



**Via Email and U.S. Mail**

May 27<sup>th</sup>, 2019  
Rosemary Chiavetta, Secretary  
Pennsylvania Public Utility Commission  
P. O. Box 3265  
Harrisburg, PA 17105-3265

**RE:** Public Comments Docket # M-2019-3006867: 2021 Technical Reference Manual ("TRM")

Dear Ms. Chiavetta:

Bradford White Corporation is a team of American-owned companies that designs, engineers, and builds water heating, space heating, combination heating, and water storage solutions for residential, commercial, and industrial applications. Our three manufacturing plants are in Middleville, Michigan; Rochester, New Hampshire; and Niles, Michigan. Our corporate headquarters is based in Ambler, Pennsylvania. Our products are known by both consumers and installers for performance, reliability, energy-efficiency, ease of installation, and innovative design.

We were informed of the public comment notice regarding the 2021 technical reference manual that will be used for Phase IV of Act 129. As you know, the TRM is an important document that identifies the types of efficiency measures, measure lives, and climate assumptions that will be used to set targets for Phase IV of Act 129. The purpose of our letter is to update the Pennsylvania Public Utilities Commission ("PA PUC") on the most recent set of efficiency metric changes as they relate to residential and some light-duty commercial water heaters and ask for edits to be made to the draft proposal. These industry-wide metric changes were enacted in June of 2017, after the last Pennsylvania TRM update.

Please know that Bradford White is available to answer questions or clarify our comments with PA PUC staff in addition to this comment letter. Please do not hesitate to contact me at your convenience at [etruskoski@bradfordwhite.com](mailto:etruskoski@bradfordwhite.com) or 215-641-9400, ext. 5925 if you should have any questions about this letter.

Respectfully submitted,

A handwritten signature in blue ink, appearing to read "Eric Truskoski".

Eric Truskoski  
Director of Government and Regulatory Affairs

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**BACKGROUND**

On June 12, 2017, the water heater industry was required by the U.S. Department of Energy (“DOE”) to transition from the well-known Energy Factor (“EF”) metric for water heater efficiency to an entirely new metric called the Uniform Energy Factor (“UEF”). This change was in direct reflection of 42 U.S.C. §6293 (c)- Restriction on certain representations<sup>1</sup>.

In addition to the change from EF to UEF, manufacturers were required to use an entirely new First Hour Rating (“FHR”) test procedure. While the name of the FHR remains the same to prior, the resultant values will likely be different from the previous FHR values for the same models due to the new test procedures.

These changes affected almost all residential water heaters, and some light-duty commercial water heaters<sup>2</sup>. To help visualize, water heaters that fall within the input ranges in Table 1 would now be required to meet the minimum UEF requirements and list the FHR.

**Table 1. Models Now Required to be Labeled in Terms of UEF.**

<b>Product Type</b>	<b>Fuel Type</b>	<b>Input Range</b>
Storage	Gas	105,000 Btu/hr and less
Storage	Electric	12 kW and less*
Storage	Oil	140,000 Btu/hr and less
Instantaneous	Gas	200,000 Btu/hr and less
Instantaneous	Electric	58.6 kW and less
Instantaneous	Oil	210,000 Btu/hr and less

Because of this change, the entire water-heating industry was required to transition all marketing material including literature (specification sheets, pocket catalogs, etc.); websites; the Air Conditioning, Heating and Refrigeration International (“AHRI”) directory and the FTC Energy Guide affixed to these water heaters, no later than June 12, 2017. Further information as it relates to this change can be found on Energy Star’s website<sup>3</sup>.

**DRAFT TRM – VOLUME 2: RESIDENTIAL MEASURES COMMENTS**

BWC applauds the PA PUC for seeking public inclusion of comments. To ensure synchronicity, state documents should fully mirror the DOE’s change. When the change was being debated, it was apparent that a clearer and fair efficiency metric was needed to ensure that end users such as consumers understand the rating. This change would assure that energy efficiency programs could

<sup>1</sup> Title 42 – The Public Health and Welfare

<sup>2</sup> Any commercial water heaters included in this rulemaking are now called “Residential-Duty Commercial” water heaters.

<sup>3</sup> [https://www.energystar.gov/products/water\\_heaters/residential\\_water\\_heaters\\_key\\_product\\_criteria](https://www.energystar.gov/products/water_heaters/residential_water_heaters_key_product_criteria)

compare products on a “like to like” basis and put simply, these changes were intended to make utility program administrators’ job easier.

Upon review of the draft, “Technical Reference Manual, Volume 2: Residential Measures”, BWC was pleased to see the new UEF metric listed in the document. However, we’ve found some legacy terminology that needs to be updated to be more accurate and less confusing. Our comments are listed below:

1. There appears to be a few places where the prior metric of “Energy Factor” has not been updated to say either “UEF” or “Uniform Energy Factor”. Instead it left “EF” in the place where UEF should have been used. This inconsistency may lead to confusion. It is also important to note that an Energy Factor score differs from a Uniform Energy Factor score based on its calculation and will produce different results, hence the need for the utmost clarity.

To rectify this, **we would recommend a final PA PUC staff review of where any incorrect EF notation exists and, where appropriate, update to UEF.** Ideally, it would be clearest to spell out the term “Uniform Energy Factor” and ensure that is being used in the most appropriate fashion. As a best practice, other state TRM’s have incorporated language which further explains the change instead of just listing a new metric. Some of these examples begin with language to the effect of “EF is what the industry transitioned from”.

2. **If there is a version (or is a planned version) of a TRM for commercial water heater applications, referencing UEF is not permitted for commercial water heaters, except in the case that they are “Residential-Duty Commercial.”** Table 1 listed above would be the best criteria for whether a commercial product should be labeled according to their thermal efficiency (“TE”) and standby loss (“SBL”)<sup>4</sup> instead of UEF. This distinction is important, because it may create confusion on certain applications of products, the efficiencies possible, and which metric should be used when comparing competitive products, such as efficiency ratings.
3. In our opinion, there appears to be a bias toward the adoption of electric fueled products throughout the document. It is BWC’s position that limiting the market towards electric products will not allow for the opportunity to derive new energy alternatives and will require too large of a jump forward. In Pennsylvania, the availability of inexpensive natural gas and propane provides an alternative cost-effective source of energy. In the case of water heaters, there are many available products using natural gas or propane that are Energy Star qualified and are higher efficiency, when compared to the current installed product. These units have the potential to save significant amounts of energy compared to their direct replacement. **Instead of the PA PUC choosing winners and losers on the adoption of appliances, we’d recommend that energy efficiency choices be considerate of both available technology and fuel choices.** Bradford White prefers that the agency consider incremental steps on energy efficiency measures than leap frog to the maximum technology available. The PA PUC should concern the supply chain when adopting such policies.

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<sup>4</sup> <http://www.ahrinet.org/Certification/AHRI-Certification-Programs/Commercial-Water-Heaters>