MEMORANDUM

TO: **IL TRM TECHNICAL ADVISORY COMMITTEE**

FROM: KEITH CRONIN, PROJECT LEAD; SAM DENT, TECHNICAL LEAD

SUBJECT: IL TRM VERSION 14.0:
COMPARISON EXHIBIT OF NON-CONSENSUS TRM UPDATE ISSUES

DATE: 09/19/2025

Cc: CELIA JOHNSON, SAG

This memo documents positions provided for the following issue for which consensus was not reached during the Version 14.0 update cycle:

1. **Exclusion of a proposed new measure "Solar as Energy Efficiency"**
    i. Nonconsensus on the exclusion of this measure, submitted by ComEd.

The issue is summarized below, followed by a Comparison Exhibit summarizing the key differences in opinion within the Technical Advisory Committee (TAC) and/or Stakeholder Advisory Committee (SAG). An Appendix is also provided containing the proposed measure.

Solar as Energy Efficiency

Issue #1 Summary

During the Version 14.0 TRM update process, ComEd submitted a proposal to add a new measure entitled "Solar as Energy Efficiency" to both Volume 2 (Commercial and Industrial) and Volume 3 (Residential). The following overview was provided:

"On-premise photovoltaic (PV) solar systems reduce grid energy requirements by offsetting building energy loads with on-site generated energy. In accordance with the definition of energy efficiency in Illinois, ComEd proposes that savings claimed through this measure will be limited to generated energy used to offset concurrent building loads and exclude energy fed onto the local power grid through net metering.

Thus, the proposed methodology outlined in this whitepaper applies an adjustment factor to estimated annual solar production to account for simultaneous offset of building loads only. We propose a simulation-based approach for estimating solar array energy production using PVWatts or similar tools, simulated with the actual physical characteristics of each participating PV system.

ComEd proposes that the TRM measure be limited to PV system smaller than 25 kW, with or without a battery storage system. A custom savings analysis would be required for larger arrays."

In light of potential policy implications surrounding the inclusion of measures utilizing renewable energy, VEIC, the TRM Administrator, submitted the measure for discussion and review by the IL - Stakeholder Advisory Group, to determine if this measure could be included in the energy efficiency portfolio.

The following question was posed:

Policy Issue: Does the statutory definition of "energy efficiency" allow a solar as energy efficiency measure (i.e. rooftop solar generation) in the Illinois TRM?

And the statutory definition of "energy efficiency" was provided, excerpted from Illinois Power Agency Act (20 ILCS 3855/1-10) and Public Utilities Act (220 ILCS 5/8-104(b)):

> "Energy efficiency" means measures that reduce the amount of electricity or natural gas consumed in order to achieve a given end use. "Energy efficiency" includes voltage optimization measures that optimize the voltage at points on the electric distribution voltage system and thereby reduce electricity consumption by electric customers' end use devices. "Energy efficiency" also includes measures that reduce the total Btus of electricity, natural gas, and other fuels needed to meet the end use or uses.

Over multiple SAG meeting discussions, different interpretations of the above language were expressed and ultimately the SAG were unable to reach consensus on the measure's inclusion. The TRM Administrator took no position on the applicability of the statutory definition of 'energy efficiency' to the measure due to the policy nature of the question, except that if the SAG could not reach consensus on this policy question, the measure should not be included in the TRM. Therefore, VEIC has not included this measure in v14. On August 15th, VEIC received notice from ComEd that they objected to its non-inclusion.

The responses to the policy questions by the Stakeholders are now provided in the comparison exhibit below.

Comparison Exhibit: Issue #1

Illinois Statewide TRM Version 14.0 Update: Comparison Exhibit of Non-Consensus Issues		
Policy Question: Does the statutory definition of "energy efficiency" allow a solar as energy efficiency measure (i.e. rooftop solar generation) in the Illinois TRM?		
Position	**Rationale**	**Supporting Stakeholders**
Yes	**<u>Elder Calderon on behalf of ComEd</u>** This communication is being submitted on behalf of Commonwealth Edison ("ComEd") as its formal objection to the Vermont Energy Investment Corporation's ("VEIC") exclusion of Solar as an Energy Efficiency measure in the current version of the Illinois Technical Reference Manual (IL TRM v. 14). Solar, as proposed under the simultaneous consumption framework detailed in the submitted workpaper, aligns with the statutory definition of energy efficiency by reducing the amount of natural gas consumed in order to achieve customer end uses and reducing the total Btus of electricity and natural gas required to meet end uses. Solar also reduces delivery load and reduces direct and indirect costs to consumers by decreasing environmental impacts and by avoiding or delaying the need for new generation, transmission, and distribution infrastructure. These impacts directly fulfill the criteria outlined in the Public Utilities Act and the Illinois Power Agency Act. Furthermore, the measure meets cost-effectiveness requirements established in state statute and contributes meaningfully to whole-building energy efficiency strategies when bundled with electric upgrade. Under both the Public Utilities Act (220 ILCS 5/8-103B) and the Illinois Power Agency Act (20 ILCS 3855/1-10), energy efficiency is defined as measures that reduce the amount of energy required to achieve a given end use, including reductions in total Btus of electricity or natural gas. See 20 ILCS 3855/1-10 and 220 ILCS 5/8-103B(a). Solar PV fits squarely within this definition by generating electricity on-site, reducing delivery load, minimizing line losses, and decreasing the total energy needed to meet residential and commercial end uses. It also delays or avoids costly investments in generation, transmission, and distribution infrastructure. Solar is not a substitute for other EE measures—it is a complementary tool that amplifies their impact. As legacy lighting programs phase out, solar helps fill the savings gap when bundled with significant EE upgrades such as heat pumps, induction stoves, and advanced building controls. These integrated whole-home or whole-building solutions offer customers a future-ready path to electrification, energy security, and long-term cost savings. Delivered through EE frameworks, solar ensures stronger consumer protections, transparent pricing, and avoids tax burdens associated with REC-based incentives—delivering more MW per dollar and improving affordability. Moreover, solar contributes to grid reliability by offsetting peak demand and reducing reliance on fossil generation. It suppresses wholesale electricity prices, benefiting all ratepayers, including non-participants. Unlike fossil-based generation technologies, solar PV is zero-emission and uniquely aligned with CEJA's decarbonization and equity mandates. Its inclusion in the TRM does not open the door to all generation technologies; rather, it reflects a policy-driven distinction based on environmental performance, statutory alignment, and grid benefit. In short, solar PV is a vital, equitable, and cost-effective addition to Illinois' energy efficiency strategy. For these reasons, ComEd maintains that Solar PV should be included in the TRM and thus respectfully request that VEIC reconsider inclusion of Solar as an Energy Efficiency measure.	ComEd
Yes	**<u>Dena Jefferson on behalf of Franklin Energy</u>**	Franklin Energy

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	Yes, the statutory framework in Illinois allows for the inclusion of solar—specifically rooftop solar generation—as an energy efficiency (EE) measure within the Illinois TRM (IL-TRM), provided it meets the criteria for delivering measurable reductions in net energy consumption. **<u>Statutory and Regulatory Basis</u>** The Illinois Public Utilities Act (220 ILCS 5/8-103B and 220 ILCS 5/8-104) defines energy efficiency broadly as reductions in energy use achieved through measures or programs that reduce the amount of energy required to perform a function. The IL-TRM, which is filed with and approved by the Illinois Commerce 2 Commission (ICC), is designed to support this statutory mandate by providing a consistent basis for calculating energy and capacity savings from EE programs. Additionally, under 220 ILCS 5/16-111.10, the term "energy project" explicitly includes "renewable energy generation systems, including solar projects," alongside energy efficiency upgrades and demand response equipment. This statutory language supports the interpretation that solar generation, when deployed behind the meter to offset on-site load, can be treated as part of an integrated energy efficiency strategy. This statutory language supports the interpretation that solar generation, when deployed behind the meter to offset on-site load, can be treated as part of an integrated energy efficiency strategy. In accordance with 20 ILCS 3588/1-10, energy efficiency includes measures that reduce the total Btus of electricity, natural gas, and other fuels needed to meet the end use or uses. Through the stakeholder process, it has been acknowledged that Combined Heat and Power systems (CHPs) are a source of energy efficiency, because they reduce the total Btus of electricity needed to meet end uses. CHPs are more efficient than the traditional model of separate electricity and heat generation, however, CHPs still consume fossil fuels. Even though they use that fuel more efficiently, they do not eliminate the need for fuel input. As such, they reduce—but do not eliminate—the total Btus required to meet end uses. Solar PV systems, by contrast, require no fuel-based Btus to generate electricity. This means that for every kilowatt-hour of electricity produced by solar, zero Btus of fossil fuel are consumed. In this sense, solar exceeds CHP in energy efficiency under the statutory definition. It not only reduces the Btus needed—it eliminates them entirely for the electricity it provides. We believe this logic point to the allowance of solar as EE because solar also reduces, to the point of elimination, the total Btus of electricity needed to meet end uses. It's also important to note that the inclusion of solar as an EE measure aligns with Illinois' broader decarbonization and electrification goals, as outlined in the Climate and Equitable Jobs Act (CEJA) and supported by federal guidance. The TRM's purpose, as stated in Volume 1, is to support the Total Resource Cost (TRC) test and other cost-effectiveness evaluations, which solar measures can meet when properly modeled. Illinois is not alone in considering this evolution. Several states have already incorporated solar into their TRMs or equivalent frameworks: • Pennsylvania: The PA TRM includes solar PV as a commercial and industrial EE measure as of 2024. • Texas: The TX TRM recognizes PV systems that reduce purchased energy or peak demand. • Massachusetts: Solar PV and solar water heating are included in limited offerings under the 2025–2027 Three-Year Plan. • Maryland: Solar water heating is included in the MD TRM, and solar PV is supported through EmPOWER Maryland when paired with EE or storage. At Franklin, we have deep renewable energy expertise and energy resiliency consulting and project development experience. For more than 20 years, Franklin Energy's California team has supported the 3 California Investor-Owned Utilities (IOUs) with the California Self-Generation Incentive Program (SGIP), and subsequently the California Solar Initiative (CSI) program, with program design, technical and policy leadership,	

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	and technical implementation services including processing tens of thousands of incentive applications and system inspections, supporting over 150 MW of solar installations. Since 2021, we have supported numerous public sector agencies with renewables and resiliency support, including member jurisdictions of Silicon Valley Clean Energy, large California state agencies, and higher education campuses. Solar PV also provides benefits to the broader electric grid and utility operations. These include avoided energy and capacity costs, deferred infrastructure upgrades, and improved grid resilience. Solar PV can reduce the need for generation during peak hours, which helps utilities avoid costly infrastructure upgrades. Solar PV can also reduce stress on the grid, especially when generation is close to load centers. At the same time, customers reduce their electricity bills by generating their own power. This is often the most tangible benefit. Customers gain more control over their energy use and may benefit from backup power during outages if paired with storage. Moreover, as traditional lighting measures are phased out due to market transformation and federal standards, it is critical that the IL-TRM evolve to include proven, scalable EE alternatives. Solar PV and solar thermal technologies offer a reliable pathway to maintain portfolio savings and meet statutory goals. Without the inclusion of new measures like solar, utilities may face challenges in sustaining cost-effective EE portfolios. Solar's proven performance, long-term savings, and alignment with decarbonization goals make it an ideal candidate to fill the gap left by sunsetting lighting measures.	
No	**<u>Cassidy Kraimer on behalf of The Preservation Compact, Community Investment Corporation (CIC)</u>** Thank you for the opportunity to comment on the IL-TRM Policy Issue #2: Renewable / Solar Generation. Community Investment Corporation (CIC), is a non-profit organization and Community Development Financial Institution (CDFI). We provide financing to preserve multifamily affordable rental housing in the Chicago area. CIC's primary market niche is locally-owned, unsubsidized, naturally occurring affordable housing stock (also known as NOAH) that constitutes the majority of affordable rental housing in Chicago and across the country. The Preservation Compact, the public policy arm of CIC, develops policies and supports partners in preserving multifamily affordable housing. In collaboration with CIC, it plays a key role in shaping and implementing energy efficiency policies and programs, including the Energy Savers program launched in 2008. This initiative was designed to combat rising energy costs and promote energy efficiency in the multifamily housing sector—a sector historically overlooked in energy efficiency funding. Through a partnership with Elevate, a leading national nonprofit based in Chicago, CIC implemented energy-saving measures in more than 11,300 rental units. This effort resulted in $23.3 million in loans and $2.8 million in grants. The Preservation Compact and CIC agree with stakeholders that rooftop solar generation, including solar photovoltaic (PV) systems, does not meet the statutory definition of energy efficiency. These statutes 2 define energy efficiency as measures that reduce the amount of electricity consumed. Rooftop solar changes the source of electricity, but it does not reduce the total electricity used, and therefore should not be included as an energy efficiency measure within the Technical Reference Manual (TRM). Including solar PV in the TRM would divert limited funds away from whole-building energy efficiency programs. These programs are critical to reducing energy burdens for renters, improving building performance, and delivering community-wide benefits by lowering overall electricity consumption. The cheapest and greenest energy is the energy we don't use. The energy efficiency programs currently in the TRM help property owners reduce overall energy use, without regard to energy source. Multifamily building owners, especially those serving lower-income renters, rely on these targeted energy efficiency resources. Current programs provide critical funding to implement practical, highimpact retrofits, like insulation, air sealing, and heating and cooling systems upgrades. These upgrades improve comfort, reduce utility costs, and extend the life of affordable housing stock. Expanding the TRM to include solar PV threatens to dilute these essential efforts and reduce the reach and impact of true energy efficiency programs	The Preservation Compact, Community Investment Corporation (CIC)

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No	**Elizabeth Horne on behalf of Illinois Commerce Commission (ICC) Staff** Staff does not support the inclusion of solar generation, such as rooftop solar photovoltaic (PV) systems, as an energy efficiency measure in the IL-TRM under the current statutory framework. A PV system produces electricity; it does not reduce the quantity of electricity needed to perform an end-use function at the premises. Section 8-103B declares that utilities must use "cost-effective energy efficiency and demand-response measures to reduce delivery load." To "reduce," not "offset through self-generation." The focus is on cutting down the actual amount of electricity a building needs to operate—A solar PV system generates power but does not decrease the underlying energy demand for functions like heating or running appliances at the location. Section 8-103B does make a specific allowance for electrification measures—such as switching from gas to electric heat pumps—specifically when they result in a net reduction in total energy use at the site. No similar exception exists for solar PV or other renewable generation technologies, reinforcing that they are outside the scope of energy efficiency as defined by statute.	Illinois Commerce Commission Staff
No	**Kimberly B. Janas, Counsel to the Attorney General, Abigail Miner, Senior Program Specialist, Public Interest Division and Charles Schreier, Runnerstone, Consultant to the Illinois Attorney General** Assuming that "solar" refers to photovoltaic (PV) panels that convert the energy of the sun into electricity, IL OAG's position is that PV solar does not meet the statutory definition of "energy efficiency" as reflected in Section 8-103B(a) of the Public Utilities Act and Section 1-10 of the Illinois Power Agency Act. This is because PV solar does not reduce the amount of electricity utilized in order to achieve a given end use and also does not reduce delivery load. Rather, PV solar is a behind-the-meter generation resource that produces electricity for end users and also potentially sold by those end users to other end users. The Illinois Power Agency Act defines energy efficiency as "measures that reduce the amount of electricity or natural gas consumed in order to achieve a given end use." 20 ILCS 3855/1-10. This definition includes two other provisions. First, that energy efficiency "includes voltage optimization measures that optimize the voltage at points on the electric distribution voltage system and thereby reduce electricity consumption by electric customers' end use devices." Second, energy efficiency also includes "measures that reduce the total Btus of electricity, natural gas, and other fuels needed to meet the end use or uses." Section 8-103B(a) of the Public Utilities Act also contains the following policy statement about energy efficiency: "It is the policy of the State that electric utilities are required to use cost-effective energy efficiency and demand-response measures to reduce delivery load. Requiring investment in cost effective energy efficiency and demand-response measures will reduce direct and indirect costs to consumers by decreasing environmental impacts and by avoiding or delaying the need for new generation, transmission, and distribution infrastructure." 220 ILCS 5/8-103B(a). PV solar generates electricity by converting the energy of the sun into electricity. PV solar does not reduce a "given use" of electric or delivery load. Its primary purpose is to generate electricity for the end user. As such, PV solar plainly does not satisfy the definition of "energy efficiency." As stated in Section 8-103B(a), "generation, transmission and distribution infrastructure" are listed as concepts as outside the scope of energy efficiency. Further, an interpretation to expand the definition of energy efficiency to include behind-the-meter generation resources would lead to erroneous results, potentially 2 allowing for the inclusion of other generation resources in the Illinois Energy Efficiency Program, such as Battery Energy Storage Systems or even gas-fired back-up generation. Because PV solar does not reduce the amount of electricity consumed for a given use, but rather generates electricity from a renewable source, PV solar does not meet the statutory definition of energy efficiency.	Illinois Attorney General

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	IL OAG reserves the right to further supplement its response to this TRM policy issue.	
No	**<u>Kelly A. Turner, Chief Legal Counsel, Lisa Koerner, Deputy Legal Counsel, and Karalyn Berman, Associate Legal Counsel, on behalf of Illinois Power Agency (IPA)</u>** The Illinois Power Agency ("IPA") has been made aware of ComEd's proposal to consider solar photovoltaic distributed generation projects as energy efficiency measures that may be included in the Illinois TRM—both through SAG discussions and in connection with legislative discussions this past Spring. While the IPA takes no official position on the merits of this proposal for the purposes of these comments, we provide these comments to (1) offer context on the growth of and means of financial support for solar photovoltaic distributed generation projects in the State; (2) update the SAG on the planning processes currently underway to advance our goals for facilitating additional projects over the next two years; and (3) ensure the SAG has visibility into the potential interactive and operational considerations that reclassification of distributed generation as an energy efficiency measure would have on our work and statutory mandate. For background, the IPA manages implementation of the State's Renewable Portfolio Standard ("RPS") which is used to facilitate the development of new renewable energy resources. The IPA has been supporting the development of solar photovoltaic distributed generation projects since 2014 through the award of renewable energy credit ("REC") delivery contracts to provide incentive capital in exchange for the delivery of the environmental attributes associated with those projects' electricity production—whether used on-site or delivered to the grid. Through its planning and procurement activities, the IPA facilitates the procurement of Renewable Energy Credits by electric utilities to meet the State's goals of reaching 40% of retail electricity sales being met by renewable energy by 2030 and 50% by 2040. These goals are measured by the procurement of RECs, which are tradable credits that represent the environmental attributes of one megawatt hour of energy produced from renewable resources, as a share of energy used by retail customers. The IPA's programs and procurements result in the award of contracts through which RECs are purchased and retired by electric utilities. Under this structure, REC delivery contract revenues provide developers with the capital necessary to cover the difference between new project development and operational costs versus anticipated revenues, allowing for greater solar market growth in the state. For distributed generation projects, the IPA's REC pricing model1[1] administratively establishes the incentive levels necessary to ensure those projects are financeable, dividing that total amount of additional capital needed by expected MWhs produced by the project (and thus expected RECs delivered by the project) to provide a per-MWh REC price. While the Illinois RPS has been in existence since 2007, the qualitative and quantitative aspects of renewable energy procurement changed substantially through the passage of P.A. 99-0906, known as the Future Energy and Jobs Act ("FEJA") and P.A. 102-0662, better known as the Clean and Equitable Jobs Act ("CEJA"). Not only did those acts change the target volume of and budget for the purchase of RECs, they also facilitated a more equitable distribution of the benefits of a clean energy economy. The IPA, with support from stakeholders including the utilities and developers, has developed standard REC delivery contracts which provide for the utilities' purchase of RECs and the subsequent incentive payments to the counterparty developer entity. These incentive payments are tied to project requirements intended to benefit residents of Illinois, including laborers and those historically excluded from the energy economy. Approved vendors, the programmatic name	Illinois Power Agency

[1] To set REC prices at a level that will cover the difference between the cost of a new DG project and its expected revenues, the IPA uses an adapted version of National Renewable Energy Laboratory's Cost of Renewable Energy Spreadsheet Tool ("CREST") – an economic cash flow model that estimates the cost of energy in terms of cents per kilowatt hour associated with specific input assumptions regarding technology type, location, system capital and various project financing variables. The model is approved by the Illinois Commerce Commission through the approval of the Agency's Long-Term Renewable Resources Procurement Plan in a docketed proceeding every two years.

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	for participating entities, are required to pay prevailing wage (unless exempted) and to comply with the Minimum Equity Standard, which mandates that a percentage of the labor force be Equity Eligible Persons. As the IPA is not a regulatory agency and has no plenary authority to enforce compliance with these critical measures, the REC contract is the enforcement mechanism through which the General Assembly intertwined the goals of increased renewable energy and equitably distributed benefits of the energy economy. The failure to meet minimum equity standards, pay workers prevailing wage rates, follow consumer protection provisions, or otherwise meet requirements developed by the IPA may place REC delivery contract revenues at risk or result in a suspension from the ability to continue receive REC delivery contract awards. Any dilution in the importance of REC delivery contract revenues for supporting new projects (such as through splitting solar incentives across multiple initiatives) hampers the IPA's ability to shape the clean energy economy in line with the State's vision, as project developers may wish to bypass these critical requirements by foregoing REC delivery contract revenues. Since the launch of the IPA's Illinois Shines and Illinois Solar for All solar inventive programs in 2019, Illinois has seen an explosion in the development of photovoltaic distributed generation ("DG") projects like those considered in ComEd's proposal. IPA administers two programs that support photovoltaic distributed generation projects, Illinois Shines and Illinois Solar for All. As of July 7, 2025, Illinois Shines has already awarded contracts for over 95,000 projects, with more than 1400 MW AC of new capacity from DG projects that have been awarded contracts. Illinois Solar for All, which focuses on solar for income-eligible customers, has awarded nearly 3,000 contracts. The IPA's solar incentive programs now support between 15 – 20,000 projects annually with the current incentive structure in place; Illinois Shines is routinely oversubscribed. At the time that the IPA launched Illinois Shines, the Illinois solar market was dormant; less than 100 MW of solar generation was installed statewide. Through work done to facilitate the development of distributed generation, community solar, and utility- solar projects, Illinois is now the Midwest leader in solar development, with over 6,000 MW of solar energized statewide. That leadership is primarily driven by the IPA's success in facilitating small-scale projects, with Illinois Shines contract awards alone more than doubling any Midwest state's total statewide number of solar projects. However complex or circuitous, this system of awarding REC delivery contracts to facilitate new solar project development has worked to flip Illinois from a solar laggard to a national leader in only 6.5 years time. Looking ahead, the Agency is currently undertaking the process of developing its 2026 Long Term Renewable Resources Procurement Plan, through which the Agency will plan the implementation of the Illinois Shines Program, the Illinois Solar for All Program, and its competitive REC procurements for the upcoming two energy years. A draft version of that Plan is due to be published on August 15, and the ICC is expected to approve that plan in February of 2026. That Plan will govern the requirements applicable to the IPA's solar incentive programs over the 2026- 27 and 2027-28 delivery years. Program size, category size, REC delivery contract requirements, REC prices, qualification requirements, and other matters will be determined through that Plan. Turning back to ComEd's proposal to include solar as an energy efficiency measure, the IPA wishes to share some considerations on the potential interactions this measure might have with its Programs. Specifically, the IPA urges the SAG to consider (1) whether this proposal is consistent with current statutory language, (2) the potential operational challenges this approach might create for the existing state solar market and interactive effects it may have with the IPA's solar incentive programs, and (3) the maturity of Illinois' solar market. First, the statutory definition of "energy efficiency" may not allow a solar as energy efficiency measure. 220 ILCS 5/8-103B states: (a) It is the policy of the State that electric utilities are required to use cost-effective energy efficiency and demand-response measures to reduce delivery load. Requiring investment in cost-effective energy efficiency and demand-response measures will reduce direct and indirect	

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	costs to consumers by decreasing environmental impacts and by avoiding or delaying the need for new generation, transmission and distribution infrastructure. For purposes of the section, "energy-efficiency", "demand-response", and "total resource cost test" have meanings set forth in Section 1-10 of the Illinois Power Agency Act. "[E]nergy efficiency" means measures that reduce the amount of energy required to achieve a given end use. "Energy efficiency" also includes measures that reduce the total Btus of electricity, natural gas, and other fuels needed to meet the end use or uses. "Energy efficiency" is generally used to refer to measures that reduce the amount of energy needed to achieve a given end use, i.e. to cool a home. Rooftop solar would not reduce the total electricity needed to meet the end use, but would instead generate an equivalent amount of power to meet the end use on site. The watts used to accomplish the end use would not be lessened, their source would simply change. Considering rooftop solar as EE also does not reduce the need for new generation. Rooftop solar is, by definition, new generation. In contrast, the IPA Act defines a "renewable energy resource" in part as energy and its associated renewable energy credits from wind, solar thermal energy, photovoltaic cells and panels, and other renewable energy generation technologies. It would seem confusing that drafters would develop the State's Renewable Portfolio Standard specifically to facilitate the development of projects leveraging renewable energy generating technologies while also envisioning that those same projects could participate under a parallel statutory regime intended to incentivize the reduction of end use generation. Next, the IPA understands ComEd to propose effectively "splitting" environmental attributes from photovoltaic generation such that generation consumer behind the meter could constitute energy efficiency savings with those environmental attributes delivered under energy efficiency programs, while generation exported to the grid would be considered renewable energy generation qualifying for RECs to be delivered through IPA solar incentive programs. This approach appears to be inconsistent with the statutory language governing the Illinois Shines program. Under Section 1- 75(c)(1)(L) of the IPA Act, Illinois Shines contracts are to be developed such that ". . . utility shall receive and retire all renewable energy credits generated by the project" through the REC delivery contract for the full contract term—and not merely environmental attributes associated with electricity delivered to the grid. Stated differently, state law does not appear to contemplate REC delivery contract awards for only a parsed portion of a project's energy production. Further, the Agency frequently receives feedback that participating in its incentive programs is too complex, such that some participants have determined that they do not wish to participate, resulting in their exit from the Illinois market. SRECTrade, perhaps the leading national solar REC aggregator, cited program and market complexity as its basis for leaving the Illinois market. Since then, the Agency has sought—where possible—to simplify participation in its programs. The Agency believes it is prudent to consider the effect that additional complexity through a new incentive stream may have on market participants who navigate these programs, especially small businesses who already struggle to navigate Illinois Shines and Illinois Solar for All requirements. Beyond complexity, the Agency is also worried that such a proposal may dilute the value of a REC delivery contract. As discussed, the REC delivery contract is essential to ensure that the qualitative outcomes desired by the Illinois legislature are achieved, including those related to prevailing wage, the equity accountability system, and geographic diversity. The Agency is aware of Community Solar projects which have eschewed incentives in order to avoid equity, labor, and consumer protection requirements. The Agency is concerned that if the REC delivery contract value becomes less important to a distributed generation project's capital stack, the risk of those projects eschewing REC delivery contract incentive payments will increase.	

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	On August 15, the IPA will release its draft Long Term Renewable Resources Procurement Plan for stakeholder feedback, ahead of filing it with the ICC for consideration this fall. This Plan outlines the implementation for the Agency's program and procurement activities over the next two years. A decision to allow a solar as energy efficiency measure in the Illinois TRM would significantly affect the activities covered by this Plan, as it would almost certainly require the Agency to rewrite the REC pricing approach, rebuild its REC delivery contracts to account for reshaped system output, and to require changes to the standing orders for all Approved Vendors if environmental attributes of system outputs must be parsed across both the Agency's Programs and ComEd's energy efficiency program. These are not minor procedural inconveniences; they would constitute a fundament shift to what have been very robust and successful solar incentive programs. Finally, the Agency hopes that the SAG will consider whether this measure is needed, as robust incentives exist for the development of rooftop solar through the Illinois Shines and Illinois Solar for All Programs. Support for that development has successfully been scaled, as evidenced by the volume of projects and amount of new capacity that is consistently being added each year. The Agency urges consideration of whether additional, competing incentives are necessary (or beneficial) to scaling those technologies. The Agency further urges consideration of whether there are other technologies that do not have the same infrastructure of support as rooftop solar that may be better able to benefit from additional incentivization. The above constitutes the IPA's initial analysis of challenges inherent in having rooftop solar recognized as an energy efficiency measure; further discussion and analysis may reveal other barriers or opportunities. 2 The IPA appreciates 2 For example, provisions in the recent federal budget bill serving to remove the Investment Tax Credit will mean that more state-administered financial support will be necessary to continue this trajectory of solar project deployment. While Spring's omnibus energy bill (SB 40) contained provisions both providing more RPS funds and allowing for future RPS budgets to be established through Integrated Resource Planning, we can understand how leveraging additional areas of funding to support continued solar growth may now be more inviting in light of federal changes. the opportunity to offer these comments and is open to additional discussion across the coming months.	
No	**<u>Paige Knutsen on behalf of Midwest Energy Efficiency Alliance</u>** Thank you to the Stakeholder Advisory Group (SAG) and the Illinois Commerce Commission (ICC) for the opportunity to comment on these proposed new measures for the Illinois Technical Resource Manual (TRM). MEEA is a collaborative network, promoting energy efficiency (EE) to optimize energy generation, reduce consumption, create jobs and decrease carbon emissions in all Midwest communities. We see EE as the least-cost foundation of the clean energy economy, creating immediate energy savings, providing career pathways, reducing emissions, improving new and existing buildings and boosting Midwest business and industries. MEEA is a nonpartisan organization made up of 170+ diverse members including 96 member organizations based or working in Illinois. MEEA's members include energy service companies, state and local governments, electric and gas utilities, academic and research institutions, and community-based organizations throughout thirteen states in the Midwest. MEEA's position is that the statutory definition of energy efficiency in 20 ILCS 3855/1-10 and 220 ILCS 5/8-104(b) does not allow rooftop solar generation or solar photovoltaic panels (solar PV) as an EE measure in the TRM. MEEA, as an organization, is fuel agnostic – advocating for EE regardless of the fuel source of electricity generation. Solar PV is a supply-side generation source, not a demand-side efficiency measure. Installing customer-sited solar PV does not reduce "the amount of electricity or natural gas consumed in order to achieve a given end use." To put it plainly, adding solar PV to a roof does not change the amount of energy needed by the customer, it only changes the source of the supply that they draw from. While our position is that customer-sited solar PV is not an energy efficiency measure, should the ICC consider approving solar PV in the TRM, then we suggest limiting it to peak demand savings. MEEA recognizes that customer-sited solar PV as a distributed energy resource (DER) provides meaningful benefits, as it can contribute significantly to improving grid flexibility and reliability. While solar PV does not reduce the	Midwest Energy Efficiency Alliance

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	amount of energy needed for a given end use, it can alleviate grid strain by reducing the amount of energy a household needs to draw from the grid. In a time of rising demand and higher peak demand, both peak demand savings and energy savings are crucial, but they are not the same. The state of Illinois has other programs, like Illinois Solar for All, that incentivize solar PV installation. Customers could certainly benefit from utility EE programs and state funded solar programs like Illinois Solar for All being offered jointly or in coordination. That is not to say, solar PV should be added as an efficiency measure to the TRM. If solar PV (or any other supply-side DER) were added to the TRM, it should only be allowable for cost recovery to the extent that the DER is providing necessary peak demand reduction and not count toward energy saving goals.	
No	**<u>Kari Ross, Chris Neme, Karen Lusson on behalf of Natural Resources Defense Council (NRDC), National Consumer Law Center (NCLC)</u>** Joint Response: No. "Energy efficiency" (EE) is defined under Illinois law as follows: "Energy efficiency" means measures that reduce the amount of electricity or natural gas consumed in order to achieve a given end use. "Energy efficiency" includes voltage optimization measures that optimize the voltage at points on the electric distribution voltage system and thereby reduce electricity consumption by electric customers' end use devices. "Energy efficiency" also includes measures that reduce the total Btus of electricity, natural gas, and other fuels needed to meet the end use or uses. 20 ILCS 3855/1-10. Customer-sited rooftop solar (or photovoltaic/PV) does not reduce the amount of electricity consumed. Rather, it changes the source of production of the electricity that is consumed. ComEd appears to be interpreting the language on "reduction in consumption of electricity" to mean a reduction in electricity demand at a customer's meter or a reduction in the amount of electricity that needs to be delivered to a meter. However, that is not what the statute says. If legislators had intended the definition to mean a reduction in electricity delivered to a meter, rather than a reduction in electricity consumed by one or more end uses, they could have written the definition to say that – but they did not. Beyond this fundamental legal concern, we have significant policy concerns with ComEd's proposal: First, while there are certainly advantages to the grid of increased distributed PV uptake, we are concerned about funding distributed PV out of a fixed budget for EE. If ComEd is allowed to count even portions of customer-sited PV output as EE, every dollar ComEd might invest in supporting distributed PV will mean one less dollar is invested in measures that actually increase the efficiency of electricity consumption. ComEd might suggest that is acceptable if the cost of acquiring a kWh of PV output is less than the cost of acquiring a kWh of true electric efficiency. However, we disagree because the statutorily capped 8-103B budgets are the only source of funding for true electric efficiency investments while there are other funding streams that can and are being used to support distributed PV incentives. Today, ComEd customers are already subsidizing solar programs through other surcharges. For example, the RPS surcharge is an adjustment related to electricity generated by renewable energy sources (e.g., wind or solar). The Rider DG (Distributed Generation) surcharge effectuates provisions in Section 16- 107.6 of the Public Utilities Act (Act) to allow the Company to recover all the costs it incurs associated with the provision of distributed generation rebates. Clearly, the General Assembly did not envision solar panel and rebate subsidies to be expanded through the energy efficiency program surcharges collected each month on top of existing funding streams. Second, the way that ComEd has proposed to count PV as EE – including the portion of PV output that is used on-site and excluding PV output that is exported to the grid – effectively means that on-site battery storage can become an EE measure as well. That is because storage would	Natural Resources Defense Council (NRDC), National Consumer Law Center (NCLC)

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	allow for a higher percentage of PV output (if not all PV output) to be used on-site and therefore allow a larger portion of PV output to 3 be counted as EE. We understand ComEd to have agreed to this point in recent SAG discussions. Again, as with PV, there are strong advantages to having more distributed storage. However, there are also other funding streams that can be used to support investment in distributed storage, but no other significant funding sources for investment in true electric efficiency upgrades. Relatedly, if ComEd's interpretation of the statute is accepted, then any on-site generation could be defined as energy efficiency – as long as it reduced demand at the customer's meter. That could include diesel generators at commercial or industrial sites, or even back-up fossil fuel-fired generators at residential sites. ComEd may not be proposing such measures be added to the TRM now, but their legal interpretation of statute would allow for such proposals in the future. That would be highly problematic given that one of the stated goals of the efficiency statute is to reduce environmental impacts. Third, ComEd has suggested that only rooftop PV would qualify as EE because it is the only PV behind customer meters; community solar would not qualify. If rooftop PV is to become an EE measure and be incentivized via EE channels, this policy could distort the market, artificially and inappropriately pushing homes, particularly income-qualified homes, towards rooftop units even in cases when community solar programs may make more logistic and financial sense. Fourth, ComEd joining the solar promotion market through its EE programs raises a myriad of consumer protection concerns. The Illinois Power Agency (IPA) offers the Illinois Shines and Solar for All programs, pursuant to statute (20 ILCS 3855/1-20 et seq.), and guided by Commission-approved Consumer Protection rules. Section 8-103B envisions no adjacent program under the guise of ratepayer-funded energy efficiency programs. These concerns cannot be underestimated. The Consumer Financial Protection Bureau issued a nationwide alert and "issue spotlight" in August of 2024 "finding that some residential solar lenders are misleading homeowners about the terms and costs of their loans, misrepresenting the energy savings they will deliver, and cramming markup fees into borrowers' loan balances."[2] The Federal Trade Commission issued a similar consumer alert at the same time. [3] It is unclear how and to whom ComEd would market any solar program, and under what rules or guidelines. The aforementioned references to fraudulent marketing issues are not meant to denigrate solar as a resource, but rather to highlight the importance of minimizing the potential for customer confusion via utility EE channels when the IPA has already been assigned responsibility for implementing solar programs. Finally, and related to the points above, it is unclear how ComEd's proposal would ultimately affect the electric grid. If some or all of the PV that is counted as EE would have been installed anyway under currently available PV funding, the grid might be worse off than if PV was not counted as EE (after accounting for the reduced investment in actual electric EE). Instead of adding rooftop PV as an EE measure, we would like to support better coordination for customer education and delivery of ComEd's EE and rooftop solar programs, including community solar, so that customers are made aware that each program exists and can bundle the opportunities, when it makes sense for them at the lowest possible cost. Importantly, ComEd's proposal, if adopted, threatens to reduce the budget available for zero-cost, whole-building weatherization programs that would otherwise serve those with the highest energy burdens within ComEd's and Ameren's service territories	

[2] See "CFPB Report Finds Lenders Cramming Markup Fees and Confusing Terms into Solar Energy Loans", issued August 7, 2024, available at: https://www.consumerfinance.gov/about-us/newsroom/cfpb-report-finds-lenderscramming-markup-fees-and-confusing-terms-into-solar-energy-loans/ As noted in the CFPB website statement, "The report describes how fees often increase loan costs by 30% or more above the cash price, and that lenders often misrepresent the impact of the federal tax credit for solar installations. These loans are generally facilitated by lenders in partnership with solar installers and door-to-door sales companies." https://www.consumerfinance.gov/about-us/newsroom/cfpb-report-finds-lenders-cramming-markup-fees-andconfusing-terms-into-solar-energy-loans/.

[3] "Don't waste your energy on a solar scam," Larissa Bungo, Senior Attorney, Federal Trade Commission, August 7, 2024, available at: https://www.ftc.gov/business-guidance/blog/2024/08/dont-waste-your-energy-solar-scam

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	and achieve true energy efficiency. When energy efficiency funds are available, there is consumer value in first ensuring that homes and buildings are equipped with electric efficiency upgrades in order to reduce the size and cost of the PV system installed.	

APPENDIX A: Draft Measure Characterizations

i. Solar as Energy Efficiency

Commercial Solar as Energy Efficiency

DESCRIPTION

Photovoltaic (PV) solar systems consist of an array of panels or thin-film substrates that generate direct current (DC) power when exposed to sunlight. Typically, multiple panels are networked together into a single circuit. The DC power output is converted to alternating current (AC) power through inverters that transform the electricity into the type of power used in commercial and industrial facilities. In accordance with the definition of energy efficiency in Illinois, savings claimed through this measure will be limited to generated energy used to offset concurrent building loads and exclude energy fed onto the local power grid through net metering. Charging of on-site battery systems is permitted, however peak demand savings as defined by this measure assumes non-tracking arrays without battery backup.

This measure was developed to be applicable to the following program types: RF and NC. If applied to other program types, the measure savings should be verified.

DEFINITION OF EFFICIENT EQUIPMENT

The efficient system is any on-premise PV system (with or without a battery) less than 5 MW in capacity.

DEFINITION OF BASELINE EQUIPMENT

The baseline assumes no photovoltaics/solar arrays.

DEEMED LIFETIME OF EFFICIENT EQUIPMENT

The useful life is 25 years.[4]

DEEMED MEASURE COST

If known, the actual material and labor cost of installation should be used. If unknown, the cost for this measure is assumed to be $1.93 per watt installed.[5] The estimated material cost for a photovoltaic array is $0.91/watt. The estimated labor cost for installation is $1.02/watt

LOADSHAPE

Loadshape C69 Commercial Solar

COINCIDENCE FACTOR

Utility	Coincidence Factor
Ameren	*TBD*
ComEd	*TBD*

[4] Wisler, R. Bolinger, M. Seel, J., "Benchmarking Utility-Scale PV Operational Expenses and Project Lifetimes: Results from a Survey of U.S. Solar Industry Professionals", Energy Markets & Policy Berkeley Lab (June 2020).

[5] NREL U.S. Solar Photovoltaic System and Energy Storage Cost Benchmarks, With Minimum Sustainable Price Analysis: Q1 2023, 2026 dollars

Algorithm

CALCULATION OF ENERGY SAVINGS

ELECTRIC ENERGY SAVINGS

Savings should be calculated using PV Watts or similar tool to estimate annual system energy generated with an adjustment factor in order to account for concurrent building energy loads.

$$\Delta kWh = kWhGenerated * Simul\_ADJ$$

Where:

kWhGenerated = Annual energy generated by photovoltaic array, as estimated by PV Watts or similar simulation model

Simul_ADJ = Adjustment factor to account for concurrent building energy load only
= Custom calculation using site's load profile

Input Parameters for PVWatts Simulation:

Location = Latitude and longitude of installation location
= Actual

DC System Size = Rated capacity of PV array, kW
= Actual

Module Type = PV type: Standard, Premium, or Thin Film
= Actual

Array Type = PV mounting and tracking type
= Actual

Model Losses = System energy losses
= Actual or 14.08% Default

Array Tilt = Angle of the panels relative to the horizontal ground
= Actual

Array Azimuth = Direction in which the panels face, 0° = North, 90° = East, 180° = South, 270° = West
= Actual

ΔAzimuth = Difference between Array Azimuth and closest, smaller cardinal direction
= Actual

DC to AC ratio = Array's DC rated size to the inverter's AC rated size
= Actual, or 1.2 Default

Inverter Eff = Efficiency of the inverters
= Actual, or 96% Default

Ground Coverage = Ratio of module surface area to the area of the ground or roof occupied by the array
= Actual, or 0.4 Default

Albedo = A measure of the amount of sunlight reflected by the ground
= Actual, or PV Watts Weather File Default

Bifacial = Whether the module converts both direct sunlight and sunlight reflected by the ground
= Actual, "No" Default

Irradiance Loss = The monthly reduction in incident solar irradiance caused by environmental factors
= Actual, 0 for all months Default

SUMMER COINCIDENT PEAK DEMAND SAVINGS

ΔkW = Preferred method to calculate average summer peak demand is using 8,760 output aligned with peak demand definitions per utility. If this is unavailable demand estimates can apply the ETDF approach below.

$$= \Delta kWh * ETDF_{summer}$$

$ETDF_{summer}$ = Summer Energy to Demand Factor, see table below

= $ETDF_{summer,ordinal}$ + (ΔAzimuth * $ETDF_{summer,increments}$)

ΔAzimuth = Difference between PV array azimuth and closest, smaller cardinal/ordinal direction (90, 135, 180, or 225)

$ETDF_{summer,ordinal}$ = Summer Energy to Demand Factor, East to West facing Cardinal/Ordinal Values

= See table below

Climate Zone (City based upon)	Array Azimuth				
	90° (E)	135° (SE)	180° (S)	225° (SW)	270°(W)
1 (Rockford)	0.0001663	0.0001779	0.0002322	0.0003049	0.0003677
2 (Chicago)	0.0001589	0.0001701	0.0002232	0.0002948	0.0003555
3 (Springfield)	0.0001643	0.0001744	0.0002264	0.0002962	0.0003563
4 (Belleville)	0.0001682	0.0001766	0.0002250	0.0002909	0.0003478
5 (Marion/Murphysboro)	0.0001612	0.0001705	0.0002217	0.0002914	0.0003503

$ETDF_{summer,increments}$ = Summer Energy to Demand Factor, East to West facing Cardinal/Ordinal Values

= See table below

Climate Zone (City based upon)	Array Azimuth Range			
	90° to 135° (E to SE)	135° to 180° (SE to S)	180° to 225° (S to SW)	225° to 270° (SW to W)
1 (Rockford)	0.00000026	0.00000121	0.00000162	0.00000139
2 (Chicago)	0.00000025	0.00000118	0.00000159	0.00000135
3 (Springfield)	0.00000023	0.00000116	0.00000155	0.00000133
4 (Belleville)	0.00000019	0.00000108	0.00000146	0.00000127
5 (Marion/Murphysboro)	0.00000021	0.00000114	0.00000155	0.00000131

FOSSIL FUEL SAVINGS

N/A

WATER AND OTHER NON-ENERGY IMPACT DESCRIPTIONS AND CALCULATION

N/A

DEEMED O&M COST ADJUSTMENT CALCULATION

N/A

MEASURE CODE: CI-MSC-SEE-V01-260101

REVIEW DEADLINE: 1/1/2028

Residential Solar as Energy Efficiency

DESCRIPTION

Photovoltaic (PV) solar systems consist of an array of panels or thin-film substrates that generate direct current (DC) power when exposed to sunlight. Typically, multiple panels are networked together into a single circuit. The DC power output is converted to alternating current (AC) power through inverters that transform the electricity into the type of power used in residential buildings. In accordance with the definition of energy efficiency in Illinois, savings claimed through this measure will be limited to generated energy used to offset concurrent building loads and exclude energy fed onto the local power grid through net metering. Charging of on-site battery systems is permitted, however peak demand savings as defined by this measure assumes non-tracking arrays without battery backup.

This measure was developed to be applicable to the following program types: RF and NC. If applied to other program types, the measure savings should be verified.

DEFINITION OF EFFICIENT EQUIPMENT

The efficient system is any on-premise PV system (with or without a battery) less than 25 kW in capacity.

DEFINITION OF BASELINE EQUIPMENT

The baseline assumes no photovoltaics/solar arrays.

DEEMED LIFETIME OF EFFICIENT EQUIPMENT

The useful life is 25 years.[6]

DEEMED MEASURE COST

If known, the actual material and labor cost of installation should be used. If unknown, the cost for this measure is assumed to be $2.72 per watt installed. The estimated material cost for a photovoltaic array is $1.11/watt. The estimated labor cost for installation is $1.61/watt. [7]

LOADSHAPE

Loadshape R21 Residential Solar

COINCIDENCE FACTOR

Utility	Coincidence Factor
Ameren	*TBD*
ComEd	*TBD*

Algorithm

CALCULATION OF ENERGY SAVINGS

ELECTRIC ENERGY SAVINGS

Savings should be calculated using PV Watts or similar tool to estimate annual system energy generated with an adjustment factor in order to account for concurrent building energy loads.

$$\Delta kWh = kWhGenerated * Simul\_ADJ$$

Where:

kWhGenerated = Annual energy generated by photovoltaic array, as estimated by PV Watts or similar simulation model

Simul_ADJ = Adjustment factor to account for concurrent building energy load only

[6] Wisler, R. Bolinger, M. Seel, J., "Benchmarking Utility-Scale PV Operational Expenses and Project Lifetimes: Results from a Survey of U.S. Solar Industry Professionals", Energy Markets & Policy Berkeley Lab (June 2020).

[7] NREL U.S. Solar Photovoltaic System and Energy Storage Cost Benchmarks, With Minimum Sustainable Price Analysis: Q1 2023, 2026 dollars.

= 50%[8]

Input Parameters for PVWatts Simulation:

Location = Latitude and longitude of installation location
= Actual

DC System Size = Rated capacity of PV array, kW
= Actual

Module Type = PV type: Standard, Premium, or Thin Film
= Actual

Array Type = PV mounting and tracking type
= Actual

Model Losses = System energy losses
= Actual or 14.08% Default

Array Tilt = Angle of the panels relative to the horizontal ground
= Actual

Array Azimuth = Direction in which the panels face, 0° = North, 90° = East, 180° = South, 270° = West
= Actual

ΔAzimuth = Difference between Array Azimuth and closest, smaller cardinal direction
= Actual

DC to AC ratio = Array's DC rated size to the inverter's AC rated size
= Actual, or 1.2 Default

Inverter Eff = Efficiency of the inverters
= Actual, or 96% Default

Ground Coverage = Ratio of module surface area to the area of the ground or roof occupied by the array
= Actual, or 0.4 Default

Albedo = A measure of the amount of sunlight reflected by the ground
= Actual, or PV Watts Weather File Default

Bifacial = Whether the module converts both direct sunlight and sunlight reflected by the ground
= Actual, "No" Default

Irradiance Loss = The monthly reduction in incident solar irradiance caused by environmental factors
= Actual, 0 for all months Default

SUMMER COINCIDENT PEAK DEMAND SAVINGS

ΔkW = Preferred method to calculate average summer peak demand is using 8,760 output aligned with peak demand definitions per utility. If this is unavailable demand estimates can apply the ETDF approach below.

= $\Delta kWh * ETDF_{summer}$

$ETDF_{summer}$ = Summer Energy to Demand Factor, see table below

= $ETDF_{summer,ordinal} + (\Delta Azimuth * ETDF_{summer,increments})$

ΔAzimuth = Difference between PV array azimuth and closest, smaller cardinal/ordinal direction (90, 135, 180, or 225)

$ETDF_{summer,ordinal}$ = Summer Energy to Demand Factor, East to West facing Cardinal/Ordinal Values

= See table below

[8] ComEd case study analysis included in "Simultaneous Adj Factor Analysis – Residential.xlsx" workbook.

Climate Zone (City based upon)	Array Azimuth				
	90° (E)	135° (SE)	180° (S)	225° (SW)	270°(W)
1 (Rockford)	0.0001663	0.0001779	0.0002322	0.0003049	0.0003677
2 (Chicago)	0.0001589	0.0001701	0.0002232	0.0002948	0.0003555
3 (Springfield)	0.0001643	0.0001744	0.0002264	0.0002962	0.0003563
4 (Belleville)	0.0001682	0.0001766	0.0002250	0.0002909	0.0003478
5 (Marion/Murphysboro)	0.0001612	0.0001705	0.0002217	0.0002914	0.0003503

$ETDF_{summer,increments}$ = Summer Energy to Demand Factor, East to West facing Cardinal/Ordinal Values

= See table below

Climate Zone (City based upon)	Array Azimuth Range			
	90° to 135° (E to SE)	135° to 180° (SE to S)	180° to 225° (S to SW)	225° to 270° (SW to W)
1 (Rockford)	0.00000026	0.00000121	0.00000162	0.00000139
2 (Chicago)	0.00000025	0.00000118	0.00000159	0.00000135
3 (Springfield)	0.00000023	0.00000116	0.00000155	0.00000133
4 (Belleville)	0.00000019	0.00000108	0.00000146	0.00000127
5 (Marion/Murphysboro)	0.00000021	0.00000114	0.00000155	0.00000131

FOSSIL FUEL SAVINGS

N/A

WATER AND OTHER NON-ENERGY IMPACT DESCRIPTIONS AND CALCULATION

N/A

DEEMED O&M COST ADJUSTMENT CALCULATION

N/A

MEASURE CODE: RS-MSC-SEE-V01-260101

REVIEW DEADLINE: 1/1/2028