

Attachment 1:

Proposed Revisions to the Technical Resource Manual and Deemed Savings Table

- This Attachment describes proposed revisions to the Technical Resource Manual (TRM) and Deemed Savings Table. These documents were submitted as part of the Ameren Missouri 2019-2023 MEEIA Cycle, as Appendix F (Deemed Savings Table) and Appendix G, H, I (TRM Volumes 1-3), on October 25, 2018 in EO-2018-0211 and approved on December 5, 2018. Ameren Missouri previously requested:
 - A TRM revision on 12/31/2018 approved by the Commission on 2/27/2019.
 - A TRM revision on 11/15/2019 approved by the Commission on 12/11/2019.
 - A TRM revision on 6/19/2020 approved by the Commission on 7/08/2020.
 - A TRM revision on 10/16/2020¹ approved by the Commission on 11/12/2020.
 - A TRM revision on 9/15/2021 approved by the Commission on 9/29/2021.

The primary purpose of this update is to incorporate Evaluation Measurement & Verification (EM&V) results from the 2021 program year. In addition, this revision also includes updates to multiple measures, based on feedback from the evaluation contractor, Opinion Dynamics Consulting (ODC), and the program implementation teams. Formatting and editing updates are also included for consistency. A description of these changes is provided below. The measure changes have been analyzed for cost effectiveness and the goals of the portfolio will not be adjusted.

To aid in stakeholder review, all updates are included in the TRM and Deemed Savings table in track changes with redlines. Within the Microsoft Excel workbook that serves as the basis for the Deemed Savings tables, this includes:

¹ A correction was filed on October 29, 2020.

- New changes included in red text.
- Modifications to existing text in red and strikethrough (~~change~~).
- A revision change log included in columns "V" through "YY" denoted input values by applicable revision date.

Revisions based on PY2021 Results:

Updated to reflect plan year 2021 evaluations results, as provided by Opinion Dynamics. Applicable input values have been updated within the MEEIA 2019-23 Deemed Savings Table (appendix F) and corresponding TRM (Appendix G, H, & I). Examples include updates to items such as the following:

- Inputs to algorithms: Various inputs to the engineering algorithms used by the evaluator to calculate first year savings are updated based upon program tracking data and surveys. Examples of these updates can include variables such as In Service Rates and heating and cooling capacities and efficiencies.
- Updated TRC tables (*Benefits 2019 \$*) calculation to reference 2022 avoided cost benefits.

New Measures/Updates to Existing Measures

- Added Replace on Fail measures where the equipment replaced by the ASHP is a CAC with Non-Electric Heating. These measures were not included when other measures for ASHPs replacing CAC with Non-Electric Heating were added last year.
- Incorporated of SEER to SEER2 and HSPF to HSPF2 conversion factors for Central Air Conditioners and Air Source Heat Pumps due to upcoming changes to testing procedures. This is to meet the DOE M1 CFR Standard beginning January 1, 2023 which creates new SEER2 and HSPF2 ratings. The efficiency levels of the existing, baseline, and efficient

case must be expressed in the same metrics (e.g., both SEER or SEER2) before applying formulas.

- Add Heating Effective Full Load Hours (EFLH) for Cold Climate ASHP. These heat pumps can operate at lower temperatures, so they have a higher EFLH than other heat pumps.
- Add Packaged Terminal Air Source Heat Pumps (PTHP) for use in Multifamily buildings.
- Updated the incremental cost of Residential Low Flow Showerheads in the Income Eligible programs.
- Added Compressed Air Leak Repair and Chiller Tune-Up's to the business measures.

Clean-up items

- Updated unrounded values to round to 2 or 0 decimals, depending on the term (e.g., Watts rounds to two decimals and HOU rounds to zero decimals).