phase IV, but reserved the right to implement a mid‑phase TRM update if needed.[[2]](#footnote-3) We last updated the TRM on August 8, 2019, prior to issuing the Phase IV Implementation Order.[[3]](#footnote-4) In that Order, we stated that if the Commission adopts a Phase IV of the EE&C Program, the Commission will allow for optional updates to keep the TRM aligned with updates to codes and standards that occur during the phase.

On October 29, 2020, the Commission issued for comment an amendment to the 2021 TRM to ensure that the TRM is up to date and better aligns with the Phase IV EE&C Program.[[4]](#footnote-5)

With this Order, the Commission adopts several modifications primarily focused on peak demand savings for existing residential and commercial and industrial (C&I) measures in the 2021 TRM ([Section A](#_Existing_Residential_EE&C) and [Section B](#_Existing_C&I_EE&C) of this Order). Specifically, we adopt updates to three existing residential measures ([Section A](#_Existing_Residential_EE&C)) and two existing non-residential measures ([Section B](#_Existing_C&I_EE&C)). [Section C](#_Removed_Residential_EE&C) of this Order lists one residential measure that the Commission removes from the 2021 TRM.

# BACKGROUND

On April 11, 2019, the Commission issued for comment the proposed 2021 TRM that would be used for a potential Phase IV of the EE&C Program.[[5]](#footnote-6) As indicated above, on August 8, 2019, the Commission issued the 2021 TRM Update Final Order. On September 24, 2020, the Commission issued a 2021 TRM Errata, correcting approximately fifty minor errors that had little or no impact on savings estimates or program administration.[[6]](#footnote-7)

Following the Commission’s release of the Errata to the 2021 TRM in September 2020, the SWE, in collaboration with the program evaluation group (PEG)[[7]](#footnote-8) and staff from the Commission’s Bureau of Technical Utility Services (TUS), reviewed the 2021 TRM focusing on measures that were not assigned peak demand savings. The review was due to established peak demand savings goals in the Phase IV Implementation Order, which was adopted on June 18, 2020, nearly one year after the adoption of the 2021 TRM on August 8, 2019.[[8]](#footnote-9) The Commission proposed several changes for inclusion in the 2021 TRM and released these proposed changes for comment in the 2021 TRM Update Amendment Tentative Order, from the October 29, 2020 Public Meeting. A notice of the Tentative Order and proposed amended 2021 version of the TRM was published in the *Pennsylvania Bulletin* on November 14, 2020. Comments were due on December 14, 2020, and reply comments were due on January 4, 2021.

The following parties filed comments in response to the Tentative Order: PPL Electric Utilities Corporation (PPL) and ExxonMobil. No parties filed reply comments.

# DISCUSSION

The changes and improvements are focused on incorporating peak demand savings for all applicable measures in the 2021 TRM. In addition, the changes include a limited number of improvements to algorithms and key parameters, accounting for new ENERGY STAR specifications and removal of a redundant residential measure. These changes make the 2021 TRM a more effective and professional tool for validating energy and peak demand savings and providing support for the Act 129 goals.

The major goals of the modifications are as follows:

1. To incorporate peak demand savings for all applicable measures in the 2021 TRM;
2. To improve existing calculation methods;
3. To incorporate an updated ENERGY STAR specification into an existing measure; and
4. Remove a redundant measure.

Below is a summary list of changes to the 2021 TRM that are hereby adopted by the Commission.

1. Updates to three existing residential EE&C measure protocols.
2. Updates to two existing C&I EE&C measure protocols.
3. Removal of one existing residential EE&C measure protocol.

Below, we will discuss in detail the more significant changes and updates being adopted. Minor administrative changes will not be discussed.

## Existing Residential EE&C Measure Protocols and Processes

The proposed changes to the residential measures elicited no comments. Accordingly, the Commission adopts them as proposed. Affected measures include:

* Section 2.2.11 – ENERGY STAR Certified Connected Thermostats
* Section 2.7.3 – Home Energy Reports
* Section 2.8.1 – Variable Speed Pool Pumps

## Existing C&I EE&C Measure Protocols

The proposed changes to Section 3.9.5 – Server Virtualization elicited no comments. Accordingly, the Commission adopts them as proposed.

Comments received on the proposed clarifications and modifications to the remaining C&I measure protocols are addressed below.

### Section 3.9.3 – Advanced Power Strips[[9]](#footnote-10)

#### Algorithm Modification

The Commission proposed providing additional content to the algorithms and supporting tables to allow for the calculation of peak demand savings. This content includes additional formulae, parameter inputs, and default savings. Specifically, the algorithm section includes peak demand savings-specific algorithms for both Tier 1 and Tier 2 Advanced Power Strips (APS) with each including a new ERPpeak parameter. Additional parameters include an estimated demand load factor for office workstations, which represent the assumed load being managed by the APS, as well as ERPpeak parameter values for various load scenarios. The Tier 1 APS ERPpeak parameters are presumed to be zero percent based on the assumption that the master socket of a Tier 1 APS will be active as workstations are operational during the peak coincident period. The Tier 2 APS ERPpeak parameters have various levels of impact based on the presumed initial load of the workstation. Finally, the update provides default demand savings based on the ERPpeak parameters and assumed workstation load. All new parameter values are cited from the same sources as those used to define energy savings.

##### **Comments**

PPL stated that in Table 3-170, the default Demand Savings (kW) for Tier 2 Workstations should be 0.015, not 0.017. The company noted that multiplying the *Demandworkstation* value of 0.062 kW in Table 3-168 by the Tier 2 Workstation ERPpeak value of 23.4% in Table 3-169 results in Demand Savings of 0.015 kW. PPL Comments at 1.

##### **Disposition**

Based upon further review of the error identified by PPL, the Commission discovered an incorrect ERP parameter in Table 3-169. The correct Tier 2 Workstation ERPpeak value in Table 3-169 is 27.4%, not 23.4%. However, the default Demand Savings (kW) for Tier 2 Workstations in Table 3-170 of 0.017 is correct.

## Removed Residential EE&C Protocols

The Commission proposed the removal of one residential EE&C measure protocol: Section 2.6.6 – Residential Window Repair. No stakeholder comments were received in response to this removal. As such, the measure has been excluded from the 2021 TRM.

## Additional Proposed C&I EE&C Measure Protocols

#### a. Comments

ExxonMobil filed a comment suggesting a new C&I EE&C Measure Protocol (energy-efficient industrial lubricant) be added to the 2021 TRM.

#### b. Disposition

New additional measure protocols are outside of the scope of this Order; therefore, the measure protocol will not be added to the 2021 TRM. We will, however, direct the Phase IV SWE to consider ExxonMobil’s suggestion during the next full TRM update.

# CONCLUSION

This Order represents the Commission’s continuing efforts in establishing a comprehensive TRM with the purpose of supporting both the AEPS Act and the EE&C Program provisions in Section 2806.1 of the Pennsylvania Public Utility Code, 66 Pa. C.S. § 2806.1. **THEREFORE,**

**IT IS ORDERED:**

1. That the amended 2021 version of the Technical Reference Manual, as modified by this Order, is hereby adopted, and replaces all prior versions of the Technical Reference Manual as of June 1, 2021.

2. That a copy of this Order be served upon all electric distribution companies, the Office of Consumer Advocate, the Office of Small Business Advocate, the Commission’s Bureau of Investigation and Enforcement, the Pennsylvania Department of Environmental Protection, and all parties who filed comments.

3. That the Law Bureau deposit a notice of this Order and amended 2021 version of the Technical Reference Manual with the Legislative Reference Bureau for publication in the *Pennsylvania Bulletin*.

4. That this Order and the amended 2021 version of the Technical Reference Manual, as well its appendices be published on the Commission’s website at <http://www.puc.pa.gov/filing_resources/issues_laws_regulations/act_129_information/technical_reference_manual.aspx>.

**BY THE COMMISSION,**

Rosemary Chiavetta

Secretary

(SEAL)

ORDER ADOPTED: February 4, 2021

ORDER ENTERED: February 4, 2021

1. See *Energy Efficiency and Conservation Program Implementation Order,* at Docket No. M‑2020‑3015228, entered June 18, 2020 (Phase IV Implementation Order) at 97-100. [↑](#footnote-ref-2)
2. *Id*. at 98. [↑](#footnote-ref-3)
3. See *Implementation of the Alternative Energy Portfolio Standards Act of 2004: Standards for the Participation of Demand Side Management Resources – 2021 Technical Reference Manual Update Final Order,* at Docket No. M-2019-3006867, entered August 8, 2019. [↑](#footnote-ref-4)
4. See *Implementation of the Alternative Energy Portfolio Standards Act of 2004: Standards for the Participation of Demand Side Management Resources – 2021 Technical Reference Manual Update Amendment Tentative Order,* at Docket No. M-2019-3006867, entered October 29, 2020. [↑](#footnote-ref-5)
5. See *Implementation of the Alternative Energy Portfolio Standards Act of 2004: Standards for the Participation of Demand Side Management Resources – 2021 Technical Reference Manual Update* *Tentative Order,* at Docket No. M-2019-3006867, entered April 11, 2019. [↑](#footnote-ref-6)
6. See *Implementation of the Alternative Energy Portfolio Standards Act of 2004: Standards for the Participation of Demand Side Management Resources – Errata to the 2021 Technical Reference Manual*, September 24, 2020, Secretarial Letter at Docket No. M‑2019‑3006867. [↑](#footnote-ref-7)
7. The PEG is chaired by staff of the Commission’s Bureau of Technical Utility Services and is comprised of representatives from the EDCs and the SWE for the purpose of encouraging discussion of EDC program-specific issues and associated evaluation, measurement, and verification. [↑](#footnote-ref-8)
8. See *Phase IV Implementation Order* at page 80. <http://www.puc.pa.gov/pcdocs/1666981.docx> and *2021 TRM Update Final Order* <http://www.puc.pa.gov/pcdocs/1631001.docx> [↑](#footnote-ref-9)
9. *See* Section 3.9.3 – Advanced Power Strips of the 2021 TRM, page 246. [↑](#footnote-ref-10)