

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 2019-2022 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 06/19/2020 approved by the Commission on 07/08/2020.
 - A TRM revision on 10/16/2020¹ approved by the Commission on 11/12/2020.

The primary purpose of this update is to incorporate Evaluation Measurement & Verification ("EM&V") results from the 2020 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:

- New changes included in red text;

¹ A correction was filed on October 29, 2020.

- 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 PY2020 Results:

Updated to reflect plan year 2020 evaluations results, as provided by Opinion Dynamics. Applicable input values have been updated within the MEEIA 2019-22 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.
- Home Energy Reports Expected Useful Life updated to a 5-year measure life of the treatment year plus four additional years, where savings decay 20% each year after treatment year. Opinion Dynamics conducted a secondary literature review and found evidence that savings from HER programs persist beyond one year and that, when not continuously treated, savings from those participants decay in subsequent years. This change is being made because PY2021 will be the last year of continuous treatment.
- Update Appendix I updated to de-rate the efficiency value based on the age of the existing equipment for HVAC measures up to a maximum of 30 years. Prior versions of the TRM did not limit the degradation calculation to 30 years.
- Added an EM&V adjustment factor to Business lighting to account for HOU & connected KW adjustment factors based on PY20 independent auditor comments in PY20 evaluation.

- Added Effective Useful Life ("EUL") table for Business lighting in Appendix H and updated three measures in Appendix F to align with the final recommendations provided by the evaluation team (Opinion Dynamics). This was initiated in PY19 evaluation and final recommendation was provided in PY20.
- Decreased Pool Pump Effective Useful Life (EUL) on Business program offerings from 12 years to 10 years as recommended by Evaluation (aligns with the EUL for similar measures in the Residential TRM).

Baseline Changes

Baseline Updates for Pool Pumps to clarify TRM handling of the July 19, 2021 code change effectively eliminating the manufacture of most single-speed Pool Pumps. Multispeed Pool Pumps effectively become the new baseline measure.

New Measures/Updates to Existing Measures

- Non-electric heating measures added to allow customers to that choose to replace their current system with a different technology to receive an incentive for installing a more efficient system. These changes include installing a Central Air Conditioner by a customer that previously had an Air Source Heat Pump, or installing an Air Source Heat Pump by a customer that previously had a Central Air Conditioner and a non-electric heat source. Incentives and savings would be set at the same level as comparable Central Air Conditioner measures.
- Included a prescriptive Lighting Power Density calculation to Appendix F that was previously defined in the New Construction program guidelines. In the future this could be used as a Standard or Custom offering in the absence of New Construction.

- Added a prescriptive water cooled chiller option to the existing air cooled chiller measure using the same algorithm with differing input parameters.
- Added a packaged multifamily and Income Eligible HVAC tune-up measures to better align with implementation (as opposed to coil cleaning, refrigerant Charge, new air filter, general tune-up as individual measures often implemented as package).
- Demand Response optimization modified to include both HVAC and cooling end-use options dependent on when the optimization takes place as defined by how the program interacts with each thermostat vendor. In addition a measure was added to Appendix F to account for thermostats that have no kWh savings from program driven optimization. As advanced thermostats mature, some models include embedded optimization routines that achieve energy savings. The program can differentiate between thermostats with “program-driven optimization,” which achieve savings through program influence to operate optional optimization, and without “program-driven optimization,” which achieve no energy savings due to either the default optimization baseline or no optimization routine employed.

Clean-up items

- Update Measure Reference ID's within the MEEIA 2019-22 Deemed Savings Table (Appendix F).
- Update inconsistent use of terminology across Appendix F, G, H, & I.
- Improved HVAC measure name convention/consistency for easier use.
- Updated measure names to "IE" Income Eligible in favor of previously designated "LI" for Low Income.

- Changed names of "Ductless Heat Pumps and Air Conditioners" to "Mini/Multi split Heat Pumps and Air Conditioners" to include ducted or ductless mini-split, or mixed ducted & ductless heat pumps and air conditioners. Existing offerings are for a fully ducted system, or a fully ductless system, but does not currently accommodate mixed systems.