
MEMORANDUM

TO: STAKEHOLDER ADVISORY GROUP

FROM: CHERYL JENKINS, PROJECT MANAGER on Behalf of VEIC TRM Team

SUBJECT: PROPOSED EVALUATION PRIORITIES FOR THE TRM

DATE: MAY 28, 2015

Cc: JENNIFER HINMAN, ICC; JONATHON JACKSON, AMEREN

In an effort to increase the accuracy of the IL Statewide TRM, VEIC offers the following list of measures and parameters that we believe investment in evaluation may be most beneficial to the accuracy of the saving estimates. These recommendations are based on consideration of the relative importance of the parameter in a particular measure or measures savings estimate, as well as, the degree of uncertainty or confidence we have in the deemed value. We have also provided a qualitative measure of priority such that those parameters with the least confidence or highest impact rise to the top. This list certainly is not meant to be exclusive or imply that other evaluation priorities should not be executed based on overall evaluation priorities.

Priority Data Elements for Evaluation

| Measure # | Measure | Parameter | Priority |
|-----------|-----------------------------|---------------------------------------------------------------------------|----------|
| 4.2.1 | Combination Oven | Deemed therm savings values should be evaluated | Low |
| 4.2.4 | Conveyor Oven | Deemed therm savings values should be evaluated | Low |
| 4.2.12 | Infrared Charbroiler | Deemed therm savings values should be evaluated | Low |
| 4.2.13 | Infrared Rotisserie Oven | Deemed therm savings values should be evaluated | Low |
| 4.2.14 | Infrared Salamander Broiler | Deemed therm savings values should be evaluated | Low |
| 4.2.15 | Infrared Upright Broiler | Deemed therm savings values should be evaluated | Low |
| 4.2.17 | Pasta Cooker | Deemed therm savings values should be evaluated | Low |
| 4.2.18 | Rack Oven - Double Oven | Deemed therm savings values should be evaluated | Low |
| 4.3.1 | Storage Water Heater | Deem therm savings values should be evaluated | Low |
| 4.3.2 | Low Flow Faucet Aerators | Usage (Gallons) by building type Rated and throttled v metered flow rates | Medium |
| 4.3.6 | Ozone laundry | TRM v metering studies | Medium |

| Measure # | Measure | Parameter | Priority |
|----------------------------|-----------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| 4.4. | <u>EFLH heating</u> | <u>Multifamily heating system – run hours and equipment types</u> | <u>High</u> |
| 4.4. | <u>EFLH heating</u> | <u>Heating equipment run hours for systems and building types found most frequently in efficiency programs</u> | <u>High</u> |
| 4.4. | <u>EFLH cooling</u> | <u>Cooling equipment run hours for systems and building types found most frequently in efficiency programs</u> | <u>High</u> |
| 4.4.1 | Air Conditioner Tune-up | Deem therm savings values should be evaluated | Low |
| 4.4.5 | Condensing Unit Heaters | Deem therm savings values should be evaluated | Low |
| <u>4.4.8</u> | <u>Guest Room Energy Management</u> | <u>Metering to help verify motel v hotel savings</u> | <u>Medium</u> |
| 4.4.12 | Infrared Heaters (all sizes), Low Intensity | Deem therm savings values should be evaluated | Low |
| 4.4.14 | Pipe Insulation | Regain | Low |
| <u>4.4.17</u> | <u>Variable Speed Drives for HVAC Pumps and Cooling Tower Fans</u> | <u>Metering to help verify Energy Savings Factor, and provide better assumption for pump and fan run hours in different building types.</u> | <u>Medium</u> |
| <u>4.4.18 & 4.4.25</u> | <u>Small Commercial Programmable Thermostat & Small Commercial Programmable Thermostat Adjustment</u> | Persistence TRM <u>modeling</u> v metering studies Baseline set back <u>practice</u> | <u>High</u> |
| 4.4.20, 4.4.21 & 4.4.22 | High Turndown Burner, Linkageless Boiler Controls & Oxygen Trim Controls | Boiler loading histogram or bins | Medium |
| 4.4.23 | Shut Off Damper for Space Heating | Savings Factor | Low |
| <u>4.4.24</u> | <u>Small Pipe Insulation</u> | <u>Thermal Regain Factor</u> | <u>Low</u> |
| <u>4.4.30</u> | <u>Notched V Belts for HVAC Systems</u> | <u>Pump and fan run hours in different building types.</u> | <u>Medium</u> |
| <u>4.5.3</u> | <u>High Performance and Reduced Wattage T8 Fixtures</u> | <u>T12 Baseline study</u> | <u>High</u> |
| <u>4.7.6</u> | <u>Roof Insulation for C&I Facilities</u> | <u>TRM v metering</u> | <u>Medium</u> |
| <u>5.1.10</u> | <u>Residential ENERGY STAR Clothes Dryer</u> | <u>Number of cycles, average capacity</u> | <u>Low</u> |
| <u>5.3.7</u> | <u>Gas High Efficiency Furnace</u> | <u>Baseline study</u> | <u>Medium</u> |
| 5.3.8 | Ground Source Heat Pump | FLH assumptions for ground source heat pumps <u>Part load v Full load operation.</u> <u>TRM v metering study</u> | <u>Low</u> <u>High</u> |
| 5.3.10 | HVAC tune up | Measure life. Savings factor. | Low |
| 5.3.11 | Programmable Thermostat | Persistence / lifetime | Low |

| Measure # | Measure | Parameter | Priority |
|---------------|---------------------------------------|-------------------------------------------------------------------------------------------------|---------------|
| <u>5.3.14</u> | <u>Boiler Reset Controls</u> | <u>Savings Factor</u> | <u>Low</u> |
| 5.4.4 | Faucet Aerator | Drain Factor for kitchen and bathroom installations Rated and throttled v metered flow rates | Medium |
| <u>5.5.4</u> | <u>Exterior CFL Fixture</u> | <u>Hours of use</u> <u>Coincidence factor</u> | <u>Medium</u> |
| 5.5.6 | LED Downlights | Hours of use – specific to LED bulbs | Medium |
| 5.5.8 | LED Screw based Omnidirectional bulbs | Hours of use – specific to LED bulbs | Medium |
| 5.6.1 | Air sealing | TRM v metering / billing study result | Medium |
| 5.6.2 – 5.6.4 | Insulation measures | More review of TRM v metering / billing study results | Medium |