**State of Illinois**

 **Energy Efficiency**

**Technical Reference Manual**

**[****Work Paper Title]**

**[New Measure or Change to Existing Measure]**

**[Measure Name and Section # if applicable]**

**[Measure Code if applicable]**

**[Author, Company]**

**[Date]**

TABLE OF CONTENTS

[1 Overview 3](#_Toc390225691)

[2 New Measure Characterizations 4](#_Toc390225692)

[3 Proposed Changes to Existing Measures 6](#_Toc390225693)

[4 References 7](#_Toc390225694)

[5 Stakeholder Comments 8](#_Toc390225695)

[Author (Company) and Date 8](#_Toc390225696)

Table 1 Work Paper Revision History

|  |  |  |  |
| --- | --- | --- | --- |
| **#** | **MM/DD/YY** | **Author, Company** | **Summary of Changes** |
|  |  |  |  |
|  |  |  |  |

# Overview

Brief summary of New Measure or Change proposed to Existing measure and the rationale behind the change:

# New Measure Characterizations

Each measure characterization uses a standardized format that includes at least the following components. Measures that have a higher level of complexity may have additional components, but also follow the same format, flow and function.

Please provide text for each of the sections below with appropriate citations in footnotes (see section #4) and upload any references or calculation sheets to the Tracker item.

###### Description

*Brief description of measure stating how it saves energy, the markets it serves and any limitations to its applicability. Finish with the following text:*

“This measure was developed to be applicable to the following program types: [\*\*enter shorthand code from Table 2.4\*\*]. If applied to other program types, the measure savings should be verified.”

###### Definition of Efficient Equipment

*Clearly define the criteria for the efficient equipment used to determine delta savings. Include any standards or ratings if appropriate.*

###### Definition of Baseline Equipment

*Clearly define the efficiency level of the baseline equipment used to determine delta savings. Include any standards or ratings if appropriate. If a Time of Sale measure the baseline will be new base level equipment (to replace existing equipment at the end of its useful life or for a new building). For Early Replacement or Early Retirement measures the baseline is the existing working piece of equipment that is being removed.*

###### Deemed Lifetime of Efficient Equipment

*The expected duration in years (or hours) of the savings. If an early replacement measure, also include the assumed life of the existing unit. Measure life may be represented in hours for products whose useful life is determined primarily by the amount of use they receive.*

###### Deemed Measure Cost

*For time of sale measures, provide incremental cost from baseline to efficient. Installation costs should only be included if there is a difference between each level. For Early Replacment the full equipment and install cost of the efficient installation should be provided in addition to the full deferred hypothetical baseline replacement cost.*

###### Loadshape

*Define the appropriate loadshape to apply to electric savings. If a new loadshape is developed it should be added to section 3.5.*

###### Coincidence Factor

*Provide the summer coincidence factor to estimate the impact of the measure on the utility’s system peak – defined as 1-5PM on non-holiday weekdays, June through August.*

*For weather sensitive measures such as cooling, the summer peak coincidence factor should be provided in two different ways. The first is to estimate demand savings during the utility’s peak hour (as provided by Ameren). The second way represents the average savings over the summer peak period, consistent with the non-weather sensitive end uses, and is presented so that savings can be bid into PJM’s Forward Capacity Market.*

Algorithm

###### Calculation of Energy Savings

*Provide algorithms followed by list of assumptions with their definition. Provide either a single deemed value, lookup table with deemed values based on input selection, or indicate if its an input variable. Use footnotes to indicate the source of the deemed variables. Use \* rather than x for multiplication and try to avoid nested algorithms.*

*If there are no Input Variables, there will be a finite number of Output values. These should be identified and listed in a table. Where there are custom inputs, it is often a good idea to provide an example calculation to illustrate the algorithm and provide context. It is imperative that it be labeled with “For example” and placed within a text box, such that it does not get mistaken for a deemed result.*

###### Electric Energy Savings

###### Summer Coincident Peak Demand Savings

###### Natural Gas Savings

###### Water and Other Non-Energy Impact Descriptions and Calculation

###### Deemed O&M Cost Adjustment Calculation

*Only required if the operation and maintenance cost for the efficient case is different to the baseline. If so, provide the frequency and cost of any replacement parts or maintenance. For a select number of measures the O&M cost may change significantly over the life of a measure (e.g. the replacement baseline bulbs due to EISA impacts). In these cases it is advisable to calculate an equivalent annualized payment that provides the same net present value as the actual stream of costs over the measure life.*

# Proposed Changes to Existing Measures

Copy existing TRM measure from the IL-TRM Version 6.0 dated Feb. 08, 2017, accessible on the [SharePoint site](https://portal.veic.org/projects/illinoistrm/SitePages/Illinois%20Statewide%20TRM.aspx?RootFolder=%2Fprojects%2Fillinoistrm%2FShared%20Documents%2FTechnical%5FTRM%5FEffective%5F060117%5FVersion%5F6%2E0%2FFinal%20TRM&FolderCTID=0x01200042B0ABF3AA22EE4888A0EDE62AB5CED4&View=%7BEAAF598C%2D7124%2D4C36%2D8F72%2D5168A02BF547%7D), and paste the existing measure characterization below in its entirety, then turn on tracked changes and provide proposed edits in redline with appropriate citations (see section #4 below). Upload any new references or calculation sheets to the Tracker item. If a change requires further explanation that should not be in the characterization itself, use a comment bubble to provide.

# References

Please refer to the Chicago style for variances on format citations. Please upload any new references or calculation sheets to the Tracker item.

<http://www.chicagomanualofstyle.org/tools_citationguide.html>

EXAMPLES:

**Paper presented at a meeting or conference (Including internal work papers)**

Author Name, “Paper title” (paper presented at the annual meeting for the Organization Name, City, State, Month Day, Year).

**Website**

“Title,” last modified Month Day, Year, URL

**E-mail**

Author Name, e-mail message to author, Month Day, Year.

**Item in a commercial database**

Author Name. “Source Title” Publisher, Year. Database Name

**Book: Chapter or other part of a book**

Author Name, “Chapter,” in Title, City: Publisher, Year, page range

**Book: Published electronically**

Author Name, “Chapter,” in Title, City: Publisher, Year, Accessed Month Day, Year. URL.

**Journal Article in a print journal (Use this for program evaluations.)**

Author Name, “Article Title,” Journal Name edition (Year): page

Author Name, “Evaluation Title,” Utility Name, Program or Measure Name (Date): page

**Journal Article in an online journal**

Author Name, “Article Title,” Journal Name edition (Year): page, accessed Month Day, Year, dio:xx.xxxx/xxxxxx.

# Stakeholder Comments

If adding comments to an existing work paper, add note in “Progress Notes” section of the tracker item stating *“(Author, Company) added comments to workpaper, (date)*”. This will send an alert to VEIC and others that a new comment has been added.

Author, Company and Date:

Comment: