STATE OF MINNESOTA
BEFORE THE
MINNESOTA PUBLIC UTILITIES COMMISSION

Katie J. Sieben	Chair
Hwikwon Ham	Commissioner
Audrey C. Partridge	Commissioner
Joseph K. Sullivan	Commissioner
John A. Tuma	Commissioner

IN THE MATTER OF NORTHERN STATES POWER COMPANY'S ANNUAL REPORT ON SAFETY, RELIABILITY, AND SERVICE QUALITY FOR 2024; AND PETITION FOR APPROVAL OF ELECTRIC RELIABILITY STANDARDS FOR 2025	DOCKET NO. E002/M-25-27 **ANNUAL REPORT AND PETITION**

INTRODUCTION

Northern States Power Company, doing business as Xcel Energy, submits to the Minnesota Public Utilities Commission the attached Annual Report on our safety, reliability, and service quality performance for 2024. We make this filing pursuant to Minn. R. 7826.0400, 7826.0500, and 7826.1300. This filing also includes our Petition for approval of the Company's proposed reliability standards for the year 2025, as required under Minn. R. 7826.0600. In addition, the Annual Report contains several compliance items from various dockets.

We respectfully request that the Commission accept our annual report for 2024, approve our proposed reliability standards for 2025, and approve our request for a variance to Minn. Rule 7820.2500.

I. DESCRIPTION AND PURPOSE OF FILING

A. Background

Legislation passed in 2001 required that the Commission establish safety, reliability, and service quality standards for electric distribution utilities. After a rulemaking process, the Commission adopted rules that became effective on January 28, 2003. These rules contain both performance standards and reporting requirements. Additionally, the rules require individual utilities to propose electric reliability

standards each year for approval by the Commission. Over time, the Commission added additional compliance obligations through various Order Points.

We have separated the Annual Report, as laid out in Minnesota Rules, Chapter 7826, Electric Utility Standards, into three parts: Part I contains Safety and Service Quality standards; Part II contains the Reliability metrics and proposed standards; Part III separately addresses, for ease of review by parties and the Commission, Order Points in the Commission's January 13, 2025 Order in Docket No. E002/M-24-27 that represent new requirements not part of prior annual reports.

In this Petition, we request the Commission take three actions:

- Accept the Company's Annual Report for 2024,
- Approve our proposed reliability standards for 2025, and
- Approve our request for a variance to Minn. Rule 7820.2500.

Each of these are discussed in more detail below.

A. Accept the Company's Annual Report for 2024

Attached to this Petition is the Company's Annual Report, detailing the Company's safety, reliability and service quality performance for 2024. The Company's Annual Report, and its attachments, are consistent with the Minnesota service quality reporting rules found in Minn. R. Ch. 7826, as well as the various Commission Order Points adopted over the years. In addition to responding to the new compliance obligations ordered from the 2017 through 2024 Annual Reports, the Company has included a compliance matrix to assist our stakeholders to find the information they are looking for within the Annual Report. We respectfully request the Commission accept the Company's Annual Report for 2024.

B. Approve Proposed Reliability Standards for 2025

Minn. R. 7826.0600, subp. 1, requires the Company to propose 2025 standards for System Average Interruption Frequency Index (SAIFI), System Average Interruption Duration Index (SAIDI), and Customer Average Interruption Duration Index (CAIDI). The Company proposes setting the 2025 standards based on the 2025 Institute of Electrical and Electronics Engineers (IEEE) benchmarking results as follows:

- Statewide reliability: IEEE second quartile for large utilities;

- Metro East and Metro West work centers: IEEE second quartile for large utilities; and
- Southeast and Northwest work centers: IEEE second quartile for medium utilities.

Our proposal is consistent with the 2025 standards established in the Commission's November 9, 2022 Order in Docket No. E002/M-22-162, Order Point 4. Because the IEEE benchmarking data for the previous year is not available until third quarter of the following year, the 2024 benchmarking data will not be available until the summer of 2025. After this data is received, the Company intends to file a supplement to its 2024 Annual Report providing the 2024 benchmarking information compared to our 2024 results, along with an explanation and action plan for any standards not met for 2024.

C. Approve our request for a variance to Minn. Rule 7820.2500.

Minn. Rule 7820.2500 states that "Service may be disconnected only in conjunction with a personal visit by a representative of the utility to the address where the service is rendered and an attempt to make personal contact with the customer at the address. If the address is a building containing two or more dwelling units, the representative shall make a personal visit to the door of the customer's dwelling unit within the building. If security provisions in the building preclude free access on the part of the representative, the representative shall attempt to gain access to the building from the caretaker, for the purpose of attempting to make personal contact with the customer. The representative of the utility shall at all times be capable of receiving payment, if nonpayment is the cause of the disconnection of service, or the representative shall be able to certify that the cause of disconnection has been remedied by the customer."

The deployment of AMI provides the Company with the ability to remotely manage customer disconnections and reconnections. We believe this technology, together with the use of calls, voicemails, and one additional method of electronic communication where the customer has provided consent to do so,[1] represents the most effective means of communication with customers prior to service disconnection. The Company expects to continue indefinitely requesting a variance to Minn. Rule 7820.2500.

[1] Per the Commission's January 13, 2025 Order in Docket No. E-002/M-24-27, Order Point 19. See Part III of our annual report.

V. EFFECT OF CHANGE UPON XCEL ENERGY REVENUE

Approval of our Annual Report and the reliability performance standards proposed in this Petition will not result in any changes to Xcel Energy's revenue.

CONCLUSION

Xcel Energy is committed to providing our customers with safe, reliable and high quality customer service. We appreciate this opportunity to report our performance to the Commission, and respectfully request that the Commission accept our Annual Report on safety, reliability, and service quality. We also request that the Commission approve our proposed reliability standards for 2025 as detailed in this Petition, and approve our request for a variance to Minn. Rule 7820.2500.

Dated: April 1, 2025

Northern States Power Company

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IN THE MATTER OF NORTHERN STATES POWER COMPANY'S ANNUAL REPORT ON SAFETY, RELIABILITY, AND SERVICE QUALITY FOR 2024; AND PETITION FOR APPROVAL OF ELECTRIC RELIABILITY STANDARDS FOR 2025	DOCKET NO. E002/M-25-27 **ANNUAL REPORT AND PETITION**

SUMMARY OF FILING

Please take notice that on April 1, 2025 Northern States Power Company, doing business as Xcel Energy, filed with the Minnesota Public Utilities Commission a Petition requesting approval of its 2024 Electric Annual Service Quality Performance Report, requesting the Commission approve our proposed reliability standards for 2025, and requesting a variance to Minn. Rule 7820.2500.

Xcel Energy's
Service Quality Annual Report
Part III

January 13, 2025 Order Compliance

April 1, 2025
Docket No. E002/M-25-27

VI. JANUARY 13, 2025 ORDER COMPLIANCE

A. BACKGROUND

The Commission's January 13, 2025 Order in Docket No. E-002/M-24-27 included many new requirements that were not part of earlier Safety, Reliability, and Service Quality annual reports. We address these separately in this section for ease of review by parties and the Commission. These are discussed below mostly in the sequence they appear in that Order. In a few cases we have grouped together Order Points that are closely related thematically, even if those Order Points were not sequential in the Order.

B. REQUIREMENTS OF JANUARY 13, 2025 ORDER

1. Service Timelines

Order Point No. 14. Xcel must include an analysis and summary data based on the data points below for 2024 with its next safety, reliability, and service quality report due April 1, 2025 report to better determine if there are areas for improvement in shortening service timelines.

- *Type of new service request (based on Request Type such as Service, Extension, Relocate/Lower Facilities, etc. and Value Characteristic such as Commercial Retail, Other Building, etc.)* [1]
- *Date of new service request*
- *Requested new in-service date*
- *Date of meter installation*
- *Date of service connection*

Order Point No. 15. Xcel must report service extension timelines by work center in future safety, reliability, and service quality reports.

As noted in Part I, the Company has taken steps in shortening service timelines such as increasing suppliers and providing training and process clarifications to address data management issues. Attachment Q as a live .xlsx file provides the date of new service request, requested new in-service date, date of meter installation and date of service connection for 2024 residential and commercial electric extensions. Due to limited reporting capabilities between two work management programs, we are not

[1] In the Order, the first bullet here is part of the prior paragraph. The Company believes the intent was to make it part of the bulleted list, so has re-formatted accordingly.

able to provide the type of service request. Attachment R provides a graphic summary of 2024 electric extension data. Attachment S provides extension timeline by work center.

2. Variance to Minn. Rule 7820.2500

Order Point No. 16. The Commission grants Xcel's request for a temporary extension of the variance to Minn. Rule 7820.2500 regarding AMI disconnection as approved in the Commission's March 22, 2023, order in Docket No. E-002/M-22-233.

Order Point No. 17. The Commission extends the variance until the Commission issues a decision on the variance request as presented in the 2024 safety, reliability, and service quality report.

Order Point No. 18. The extended variance is retroactively effective starting from the expiration of the previous variance on April 22, 2024.

We address these three Order Points together. We appreciate the Commission's continued granting of a variance to Minn. Rule 7820.2500, which Order Point 17 extends until the Commission's decision in this docket, and Order Point 18 makes retroactive to the expiration of the previous variance.

The Company expects to continue indefinitely requesting a variance to Minn. Rule 7820.2500, which states that "Service may be disconnected only in conjunction with a personal visit by a representative of the utility to the address where the service is rendered and an attempt to make personal contact with the customer at the address."[2] As discussed in comments on our 2023 Safety, Reliability, and Service Quality report (Docket No. E002/M-24-27), field visits are relatively ineffective, and in fact less effective than voicemail, as a final means of connecting with customers. Requiring a field visit appears to increase staff costs and sacrifice one key cost-saving feature of AMI, without actually being more effective as a way to reach customers to offer payment arrangements and avert disconnection. Instead, the Company proposes to continue using voicemail, along with one other form of electronic communication where we have received customer consent to do so (next section).

3. Methods for Final Contact Prior to Disconnection

Order Point No. 19. The Commission increases the existing threshold of final contact for disconnection by requiring Xcel to use two methods of electronic communication, including

[2] See https://www.revisor.mn.gov/rules/7820.2500.

either text message or email in addition to voicemail where the Company has received customer consent to do so.

The Company has been providing customers with multiple points of contact for pending disconnections for a number of years but has spent the last three months working concertedly on adding in the additional electronic, final contact methods requested in this Order Point. We will begin providing this additional point of contact in April 2025. As noted in the Order Point, we can only use text messaging or email if the customer has given us consent to do so.

4. Enhanced Outreach for Energy Assistance

Order Point No. 20. The Commission approves Xcel's proposal to identify customers throughout its service territory that have not received LIHEAP assistance and are carrying past due balances and approve the Company's proposal to perform targeted outreach to the identified customers.

Order Point No. 21. Xcel must perform additional outreach throughout its service territory with the goal of increasing participation in affordability programs that reduce bad debt.

We address these two Order Points together. The Company conducts outreach to customers on LIHEAP assistance and the Company's affordability programs on an ongoing basis. In 2024 the Personal Accounts organization that manages our energy assistance and affordability programs completed 34 outreach campaigns which included automated dials, emails, manual dials, mailers, bill onserts, social media, and in-person events. In 2024, we also increased training for our contact center teams to reinforce the need to provide additional energy assistance information to customers calling in for help. We also looked for additional ways to increase our community presence at area events. We expect to continue those efforts in 2025.

5. Enhanced Access to Information on Disconnection

Order Point No. 22. Xcel must publish its disconnection and payment agreement policies and practices on its website. Subject to technical feasibility, Xcel shall make the edits discussed in ECC/CUB's September 12, 2024 comments to its payment agreement webpage.

The Company met this requirement on March 1, 2025 by posting the "Minnesota Disconnection Process" document developed for Order Point 23, along with the language proposed in ECC/CUB's September 12, 2024 comments, on our website. The "Minnesota Disconnection Process" document is posted in two locations where

we believe customers wishing to understand how to avoid disconnection might intuitively look for it:

- https://mn.my.xcelenergy.com/s/billing-payment/energy-assistance/pay-arrangements
- https://mn.my.xcelenergy.com/s/billing-payment/manage-bill

The language in ECC/CUB's September 12, 2024 comments is posted to:

- https://mn.my.xcelenergy.com/s/billing-payment/energy-assistance/pay-arrangements

> *Order Point No. 23. Xcel must make a filing in the instant docket and Docket E,G-999/PR-24-02 detailing its current disconnection policies and practices, and require Xcel to submit additional filings in Docket E,G-999/PRYR-02 when there are changes to those policies and practices within 20 days of the Order.*

The Company met this requirement on January 31, 2025 by making a compliance filing in the above dockets providing a "Minnesota Disconnection Process" document that details our disconnection policies and practices for Minnesota residential customers.

The Citizens Utility Board (CUB) subsequently requested clarifications to that filing. CUB requested clarification on how the Company separately considers both household financial circumstances and extenuating circumstances when offering payment arrangements, and whether consideration of those circumstances may lead to offering down payments lower than the amounts agreed to in Order Point 26. The Company does offer individualized payment arrangements, including down payments lower than those reduced amounts, on a case-by-case basis in consideration of both household financial circumstances and extenuating circumstances. We agreed this was not clear in our January 31 filing, and filed a corrected version of the "Minnesota Disconnection Process" document on March 3, 2025.[3]

6. Reconnect Previously Disconnected Customers during Extreme Heat and High Air Quality Index Events

These two Order Points, relating to heat events and air quality alerts respectively, involve similar steps so we address them together.

[3] *Corrected Compliance Filing*, Xcel Energy, March 3, 2025, Docket Nos. E002/M-24-27 and E,G002/PR-24-02.

Order Point No. 24. Xcel must propose a plan, in its 2024 safety, reliability, and service quality report due April 1, 2025, to restore power for involuntarily disconnected customers with AMI during a heat advisory or excessive heat warning, issued by the National Weather Service and to inform the Commission's consumer affairs office and customers of its plans to restore power for involuntarily disconnected customers with AMI during extreme heat events.

Order Point No. 32. Xcel must propose a plan, as part of its with its 2024 safety, reliability, and service quality report due on April 1, 2025, to restore power for involuntarily disconnected customers with AMI when high air quality index alerts have been issued.

A. Extreme Heat Events

As discussed in Part I, section J, consistent with Minnesota Statute § 216B.0975, the Company already halts disconnections of residential services in affected counties when an excessive heat watch, heat advisory, or excessive heat warning issued by the National Weather Service (NWS) is in effect. NWS defines those events as follows:[4]

> *Excessive Heat Watch*: Heat watches are issued when conditions are favorable for an excessive heat event in the next 24 to 72 hours. A Watch is used when the risk of a heat wave has increased but its occurrence and timing is still uncertain.
>
> *Heat Advisory*: A Heat Advisory is issued within 12 hours of the onset of extremely dangerous heat conditions. The general rule of thumb for this Advisory is when the maximum heat index temperature is expected to be 100 degrees Fahrenheit or higher for at least 2 days, and nighttime air temperatures will not drop below 75 degrees Fahrenheit; however, these criteria vary across the country, especially for areas that are not accustomed to dangerous heat conditions.
>
> *Excessive Heat Warning*: An Excessive Heat Warning is issued within 12 hours of the onset of extremely dangerous heat conditions. The general rule of thumb for this Warning is when the maximum heat index temperature is expected to be 105 degrees Fahrenheit or higher for at least 2 days and nighttime air temperatures will not drop below 75 degrees Fahrenheit; however, these criteria vary across the country, especially for areas not used to extreme heat conditions.

In compliance with Order Point No. 24, the Company proposes a plan ("Heat Event

[4] See the NWS website, Understanding Heat Alerts.

Plan") to reconnect customers, as we are able, during heat advisories or excessive heat warnings issued by NWS. NWS issues these advisories/warnings on a county-by-county basis.

The Company is subscribed to NWS email notifications of events, and we currently manually monitor the NWS website for issuance of heat events whenever the daily high temperature is 85 degrees Fahrenheit or above. Customers otherwise eligible for disconnection, but who live in a county for which an excessive heat watch, heat advisory, or excessive heat warning has been issued by the NWS, are not disconnected until that watch/advisory/warning has been lifted.

The Company's Heat Event Plan proposes to follow this same process to be alerted to NWS heat advisories or excessive heat warnings that would, under Order Point 24, trigger reconnection. Once a heat advisory or excessive heat warning has been issued by NWS, steps will be initiated to reconnect customers with an AMI meter that are currently disconnected and were remotely disconnected. Following the conclusion of a heat advisory or excessive heat warning, those customers who were reconnected will again be disconnected. The detailed steps are noted below in Section C.

B. Air Quality Index Alert Events

In contrast to heat events, no current statutes or rules address disconnection or reconnection during Air Quality Index alerts. In compliance with Order Point No. 32, the Company's Air Quality Index (AQI) Alert Plan proposes to suspend disconnection of affected customers with AMI meters when the AQI is 151 or greater, and to commence reconnection of affected customers when the AQI is 201 or greater.

The Company has been subscribed to the Minnesota Pollution Control Agency's (MPCA's) email distribution list for notification of all AQI events in the state. When an alert above the thresholds noted above has been issued for a county or counties in our service territory, the steps in Section C will be implemented.

The AQI, as published by the MPCA, is based upon a color-coded scheme representing air quality categories of Good, Moderate, Unhealthy for Sensitive Groups, Unhealthy, Very Unhealthy, and Hazardous.[5] There is no category of "high" AQI as referenced in Order Point 32. An AQI level of 151, the level at which the Company proposes to suspend disconnections, correlates to "Unhealthy" and an AQI level of 201, at which the Company proposes to implement reconnections,

[5] See Current air quality conditions | Minnesota Pollution Control Agency.

corresponds to "Very Unhealthy".

C. Proposed Steps to be Taken During a Heat Event or AQI Event

The Company has identified a series of steps that must be taken to facilitate a reconnection plan during a heat advisory or excessive heat warning and/or when an AQI alert of 201 or higher (Very Unhealthy) has been issued, and to suspend disconnections when an AQI alert of 151 or higher (Unhealthy) has been issued for customers located in counties affected by such an event.

Disconnections will be suspended for affected customers when an Unhealthy AQI alert has been issued until the alert is over, similar to our existing program for suspending disconnections during heat events.

Reconnection during a heat or AQI event will only be available to those customers with a communicating AMI meter who have been remotely disconnected, and only once the customer has notified the Company that the necessary safety protocols, as identified below, have been taken. If reconnection of a customer does not occur prior to the conclusion of the event, the customer will no longer have the opportunity to have their service reconnected based on that event. Once the event has concluded, the reconnected customers will again be disconnected.

1. Once an alert has been issued, the Company will take steps to determine what customers, if any, are affected by the alert, and which of those customers have AMI meters, have been involuntarily disconnected, have been remotely disconnected and are eligible for reconnection. The steps are as follows:

    a. Determine timeline for reconnection: when the event is forecast to occur.

    b. Integrate county data of the affected area(s) to internal systems and incorporate this information into our billing system for future reference, disconnection, and reporting by event.

    c. Develop, approve and record calling scripts to notify impacted customers of the heat or high AQI event.

    d. Determine additional staffing required for event. The Company points out that this staffing requirement will require hiring of additional agents in anticipating of these events. The total cost of

hiring additional agents for these purposes has not been estimated in the current staffing costs illustrated below.

i. Calculate basic staffing, overtime requirements for both reconnection and disconnection activity.

e. Notify contact center agents of pending activity. Prepare talking points and system actions required for incoming customer calls.

i. Record customer verbal communication indicating receipt of breakers-off requirement prior to issuing reconnection.

f. Discontinuance of event and determination of re-disconnection

i. When an event has concluded, all customers that had been re-connected due to the event will be disconnected within 24 hours of the termination of the event, unless a customer previously disconnected has since established a payment arrangement to avoid being re-disconnected.
ii. Customers will be notified of the impending disconnection via notification based upon customer preference.

2. Customers that have been disconnected due to safety concerns or tampering of Xcel Energy equipment will be excluded from consideration of reconnection during an event.

When a heat event or Very Unhealthy AQI event is forecast to occur within the next 24 hours, the Company will query all accounts in the affected area(s) to determine the customers affected by the event that have been disconnected utilizing AMI Remote Connect/Disconnect technology and are eligible for reconnection. We will develop scripts for customer contact, record this information for delivery to customers and match up the disconnected customer list to available contact information for impacted customers. As noted above, impacted county information must be overlayed in our internal systems to determine impacted customers as heat events and AQI alerts are issued on a county basis. This final impacted customer list must be integrated into our current billing and reporting system so that we are able to verify those customers that have responded to our calls and have confirmed that their breakers are off and can be safely reconnected. This same report will be relied on to determine those customers that must be once again disconnected after the conclusion of the event.

D. Areas of Concern with Implementation of Plan

The Company has identified several areas of concern associated with the implementation of these plans. We discuss these concerns below, followed by a separate section on potential cost implications.

1. **Safety Concerns**: Prior to being reconnected, it is current standard operating procedure for the Company to instruct customers to turn their breakers off and to verify that they have been turned off prior to being reconnected. This is to avoid any safety issues that could occur once their system is re-energized.

   In most instances when a customer has experienced an outage or disconnection due to service repair or non-payment of past due amount, customers are aware that service will be restored, either because of information provided to them ahead of, or during an event, or due to information provided during a call to our credit department.

   In the case of a reconnection due to a heat event or Very Unhealthy AQI event, customers who have experienced an involuntary disconnection would not be expecting power to be restored, which raises safety concerns. As an example, a customer could have inadvertently left a stove or other appliance on, not expecting power to be restored.

   Such customers would need to be contacted by the Company alerting them to the potential for reconnection and informing them of the need to turn their breakers off for safety purposes. In addition, the Company needs to secure confirmation from customers that this action has been taken and that they are prepared for a reconnection of their service. This communication increases the need for live agents and additional updates to current technology to ensure the ability to record this information from customers.

2. **System Limitations**: Only customers that have an AMI meter that have been remotely disconnected will be able to be reconnected during events. Full AMI deployment is not expected to be completed until late 2025 except as noted in Part I, Section III.A. As such, some customers, including those who have not been remotely disconnected or who have opted out of an AMI meter, will not be able to be remotely reconnected during an event.

3. **Increased Complaints and Customer Wait Times**: We anticipate that customers who are reconnected at the beginning of a heat event or AQI alert and then subsequently disconnected after the event has been lifted, are likely to

have questions about this activity, which will likely lead to additional calls to the Customer Care line and complaints. Additionally, the difficulty in quickly staffing for such events may lead to increased wait times for other customers during such activity. An increase in customer complaints due to the new requirements in Order Points 24 and 32 could make it more difficult for the Company to achieve the Customer Complaints threshold in our Quality of Service Plan (QSP) tariff, where the threshold was set many years ago before such additional requirements were contemplated.

E. Estimated Costs and Timeline to Implement Heat Event and AQI Plans

Stopping disconnection and commencing reconnection of customers during heat events and AQI events, while certainly beneficial to the customers who are not disconnected or are reconnected, has a cost that is borne by all customers. In this section we provide preliminary estimates of some of those costs to assist the Commission in weighing the benefits of implementing these plans against the costs.

Note that the Company has not yet attempted to quantify the bad debt impact of these plans. That cost is challenging to estimate since it would depend on how many customers are either not disconnected or are reconnected, for what period of time, how many times per year, and what proportion of those bills are ultimately never paid and become additions to bad debt. While not quantified here, there would almost certainly be an increase in bad debt, which would become an addition to revenue requirements in a future rate case.

1. **Associated Costs**: In Table 26 below, we provide the following high-level cost estimates to cover the implementation of reconnections during heat events, and suspending disconnections and implementing reconnections during AQI events:

Table 26
Cost Estimates for Implementing Heat Event and AQI Plans

Activity	Estimated Cost
Development, recording and delivery of messaging to customers, up front system enhancements, annual enhancements	$360,000
Staffing requirements per event*	$160,000
Reconnection costs per event**	TBD

*These estimates presume the events impact 19,000 customers.
** TBD: Reconnection costs for these events are not entirely known at this time because the Company has never created this kind of framework in their existing systems and has not fully vetted or estimated the level of manual versus automated work that will be required. This will impact the actual cost of this form of reconnection activity.

2. **Timeline for System Enhancements**: The work listed is currently estimated to take approximately 72 weeks (or 16 months) once an Order is issued requiring these actions to be taken.

3. **Assumptions**: Based on prior heat advisories and warnings received, the Company has estimated that there may be five additional heat events annually. Likewise, the Company estimates five days annually for potential Very Unhealthy AQI events. Additionally, the Company has estimated staffing requirements and customer message delivery costs based on an expected average number of 19,000 disconnected customers per event. However, with a changing climate and increased wildfires – often the cause of AQI alerts – it is possible that heat events and AQI events in future years could be more frequent than in past years, with more customers affected, potentially significantly so in both cases, which would mean costs in this section are underestimated. Note also, as mentioned above, that the costs in Table 26 do not include a likely increase in bad debt if some portion of the customers not disconnected/reconnected do not ultimately pay for electricity consumed during these periods.

F. Current Medical Certification Process

The Company has indicated that it deems the current medical certification available to all customers to be the best way to ensure customers who have sensitivities to excessive heat or poor air quality are receiving the protection they need from a credit disconnection. We typically receive applications for, and provide medical protection to, two to three thousand customers annually. Customers who take advantage of the existing medical certification to become exempt from disconnection would continue to receive this benefit even if the Commission does not direct the Company to implement the heat event and AQI event plans discussed above.

7. Enhanced Outreach to Medically Vulnerable Customers

> *Order Point No. 25. Xcel must conduct additional outreach and provide customers with information about how to request medical protections if they are particularly vulnerable to poor air quality.*

The Company is currently adding medical certification education information to all of our energy assistance campaigns, of which 34 such campaigns were completed in 2024. We have trained our customer service representatives on available protections and assistance, and they provide this information to customers as they call in for assistance. Additionally, the Company is continuing to pursue opportunities to provide this information to customers at in-person events and through our dedicated team in the Personal Accounts department. This includes information about medical protections that are available for customers who are sensitive to poor air quality or extreme heat. We have provided our customers with a mechanism to provide medical certification of their vulnerability and be provided with protection from disconnection.[6]

8. Mitigating Disconnections: Reduced Down Payments, Higher Thresholds, and Longer Advance Notice

> *Order Point No. 26. Xcel must reduce its down payment requirements and modify its disconnection and payment agreement practices to include consideration of individual household financial circumstances. Xcel must offer the down payment percentage amounts as shown in the table above but may offer lower down payment plans as warranted by consideration of individual household circumstances.*

[6] Xcel Energy Medical Protection Form: Medically Necessary Equipment & Emergency Certification Form.pdf

The Company began meeting this requirement in December 2024, when staff of the Personal Accounts organization and customer service personnel received training on the reduced down payment schedule agreed to with CUB and Energy CENTS in Docket No. E002/M-24-27. The reduced down payments shown in Table 27 below were offered to customers beginning January 2025. Understanding the importance of these reduced down payments to our agreement with CUB and Energy CENTS, we began implementing this requirement even before receiving the Commission's Order in that docket.

The wording of this Order Point instructs the Company to *modify* its disconnection and payment agreement practices to include consideration of individual household financial circumstances. While the Order suggests the need for modification, the Company affirms that it historically considered individual household financial circumstances, as well as extenuating circumstances, in negotiating payment arrangements with customers, as required by Minn. Stat. § 216B.096, Subd. 5. We have done so in the past and will continue to do so, and, therefore, are in compliance with the Commission's directive on this point.

The reduced down payment amounts, as well as ongoing consideration of household financial circumstances and extenuating circumstances, are summarized in the "Minnesota Disconnection Process" document filed in Docket Nos. E002/M-24-27 and E,G002/PR-24-02, and posted to the Xcel Energy website.[7] We reproduce the relevant section of that document below.

> ***Down payments without extenuating circumstances.*** A customer without extenuating circumstances will generally be offered the down payment amounts in the "Normal Payment Agreements" line of the Graduated Down Payment Structure table below, with the required down payment increasing if the customer has entered into and broken past payment arrangements in the most recent (rolling) 12 months. The Company will negotiate payment agreement terms, including down payment amounts and length of arrangements, individually with each customer. Based on their household financial circumstances, customers may be offered lower down payments than those shown in the Normal Payment Agreements line on a case-by-case basis. During the Cold Weather Rule months, customers with income at or below 50% of the state median will not pay a down payment exceeding 10% of their monthly

[7] *See* https://mn.my.xcelenergy.com/s/billing-payment/energy-assistance/pay-arrangements and https://mn.my.xcelenergy.com/s/billing-payment/manage-bill.

income, consistent with https://www.revisor.mn.gov/statutes/cite/216B.096, Subd. 5.

Down payments for extenuating circumstances. The Company will negotiate payment agreement terms, including down payment amounts and length of arrangements, individually with each customer. Based on extenuating circumstances, customers may be offered lower down payments than those shown in the "Extenuating Circumstances Payment Agreement" line of the Graduated Down Payment Structure table below on a case-by-case basis. During the Cold Weather Rule months, customers with income at or below 50% of the state median will not pay a down payment exceeding 10% of their monthly income, consistent with https://www.revisor.mn.gov/statutes/cite/216B.096, Subd. 5.

Table 27
Graduated Down Payment Structure for Payment Plans, as adopted in Docket No. E002/M-24-27

Payment Arrangement Offered	1st	2nd	3rd	4th	5th	6th
Normal Payment Agreements	10% down	25% down	35% down	50% down	50% down	50% down
Extenuating Circumstances Payment Agreement	10% down	15% down	25% down	40% down	50% down	50% down

Order Point No. 28. Xcel must not send disconnection notices until a customer's balance reaches $180 past due.

The Company met this requirement by formalizing a pre-existing practice. The "Minnesota Disconnection Process" document filed in Docket Nos. E002/M-24-27 and E,G002/PR-24-02 and posted to the Xcel Energy website notes that:

Payment thresholds. Disconnect notices will only be mailed out once a customer's past due balance reaches $180.

Order Point No. 29. Xcel must not disconnect customers with a past due balance below $300.

The Company met this requirement by formalizing a pre-existing practice. The "Minnesota Disconnection Process" document filed in Docket Nos. E002/M-24-27

and E,G002/PR-24-02 and posted to the Xcel Energy website notes that:

> ***Payment thresholds. …*** Customers are not subject to disconnection until the balance reaches at least $300.

Order Point No. 30. Xcel must wait at least 10 days after sending a disconnection notice before disconnecting a customer.

The Company met this requirement by formalizing a pre-existing practice. The "Minnesota Disconnection Process" document filed in Docket Nos. E002/M-24-27 and E,G002/PR-24-02 and posted to the Xcel Energy website notes that:

> ***Notice.*** The disconnection/shut-off notice due date is ten business days after the Disconnection Warning Statement during both **Non-Cold Weather Rule (CWR) (May 1 – September 30) and Cold Weather Rule (CWR) (October 1 - April 30).**

9. Average Down Payments Received from Customers

Order Point No. 27. Xcel must detail in its annual safety, reliability, and service quality report the average down-payment amount received from customers—both as a percentage of arrears and as a total dollar value—during CWR and non-CWR months. Xcel shall also explain how it has implemented the statutorily required consideration of both financial and extenuating circumstances during CWR and non-CWR months.

The data in Tables 28 and 29 below is provided in response to Order Point 27 for both the percentage of arrears and total dollar value during Cold Weather months and non-Cold Weather months.

Table 28
CWR Deferred Payment Arrangement (DPA) Data

DPA Arrangement Yr-Month	Number of DPAs	Down-payment Amount	Average Down-payment Amount	Percentage
2024-01	8,584	$1,128,553	$131	15%
2024-02	8,627	$1,293,823	$150	16%
2024-03	9,477	$1,698,138	$179	17%
2024-04	15,778	$3,764,438	$239	17%
2024-10	11,677	$1,786,801	$153	20%
2024-11	9,072	$1,355,645	$149	23%
2024-12	7,258	$1,016,454	$140	22%

Table 29
Non-CWR Deferred Payment Arrangement (DPA) Data

DPA Arrangement Yr-Month	Number of DPAs	Down-payment Amount	Average Down-payment Amount	Percentage
2024-05	14,549	$6,218,433	$427	28%
2024-06	12,079	$4,472,029	$370	27%
2024-07	13,374	$4,212,640	$315	27%
2024-08	13,870	$3,840,122	$277	26%
2024-09	12,600	$2,501,220	$199	23%

As mentioned in response to Order Point 26, the Company considers the individual household financial or extenuating circumstances in negotiating payment arrangements with customers. Here are the ways in which the Company has in the past addressed and currently addresses those considerations during all customer-facing communications:

a. Immersive training is provided to all customer service agents on potential arrangement offers for customers and rules surrounding requirements during and outside of cold weather rule months.
b. Agents are trained to engage customers in conversation about what is affordable for them to pay and have the guidelines allowed for down

payments, depending upon a customer's circumstances. Agents are informed that these guidelines are available but have the ability to go outside those guidelines for customers who have expressed a need of any kind.

c. The Company has a quick-reference guide and payment arrangement tool that guide agents through appropriate arrangement offers for customers and provides real-time data, based on relative state rules, taking into account a customer's current balance. Agents have the ability to tailor any arrangement to the needs of the customer.

10. Evaluation of Possible Additional Measures Related to Disconnection, Reconnection, and Energy Assistance

Order Point No. 31. Xcel must evaluate implementing the following policies and to file the evaluation by April 1, 2025 in its 2024 safety, reliability, and service quality report.

a. Setting the reconnection fee at $0. The evaluation shall include an estimate of the costs of waiving reconnection fees and how the Company would propose to recover those costs.

If the reconnection fee were changed from $13.50 to $0, the Company would remove $485,000 per year[8] from its rate case and would need to raise base rates by that same amount to cover the cost of the reconnection of service. In this case, the annual bill impact to a typical residential customer would be approximately $0.40.

b. A proposal to increase the number of customers receiving pre-weatherization, weatherization, and energy efficiency improvements, including deep retrofits to create greater energy savings, in areas within the Company's service territory with high energy burden. The proposal should include year over year targets designed to increase the number of people receiving energy efficiency measures.

The Income Qualified segment remains a foremost focus of the Company's energy efficiency portfolio, as shown in the growth in recent years. Four Income Qualified program modifications were approved in 2021. These changes relaxed requirements, expanded outreach, and increased budgets with the goal of increasing participation and bridging gaps. Combined spending on electric and natural gas programs increased by nearly fivefold between 2021 and 2024. As of 2024, programs within the Income Qualified Segment included Affordable Efficient New Home Construction, Home Energy Savings Program, Low Income Home Energy Squad, Low Income Multifamily Building Efficiency, and Workforce Development. A set of hybrid

[8] Based on the current reconnection fee of $13.50 and an estimate of 36,000 reconnections in 2025.

programs has also been established. These hybrid programs primarily serve the market rate segment, but also have a growing and trackable Income Qualified component. The Residential Segment features School Education Kits as its hybrid program, and the Business Segment includes Non-Profit Energy Savings Program, Partners in Energy, and Building New Construction as its hybrid programs.

As required by Minnesota Rule 7690.0550, the Company reports on the Income Qualified segment's participation and performance in our annual Status Reports. For 2024, this report will be filed April 1, 2025 in Docket No. E,G002/CIP-23-92. This reporting includes an estimate of anticipated and actual Income Qualified residential customer participation levels for each program, and the planned and actual Income Qualified spending and energy savings for each program. These are, in effect, "year over year targets" as discussed in Order Point 31.b, and the Company believes our Energy Conservation and Optimization (ECO) Triennial Plans and annual status reports remain the most appropriate place for tracking progress on those targets.

Health and safety measures continue to be incorporated as part of our ECO portfolio. Tables 30 and 31 below provide our 2024 achievement in this area.

Table 30
2024 ECO Portfolio Health and Safety Achievements

H&S Measure	Number of Buildings	Number of Units	$	Type of Efficiency Project Enabled
Asbestos Removal	5	5	$15,600.00	Furnace/Boiler Replacement
Exhaust Fan	101	107	$200,100.00	Insulation
Dryer Vents	2	2	$266.00	Insulation
H&S - Electrical Other	14	18	$11,355.00	ASHP Water Heater/Water Heater/Furnace/Boiler/Mini-Split/Insulation
H&S - HVAC Exhaust/Ventilation	20	21	$21,549.00	Furnace/Water Heater/Boiler/Insulation
H&S - HVAC Plumbing	20	28	$10,151.00	Water Heater/Furnace/Boiler/ASHP Water Heater
Mold Remediation	1	1	$2,109.00	Insulation
H&S - Moisture Mitigation	45	45	$18,600.52	Insulation
Misc	8	8	$3,665.00	Furnace/Insulation
CO Alarm	19	24	$1,790.00	Insulation
Knob & Tube	15	17	$65,100.00	Insulation
Vermiculite Removal	9	10	$52,467.00	Insulation
Total	**259**	**286**	**$402,752.52**	

Table 31
2024 ECO Portfolio Health and Safety Summary by Property Type

Total	Property Type
163	Total Buildings
263	Total Measures
14	Number of Duplexes
22	Number of Measures Completed in Duplexes
2	Triplex
2	Measures in Triplex
147	Single Family Homes
240	Measures in SF Home

The Company is also providing links to our Minnesota Service Quality maps, which include the level of participation in Income Qualified ECO programs by Census Block Group (CBG). Users can explore these maps, and/or download the data, to

conduct their own analysis of participation in ECO Income-Qualified programs relative to median income, proportion of population below 185 percent of the Federal Poverty Level, and other variables.

- Electric Service Quality: https://experience.arcgis.com/experience/928c8b0e3cd3475fbb7c23b355c2df37
- Gas Service Quality: https://xeago.maps.arcgis.com/apps/webappviewer/index.html?id=2649386bb5644553a136b6cffd7fd16c

c. A more robust hot-weather rule to prevent disconnections in months with the highest cooling energy burden.

In response to this Order Point, the Company has reviewed temperature data and has determined that the two months with the highest temperatures annually are July and August. To postpone disconnections for an additional two months on top of the seven months disconnections are postponed under the current Cold Weather Rule, would mean that the Company would only perform credit disconnections for three months out of the year -- May, June, and September.

As was seen during the 18-month disconnection moratorium due to the pandemic, customers were less likely to engage with the Company to make efforts to pay down arrears balances when credit disconnection was not an option and subsequently, arrears balances grew by 50 percent over pre-pandemic levels. Based on current estimates, the Company anticipates that the increase in bad debt from suspending disconnections in the months of July and August would be at or above an additional one million dollars annually. This does not include the impact of a condensed disconnection season on complaints, call forecasts and staffing, as well as higher rates of disconnections due to higher arrears. Additionally, the Company expresses concern with the impact this activity will have on the increased need for energy assistance funding and the potential for more customers to experience hardship.

d. Creating an off-season LIHEAP program to help income-qualified residents clear their arrears by self-attesting to their income level.

This requirement has been fulfilled by the completion of Order Point 33, under which the Company has filed supplemental direct testimony proposing a new program, funded with late payment charges, to help income-qualified residents clear their arrears and allowing for self-attestation of income levels. The proposed program

would be available year-round, not only during the LIHEAP off-season, but would particularly help customers clear arrears during the off-season when they are not able to enroll in LIHEAP and are more likely to experience a service disconnection due to non-payment of past due amounts.

11. Proposed New Customer Assistance Program Funded from Late Payment Charges

> *Order Point No. 33. Xcel must file in supplemental direct testimony to its rate case filed November 1, 2024 in Docket E002/GR-24-320 a program similar to its offering in Colorado where interest payments and fees from late bill payments are donated to low-income customer assistance programs or the elimination of late fees and interest.*

The Company on March 17, 2025 filed supplemental direct testimony in Docket No. E002/GR-24-320 proposing a Residential Arrears Management Program (RAMP) funded with late payment charges.

The RAMP (name potentially subject to change) is designed to address customer arrears, thereby reducing energy burden and the potential for service disconnection. As in a similar Xcel Energy program in Colorado, RAMP would be funded using residential late payment fees that have been collected from customers. The proposal involves applying a pre-determined benefit to eligible customers with past due balances to mitigate credit activity and potential disconnection of service. The credit provided would be designed to help eligible customers reduce or eliminate arrears and offers consideration for assistance through the Company's affordability programs. To minimize barriers to enrollment, the Company proposed to determine eligibility using predetermined criteria and self-attestation of income. See the filed supplemental direct testimony of Nora C. Lindgren in Docket No. E002/GR-24-320 for more details.

12. Landlord Failure to Pay

> *Order Point No. 34. Xcel must provide a discussion in its next safety, reliability, and service quality report on how it manages disconnections due to a landlord's failure to pay, consistent with the requirements in Minn. R. 7820.1400.*

Minn. R. 7820.1400 dictates that where a landlord-tenant relationship is known to exist, and the landlord as customer would otherwise be subject to disconnection of service, the utility may not disconnect service until after providing notice and offering the occupant the opportunity to subscribe for service in the occupant's own name. If the occupant declines to subscribe, the utility may disconnect service. The rules also dictate that a utility may not attempt to recover from a tenant, or condition service to

a tenant, with the payment of any outstanding bills or other charges due upon the outstanding account of the landlord.[9]

In properties where a known landlord-tenant relationship exists, Xcel Energy notes the account with a multi-use designation. When this designation exists, the Company posts all accessible doors with a notice of intent to disconnect for the required time frame prior to disconnection. The notice provides a number to call, and a current tenant calling that number will have the option to request service be transferred into their name.

13. Information and Training on Racial Disparities

Two studies conducted independently and entered into Docket No. E002/M-24-27 examined various service quality and reliability metrics, including long-duration outages (CELI-12, the percentage of customers experiencing an outage longer than 12 hours), multiple outages (CEMI-6, the percentage of customers experiencing six or more outages in a year), involuntary service disconnections, distributed energy resource hosting capacity, participation in low-income energy assistance programs, and participation in low-income energy efficiency programs.[10]

The two studies differed in scope and methods. Neither found statistically significant disparities in CEMI-6, participation in low-income energy assistance, or participation in low-income energy efficiency. The Pradhan and Chan Study found disadvantaged communities and neighborhoods with a higher proportion of People of Color (POC) tend to have higher hosting capacity for distributed energy resources.

Both studies however found disparities in CELI-12 and involuntary service disconnections. The Pradhan and Chan Study found a correlation between CBGs having a higher proportion of POC and those with a higher number of disconnections, and that disadvantaged communities and high-POC neighborhoods have higher CELI-12. The TRC Study examined additional variables that could impact these metrics, and used a more granular statistical method that does not force linear relationships between independent and dependent variables. TRC concluded that disconnections were higher in CBGs with a higher percent POC, and that CELI-

[9] Minn. R. 7820.1400.

[10] Pradhan, Bhavin and Gabriel Chan. 2024. *Racial and Economic Disparities in Electric Reliability and Service Quality in Xcel Energy's Minnesota Service Area.* (Pradhan and Chan Study) See https://hdl.handle.net/11299/261434. Close, Brett. TRC Companies. *Service Quality and Demographics Analysis.* (TRC Study) Filed with Xcel Energy's Service Quality Report 2023, Attachment Q, Docket No. E002/M-24-27.

12 was higher in neighborhoods with a higher percent POC, but only in neighborhoods with older homes.[11]

These findings resulted in (among other Order Points) the following requirements to inform affected personnel of the disparities and provide training to ensure the Company is not inadvertently contributing to them:

> *Order Point No. 35. Xcel must inform affected personnel of racial disparities in electric service.*
>
> *Order Point No. 36. Xcel must file a compliance report with its annual safety, reliability, and service quality filing on which employees received the training and what information was provided.*

Xcel Energy agrees on the importance of informing relevant personnel about the disparities identified in CELI-12 and disconnections, even as we continue to study the root causes and potential mitigation measures. We believe the most effective way to do so is through a tailored training, offered to specific employee groups like those whose work concerns outage management and restoration (to reduce CELI-12) and who interact with customers to offer payment arrangements (to reduce disconnections).

The Company already offers a training on "Microaggressions and Unconscious Bias" to all employees, which addresses inadvertent racial and other biases and how to avoid them. That course, while designed mostly for interactions within the Company, provides a good starting point for developing a more targeted training focused on customer interactions for our external-facing employees directly involved in service quality.

To that end, we have begun developing a new training module that focuses on overcoming unintended bias in customer interactions during service interruptions. In developing this training, Xcel Energy will work with the Third-Party Evaluator that we select under Order Point 46 of this docket, to include in the training relevant findings from the evaluator's work. The Company anticipates the training to be developed and administered later this year and informed by ongoing work of the evaluator.

14. Tariff Revisions

[11] Staff Briefing Papers *In the Matter of Northern States Power Co. d/b/a Xcel Energy – Electric's 2023 Annual Safety, Reliability, and Service Quality Report*. Volume 3, pp. 5-7.

Order Point No. 37. Where not otherwise noted, Xcel must file any necessary revised tariff changes within 30 days of the date of this order.

The Company met this requirement on February 12, 2025 by making a compliance filing, revising our tariff sheets to comply with Order Point 30 ("Xcel must wait at least 10 days after sending a disconnection notice before disconnecting a customer"). We provided, in redline and final format, tariff sheets:

- Minnesota Electric Rate Book—MPUC No. 2. Sheet No. 11-14, Revision 1
- Minnesota Gas Rate Book—MPUC No. 2. Sheet No. 9-15, Revision 1

15. Additional Data Layers Added to Interactive Service Quality Map

Discussions stemming from the Company's 2023 Safety, Reliability and Service Quality annual report resulted in agreement on eight additional data layers to add to the existing Minnesota electric interactive service quality map:

Order Point No. 39. Xcel must add the following data to its interactive service quality map by census block group by April 1, 2025:

- *Municipal Boundaries*
- *Premise counts by census block group*
- *Percentage of underground electric assets*
- *Percent of electric premises disconnected for 24 hours or more*
- *Average age of arrears for disconnected premises*
- *Per premises energy costs*

Order Point No. 40. Xcel must add to its interactive service quality map the average age of homes by Census Block Group by April 1, 2025.

Order Point No. 41. Xcel must add to its interactive service quality map the average amount of arrears for disconnected premises by April 1, 2025.

The Company has added six of these eight data layers to the Xcel Energy Minnesota Service Quality – Electric map at https://experience.arcgis.com/experience/928c8b0e3cd3475fbb7c23b355c2df37.

We note that some of the map data layers represent a "snapshot" in time that changes on an ongoing basis; for example, the percent of electric premises disconnected, or the amount of arrears, in each CBG changes daily. Others change but more gradually – for example, the premise counts served by the Company, or the percent of

underground electric assets, in each CBG. Some change very infrequently if at all – for example, municipal boundaries.

Considering this, we have decided the map should, to the extent feasible, align all data layers to the same point in time, and we believe End of Year (EOY) 2024 to be the most appropriate for the current update. That said, not all data was available for EOY 2024 at the time of updating the map and filing this annual report. Rather than delay the map update, we have incorporated all data layers we can at this time, in some cases relying on data from another vintage. In the coming weeks the Company will be updating the map to align all dataset vintages to EOY 2024. We have included a notice to this effect on the "splash page" that appears when a user opens the map, which they must click to acknowledge before viewing the map.

The two data layers we have not yet incorporated are average age of arrears for disconnected premises (part of Order Point 39) and average amount of arrears for disconnected premises (Order Point 41). Arrears are tracked by customer accounts, which the Company currently has tracked by Zip Code but not by CBG. The other data layers on the map all correspond to premises and are tracked by CBG. We expect to be able to add these two final layers, but doing so will require a time-consuming exercise of translating between customer accounts and premises, and between Zip Codes and CBGs. Those two data layers will be added in the coming weeks.

16. Workgroup on Affordability Program Reporting

> *Order Point No. 42. The Commission delegates authority to the Executive Secretary to work with Xcel and stakeholders to develop a proposal for what affordability and associated service quality data is reported in safety, reliability, and service quality report and what data continues to be reported in other dockets.*

Commission staff initiated work on this Order Point on February 11, 2025 by establishing the SRSQ reporting workgroup and requesting data on affordability reporting from the Company and other parties. Per staff, "the goal of the process is to develop a comprehensive list of existing affordability reporting requirements across dockets and to identify which, if any, pieces of information are missing and should be included in future SRSQ dockets."[12] Staff asked the Company and other parties to provide existing dockets and Order dates where affordability program data is reported, along with a list of the data reported in each docket including at least:

[12] E-mail communication from Sally Anne McShane, MPUC Rates Analyst | Economic Analysis (Energy and Telecom). February 11, 2025.

- Affordability program information and participation.
- Program participation and program disbursements compared to funding/surcharges.
- Arrearage levels and disconnection data.
- Restoration and disconnection timelines.
- Payment plans, Cold Weather Rule arrangements and appeals.

The Company responded on March 13, 2025 by providing a comprehensive spreadsheet summarizing the relevant dockets, Order dates, and data reported in each.

17. Periodic Replication of Disparities Studies

> *Order Point No. 43. Xcel must conduct a study similar to the TRC Service Quality and Demographics Analysis on a three-year cycle with the next report due on April 1, 2027, with its safety, reliability, and service quality report. Xcel must use five years of data for future analyses.*

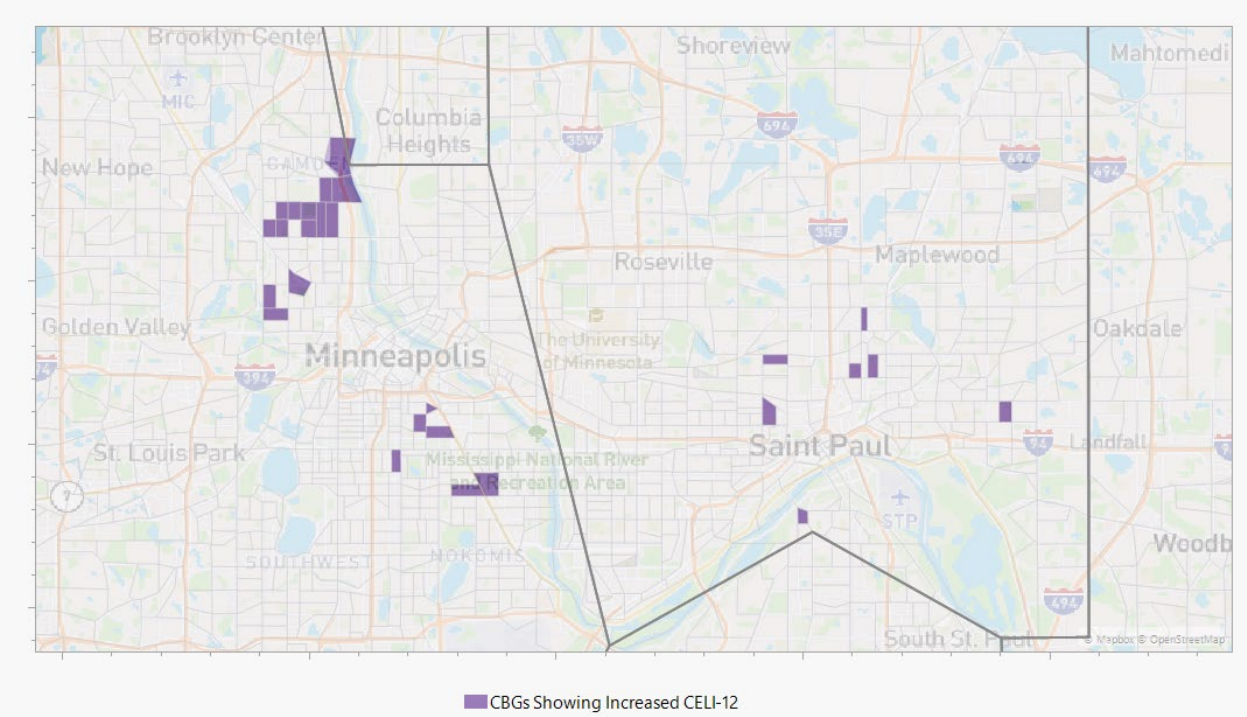
This requirement will be addressed in the Company's Safety, Reliability, and Service Quality report for 2026, filed on April 1, 2027.

18. Further Analysis of Disparities in Long Outages (CELI-12)

> *Order Point No. 38. Xcel must perform additional analysis as outlined in decision options below prior to developing a proposal for targeted undergrounding or enhanced vegetation management.*
>
> *Order Point No. 44. Xcel must develop its data collected on causes of CELI-12 outages to inform which causes predominantly affect CBGs currently showing increased CELI-12. Xcel must then analyze whether the primary causes emerging in census block groups with increased CELI-12 are caused by overhead assets.*

A five year (2020-2024) non-normalized CELI-12 analysis was conducted in 27 CBGs showing increased CELI-12 as identified in the TRC Study (see Figure 1).

Figure 1
27 CBGs showing increased CELI-12



There were 76 vegetation-related outages that accounted for 63 percent, or 3,009 of the 4,798 CELI-12 affected customers over the five-year period.

On August 14, 2020, Minnesota experienced a significant weather event characterized by severe thunderstorms that produced multiple tornadoes and widespread wind damage. This resulted in over 20 tornadoes, with 16 occurring in the Twin Cities area. The tornadoes varied in strength, with some reaching EF-1 intensity, causing damage to trees, buildings, and Xcel Energy power lines.

In addition to the tornadoes, the storms brought strong winds and flash flooding, particularly affecting areas along and east of the Interstate 35W corridor. The severe weather led to numerous reports of wind damage, including downed trees and power poles. This singular event contributed to just over 40 percent of the 5-year CELI-12 for the affected CBGs.

The two other substantial contributing causes were single events affecting a smaller subset of CBGs: an outage taken for public safety in 2021 that contributed to 18 percent, and an outage caused by vandalism in 2020 that contributed 10 percent of the total CELI-12.

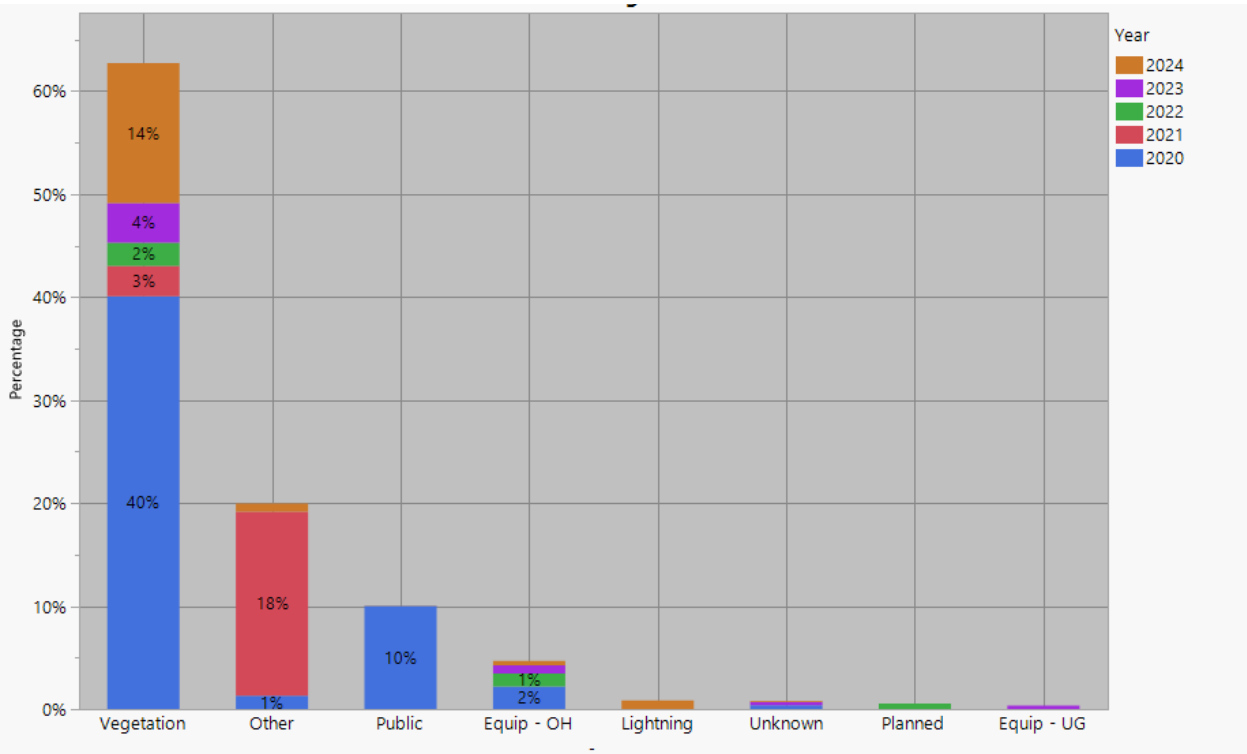
The outage taken for public safety affected three of the CBGs in the Willard-Hay area of Minneapolis in 2021. It was an intentional outage that was made as a safety precaution after a third-party contractor caused damage to a CenterPoint Energy gas line in the area.

The outage due to vandalism affected three of the CBGs in the Phillips area of Minneapolis in 2020. It was due to a car fire that spread to a pole that burned a tie switch and feeder cable during the significant civil unrest on May 29 following the murder of George Floyd.

The five-year CELI-12 analysis highlights that vegetation interactions with overhead assets are the predominant cause of outages affecting CBGs currently showing increased CELI-12. During the five-year period, the affected CBGs had a collective 8.33 percent CELI-12 rate compared with 4.19 percent for the overall Minnesota service territory.

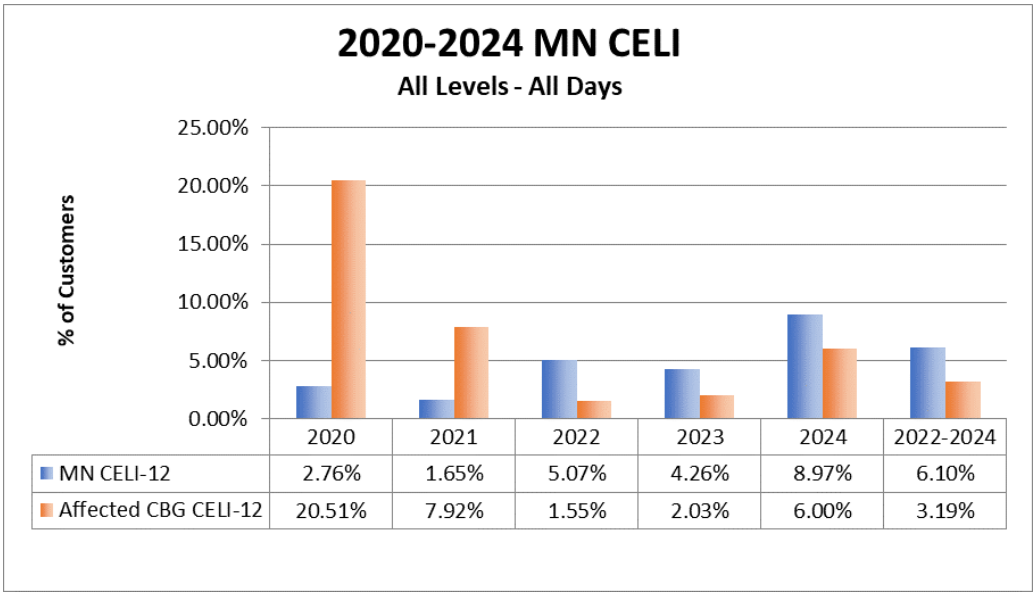
Graph 27 illustrates the predominant causes of outages in CBGs currently showing increased CELI-12, using non-normalized (i.e., without removing the effect of storms) 2020–2024 data.

Graph 27
Top Eight Causes of Outage,
by Year, in CBGs With Higher CELI-12



Graph 28 illustrates the CELI-12 rates of the affected CBGs versus the rest of Minnesota.

Graph 28
CELI-12 in the 27 CBGs with Higher CELI-12, Relative to Minnesota Overall



	2020	2021	2022	2023	2024	2022-2024
MN CELI-12	2.76%	1.65%	5.07%	4.26%	8.97%	6.10%
Affected CBG CELI-12	20.51%	7.92%	1.55%	2.03%	6.00%	3.19%

As seen in Graphs 27 and 28, the major weather impact from the August 14, 2020 storm and the 2021 gas leak event dominate the CELI-12 causes for the studied CBGs. In each of the three years since, the affected CBGs have had a CELI-12 rate significantly below the statewide average. This highlights a limitation of the three-year rolling average data used in the TRC Study. Relatively small geographic areas can be disproportionately impacted due to the distinct locations where a storm's most damaging impact occurs. It is not clear based on the current data, what the expected return period is for a storm of similar intensity to the August 14, 2020 storm. As a result, the five-year period analysis performed here may not be sufficiently long enough to support conclusions on specific CBGs.

> *Order Point No. 45. Xcel must provide an analysis of distribution equipment vintages in the affected CELI-12 communities and analyze whether upgrading this equipment would be cost effective.*

A distribution equipment asset analysis was conducted in 27 CBGs showing increased CELI-12 as identified in the TRC Study.

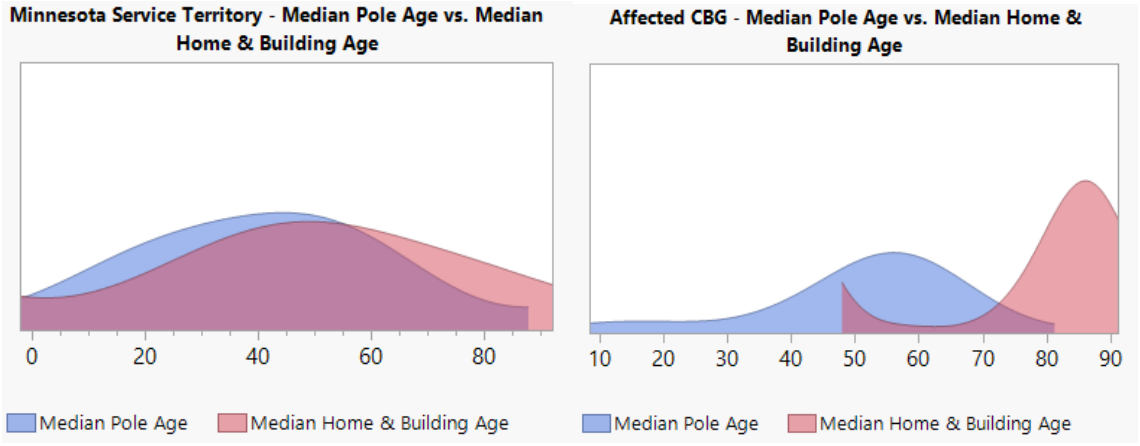
In aggregate across Xcel Energy's Minnesota service territory, the distribution system that is responsible for delivery of electricity to end use customers is about 55.9 percent overhead and 44.1 percent underground. Comparatively, the aggregate distribution system in the 27 CBGs showing increased CELI-12 is approximately 90

percent overhead and 10 percent underground. The median housing stock in these areas was built before 1951, which explains the supermajority of overhead assets. Underground Residential Distribution (URD) construction did not become common until the late 1960s. The supermajority of overhead exposure, combined with the larger and more established vegetation cover in older neighborhoods (as noted by the TRC Study), correlates with vegetation being the most common cause of CELI-12 events as shown in Graph 30 above.

Pole inspection data together with recent pole installation data is the most comprehensive data that Xcel Energy can use to determine distribution equipment vintages. CBG Median Year Structure Built (B25035) data was also gathered from U.S. Census data for comparison, this represents the age of homes and buildings within the CBG. On average, poles in all of Xcel Energy's Minnesota service territory are 14 years younger than median ages of homes and buildings. Comparatively, median pole ages are 33 years younger than median ages of homes and buildings in the 27 CBGs. This indicates that a greater percentage of pole replacements have occurred since initial construction within the affected CBGs than the service territory as a whole. This is the first indication in the analysis that suggests overhead line renewal is not likely the best strategy for reliability improvements.

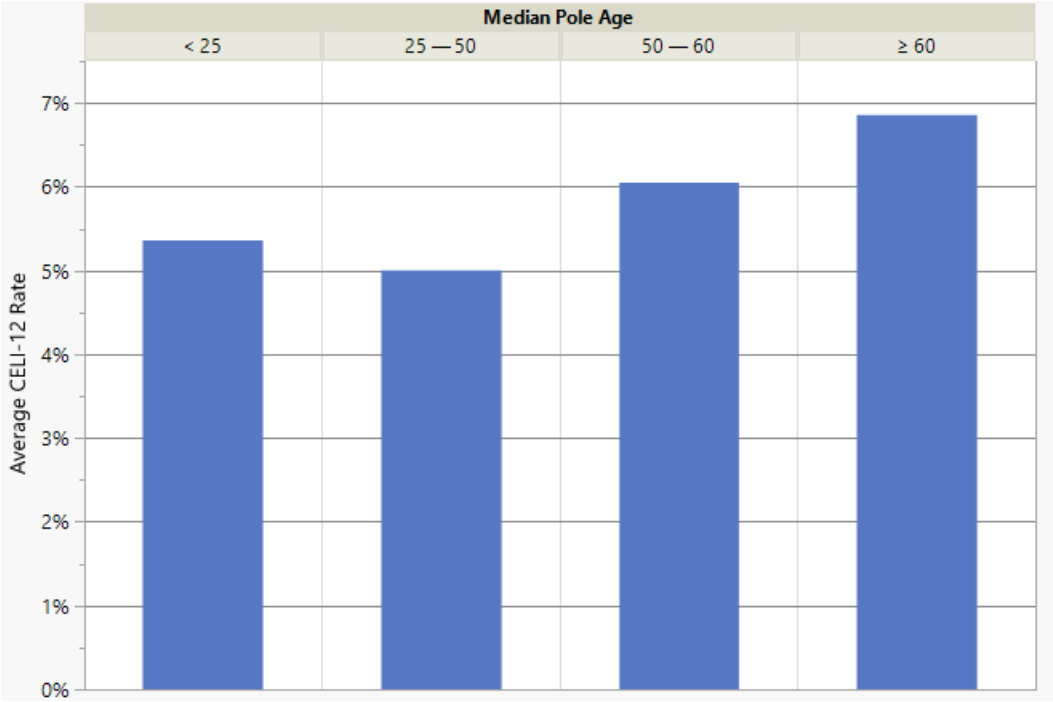
Graph 29 is a distribution graph of Median Pole Ages and Median Home & Building Ages for all of Xcel Energy's electric service territory in Minnesota overall (on left) and the affected CBGs (on right).

Graph 29
Comparison of Median Ages of Distribution Poles and Homes & Buildings, Affected CBGs vs. Minnesota Overall



In aggregate, there is not a strong correlation of CELI-12 rates by pole vintages. Average CELI-12 rate vs pole vintages in areas with greater than 2/3 overhead assets are shown in Graph 30. A maximum difference of ~2% CELI-12 rate is seen throughout all pole ages.

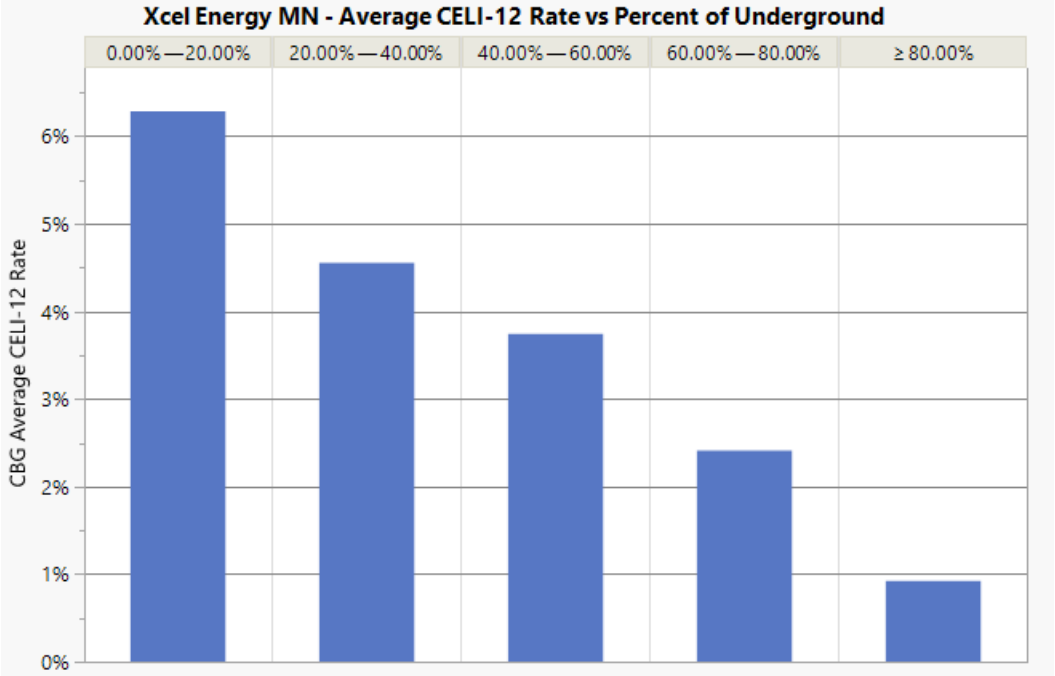
Graph 30
Average CELI-12 Rate vs. Pole Age
in Areas with Greater Than Two-
Thirds Overhead Lines



However, when average CELI-12 rates are compared with the percentage of overhead and underground distribution facilities, CBGs with a greater percentage of underground distribution facilities fared better than those with a greater percentage of overhead distribution facilities (see Graph 34). This again suggests that the overhead exposure, combined with the larger and more established vegetation cover in older neighborhoods (as noted by the TRC Study), correlates with CELI-12 rates. All but three of the 27 CBGs showing higher CELI-12 rates fall in the 0-20 percent range of underground distribution assets.

Graph 31is a comparison of CELI-12 counts across Xcel Energy Minnesota, based on percentage of underground facilities in the CBG.

Graph 31
Average CELI-12 Rate vs. Percent of Underground Lines (Minnesota Service Territory Overall)



The affected group of CBGs is collectively situated in the 50–60-year median age category of Graph 33. The CELI-12 rate correlation with pole age suggests that a 0.5 to one percent improvement in CELI-12 is possible from overhead pole line renewal activities. Replacement of the roughly 71 percent of poles and associated equipment exceeding 50 years in age would shift the median age of the overhead facilities in the affected CBGs into the younger category associated with those improvements. That replacement equates to 2,629 poles, 196,000 feet of conductor and associated equipment within these CBGs. A rough cost estimate for this work is $34.3 million dollars and could be accomplished over two years' time between approval and construction completion. However, the projected improvement from overhead system renewal alone is not expected to be capable of bringing the CELI-12 rate down to the Minnesota system average of 4.19 percent due to elevated exposure and risks inherent to the overhead distribution lines. Furthermore, without a strong age correlation, there is a notable risk that the achieved reliability improvement may differ from expectations due to other unaccounted-for factors.

Alternatively, targeted undergrounding can take advantage of reduced outage exposure and high correlation with reduced CELI-12 rates. The affected CBGs are collectively served by approximately 10 percent underground distribution. The correlation seen in Graph 34 suggests that CELI-12 rates in these areas could be brought near the Minnesota service territory average by undergrounding 40 percent of their distribution system assets. That change would result in roughly 50 percent underground service which is associated with average CELI rates of 3.58 percent in the five-year period studied, which is better than the 4.19 percent Minnesota system average in that period. The targeted undergrounding approach would replace approximately 110,000 feet of overhead conductors and 325 associated service transformers. The cost of this work is currently estimated between $21.1 and $31.7 million and could be completed over three years' time from project approval. The main risk present in this alternative is uncertainty in the current cost estimate due to a currently limited quantity of comparable past overhead to underground conversion projects. Despite that risk, undergrounding is the only method the Company has identified to-date with an indicated ability to bring CELI-12 rates down to the system average within the affected areas.

As a result of this analysis of the distribution equipment vintages in the affected CELI-12 communities, a targeted undergrounding approach for reliability improvement is recommended over overhead renewal. There is a stronger correlation of lower CELI-12 rates that was linked to CBGs with higher rates of underground distribution lines. The analysis showed that targeted undergrounding showed four times the anticipated CELI-12 improvements with less cost, as compared to similar costs but much smaller anticipated improvement in CELI-12 through overhead renewal. Targeted undergrounding not only provides better reliability, but there are also aesthetic improvements, greater EV readiness and greater rooftop PV hosting capacity as well. The Company recommends pursuing a gradual approach to targeted undergrounding to first address overhead line segments with the highest risk exposure in both the studied areas and overall service territory. The Company plans to provide further detail on its targeted undergrounding plan in its next Integrated Distribution Plan filing later this year.

19. Third-Party Evaluation of Practices and Policies for Capital Investment Planning, Outage Restoration, and Disconnections

Order Point No. 46. Xcel must hire an independent third-party evaluator with expertise in evaluating racial disparities to conduct a one-year study that will evaluate Xcel's practices and policies related to capital investment planning, outage restoration practices, and shutoff practices to better understand the causes of these discrepancies in shutoff rates and service

reliability. Xcel must engage interested stakeholders to participate and collaborate with the independent third-party evaluator.

Xcel Energy has worked with internal and external stakeholders to develop a Scope of Work for the study envisioned in Order Point 46 and will soon issue a Request for Proposals (RFP) for third-party evaluators with expertise in evaluating racial disparities.

While Order Point 46 directs the evaluator to "conduct a one-year study," Xcel Energy is hopeful the study can be completed by the time our next Electric Service Quality Report is due in April 2026. If complete, we intend to summarize findings and provide the Evaluator's report in that filing.

Design and implementation of the study must include engaging with interested stakeholders, which may include parties to the docket and others as recommended by the Evaluator.

The tasks outlined in the Scope of Work are as follows:

Task 1: Collect information on existing Xcel Energy practices and policies related to capital investment planning, outage restoration practices, and disconnections.

Task 2: Evaluate whether current Xcel Energy practices and policies related to capital investment planning, outage restoration practices, and disconnections may be contributing to disparities identified in the Pradhan/Chan and TRC studies.

Task 3: Coordinate with interested stakeholders and Xcel Energy on proposed changes to existing policies and practices.

Task 4: Prepare a Final Report to be delivered to the Minnesota Public Utilities Commission

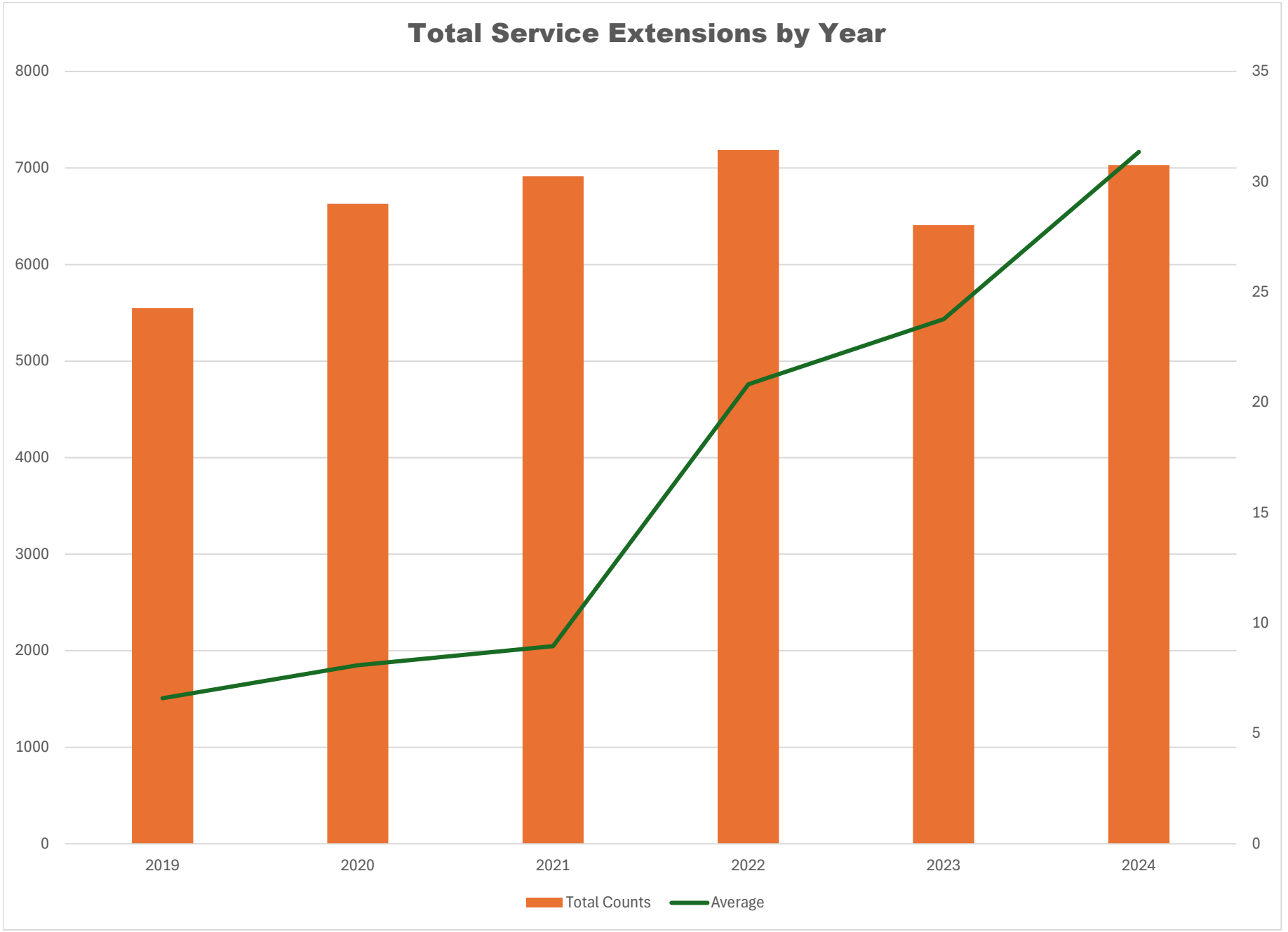
The Company shared the draft Scope of Work with Fresh Energy – the party to the 2023 Safety, Reliability and Service Quality docket who recommended this study – and we have incorporated Fresh Energy's feedback. We have also compiled a list of potential Third-Party Evaluators to receive the RFP, including suggestions from Fresh

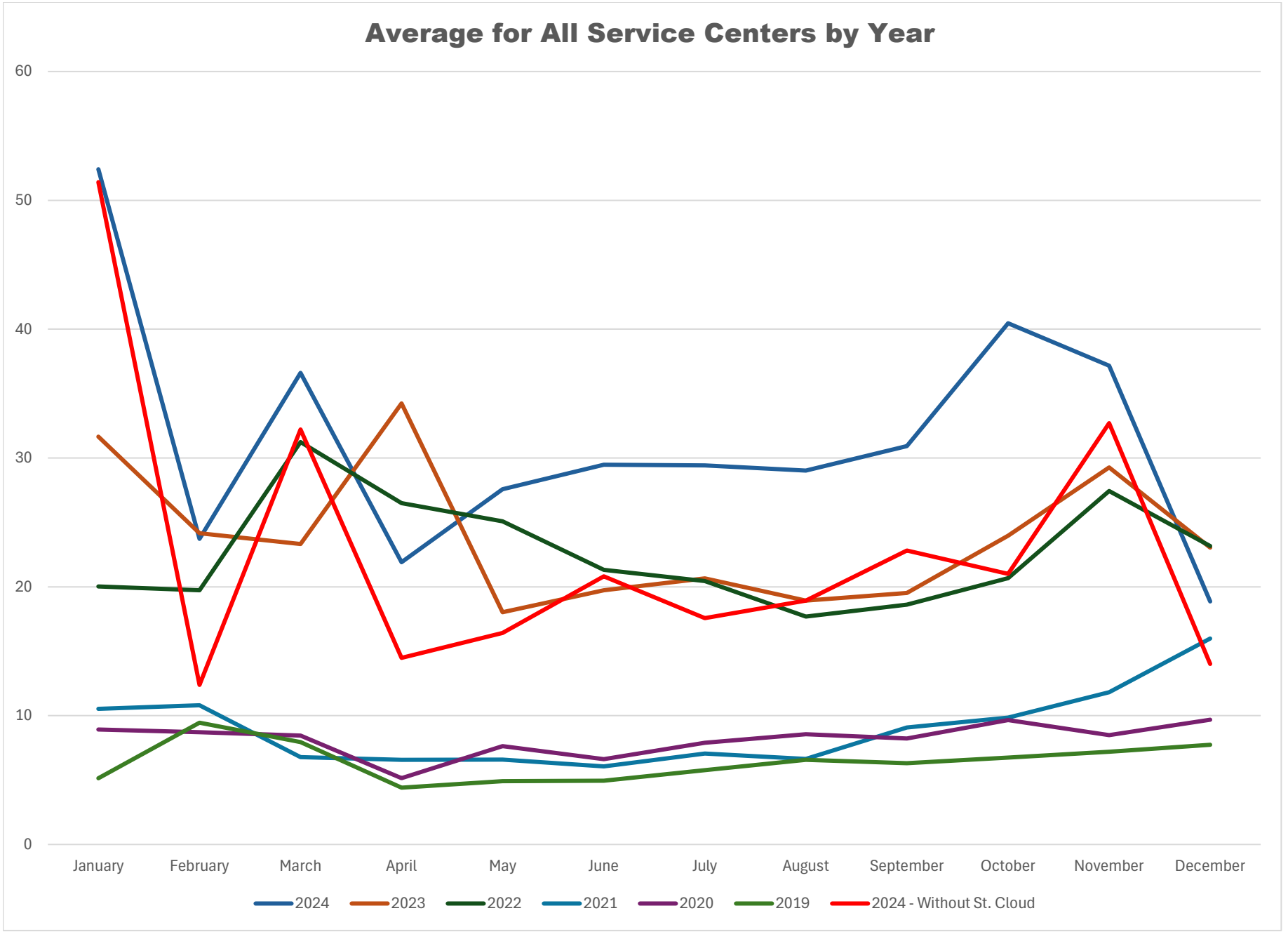
Energy, the Company's Equity Stakeholder Advisory Group, and others. Finally, once the RFP is closed and bids have been received, we are open to including external parties on the proposal review committee if interested (as the Company is currently doing for our RFP to select a Third-Party Evaluator for the Automatic Bill Credit Pilot in Docket No. E002/M-24-173).

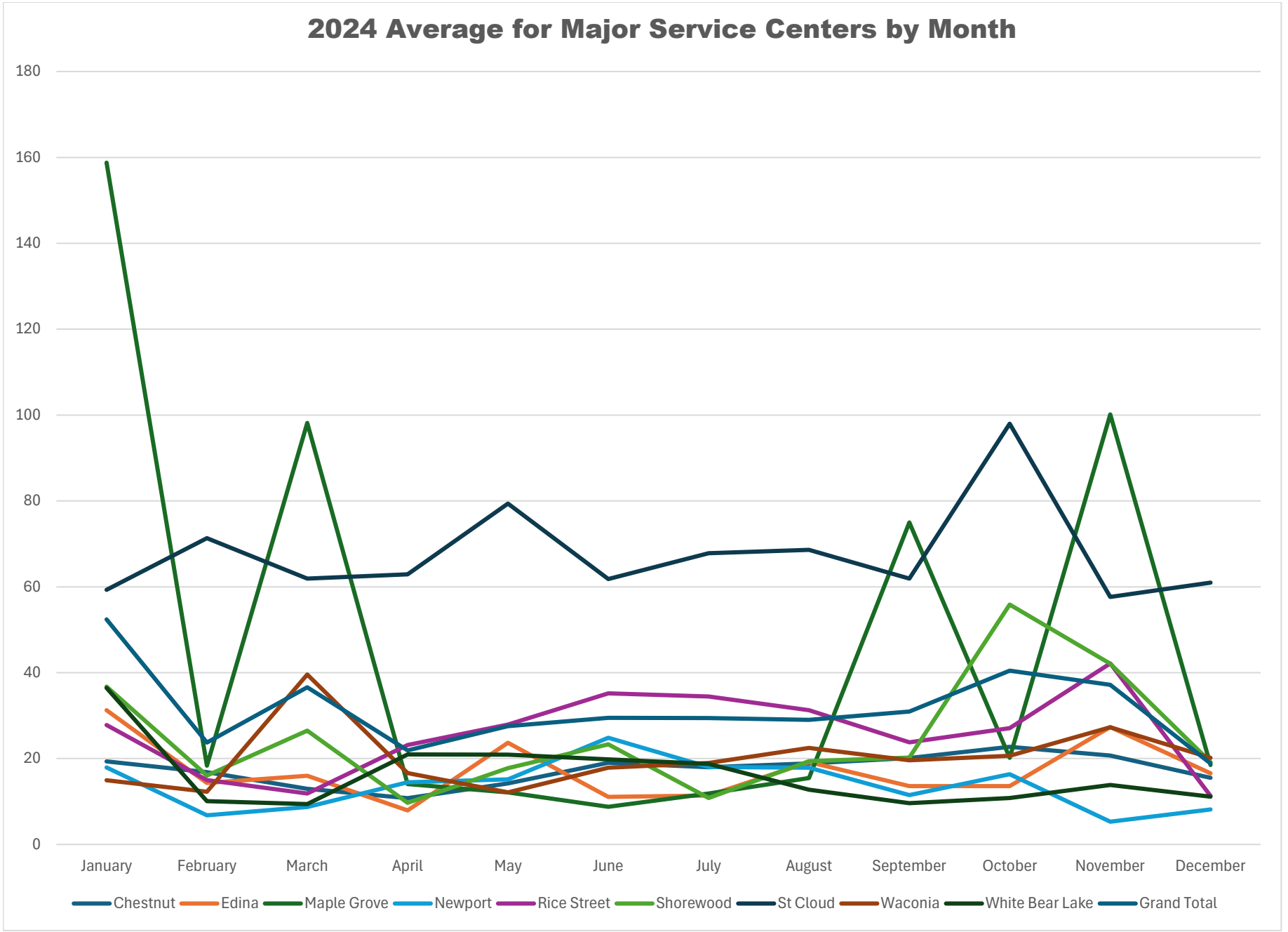
VII. CONCLUSION

Xcel Energy is committed to providing our customers with quality, reliable service. We appreciate this opportunity to report our performance to the Commission and respectfully request that the Commission accept our annual report on safety, reliability, and service quality.

The Company requests a renewal of the temporary variance to Minn. Rule 7820.2500 under the revised timeframe proposed in this filing to account for regulatory review.


Total Service Extensions by Year
8000
7000
6000
5000
4000
3000
2000
1000
0
35
30
25
20
15
10
5
0
2019
2020
2021
2022
2023
2024
Total Counts
Average


Average for All Service Centers by Year
60
50
40
30
20
10
0
January
February
March
April
May
June
July
August
September
October
November
December
2024
2023
2022
2021
2020
2019
2024 - Without St. Cloud


2024 Average for Major Service Centers by Month
180
160
140
120
100
80
60
40
20
0
January
February
March
April
May
June
July
August
September
October
November
December
Chestnut
Edina
Maple Grove
Newport
Rice Street
Shorewood
St Cloud
Waconia
White Bear Lake
Grand Total

Electric - Average days to complete from customer to site ready													
Residential	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Total 2024**
Chestnut	17.83	12.38	12.39	14.21	7.47	16.59	17.52	18.63	19.43	19.64	17.18	8.55	**15.70**
Edina	27.82	11.52	15.29	23.04	7.59	10.80	10.80	19.18	13.36	13.60	26.70	15.84	**16.44**
Faribault	13.71	(7.67)	2.00	2.79	4.42	5.20	4.08	6.18	18.29	15.52	34.57	29.67	**13.63**
Mankato	41.71	8.80	(8.71)	81.28	2.61	8.54	10.24	5.15	6.55	3.00	9.28	18.30	**18.12**
Maple Grove	158.73	18.33	98.16	12.12	13.87	8.78	11.86	11.57	74.98	20.18	100.16	17.85	**59.95**
Montevideo	6.00	117.00	133.67	15.00	6.00	51.00	7.00	15.33	1.00	8.57	22.17	18.57	**28.78**
Monticello	41.20	20.80	103.00	114.00	109.00	181.40	123.00	118.67	45.17	33.15	42.50	38.08	**64.07**
Montrose	3.00	160.67		2.40	5.40	4.00	5.67	4.50	44.50	4.67	4.00	14.00	**25.00**
Newport	16.33	3.17	5.96	11.51	13.07	21.37	14.78	16.46	9.27	9.89	3.67	6.52	**11.04**
Red Wing	4.00	1.00		4.38	2.00	6.40	10.86	8.00	8.33	25.67	4.00	21.17	**11.14**
Rice Street	22.82	15.31	11.84	27.90	23.00	35.19	33.32	31.26	18.00	27.09	27.67	4.68	**23.00**
Shorewood	36.42	16.05	26.50	13.59	9.48	23.31	10.85	19.40	18.05	55.87	42.03	19.18	**23.97**
Sioux Falls	121.00				42.00			7.00	65.00		9.00	38.00	**45.71**
St. Cloud	59.76	69.64	61.94	79.26	62.10	61.79	67.85	68.62	61.92	97.18	57.65	60.95	**69.64**
Waconia	15.33	12.28	39.58	12.14	16.62	17.86	18.96	22.47	19.62	20.63	27.29	20.17	**19.98**
White Bear Lake	35.43	7.95	6.75	20.76	20.40	13.47	10.13	11.95	9.54	3.21	12.58	6.52	**13.24**
Winona	5.50	10.00	47.00	6.00	(22.50)	17.83	25.60	3.50	13.25	4.88	18.47	14.56	**13.12**
Wyoming	22.00	7.73	130.43	85.33	10.53	4.88	28.65	9.16	10.36	23.00	12.85	37.63	**26.55**

Electric - Average days to complete from customer to site ready													
Commercial	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Total 2024**
Chestnut	6.00	9.88	9.71	5.67	82.64	(3.36)	26.48	27.59	41.56	39.50	10.73	22.88	**26.17**
Edina	19.00	6.50	2.00	8.00	(5.25)	11.29	29.00	45.86	29.22	43.29	32.38	42.31	**26.08**
Fargo							6.00		17.00		47.00		**23.33**
Faribault		(21.00)	39.33	20.80	1.33	43.00	38.78	21.00	31.43	37.00	11.50	3.50	**25.92**
Jordan												1.00	**1.00**
Mankato	13.00	74.00	28.00	77.00	5.50	8.75	10.33	4.50	8.33	6.00	9.83	31.20	**16.41**
Maple Grove	6.20	6.50	3.00	3.33	15.00	(29.86)	(1.00)	45.00	(18.60)	(2.25)	13.00	6.00	**3.30**
Montevideo	2.00	9.00		27.00	11.00	28.00	11.50	59.33	10.50		24.00	16.33	**23.47**
Monticello	40.60	43.00	66.00	16.00	39.17	138.00	23.00	75.75	28.86	73.75	37.43	38.23	**46.23**
Montrose			7.00	4.00			3.00	3.00				13.00	**6.00**
Newport	12.18	7.17	19.50	29.38	24.25	39.50	25.10	19.10	38.33	84.30	41.63	43.16	**37.30**
Red Wing		90.00	4.00	24.00	(30.00)	16.00	23.67	5.00	114.00	20.00	(2.00)		**23.61**
Rice Street	28.47	19.17	42.50	20.00	(21.20)	16.00	27.50	59.50	38.23	32.88	17.61	42.69	**28.48**
Shorewood	11.50	9.50	2.83	17.00	9.00	9.67	7.50	10.50	40.67	12.67	20.43	1.80	**12.95**
Sioux Falls						6.00		11.00		11.00	25.00	(6.00)	**9.40**
St. Cloud	23.50	39.29	31.89	23.89	40.50	44.14	35.00	74.60	179.50	86.20	23.40	32.70	**49.19**
Waconia	7.00	11.00	18.00	6.00	4.50	26.00	26.67		39.00	38.50	33.33	31.00	**23.82**
White Bear Lake	65.50	29.00	3.75	15.40	16.50	31.00	42.83	36.33	34.90	31.00	36.44	71.67	**40.24**
Winona		5.00		(26.50)	5.00		9.40	4.50	21.00	19.00	29.33		**12.40**
Wyoming		22.00	5.00	(9.00)	5.50	14.50	17.00	16.00	21.00	30.25	62.40	25.00	**26.14**