



Minnesota Solar Energy Industries Association

We Move Minnesota Solar + Storage Forward

October 15, 2024

Will Seuffert
Executive Secretary
Minnesota Public Utilities Commission
121 7th Place East, Suite 350
St. Paul, MN 55101

**Re: In the Matter of Xcel Energy's Petition for Approval of Residential Time-of-Use
Docket No. E002/M-23-524**

Executive Secretary Seuffert,

Please find here the Initial Comments of the Minnesota Solar Energy Industries Association. These comments reflect the views of our organization and interested members related to the issue raised and the topics open for discussion in the Minnesota Public Utilities Commission's Notice of Comment Period issued on January 16, 2024, with extensions filed March 6, June 13, and August 8, 2024, in the above-referenced docket. Our comments will primarily reference Xcel Energy's updated residential Time-of-Use proposal, filed August 16, 2024, in this docket.

Sincerely,

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**STATE OF MINNESOTA
PUBLIC UTILITIES COMMISSION**

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**In the Matter of Xcel Energy’s Petition
for Approval of Residential Time-of-Use
Rates**

INITIAL COMMENTS of MnSEIA

October 15, 2024

Docket No. E002/M-23-524

INTRODUCTION

The Minnesota Solar Energy Industries Association (“MnSEIA”) is a nonprofit association of over 170 members that represents Minnesota’s solar and storage industry. Our broad membership ranges from rooftop installers to non-profit organizations, manufacturers, and many others, all of whom collectively employ over 5,000 Minnesotans. MnSEIA submits these Initial Comments in response to the updated proposal by Xcel Energy (“Xcel”) to implement residential time-of-use (“TOU”) rates submitted on August 16, 2024.

We appreciate Xcel’s efforts to implement TOU rates because they identify when the grid experiences capacity constraints and allows consumers to make a choice about their clean energy future that can be beneficial for both them and other ratepayers. TOU rates can be an effective way to encourage the beneficial adoption of distributed energy resources (“DER”) consistent with the purpose of Minnesota’s laws regarding cogeneration and small power production¹ and the interconnection of on-site distributed generation.² However, insufficient data on the efficacy of

¹ Minn. Stat. § 216B.164, subd. 1 (“This section shall at all times be construed in accordance with its intent to **give the maximum possible encouragement** to cogeneration and small power production consistent with protection of the ratepayers and the public.”)(Emphasis added).

² Minn. Stat. § 216B.1611, subd. 1 (“The purpose of this section is to: (1) establish the terms and conditions that govern the interconnection and parallel operation of on-site distributed generation; (2) provide cost savings and reliability

Xcel's updated TOU rate proposal, and inequitable and inaccurate treatment of net energy metered ("NEM") customers,³ significantly undermines the proposal's ability to be effective and would appear to violate Minnesota law because Xcel's proposal to compensate NEM customers at a lower time-of-use rate than those customers are charged is not the average retail utility energy rate for the particular time of use,⁴ does not **promote** the safe and reliable parallel operation of on-site distributed generation resources, nor does it **promote** the use of distributed resources in order to provide electric system benefits during periods of capacity constraints.⁵

MnSEIA appreciates Xcel's continued engagement on this important issue and its updated proposal, including its inclusion of NEM customers, who were omitted from the first proposal. Ensuring fair and reasonable application of TOU rates to how NEM customers are charged and compensated for excess generation will provide considerable benefits to the Minnesota distribution system, and thereby all ratepayers, for their contribution toward our state's carbon free energy goals and objectives.

While MnSEIA shares the broader concerns raised by many parties in response to Xcel's previous proposal, our Initial Comments will focus on the following specific topics listed by the

benefits to customers; (3) establish technical requirements that will **promote the safe and reliable parallel operation of on-site distributed generation resources**; (4) enhance both the reliability of electric service and economic efficiency in the production and consumption of electricity; and (5) **promote the use of distributed resources in order to provide electric system benefits during periods of capacity constraints.**") (Emphasis added).

³ "NEM customers" is a term that is commonly used to refer to customers who are receiving the average retail utility energy rate under Minn. Stat. 216B.164, subd. 3(d), because their qualifying facility has a capacity of less than 40 kW.

⁴ See Minn. Stat. § 216B.164, subd. 3(d) (a QF with less than 40 kW capacity may elect to receive the average retail utility energy rate, which is "the average of the retail energy rates, exclusive of special rates based on income, age, or energy conservation, according to the applicable rate schedule of the utility for sales to that class of customer").

⁵ See, e.g., Minn. Stat. § 216B.03 ("Every rate made, demanded, or received by any public utility . . . shall be just and reasonable. Rates shall not be unreasonably preferential, unreasonably prejudicial, or discriminatory, but shall be sufficient, equitable, and consistent in application to a class of consumers. To the maximum reasonable extent, the commission shall set rates to encourage energy conservation and renewable energy use and to further the goals of sections 216B.164, 216B.241, and 216C.05."); Minn. Stat. § 216B.07 ("No public utility shall, as to rates or service, make or grant any unreasonable preference or advantage to any person or subject any person to any unreasonable prejudice or disadvantage.").

Minnesota Public Utilities Commission (“Commission”) in its January 16, 2024, Notice of Comment Period:

- 1) Should the Commission approve Xcel’s proposed residential time-of-use (TOU) rate design?
- 8) Should the Commission approve the proposed tariff changes as found in Attachment D of the compliance filing?
- 9) Are there any other issues or concerns related to this matter?

BACKGROUND

On December 22, 2023, Xcel filed a petition requesting the Commission approve changes related to transitioning the default residential rate to a TOU tariff.

On January 16, 2024, the Commission issued a Notice of Comment Period, which was then amended and extended with their subsequent filing on March 6, 2024.

Between May 16 and 20, 2024, comments by various parties were submitted, including those by the Office of the Attorney General (“OAG”), Center for Energy and Environment, Uplight, Inc., the City of Minneapolis, Citizens Utility Board (“CUB”), Fresh Energy, the Department of Commerce (“Commerce”), GridX, Inc., and All Energy Solar.

On June 10, 2024, All Energy Solar submitted a request for additional comment periods due to the lack of completeness of the proposal, specifically regarding how TOU rates would be implemented for NEM customers.

On July 9, 2024, Xcel Energy submitted a request for a 30-day extension of the reply comment period to August 16, 2024, for further stakeholder engagement.

On July 11, 2024, MnSEIA contacted Xcel, requesting to be part of any stakeholder process.

On August 5, 2024, Xcel Energy submitted a request for an extension of the comment period to October 15, ahead of Xcel submitting a revised TOU rates proposal by August 16.

After contacting Xcel a second time on August 8th, Xcel set up a meeting with MnSEIA on August 15th, the day before Xcel’s updated proposal was to be submitted. During this meeting Xcel advised MnSEIA that Xcel’s updated proposal would include NEM customers.

On August 16, 2024, Xcel submitted its updated TOU rates proposal, including an opt-in rather than default opt-out rate structure. Additionally and critically, Xcel’s updated TOU proposal has an updated on-peak period of 7 p.m. to 10 p.m. on non-holiday weekdays, and reduced ratios between on and off-peak periods.

In both proposals Xcel has made it clear that the soonest date on which these rates would go into effect remains undefined. Implementation of TOU rates is contingent on Commission approval, as well as the completion of their Advanced Metering Infrastructure (“AMI”) rollout and according customer tools.⁶ Xcel’s AMI installation continues through 2025.

Minnesota has committed to nation-leading clean energy objectives. These include a renewable energy objective of 55% by 2035, achieving 100% carbon free electricity by 2040, and a goal of 10% solar energy by 2030 – of which special consideration has been given to customer sited solar photovoltaic (PV) systems of 40 kW or less.⁷

COMMENTS

MnSEIA submits these Initial Comments in hopes of furthering the development and consideration of Xcel Energy’s TOU proposal. MnSEIA provides these comments in regard to the following topics.

1) Should the Commission approve Xcel’s proposed residential TOU rate design?

No. Xcel’s updated proposal should only be approved after further study and significant modifications by the Commission, due to the fact Xcel’s updated proposal is not supported by the

⁶ Xcel Energy Initial Filing 12/22/23, page 19-20, Xcel Energy Updated Filing 8/16/24, pg. 15-17

⁷ Minn. Stat. § 216B.1691

data Xcel collected in its 2022 residential TOU pilot program in Docket No. 17-775, which utilized a different program structure. Xcel's updated TOU proposal includes several significant changes from its initial pilot and proposal, including an opt-in rather than opt-out rate structure, a complex net-metering compensation scheme that appears to be unaligned with Minnesota law, and drastic changes to the peak, mid-peak, and off-peak periods and rates with insufficient data backing up the change. The structure of the pilot program included an on-peak period of 3-8pm on non-holiday weekdays, while the updated program proposal has an on-peak period of non-holiday weekdays from 7-10pm. The time periods in the new proposal are unsupported by data from Xcel's pilot program, and the record to support the proposed on-peak time period remains largely undeveloped. In fact, the data does not support including 9pm to 10pm, while it does support including 6pm to 7pm.⁸ Additionally, Xcel notes that this time period is based on expected net load of renewables and added solar, rather than total load and is disconnected from the actual peak load of their customers.⁹ Moreover, this analysis is based on net load of renewables and added solar in July and fails to consider the impact of reduced solar generation in the winter. Xcel's analysis of the pilot data needs to be more thoroughly vetted. Therefore, MnSEIA strongly recommends that the Commission deny Xcel's petition and require a new pilot program with the updated proposal's structure and constraints.

MnSEIA recognizes the importance of aligning rates, a clear price signal enabling customer response, with the costs of how Xcel has designed and implemented its electrical system. Enabling some customers to shift their usage to times when the system is less utilized or underutilized should provide savings to them under a TOU rate structure, and should provide savings more broadly to all customers through the resulting optimization of energy demand. Additionally, TOU rates that

⁸ Xcel Energy Initial Filing 12/22/23, Attachment A, Page 82 of 95

⁹ *I.d.* at pg. 82

capture the full value of energy exported from DER systems can be used to promote and incentivize the installation of DER, which can incentivize DER owners to export energy to the grid, and in turn benefit all ratepayers, and the distribution system.^{10, 11}

The fundamental consideration for the Commission when determining utility rates is to ensure these rates are just and reasonable.¹² Minnesota law also requires the Commission to encourage cogeneration and small power production “[t]o the maximum reasonable extent”.¹³ As previously stated, MnSEIA recognizes how a TOU rate structure applied to the residential class can be done in a way that better achieves this consideration than a flat rate design. However, the TOU proposal made by Xcel is inequitable and unreasonable for NEM customers because Xcel proposes to compensate NEM customers under time of use rates at a lower rate than those customers would be charged, and is otherwise fundamentally disconnected from the actual generation of electricity by NEM customers.

Moreover, Minn. Stat. 216B.164, subd. 3(d), requires that NEM customers receive the “average retail utility energy rate” for their net input into the utility system. While the average retail utility energy rate would be a single rate under a flat design, under a TOU design, one would

¹⁰Shenot, J., Linvill, C., Dupuy, M., & Brutkoski, D. (2024). *Capturing More Value from Combinations of PV and Other Distributed Energy Resources* (NREL/SR-7A40-90129, 2394648, MainId:91907). <https://doi.org/10.2172/2394648> p. 46 “To balance the need for simple, understandable rates with the desire to accurately reflect utility system avoided costs, **customers who are capable of injecting excess energy into the grid from a DER should be compensated at the same time-varying energy rates that they would pay for energy consumption.**” (emphasis added)

¹¹Christopher T M Clack, Aditya Choukulkar, Brianna Coté, and Sarah A McKee. 2020. “Why Local Solar For All Costs Less: A New Roadmap for the Lowest Cost Grid.” Vibrant Clean Energy. https://www.vibrantcleanenergy.com/wp-content/uploads/2020/12/WhyDERs_TR_Final.pdf. at pg. 15: “The reshaping of the utility-observed distribution demand provides the following highest value benefits: 1. Ability to remove peaking generation on the utility grid; 2. Increase the utilization of utility grid generation that remains and reduce ramping stress; 3. Reduce burden on transmission system to move electricity at peak demand time periods; 4. Adjust demand to meet supply variability”

¹² Minn. Stat. § 216B.16, subd. 6 (listing “Factors considered, generally.”).

¹³ Minn. Stat. § 216B.03 (“Every rate made, demanded, or received by any public utility, or by any two or more public utilities jointly, shall be **just and reasonable**. Rates shall not be unreasonably preferential, unreasonably prejudicial, or discriminatory, but shall be sufficient, equitable, and consistent in application to a class of consumers. To the maximum reasonable extent, the commission shall set rates to **encourage energy conservation and renewable energy use and to further the goals of sections 216B.164, 216B.241, and 216C.05.**”) (Emphasis added)

reasonably expect that there would be an average retail utility energy rate for each time period. Otherwise, as noted above, the NEM customer's compensation rate would not be just and reasonable because the NEM customer would be receiving either more or less for the energy they were providing than Xcel is charging to the customers who are receiving that energy.

Minnesota has nation-leading clean energy goals, and Minnesota law establishes that NEM customers play a necessary and fundamental role in achieving them. As noted above, Minn. Stat. § 216B.164, states that its purpose is “to give the maximum possible encouragement to cogeneration and small power production consistent with protection of the ratepayers and the public.”

In their updated proposal, Xcel proposed a modification of their A50 Tariff – the Excess Generation Average Retail Utility Service – to include NEM customers and compensate any excess generation after netting generation against compensation.¹⁴ Xcel's compensation structure first nets all generation against consumption in the like time period – on, off, and mid peak – before netting the remaining generation against remaining consumption by netting mid-peak generation against off-peak usage not already offset, and netting any remaining on-peak generation against mid-peak usage and off-peak usage (in that order) not already offset. Then and only then are NEM customers compensated for any remaining excess generation, using the flat rate structure currently available to them in the A50 tariff. In other words, as noted above, Xcel is proposing to compensate NEM customers at a rate that is not the average retail utility energy rate for any of the time periods electricity is exported to Xcel's system. The City of Minneapolis stated in response to Xcel's initial proposal, and Xcel's exclusion of NEM customers, that residential NEM customers should be compensated “at the approved TOU rate based on time of production.”¹⁵ In their comments, Xcel states that a TOU compensation rate for net metered generation will not be necessary, as their

¹⁴ Xcel Energy Updated Filing 8/16/24, Appendix C, pg. 25-26

¹⁵ City of Minneapolis Initial Comments 5/17/24, p. 5

proposed structure would provide compensation equal to or greater than the mid-peak rate for excess generation.¹⁶ This statement overlooks that Xcel’s proposal also nets generation at a rate that is lower than the rate they would charge customers during the same TOU period, when it would net mid-peak generation against off-peak usage not already offset, and net any remaining on-peak generation against mid-peak usage and off-peak usage (in that order) not already offset. This needlessly complex scheme discounts the benefits NEM customers provide to the utility via a resource Xcel does not maintain or pay for. Additionally, even if the updated scheme Xcel proposes will provide greater compensation to NEM customers at this time, it is fundamentally disconnected from the mechanics by which electricity would be sold, and as such unreasonable. We will go into further detail on Xcel’s proposed tariff edits below.

Xcel’s current proposal demonstrates that the time NEM customers generate electricity changes that electricity’s value to the company. This is clear, given that Xcel will still sell the energy NEM customers produce to other customers at the TOU rate for a given period, despite not compensating NEM customers for generation provided to the grid during that same TOU period. Therefore, consistent with the statute, we request the Commission require changes to this compensation structure to compensate NEM customers at a TOU rate consistent with the TOU rate the customers who receive the energy are charged.¹⁷ The current structure proposed by Xcel is not only needlessly complex and unreasonable, it creates a fundamental disconnect between the rates charged to NEM customers and the compensation paid out for any excess generation that is unreasonably preferential, unreasonably prejudicial, and discriminatory. Xcel Energy has not

¹⁶ Xcel Energy Updated Filing 8/16/24, p. 26.

¹⁷ Minn. Stat. § 216B.03 (“Every rate made, demanded, or received by any public utility, or by any two or more public utilities jointly, shall be **just and reasonable**. Rates shall not be unreasonably preferential, unreasonably prejudicial, or discriminatory, but shall be **sufficient, equitable, and consistent in application** to a class of consumers. **To the maximum reasonable extent, the commission shall set rates to encourage energy conservation and renewable energy use and to further the goals of sections 216B.164, 216B.241, and 216C.05. Any doubt as to reasonableness should be resolved in favor of the consumer.**”) (Emphasis added).

sufficiently developed the record with this proposal, which is not based on actual data, and with their pilot data, which did not include NEM customers, that their proposed rate structure for NEM customers is reasonable or just, according to statute.¹⁸

Further research, including a study done in collaboration with Xcel in Colorado, indicates that excess energy produced by those customers with solar and storage systems can provide significant benefits not only to those customers and their neighbors, but broadly to the entire utility service territory. Distributed generation, properly coordinated, can enable significant load-shifting, peak shaving, lower source energy use, lower carbon emissions, and lower utility bills.¹⁹ In addition to being in accordance with and necessary under Minnesota statute as discussed above, purchase of excess energy at the same rate that the consumer is being charged for energy under TOU rates encourages further investment in solar and storage systems that benefit Xcel and the grid as a whole, as well as the customers themselves.

Most significant for the denial or approval of Xcel's TOU proposal by the Commission is the fact that the true impacts of their current proposal have not been studied and the record to support the proposal, including underlying data regarding expected costs and benefits to ratepayers, is almost non-existent. In response to Xcel's initial proposal, the Office of the Attorney General recommended that the Commission deny the petition and conduct further, heavier analysis of data gleaned from the Pilot program.²⁰ MnSEIA agrees with this position, and strongly recommends the Commission deny Xcel's petition and instruct the utility to conduct a second pilot program, utilizing the the updated time frames included in its second proposal, and that pilot should include residential

¹⁸ Minn. Stat. § 216B.16, subd. 4 "Burden of proof"

¹⁹ Earle, Lieko, Maguire, Munankarmi, and Roberts. "Colorado Residential Retrofit Energy District (CoRRED) Phase I: Final Modeling Results," April 5, 2022. <https://doi.org/10.2172/1862664>. p. 32

²⁰ In the Matter of Xcel Energy's Petition for Approval of Residential Time-of-Use Docket No. E002/M-23-524, Comments of the Office of the Attorney General. May 17, 2024.

ratepayers utilizing NEM on the average retail utility energy rate.

8) Should the Commission approve the proposed tariff changes as found in Attachment D of the compliance filing?

Xcel's updated proposal lists its tariff changes in Attachment C, as opposed to the Attachment D as in the first filing on December 23, 2023. MnSEIA's comments are in regards to the tariff changes in Xcel's updated proposal, filed on August 16, 2024.

No, the proposed tariff changes should not be approved at this time. As discussed above, in order to compensate net metered customers, Xcel proposed modification of their A50 Tariff – the Excess Generation Average Retail Utility Service – for all excess generation after netting generation against compensation.²¹ Xcel's compensation structure first nets all generation against consumption in each time period – on-peak, off-peak, and mid peak – before then netting further generation against remaining consumption, and only then compensating remaining excess generation at the A50 rate. While Xcel Energy's listed tariff changes are consistent with their proposal, this aspect of their proposal is not consistent with statute, equity, or common sense, and accordingly should not be approved without significant modification.

Minnesota law defines the Average Retail Utility Energy Rate as “ the average of the retail energy rates, exclusive of special rates based on income, age, or energy conservation, according to the applicable rate schedule of the utility for sales to that class of customer.”²² As discussed above, based on the clear language of the statute, if Xcel was to shift residential rate customers to a TOU rate with three separate rate periods, the average retail utility energy rate at which net metered customers would be compensated should change to reflect the same rate that other ratepayers are

²¹ Xcel Energy Updated Filing 8/16/24, Appendix C, pg. 25-26

²² Minn. Stat. § 216B.164, subd. 3(d).

being charged for the energy.. Specifically, if the residential rate is split into a three-period TOU rate, by the clear language of statute above, it stands to reason that the average retail utility energy rate should be a three-period rate as well. Interpreting average retail utility energy rate in any other manner would appear to violate the just and reasonable rate requirements of Minn. Stat. 216B.03.

As discussed above, **Xcel stated in their comments that it will not be necessary to compensate net metered customers at the same time-of-use rate those customers are charged.**²³ Their justification for this proposal is that the current calculation of their A50 tariff - \$0.14281/kWh in October through May, and \$0.15874/kWh in June through September - would be higher than the current mid-peak rate proposal.²⁴ Xcel's existing proposal has a mid-peak rate of \$0.13313/kWh in June-September and \$0.11364/kWh in other months.²⁵ Xcel argues that as such its proposal does not need alteration, or to pay NEM customers for excess generation according to the TOU period.

Not only is this rate scheme needlessly complex and unreasonable according to statute, it is deceptive. If approved by the Commission, the rate at which the A50 tariff is calculated would fundamentally change as the rates upon which it is based change. Therefore, without inclusion of accurate estimates of the flat average retail utility energy rate after the implementation of the proposed TOU rates, Xcel's remarks mislead the Commission and stakeholders. In order to be able to properly evaluate the actual financial impact of their proposal, the Commission should require Xcel to provide updated projections of the costs and benefits of their tariffs, if the proposed TOU rates were to go into effect. Finally, it is unreasonable for this compensation structure to be so disconnected from excess NEM customer generation, even if it overpays consumers in some time periods because it will undercompensate consumers for the value of energy generated during

²³ Xcel Energy Updated Filing 8/16/24, p. 28

²⁴ Xcel Energy Updated Filing 8/16/24, p. 27

²⁵ *I.d.* p. 10

on-peak and mid-peak time periods.²⁶ Xcel's rate proposals should be consistent, reasonable, and just for all customers and as such should be neither prejudicial or preferential for NEM customers.

9) Are there any other issues or concerns related to this matter?

It is clear, both in Xcel's initial and updated proposals, that the implementation of TOU rates is dependent upon clear communication to consumers about TOU programs, as well as customer usage data.²⁷ Many of the tools Xcel plans to implement are contingent upon the rollout and utilization of Advanced Metering Infrastructure ("AMI"). In response to Xcel's initial proposal, GridX and Uplight provided additional suggestions for areas of focus as Xcel continues to improve their system, specifically AMI's relevance toward implementation and iteration of TOU rates. MnSEIA appreciates the comments of these two parties and would add emphasis on the suitability of AMI to better understand NEM customers. Solar and, more notably, energy storage will continue to create a high value relationship between Xcel and its customers. Specific considerations should be taken to ensure AMI data tracking and reporting provide aggregate and specific, where customer privacy can be maintained, information to enhance the effectiveness of customers' response to price signals. With the forthcoming implementation of Xcel's RDA Funded energy storage rebate program, this aspect of AMI implementation will only become more important in the future.²⁸

In addition as discussed above, the implementation of TOU rates marks a significant opportunity for Minnesota utilities as well as consumers. Properly implemented, TOU rates can provide incentives that reduce demand in peak periods, promote the installation of DER, and enhance grid reliability, based on both broad-ranging industry research as well as analyses specific

²⁶ Minn. Stat. § 216B.03 ("Every rate made, demanded, or received by any public utility, or by any two or more public utilities jointly, shall be just and reasonable. **Rates shall not be unreasonably preferential, unreasonably prejudicial, or discriminatory**, but shall be sufficient, equitable, and consistent in application to a class of consumers.") (Emphasis added)

²⁷ Xcel Energy Initial Filing 12/22/23, page 19-20, Xcel Energy Updated Filing 8/16/24, pg. 15-17

²⁸ E002/M-23-459

to Colorado and Minnesota service territory.²⁹ Rushed or poorly executed implementation, that is supported by insufficient pilot data, has the potential to greatly compromise the execution of TOU rates as a tool going forwards, and as such it should not be approved by the Commission for full rollout at this time.

CONCLUSION

MnSEIA appreciates Xcel's proposal and the step it represents toward implementing a residential rate structure that better aligns costs incurred for our electrical grid with pricing that customers may be able to respond to through modifying their usage patterns. Unfortunately, Xcel's previous and existing proposals have been insufficiently supported by its own pilot analysis. Early execution of TOU rates, including clear and realistic explanation of any potential savings or increases to customers, is critical to the success of any future TOU rate scheme.³⁰ Attempting to execute a poorly thought out and insufficiently supported rates proposal without necessary data to understand its impacts on consumers could have disastrous impacts for Minnesota consumers in the short term, and the execution of TOU rates in the long term. For this reason, we ask the Commission to deny Xcel's proposal and direct Xcel to conduct a new pilot analysis that includes residential NEM customers.

²⁹Earle, Lieko, Maguire, Munankarmi, and Roberts. "Colorado Residential Retrofit Energy District (CoRRED) Phase I: Final Modeling Results," April 5, 2022. <https://doi.org/10.2172/1862664>; Ryan Hledik, Ahmad Faruqui, Pearl Donohoo-Vallet, and Tony Lee. 2019. "The Potential for Load Flexibility in Xcel Energy's Northern States Power Service Territory." The Brattle Group. <https://www.edockets.state.mn.us/EFiling/edockets/searchDocuments.do?method=showPoup&documentId=%7b10FBAE6B-0000-C040-8C1D-CC55491FE76D%7d&documentTitle=20197-154051-03>. p. 31

³⁰Ahmad Faruqui & Ziyi Tang, *Time Varying Rates (TVRs) Are Moving From the Periphery to the Mainstream of Electricity Pricing for Residential Customers in the United States*, HANDBOOK ON ELECTRICITY REGULATION (forthcoming), <https://www.brattle.com/wp-content/uploads/2023/07/Time-Varying-Rates-TVrs-Are-Moving-from-the-Periphery-to-the-Mainstream-of-Electricity-Pricing-for-Residential-Customers-in-the-United-States.pdf>, Manuscript pg. 10

Additionally, Minnesota law requires the approved rate structure to encourage small power production, like residential solar, which Xcel's proposal does not accomplish, via insufficient and arbitrary compensation structures, and imprecise time constraints. The Commission needs to ensure that NEM customers are not being unjustly punished by arbitrary and complex rate structures and discriminated against, but rather, are being treated fairly, reasonably and equitably with sufficient compensation for the service they are providing to all ratepayers. While a fair and reasonable TOU rate for all ratepayers, including NEM customers, is an incredible opportunity for Minnesota to reach its clean energy goals, an unfair and unreasonable one will create an insurmountable barrier to such an achievement. Because of NEM customers' vital role in our state's electric generation mix now and into the future, no changes should be implemented until a robust record thoroughly addressing this issue is established to support the Commission's decision.

Thank you for your time and consideration of the important issues raised in this matter.

Sincerely,

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