
TO: Public Utility Commission of Texas and Texas Electric Utilities

FROM: Lark Lee and Tina Yoder, Tetra Tech

SUBJECT: Docket 56768, Texas Technical Reference Manual Version 12.0 Program Year 2025

DATE: November 18, 2024

This memo summarizes the Texas Technical Reference Manual Version 12.0 updates to Volume 4 for the program year 2025 (PY2025) (PY2025 TRM 12.0).




Table 1 includes the details of the TRM suggestions received from stakeholders incorporated into Volume 4 of the PY2025 TRM v12.0.



Table 1. Stakeholders' Suggestions Incorporated in PY2025 TRM v12.0

TRM volume	Measure	Description	Originator
4	2.1.1 Variable speed heat pumps	Added measure.	HPWG
4	2.1.4 Dedicated outdoor air systems	Added measure.	AEP Texas
4	2.2.1 RES new construction	Added pilot option for use of the Home Energy Rating System (HERS) index compliance path. Updated baseline to IECC 2018 or 2021 as applicable.	TRC/Oncor
4	2.5.7 Low pressure irrigation	Added measure.	AEP SWEPCO
4	2.5.8 Irrigation pump variable frequency drives (VFDs)	Added measure.	AEP SWEPCO
4	2.6.1 RES Load Management	Clarified eligible end-uses. Listed <i>domestic hot water</i> as an eligible equipment type.	Armada Power

Table 2 below summarizes EEIP comments received during the EEIP review period on Volume 4 of the PY2025 TRM and EM&V responses.

Table 2. EEIP PY2025 Review Comments Summary and Responses

Reviewer	Comment summary	EM&V response
<p>ICF/AEP</p>  <p>AEP Texas New Homes Baseline comm</p>  <p>AEP Texas New Home Baseline Comm</p>	<p>New Homes</p> <p>1) Conduct a market baseline study to determine the stated building code with the amendment and the enforcement of those codes before implementing changes to TRM.</p> <p>2) Allow homes permitted before January 1, 2026, to be grandfathered to the current baseline standard of IECC 2015 to allow utilities 12 months to prepare a thorough analysis of cost-effectiveness tests and incentive designs that would encourage the incorporation of enhanced energy efficiency measures into their building practices.</p>	<p>New Homes</p> <p>1) A market baseline study is the responsibility of the utility. Requirements for utility administration of MTPs - Rule 25.181 (m) (3) (E) states, "A market transformation program shall identify a baseline study that is appropriate in time and geographic region. In establishing a baseline, the study shall consider the level of regional implementation and enforcement of any applicable energy code."</p> <p>2) Homes permitted through March 31, 2025, may be grandfathered into the TRM 11.0 IECC 2015 baseline at the discretion of the utility.</p>
<p>Daikin</p>  <p>Re-Review Daikin VSHP measure calcul</p>	<p>Variable Speed Heat Pumps</p> <p>Measure calculator adjustments related to summer peak kilowatts:</p> <p>1) The coincidence factor for the VSHP should be 1.0 because the units will operate at a partial speed for 100 percent of the time instead of turning on and off.</p> <p>2) Peak efficiency is more similar to a 70/30 percent split of EER/SEER compared to the 85/15 percent split in the proposed measures.</p> <p>3) Greater clarification is needed regarding the use of the standard heat pump measure when the unit is at a variable speed. Daikin does not believe the standard <i>heat pump</i> measure should be used when it produces more savings.</p> <p>4) Daikin believes that the three factors need to be revised in the <i>VarSpeed</i> algorithm to generate greater savings than the standard measure, which would reflect how the technology is designed to operate. Those factors that should be refined include <i>cooling energy savings, heating energy savings, and winter peak savings</i>.</p>	<p>Variable Speed Heat Pumps</p> <p>1) Adjusted the coincidence factor to 1.0 for peak kilowatts because the load will be matched by the variable speed unit.</p> <p>2) No adjustments were made to the measure calculator. Directed this comment to the HPWG to evaluate for future TRM updates.</p> <p>3) Updated measure description to clearly state that the Volume 2 measure or the Volume 4 measure can be used. Directed this comment to the HPWG to evaluate for future TRM updates.</p> <p>4) Directed this comment to the HPWG to evaluate for future TRM updates.</p>

Reviewer	Comment summary	EM&V response
Enerchoice  Re-HPWG Followup-Audet.pdf	Variable Speed Heat Pump Requesting clarification of the documentation needed to meet the criteria of the <i>variable speed heat pump</i> measure in Volume 4	Variable Speed Heat Pump Clarified necessary documentation in the <i>Program Tracking Data and Evaluation Requirements</i> section.
Oncor/— CleaResult  Re-AC Tune Up M&V Prep Call- McConkie.p	AC and Heat Pump Tune-Ups Requesting clarification and options for alternatives to the photo documentation requirement and measurement of airflow through a discussion.	AC and Heat Pump Tune-Ups Adjusted the measure to detail a basic requirement for quality assurance. However, the M&V plan can still propose alternate more effective and efficient quality assurance for evaluator approval. The measure was also adjusted to limit the EL factor determination for units 20 tons and under. The units over 20 tons should provide an alternate measurement of consumption in the M&V plan.

PY2025 TRM 12.0 Updates Summary

PY2025 TRM 12.0 updates and additions made in Volume 4 are summarized in Table 3.

Table 3. M&V Protocols PY2025 TRM 12.0 Volume 4 Updates by Measure

Sector	Measure category	Measure description	12.0 update
Residential	HVAC	Variable speed heat pumps	TRM v12.0 origin.
Residential and nonresidential	HVAC	Air conditioning tune-ups	Updated measure based on Section 3.2.1 of Volume 1 of the PY2023 IOU Energy Efficiency Report. Added licensing requirements for contractors.
Nonresidential	HVAC	Ground source heat pumps	No revision.
Nonresidential	HVAC	Variable refrigerant flow systems (VRF)	Clarified language about current VRF federal standard effective date.
Nonresidential	HVAC	Dedicated outdoor air systems (DOAS)	TRM v12.0 origin.
Residential	Whole house	Residential new construction	Added pilot option for HERS index compliance path. Updated baseline to IECC 2018 or 2021.
Residential	Whole house	Smart home energy management system (SHEMS)	Added in-service rates (ISRs) from TRM Volume 2 residential lighting measures.
Residential	Building energy codes	Residential energy code compliance enhancement	No revision.

Sector	Measure category	Measure description	12.0 update
Residential and nonresidential	Renewables	Residential and nonresidential solar photovoltaics	No revision.
Residential and nonresidential	Renewables	Solar shingles	No revision.
Residential	Renewables	Solar attic fans	No revision.
Nonresidential	Miscellaneous	Behavioral	No revision.
Nonresidential	Miscellaneous	Air compressors less than 75 hp	No revision.
Nonresidential	Miscellaneous	Nonresidential custom	Added EUL for VFDs in non-HVAC applications.
Nonresidential	Miscellaneous	Nonresidential measurement and verification	Adjusted fit metrics for peak demand calculations.
Nonresidential	Miscellaneous	Energy storage	No revision.
Nonresidential	Miscellaneous	ENERGY STAR® Uninterruptible power supply	No revision.
Nonresidential	Miscellaneous	Low pressure irrigation	TRM v12.0 origin.
Nonresidential	Miscellaneous	Irrigation pump variable frequency drives (VFDs)	TRM v12.0 origin.
Residential	Load management	Residential load curtailment	Clarified eligible end uses. Added guidance on tracking and reporting of load management programs separate from energy efficiency programs.
Nonresidential	Load management	Nonresidential load curtailment	Added guidance on tracking and reporting of load management programs separate from energy efficiency programs.