

**STATE OF MINNESOTA
BEFORE THE PUBLIC UTILITIES COMMISSION**

Katie J. Sieben	Chair
Hwikwon Ham	Commissioner
Valerie Means	Commissioner
Joseph K. Sullivan	Commissioner
John A. Tuma	Commissioner

In the Matter of Northern States Power
Company d/b/a Xcel Energy’s 2023 Annual
Safety, Reliability, and Service Quality Report

Docket No. E002/M-24-27

**INITIAL COMMENTS OF GRID EQUITY COMMENTERS: COOPERATIVE
ENERGY FUTURES, ENVIRONMENTAL LAW & POLICY CENTER, SIERRA CLUB,
AND VOTE SOLAR**

I. INTRODUCTION

Cooperative Energy Futures, Environmental Law & Policy Center (ELPC), Sierra Club, and Vote Solar file these comments jointly as the Grid Equity Commenters (GECs). Drs. Gabriel Chan and Bhavin Pradhan contributed to these comments. The GECs have also attached to these comments an updated version of the Chan/Pradhan study originally included in our March 1, 2024 comments on Xcel’s Integrated Distribution Plan (IDP) (Docket No. E-002/M-23-452). The substantive findings of the study are the same, but the study has since been peer-reviewed and published in *The Electricity Journal*.¹ In responding to the Commission’s identified topics in the July 26, 2024 Notice of Comment Period, the GECs have integrated and refined our prior comments filed in this Safety, Reliability, and Service Quality (SRSQ) proceeding and in

¹ This peer-reviewed and published version is also available at: <https://authors.elsevier.com/a/1jUd33ic--HQPb>. Citation: Pradhan, Bhavin and Gabriel Chan. 2024. “Minnesota’s energy paradox: Household energy insecurity in the face of racial and economic disparities.” *The Electricity Journal* 37(6), 107423.

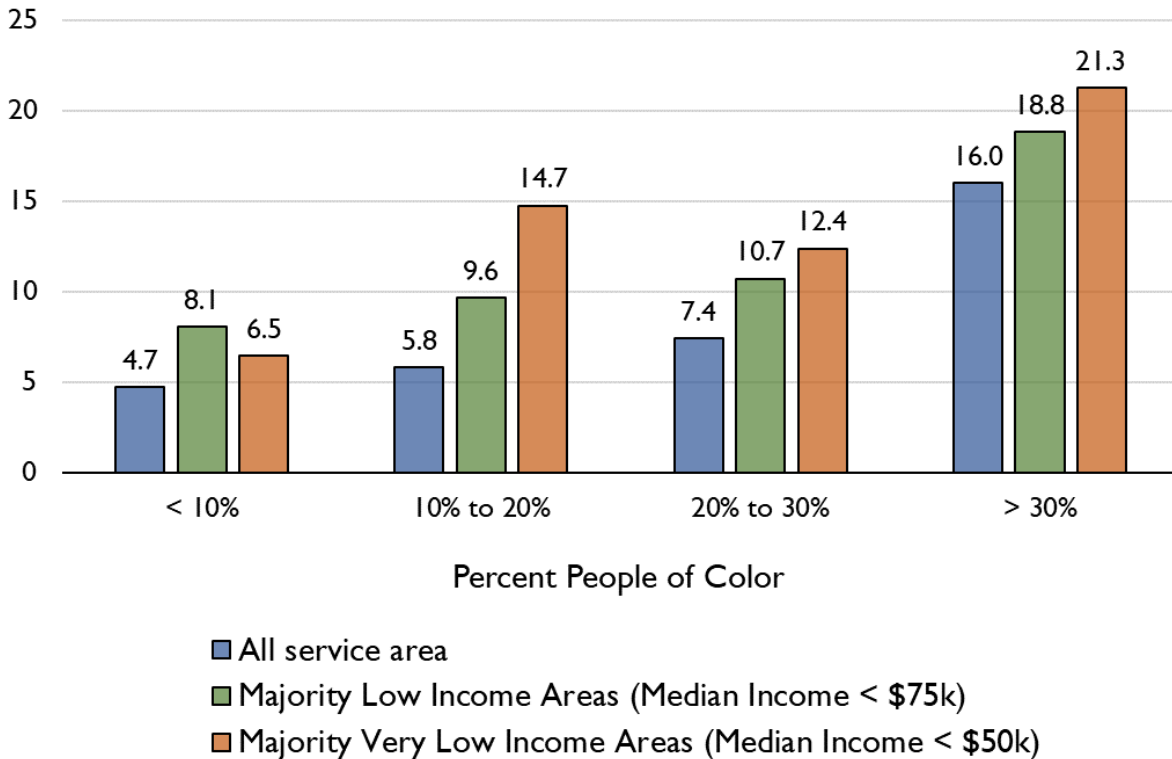
response to Xcel's IDP. We also appreciated the opportunity to participate in the Commission's July 9, 2024 stakeholder meeting and have incorporated discussion from that meeting into these comments.

During the July 9, 2024 stakeholder meeting, participants discussed the findings of two recent studies conducted to assess disparities in service quality and reliability: the Xcel Energy study, conducted by TRC; and the Chan/Pradhan study filed by the GECs in the IDP proceeding. Both studies identified significant racial disparities in long-duration outages (CELI-12) and involuntary disconnections. As the GECs have emphasized in our comments in this SRSQ proceeding and the IDP, the magnitude of these disparities is a serious concern for energy justice and grid equity and requires immediate attention from the Commission. Although consensus-building around deeper levels of structural change is likely necessary to address the full depth of the disparities revealed by the two studies, interim solutions are warranted, particularly with respect to disparities in disconnections, while these longer-term solutions are developed.

In considering actions to take, the GECs encourage the Commission to evaluate the magnitude of the expected effects of those actions against the magnitude of the disparities that have been established in the record. The Chan/Pradhan study showed that over the past six years across Xcel's service area, households in census block groups with more than 30% people of color (POC) were more than three times as likely to be disconnected for non-payment than census block groups with less than 10% POC. While an underlying relationship between race and income could explain this disparity in part, the Chan/Pradhan study also showed that, in very low-income areas (census block groups with a majority population making less than \$50,000 in annual income), communities with more than 30% POC were still more than three times as likely

to be involuntarily disconnected from service than areas with less than 10% POC, as shown in the figure below.²

**Annual Disconnection Rate
(disconnections per 1,000 households)**

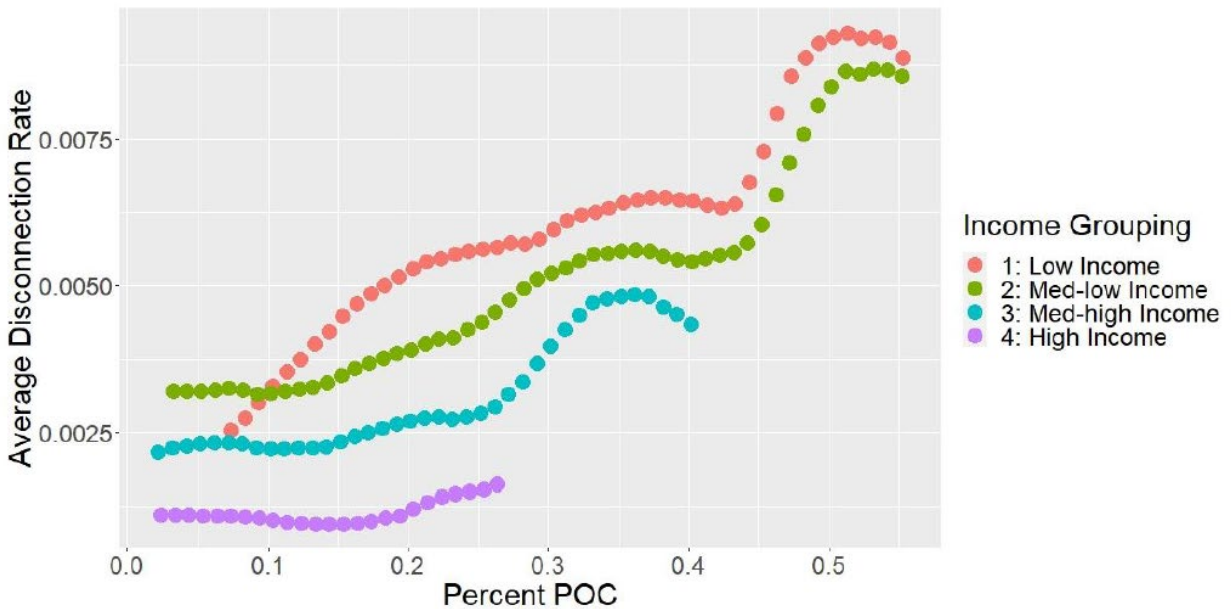


The Xcel/TRC study also affirmed evidence of racial disparities in disconnections, finding that among census block groups in the bottom 25% of income, areas with more than 50% POC were nearly four times as likely to be involuntarily disconnected than areas with less than 10% POC, as shown in the figure below.³

² Bhavin Pradhan & Gabriel Chan, *Racial and Economic Disparities in Electric Reliability and Service Quality in Xcel Energy’s Minnesota Service Area*, Fig. 5 (p. 11) (Feb. 2024) (Chan/Pradhan Study); see also Pradhan, Bhavin and Gabriel Chan. 2024. “Minnesota’s energy paradox: Household energy insecurity in the face of racial and economic disparities.” *The Electricity Journal* 37(6), 107423, Fig. 4 (same figure in peer-reviewed, published version attached to these comments).

³ Xcel 2023 SRSQ Report, Att. Q (Xcel/TRC Study), Fig. 8.

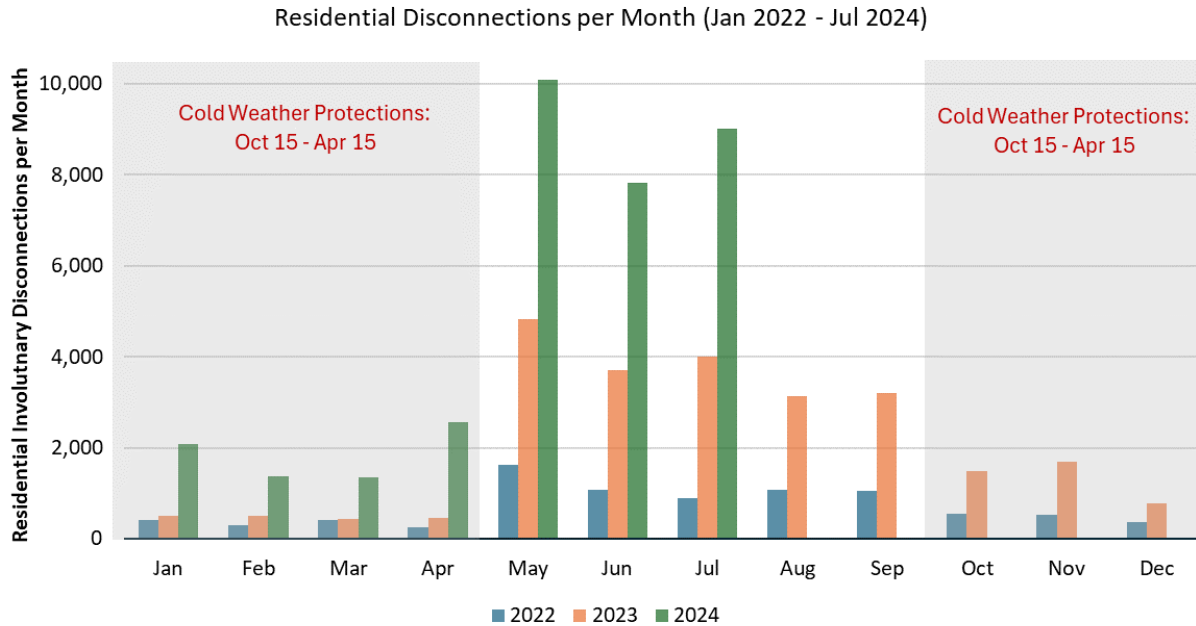
Figure 8. Average Disconnection vs. Percent POC by Income



Both the Chan/Pradhan study and the Xcel/TRC study further established that racial disparities in disconnections persisted when holding income constant in more sophisticated regression analysis.

The magnitude of these disparities, observed in datasets that end in 2022, is particularly troubling given the substantial increase in residential disconnections over the past two years, coinciding with Xcel’s implementation of remote disconnections in May 2023. From the months of May through July 2024, residential disconnections occurred at a rate more than two times the disconnection rate as the same months in 2023 and more than seven times the disconnection rate compared to the same months in 2022, as shown in the figure below.⁴

⁴ Based on disconnection data reported in the YR-2 dockets.



As the GECs noted in our June 24, 2024 comments in this proceeding, we are alarmed at the rate of disconnections overall, as well as the trends in the number of customers who remained disconnected after 30 or more days and the smaller number of customers requesting disconnection protections for medical necessity. In light of the identified racial disparities in involuntary disconnections, the dramatic increase in the rate of such disconnections for customers, many of whom are likely also experiencing other forms of hardship, is highly concerning. The GECs emphasize the need for immediate action on disconnections proportionate to the scale of the problem. As discussed further in response to Question 1 below, we recommend a moratorium on disconnections while Xcel conducts a study of the benefits and costs of disconnections, as well as potential disconnection policy improvements and other changes that can address the identified racial disparities.

Both the Chan/Pradhan study and the Xcel/TRC study also found significant racial disparities in the experience of long-duration outages. The Chan/Pradhan study found that from 2020 to 2022, census block groups in the top 10% of POC population experienced nearly 50%

more long-duration outages than other areas of the company's service area.⁵ The Xcel/TRC study found that "CELI is relatively flat with increasing percent POC for values less than about 50% POC and then rises.... For values above roughly 50% POC, CELI rises substantially for Census block groups in the oldest median vintage quartile."⁶ As discussed further below in response to Question 4, the GECs suggest that the IDP is the appropriate forum in which to discuss strategies to address these disparities, including Xcel's vegetation management and undergrounding proposals, and to more comprehensively integrate equity considerations into the Company's distribution planning and investments.

The GECs urge the Commission to continue to track the disparities in reliability and disconnections identified by the Xcel/TRC and Chan/Pradhan studies as it explores both interim and longer-term solutions to these concerning issues. We look forward to working with the Commission, Xcel, and other stakeholders to develop these solutions and move towards a more equitable electric system for Xcel's customers.

II. RESPONSES TO TOPICS OPEN FOR COMMENT

A. Service Quality

1. **In its April 1, 2024 Annual Report on Safety, Reliability, and Service Quality (SRSQ) Xcel Energy identified additional immediate steps it can take to expand outreach prior to disconnection that do not require Commission action. Are there other steps the Commission should take to address disparities in disconnections?**

In its 2024 SRSQ Report, Xcel identified two areas where it could take immediate steps to expand outreach related to disconnections and begin to address the identified racial disparities:

⁵ Chan/Pradhan Study, Fig. 7 (p. 13); *see also* Pradhan, Bhavin and Gabriel Chan. 2024. "Minnesota's energy paradox: Household energy insecurity in the face of racial and economic disparities." *The Electricity Journal* 37(6), 107423, Fig. 2 (same figure in peer-reviewed, published version attached to these comments).

⁶ Xcel/TRC Study at 5-6.

(1) using current algorithms to identify customers who have not received assistance and are carrying past due balances, and also reside within communities with higher POC populations, and then educating these customers about energy assistance and payment options; and (2) implementing the Company's proposed Automatic Bill Credit Pilot program.⁷ On the latter, the GECs support Xcel's program proposal and agree it is a worthwhile step towards mitigating disconnection disparities.⁸ The GECs also support Xcel's intent to identify customers and educate them about their options to avoid disconnections, however we suggest that Xcel should not limit its efforts to customers in higher POC communities. It seems likely that all customers in the situation Xcel describes—those that have not received energy assistance and are carrying past-due balances—would benefit from additional outreach on available programs. Moreover, the GECs encourage Xcel to continue improving its relationships with entities already engaged with these customers and their communities and work with these entities to improve outreach to identified customers. Some of these customers may distrust or be fearful of Xcel, and therefore be less receptive to any direct Company outreach. In any case, the GECs support Xcel's intent to track these identification and outreach efforts and report on them. We take no position on the best location for the Company to file its reports, so long as they are captured in any compilation of disconnection-related data reporting as recommended below in response to Question 7.

In considering additional actions to address disparities in disconnections, the GECs underscore two points we made in our June 24, 2024 reply comments in this proceeding. First, Xcel's substantial increase in disconnections and the related significant increase in reliance on remote disconnections likely exacerbate the racial disparity demonstrated by both Xcel and Drs.

⁷ Xcel 2023 SRSQ Report at 111-12.

⁸ See Initial Comments of Fresh Energy, Docket Nos. E002/M-24-173 et al., *In the Matter of Xcel Energy's Petition for an Automatic Bill Credit Pilot Program* (July 8, 2024) (supported by Cooperative Energy Futures, ELPC, and Vote Solar).

Chan and Pradhan. Therefore, the GECs refer the Commission to our recommendations related to remote disconnections in our prior comments:

Given these ongoing and very concerning racial disparities in disconnections, the GECs recommend that the Commission consider halting remote disconnections until Xcel has implemented a plan to address those disparities and specifically has demonstrated that remote disconnection does not increase the disparities. If and when the Commission allows Xcel to proceed with remote disconnections, the GECs support the Joint Commenters' recommendation that the Commission eliminate voicemail messaging as a permissible form of final contact as a condition of extending the Company's variance. The GECs recommend that the Commission require Xcel to reach the customer and use that final contact as an opportunity to ensure that the customer has exhausted all possible energy assistance and low-income rate options available to them; if not, Xcel should halt the disconnection process and assist the customer in pursuing any available options.⁹

Second, the identified, ongoing disparities highlight the need to better understand the benefits and costs of disconnections for the Company and all of its customers, and how Xcel could improve its disconnection policies and practices, in particular to mitigate the identified disparity in disconnections. The GECs recommend that the Commission require a study of the benefits and costs of disconnections, as well as potential improvements to disconnection policy and other changes. While we have previously framed this as a benefit/cost study on a moratorium of some or all utility disconnections, the GECs now suggest that a moratorium should be one component of a more comprehensive benefit-cost assessment. As we said in our June 24, 2024 reply comments in this proceeding: "Such a study can provide an estimate of what benefit, if any, disconnection practices have on reducing a utility's bad debt. The Commission can weigh this benefit against the costs of utility disconnection to other public interest priorities, as well as to the utility itself."¹⁰ In light of the magnitude of the identified disparities and the need to better understand the benefits and costs of disconnections and potential solutions, the GECs

⁹ GECs SRSQ Reply Comments at 5-6 (referencing Joint Commenters Initial Comments at 6).

¹⁰ GECs SRSQ Reply Comments at 8-9.

recommend a moratorium on all disconnections until Xcel has completed this study and the Commission has reviewed it and decided how to respond.

As part of the study, the GECs suggest inclusion and evaluation of the following disconnection policy changes recommended in our June 24, 2024 reply comments in this proceeding.

- Set the reconnection fee to \$0 to better facilitate customer reconnection. The GECs note that in Docket No. 12-383, Xcel has proposed to use 50% of its \$1 million fine for exceeding its complaint threshold to waive reconnection fees, but such a waiver would necessarily be temporary, and Xcel currently estimates it will last between nine and twelve months.¹¹
- Implement a more robust hot-weather rule to prevent disconnections in months with the highest cooling energy burden. Notably, Minn. Stat. § 216B.0975 establishes a prohibition on disconnections during extreme heat conditions—when the National Weather Service issues an excessive heat watch, heat advisory, or excessive heat warning—that does not seem to be widely known or publicized. For example, the Commission’s web site for “Shut-off Protection” does not mention it,¹² nor does the flyer from the Office of the Attorney General, “When Facing a Utility Disconnection.”¹³ The GECs have been unable to find any publication or other notice from Xcel regarding this protection, nor any reporting or other demonstration of whether it has been effectively implemented.

¹¹ Docket Nos. E,G002/CI-02-2034 & E,G002/M-12-383, Letter from Xcel Energy re 2023 Annual Report, Service Quality Plan, at 4-6 (May 1, 2024).

¹² <https://mn.gov/puc/consumers/shut-off-protection/#:~:text=Your%20utility%20must%20deliver%20a,turn%20your%20service%20back%20on.>

¹³ <https://www.ag.state.mn.us/Brochures/pubUtilityDisconnection.pdf>.

- Establish a minimum arrearage before disconnection, subject to Commission’s oversight. For example, in Arizona, a customer must have a minimum arrearage of at least \$300 before being disconnected. New Jersey has a minimum total arrearage of \$200 or more than three months in arrears before disconnections are permitted.¹⁴
- Verify that Xcel manages disconnections due to a landlord’s failure to pay consistent with the requirements in Minn. R. 7820.1400.
- Eliminate interest payments on late bill payment fees or require Xcel to donate those fees to low-income customer assistance programs, similar to the approach used by Xcel in Colorado.¹⁵

In addition, once the study is complete, the GECs recommend that the Commission open a new proceeding to consider its results and whether to make changes to the Company’s policies, rules, and regulations to reduce involuntary customer disconnections, including specifically for customers of color. As discussed at the July 9, 2024 stakeholder meeting, one of the challenges to addressing disparities in disconnections and disconnection policy in general is that the data and the relevant discussions are spread across multiple proceedings. A new proceeding dedicated to a discussion of disconnection policy, including the results of a cost-benefit study of disconnections, would significantly help to address this challenge. At the same time, the GECs recognize and support the ongoing need to improve energy affordability in other proceedings, including via low-income energy assistance programs, as well as programs and efforts to improve equitable access to and ownership of distributed energy resources (DERs). In addition,

¹⁴ Sanya Carley, David Konisky, & Emily Nash, Energy Justice Lab, *Electric Utility Disconnections: Legal Protections & Policy Recommendations* (June 2023), <https://utilitydisconnections.org/doc/electric-utility-disconnections-legal-protections-and-policy-recommendations.pdf>.

¹⁵ Colorado Expands PIPP to Electric Customers, Continues EOC Donations, <https://liheapch.acf.hhs.gov/news/may10/co.htm>.

as noted in our June 24, 2024 reply comments in this proceeding, the Commission may address any financial impacts on Xcel of reduced disconnections and other disconnection policy changes in the Company's next general rate case, including the consideration of reasonable cost recovery for costs demonstrated by the utility for providing service to a customer that it is no longer allowed to disconnect.

2. Should the Commission consider combining annual affordability reports (for example PowerOn) as part of the SRSQ reports going forward? If so, what reporting could be combined?

The GECs take no position on this question at this time, beyond emphasizing the importance of compiling all disconnection-related reporting in a single proceeding and/or web site, as recommended below in response to Question 7.

3. Are there other matters related to affordability and disconnections that should be reported or considered as part of the SRSQ reports going forward?

See our responses below to Question 6. Aside from those suggestions, the GECs do not have additional recommendations about specific affordability or disconnection reporting within the SRSQ reports at this time.

B. Reliability

4. Should the Commission direct Xcel Energy to file its proposed Enhanced Vegetation Management Proposal and Targeted Undergrounding Proposal as described in its April 1, 2024 Annual Report on SRSQ? If so, when and where should the Commission direct Xcel to file the proposals?

Xcel proposed both its Enhanced Vegetation Management Proposal and its Targeted Undergrounding Proposal to address identified racial disparities in long-duration outages (CELI-12). The GECs appreciate Xcel's efforts to consider ways to mitigate these reliability disparities in high-POC communities. Consistent with our reply comments filed in Xcel's most recent IDP proceeding (Docket No. E-002/M-23-452), we suggest that these ideas should be considered

within Xcel's IDP in the context of Xcel's broader distribution planning and investments. While we support ongoing tracking and reporting of disparities in the SRSQ proceedings, as discussed below in response to Question 8, we suggest that the IDP is the appropriate proceeding for evaluating utility distribution strategy, planning, and investments to address those disparities. The GECs believe that the IDP will be an appropriate forum to explore the benefits of Xcel's proposals, as well as the costs and other concerns related to them, which, in balance, may warrant consideration of other options.

Moreover, the GECs continue to believe that Xcel should integrate equity considerations more comprehensively into its distribution planning and investments, as emphasized in our comments on Xcel's most recent IDP (Docket No. E-002/M-23-452). In addition to considering specific proposals to address identified disparities in reliability, the GECs emphasize that Xcel should view all spending decisions in light of the broader strategic objective of safety, reliability, affordability, and equity.

5. Should the Commission consider moving portions of the annual reliability report that are not required by Minn. Rules 7826 to Xcel's biennial Integrated Distribution Plan (IDP)? If so, should the Commission refer which pieces of information to move to the IDP to the workgroup to establish a proposal for updated distribution reporting data approved in Xcel Energy's 2023 IDP in Docket E002/M-23-452?

The GECs appreciate and support the Commission's efforts to streamline reporting and to make it as accessible as possible to interested stakeholders. We do not have specific suggestions at this time regarding data reporting that should be shifted from the SRSQ to the IDP, however we look forward to responding to other parties' recommendations in reply comments. We also note that some of the data recommended below in response to Question 6 may also be appropriate for discussion within the upcoming IDP workgroup.

C. Map Modifications, Reporting, and Future Actions

6. **Are there any additional pieces of data to add to Xcel's Interactive Service Quality Map? When considering additional data points, please address: a. Whether the data is already collected and easily available in a format that could be added to the map; b. If the data is something that is within Xcel Energy's control; c. The purpose the additional data would serve.**

The GECs emphasize our appreciation of Xcel's Interactive Service Quality Map and the efforts to continue to improve it. We recommend the addition of the following data at the census block group level:

- Average age of infrastructure (years). The GECs believe that Xcel collects and controls these data. Providing this information at a census block group level would offer a more granular look at infrastructure age and an opportunity to analyze it in correlation with other data, including race and income. In turn, this analysis could inform more equitable distribution planning and investments.
- Number of customers in each census group block group served by voltage of secondary distribution circuit and whether such circuits are (1) radial or networked, and (2) overhead or underground. The GECs believe that Xcel collects and controls these data. As with understanding the age of infrastructure, these data would further help the Commission and stakeholders understand the characteristics of customer service and whether there are any correlations with other data, including race and income, and, in turn, inform more equitable distribution planning and investments.
- Capital investment (dollars). The GECs believe that Xcel collects and controls these data. Similar to the types of data discussed above, census block group-level capital investment information could be analyzed in correlation with other data, including

race and income, which, in turn, could inform more equitable distribution planning and investments.

- Average outage duration (minutes). The GECs believe that Xcel collects and controls these data. Providing this information at the census block group level would allow for more detailed analysis of any disparities in outage duration and inform solutions to address any inequities uncovered.
- Average hosting capacity available to residential customers. The GECs believe that Xcel collects and controls these data. Providing this information at the census block group level would enable more granular analysis of hosting capacity and reveal any disparities, and also inform distribution planning and investments as well as DER program development and deployment.
- Number of households (1) disconnected once, twice, or three or more times and (2) reconnected once, twice, or three or more times. The GECs believe Xcel collects and controls these data. Providing these data at the census block group level would allow for a detailed analysis of any disparities in households experiencing multiple disconnections/reconnections and, in turn, inform approaches to better assist customers facing repeated disconnections.
- Percent of electric premises disconnected for 24 hours or more. Xcel collects and reports these data monthly in the YR-2 dockets. Providing this information at the census block level would allow for more detailed analysis of disparities in the most harmful disconnections. Over the past 12 months (August 2023 – July 2024), Xcel performed 44,602 disconnections but restored service to 23,674 customers within 24

hours.¹⁶ The GECs believe that involuntary disconnections lasting more than 24 hours can have a significantly higher toll on struggling families and it would be in the public interest to understand disparities in extended disconnections.

- Total dollars past due of residential customers. Xcel collects and reports these data monthly in the YR-2 dockets. Reporting these data at a census block group level would enable analysis of the distribution of customers who are carrying utility debt and the demographic factors associated with the Company's overall bad debt.
- Total dollars past due of disconnected residential customers. The GECs believe that Xcel collects and controls this data. In the monthly YR-2 dockets, Xcel does not currently report the past due balance of disconnected customers. However, these data reported at a census block group level (and an aggregate level) would enable a clearer understanding of the impact of disconnection practices on the Company's accrual of bad debt.
- Percent of electric premises receiving a disconnection notice. Xcel collects and reports these data monthly in the YR-2 dockets. Over the past 12 months (August 2023 – July 2024), for every household that was disconnected, Xcel sent 13 households a disconnection notice.¹⁷ Reporting on disconnection notices would enable an analysis of disparities in receiving a disconnection notice versus disparities in actually being disconnected, and, in turn, whether similar disparities are reflected in both sets of data. This analysis could help identify if there are specific disparities in how households accrue utility debt (which should appear in the disconnection notice data) versus disparities in how Xcel is contacting customers, proposing payment

¹⁶ Based on data reported in Docket Nos. 23-2 and 24-2.

¹⁷ Based on data reported in Docket Nos. 23-2 and 24-2.

plans, delivering assistance, and other measures that impact whether a household that has received a notice is ultimately disconnected. If the identified disparities in disconnections are not also reflected in data on disconnection notices, it would suggest the need for particular actions to address disparities in assistance and the processes of disconnections themselves, as opposed to broader affordability alone.

- Total dollars received from LIHEAP. Xcel collects and reports these data monthly in the YR-2 dockets. Providing these data at the census block group level would complement the existing data on participation in LIHEAP already included in the map and help inform a more rigorous analysis of whether the benefits of LIHEAP are being accessed equitably.
- Number of disconnected households that were enrolled in Energy Assistance Programs. Xcel already collects and reports these data in the YR-2 dockets. These data reported at the census block group level would help inform a more rigorous analysis of the relationship of affordability programs to customer disconnections and any related disparities.

7. Should the Commission require any other reporting on data related to the disparities identified in the analyses, for example, data points recommend in the IDP or in prior comment periods in 24-27? If so, where should the reporting occur?

Please see the response above to Question 6. In addition, consistent with our June 24, 2024 reply comments in this proceeding, the GECs recommend that the Commission compile or link to (or require Xcel to compile or link to) all disconnection-related reporting on a single website or proceeding to facilitate access. The GECs further suggest that all disconnection data should be broken out by gas and electric.

8. Should the Commission require Xcel to conduct any further analysis on disparities in reliability or disconnections? If so, what should the studies examine, and how often should they occur?

The GECs recommend annual analyses and reporting on disparities in both reliability and disconnections, similar to what Xcel provided in its 2024 SRSQ Report. In this way, the Commission, the Company, and stakeholders will be able to see improvements and changes in identified disparities over time. To account for the length of time over which disparities can compound, as well as the frequency of outages, the GECs suggest that Xcel conduct an annual reporting of disparities based on rolling-averages of data longer than three years. We believe that disparities measured over multiple lengths of rolling averages, such as 5-year and 10-year averages would offer a more comprehensive set of timeframes to analyze disparities. For ease of compatibility with the 3-year averages in the current map, the most feasible approach could be to construct 6- and 9-year rolling averages based on non-overlapping vintages of data in the map.

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

The GECs do not have additional issues or concerns to address at this time.

III. CONCLUSION

The GECs appreciate the Commission's attention to the identified disparities in disconnections and reliability and the opportunity to provide additional comments in this proceeding on these issues. We encourage the Commission to take into account the magnitude of these ongoing disparities as it considers the appropriate near-term and longer-term solutions to address them.

Date: August 27, 2024

Respectfully Submitted,

/s/ Pouya Najmaie

Pouya Najmaie
Policy and Regulatory Director
Cooperative Energy Futures
310 E 38th St Suite 109
Minneapolis, MN 55409
(612) 715-1224
pouya@cooperativeenergyfutures.com

/s/ Tony Mendoza

Tony Mendoza
Senior Attorney
Sierra Club Environmental Law Program
2101 Webster St., 13th Floor
Oakland, CA 94612
(415) 977-5589
tony.mendoza@sierraclub.org

/s/ Erica S. McConnell

Erica S. McConnell
Staff Attorney
Environmental Law & Policy Center
35 E. Wacker Drive, Suite 1600
Chicago, IL 60601
(312) 420-5503
emcconnell@elpc.org

/s/ William D. Kenworthy

William D. Kenworthy
Senior Regulatory Director, Midwest
Vote Solar
1 South Dearborn Street, Suite 2000
Chicago, IL 60603
will@votesolar.org