Memorandum

To: IL TRM stakeholders and interested parties

**FROM:** KALEE WHITEHOUSE, PROJECT MANAGER and SAM DENT, TECHNICAL LEAD - VEIC

subject: IL TRM Version 12.0 – Change impact Summary

date: 06/30/2022

**Cc:** CELIA JOHNSON, SAG

VEIC has now submitted the first draft of the version 12.0 Illinois Technical Reference Manual (TRM) to the Technical Advisory Committee (TAC).

This memo is provided as an aid for the utilities and other TAC participants to help disseminate information on the proposed updates to additional stakeholder groups who may be less involved in the TAC discussions or aware of their potential outcomes. The goal is to promote a wider high-level understanding of the proposed changes that are likely to have the highest impact on a measure’s savings and/or cost effectiveness, or require changes to how measures are implemented, in order that program implementation plans can progress with the awareness of where changes to offerings may occur.

Please note that all changes listed are still in draft and subject to continued change through the remainder of the update process, and additional high impact changes may still arise. However, this early view of the proposed changes will allow any input from the additional stakeholder groups to be provided before final decisions are made, allowing the TAC appropriate time to review, discuss, and reach consensus on the appropriate path forward.

As always, we welcome any feedback to the value of this memo and how its content could be improved to further help get the TRM related information where it needs to be. Please send any comments or questions on the content to iltrmadministrator@veic.org.

| **Market** | **End Use** | **Measure Name** | **Summary of Impactful Changes** | **Potential Impact** | **Expected Utility Change** |
| --- | --- | --- | --- | --- | --- |
| Commercial and Residential | Multiple | Multiple | The climate data used to inform temperature related assumptions is being updated to a more recent data set to better reflect the current and potential future climate. This will impact any measure that is impacted by outside temperatures. Work is continuing and resultant changes have not yet been made. We expect changes this year to the more direct impacts such as heating and cooling degree day (HDD/CDD) and Equivalent Full Load Hour assumptions, and then next year adjustments made to modeling based assumptions. | Work is continuing, but it is likely that cooling based savings will increase and heating savings decrease. |  |
| Commercial | Agricultural | High Volume Low Speed Fans,High Speed Fans and Livestock Waterer | Shifting from deemed to algorithmic approach. | Requires more inputs but potentially more accurate savings estimates. |  |
| Commercial | Food Service | Multiple | Addition of more customizable inputs to allow more site-specific savings estimates. | New implementation approach |  |
| Commercial | Food Service | Commercial Solid and Glass Door Refrigerators & Freezers | New ENERGY STAR spec | Increase in savings |  |
| Commercial | Hot Water | Heat Recovery Grease Trap Filter | Fix in algorithm conversion factor from BTU to kWh | Significant decrease in savings  |  |
| Commercial | HVAC | Electric Chiller | Enhanced electric energy savings calculation added. | New savings approach |  |
| Commercial | HVAC | Air and Water Source Heat Pumps | Full adoption of new efficiency ratings.Unknown assumptions added to allow midstream programming. | New implementation approach |  |
| Commercial | HVAC | High Efficiency Boiler,High Efficiency Furnace,Single-Package and Split System Unitary Air Conditioners andUnitary HVAC Condensing Furnace | Adoption of new federal standard as baseline. | Reduction in savings |  |
| Commercial | Lighting | LED Bulbs and Fixtures | Select default LED wattages and incremental costs updated. Screw based lamps limited to IQ common areas and direct install. | Dependent on scenario |  |
| Commercial | Lighting | Lighting Controls | Addition of Exterior Networked Lighting Controls. | New savings opportunity |  |
| Commercial | Miscellaneous | Roof Insulation for C&I Facilities | Update from using average delta T (temperature) to full load delta T to be consistent with use of EFLH. | Increase in savings |  |
| Commercial | Miscellaneous | Advanced Power Strip – Tier 1 Commercial | Providing base and efficient cost for use in midstream programs | New implementation approach |  |
| Commercial | Miscellaneous | Lithium Ion Forklift Batteries | Fix to the efficiency terms in the algorithm to reflect that battery capacity values represent output capacities | Increase in savings |  |
|  |  |
| Residential | Appliances | ENERGY STAR Clothes Dishwasher | New ENERGY STAR standard.  | Increase in savings |  |
| Residential | Appliances | ENERGY STAR Water Cooler | New ENERGY STAR standard. Updated baseline based on available product. | Dependent on scenario |  |
| Residential | Appliances | Induction Cooking Appliances | Measure now includes range upgrades.Addition of heating penalty/ cooling savings. | Dependent on scenario |  |
| Residential | Consumer Electronics | Advanced Power Strip – Tier 1 andTier 2 Advanced Power Strips (APS) – Residential Audio Visual | Providing base and efficient cost for use in midstream programs | New implementation approach |  |
| Residential | HVAC | Centrally Ducted Air Source Heat Pump | Removal of efficient criteria (to be determined by program), and minimum efficiencies for early replacement. Full adoption of new efficiency ratings.Addition of partial displacement scenarios (for hybrid systems) – discussions ongoing. | Dependent on scenario |  |
| Residential | HVAC | Central Air Conditioning | Addition of baselines for ‘space constrained’ units – commonly used in manufactured homes. Full adoption of new efficiency ratings. | Dependent on scenario |  |
| Residential | HVAC | Duct Insulation and Sealing | Updates to accommodate advanced sealing applications and materials. Addition of Pressurized Duct Test as evaluation option. | New implementation approach |  |
| Residential | HVAC | Ground Source Heat Pump,Advanced Thermostats,Residential Energy Recovery Ventilator | Full adoption of new efficiency ratings. | Dependent on scenario |  |
| Residential | Hot Water | Gas Water Heater | New ENERGY STAR specification v5.0 impacting savings and costs. Note likely federal standard update next year. | Increase in savings |  |
| Residential | Hot Water | Low Flow Faucet Aerators,Low Flow Showerheads  | Updates to Distributed School Efficiency Kit In-Service Rate, incorporating future install survey participants. | Increase in savings |  |
| Residential | Hot Water | Water Heater Temperature Setback | Updates to pre and post temperature assumptions for Distributed Efficiency Kits. | Dependent on scenario |  |
| Residential | Lighting | LED Specialty Lamps,LED Screw Based Omnidirectional Bulbs and LED Fixtures | Only now applicable to IQ programs or direct install. | Dependent on scenario |  |
| Residential | Shell | Air Sealing | ISR for Opt-In Weatherization Kits updated to reflect “future install” participants. | Dependent on scenario |  |
| Residential | Shell | Basement Sidewall Insulation,Floor Insulation Above Crawlspace,Wall Insulation,Ceiling/Attic Insulation andRim/Band Joist Insulation | Measure life increase | Increase in lifetime savings |  |
| Residential | Shell | High Performance Windows | Updates to align with new v7.0 ENERGY STAR specification | Dependent on scenario |  |
| Residential | Miscellaneous | Tree Planting  | Adjustment to maximum distance trees can be planted from buildings. | Increased opportunity |  |

In addition, the following new measures are being proposed for inclusion for the first time in v12:

| **Market** | **End Use** | **Measure** |
| --- | --- | --- |
| Commercial | Agricultural | Commercial Electric Lawn Mower |
| Commercial | Food Service | Electric Deck Oven |
| Commercial | Food Service | Gas and Electric Pressure Fryers |
| Commercial | Food Service | Gas Cooktop |
| Commercial | Food Service | Induction Cooktop |
| Commercial | Hot Water | Tankless Water Heater Array |
| Commercial | HVAC | Boiler Blowdown Heat Recovery |
| Commercial | HVAC | Steam Vent Condensers |
| Commercial | Lighting | Ultra-Efficient LED Lighting |
| Commercial | Compressed Air | Compressed Air Leak Repair |
| Residential | Appliance | Electric Lawn and Garden Equipment |
| Residential | Consumer Electronics | Smart Sockets |
| Residential | Lighting | Ultra-Efficient LED Lighting |
| Residential | Shell | Insulated Concrete Forms |